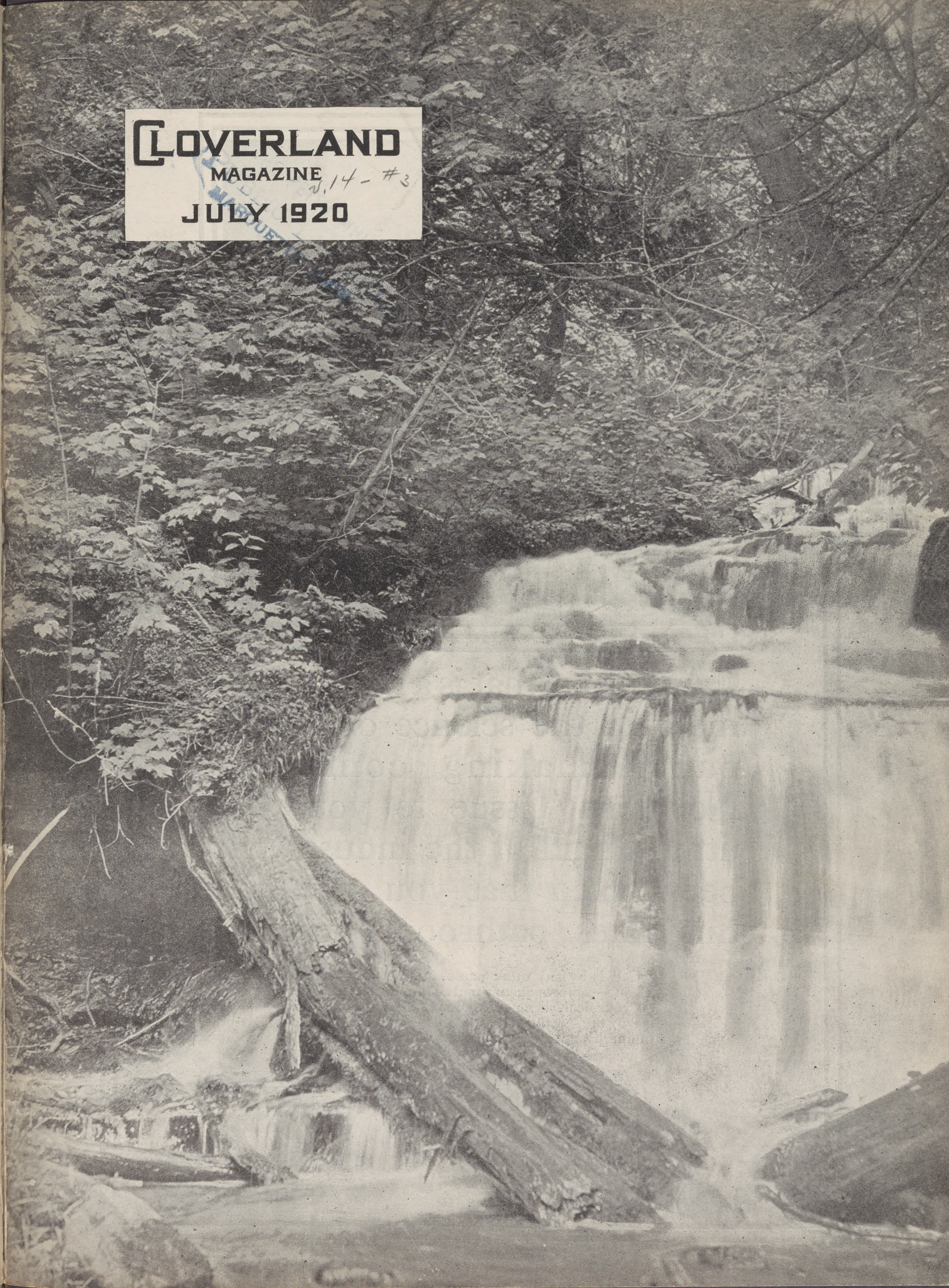


COVERLAND

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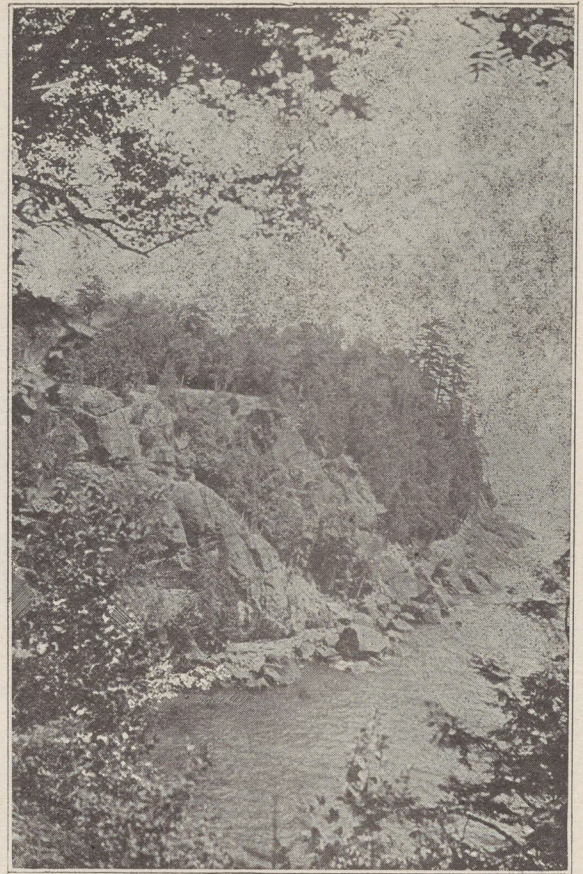
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CLOVERLAND

1,000 miles of macadamized, touring highways, thousands of inland lakes and streams, fishing, hunting, boating, swimming and hiking.

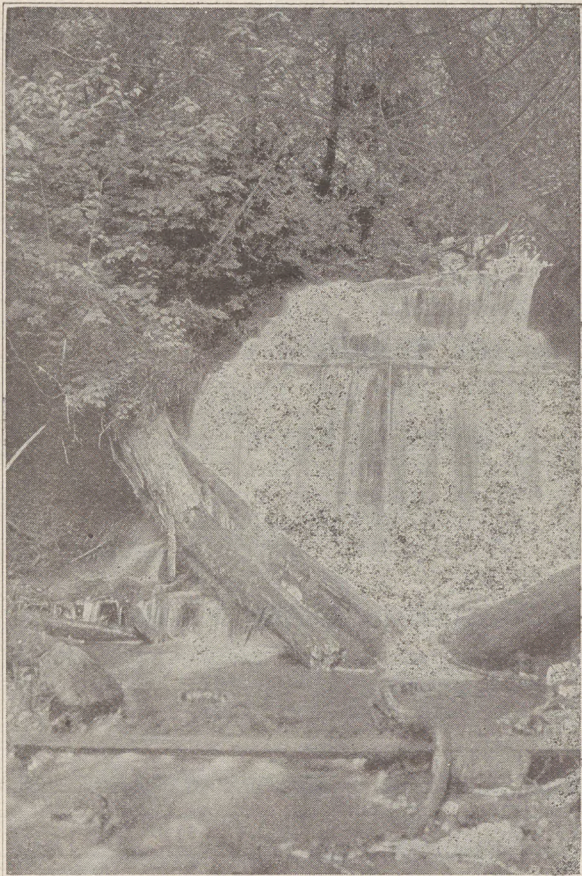
*Pleasant was the landscape 'round him,
Pleasant was the air above him.*

Longfellow Chose
CLOVERLAND
for his song of
"Hiawatha"



*For below him plashed the waters,
Plashed and washed the dreamy waters.
—"Hiawatha."*

V
E



*Where the birds sang in the thickets,
And the streamlets laughed and glittered.
—"Hiawatha."*

R

FOR THAT SUMMER TRIP
COME TO CLOVERLAND—

"The Playground of the Middle West" invites you to spend your summer vacation among its lakes and streams, hills and valleys, where "all nature is kind."

L

SEE

The famous locks at the "Soo," the "Big Spring" near Manistique, Grand Island, Old Fort Wilkins at Copper Harbor, Presque Isle at Marquette, and a hundred other beauty spots.

A

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For Booklet and Map Write

The Upper Peninsula Development Bureau
MARQUETTE, MICHIGAN

CLOVERLAND

MAGAZINE

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The "Bonnie Doddies" in Cloverland

By F. H. HIGGINS

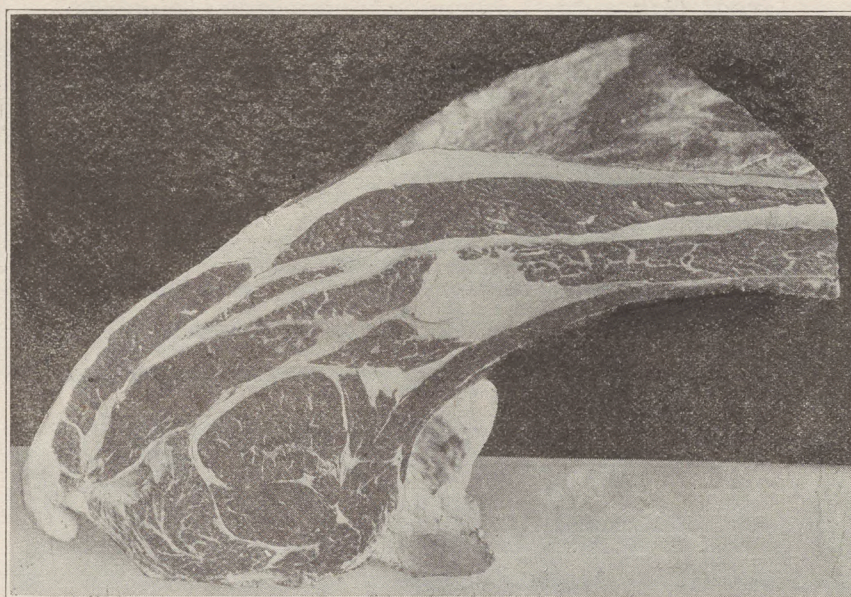
Assistant Secretary, American Aberdeen-Angus Breeders' Association

MICHIGAN began its Aberdeen-Angus drive last spring with a sale at Saginaw that scattered some forty-odd head of pure bred over the face of the state. Quite a few of these went north of this distributing point and into Cloverland, which many keen observers predict as the beef barrel of Detroit within the next few years. Probably the Michigan Association will hold a fall sale, either at Saginaw or Grand Rapids, and by next year, when the State Association gets to putting on two sales a year, the market will assure the success of a venture for a sale up in the Cloverland. That is the way this live organization is planning.

In talking with President Alexander Minty of the Michigan Aberdeen-Angus Breeders' Association recently, we were impressed with his views of Michigan's future, particularly with reference to the development of the northern end of that state. Southern Michigan is all dairying, and that system of farming has driven the boys off the farm and this year the problem of "abandoned farms" is a serious one. The beef system of farming is the one to beat the labor problem, Mr. Minty has found, and the Aberdeen-Angus can withstand the cold better and take less expenditure for shelter in the way of high priced buildings than any other kind. They were developed in Northeast Scotland, where the severe climate made them wonderfully hardy.

In this matter of hardiness, which develops longevity and prolificacy, Mr. Perry at Davison, Mich., has an old cow that is past 23 years of age, and she is carrying a calf with prospects of living several more years yet. The climate seems to be just suited for the naturally hardy Doddie.

Cephas Buttles, a farmer and stock raiser at Lewistown, Mich., in a letter to the writer, tells of his experiences with Aberdeen-Angus. He was the first man to take a pure bred herd north of Bay City, he states. He came from Iowa in 1902 with a bull and twenty-two cows and heifers, and has had wonderful success in raising steers that sell for 4 cents a pound over the best of the native cattle that have not had the advantage of pure



Rib Cut of a Grand Champion Aberdeen-Angus Carcass

bred Aberdeen-Angus bulls back of them. "I have been able to make cheaper beef on this North Michigan grass than in Iowa with all the corn," he says. "I believe we have the coming stock country and I will prove it as soon as its wonderful resources are generally known, and the Blacks will do their share toward making it so."

Probably the greatest impetus given any state in the Aberdeen-Angus breed the past year was given Michigan by its victories on both sides of the water. No sooner had the news gone around that Mr. William E. Scripps' imported herd bull was the sire of the Perth Champion, than all eyes were on Michigan. As Mr. Scripps is the Detroit publisher and manufacturer with means to put his herd in the forefront, this meant a lot. Later in the year, the Woodcote herd, owned by Dwight Cutler, another

Detroit man of means with large interests all over Michigan, won two important firsts at the Chicago International. The same week came the announcement from across the Atlantic that the Smithfield champion was also sired by Mr. Scripps' bull, making him easily the leading sire of the breed on this side of the water, if not in the world. Hence, Michigan Aberdeen-Angus have been in the limelight the past year.

There are some fifty-odd members of the American Aberdeen-Angus Breeders' Association in Michigan. These are widely scattered, but it is noticeable that they are increasing most rapidly north of the center of the state, and those who have investigated Cloverland are enthusiastic for getting into that great live stock section.

The Aberdeen-Angus is the modern beef breed. It fits into the present

scheme of early maturing beeves that can be sent to market at a profit in a day of high-priced labor and feed. Founded in cold, bleak northeast Scotland, the "Doddie" has come across the sea to a land of opportunity and has made good under difficulties.

The Aberdeen-Angus is especially the young man's breed, and most especially the college man's breed. The colleges and experiment stations with their unbiased viewpoint, gave the Aberdeen-Angus its opportunity in this country, and the breed was ready for just such a fair chance at proving its superiority. Look back over the past twenty years, and the debt the Aberdeen-Angus owes the American colleges cannot be overestimated.

The Iowa State College has led the way for the breed. Think of four international grand champion steers for Ames, and all Aberdeen-Angus. Add to these four single grand champions, five more carcass grand champions, the most practical class at the world's greatest steer show. What a lesson to the world, and what a lesson to the young men who as students at the Iowa college saw these results attained by their college in such great contests. Is it any wonder Iowa is the leading Aberdeen-Angus state?

But in American agricultural college life everywhere, the Aberdeen-Angus has found open-mindedness that could have been found nowhere else in giving it an opportunity. Minnesota, North and South Dakota, Nebraska, Kansas, Missouri, Oklahoma, Texas, Indiana, Ohio, Michigan, Pennsylvania, California, Oregon, Washington and Idaho institutions and stations have all given the breed excellent opportunities, in show and class room. The educated farmer now going into business therefore knows the breed. His father and grandfather did not.

When Christopher Columbus discovered America in 1492, he opened up a new world. The following year, he began improving America's live stock by importing some Spanish cattle. The descendants of those cattle increased to stock the ranges of Mexico and the United States. Today, one may still see these cattle in great areas of the South, the Southwest and

(Continued on page 18)



Aberdeen-Angus on the Range Quickly Convert Grass and Clover into Hard Fat

CLOVERLAND MAGAZINE

An Outlet from the Great Lakes to the Sea

A Summary of the Leading Testimony Given Before the International Joint High Commission That Is Considering the Feasibility of the Proposed Great Lakes-St. Lawrence Tidewater Canal.

THE International Joint High Commission has conducted hearings at North Bay, Sault Ste. Marie and Fort William, Ont., Marquette and Sault Ste. Marie, Mich., Winnipeg, Man., Grand Forks, N. D., Regina, Sask., Calgary, Alb., Great Falls and Helena, Mont., Boise, Idaho, Cheyenne, Wyo., Omaha, Neb., Des Moines, Ia., Sioux Falls, S. D., Duluth, Minn., Superior, Ashland and Milwaukee, Wis., closing with two meetings in Ontario and the last at Buffalo. Hearings at Denver, Minneapolis and Lansing were indefinitely postponed because of changes in the schedule of the summer circuit. Hearings will be conducted at Chicago, Detroit, Cleveland, several points in New York and Canada on the fall circuit which begins in October, and this itinerary may include some of the postponed hearings.

A Great Lakes-St. Lawrence Tidewater Congress will be held in Detroit, July 22-24, at which some of the most prominent speakers of the nation will be heard in behalf of the project. The Great Lakes-St. Lawrence Tidewater Association, of which the Hon. C. P. Craig, of Duluth, is the father and executive director, will hold its annual meeting in Detroit simultaneously with the Congress.

Every effort will be made to arouse public interest so that pressure may be brought to bear upon congress to enact legislation at its next session and get the great project under way.

Testimony in behalf of the entire central west and northwest were centralized at Duluth, the head of the lakes, where the International Commission conducted a two days' hearing, and for that reason the leading arguments presented at that hearing were selected as representative of the cumulative testimony submitted all along the line.

Hon. N. J. Holmberg, Commissioner of the Department of Agriculture, of Minnesota, gives the significance of the proposed canal from the viewpoint of agriculture; Hon. Fred D. Sherman, Commissioner of Immigration for Minnesota, points out its necessity for future development, and R. A. Horr, of Duluth, illustrates the importance of an outlet to the sea to give interior commerce and business a chance to expand.

An Economic Necessity

By N. J. HOLMBERG

IN presenting to your honorable body our argument in behalf of the project of the deepening of the St. Lawrence channel for the purpose of ocean-going navigation, I wish to say for the agricultural interests of the state, and as speaking for the State Department of Agriculture, that it is our desire to have you consider, as one related whole, all the arguments presented by the various agricultural interests appearing. We shall therefore omit from the present discussion many of the most forceful reasons for such action, knowing that they will be read into the record during the progress of this hearing.

We wish to present to you the Minnesota argument, not as viewed from the standpoint of Minnesota interests primarily, but rather from the standpoint of the national and international

situation. We desire that you consider the weight of these arguments, not only as they affect the prosperity and welfare of our state, but also as they affect the prosperity and welfare of the nation at large. Further, we wish you to consider the situation not only as it is now, but as it will appear in the near future. What we of Min-

nesota desire is an opportunity to develop our economic resources in such manner as to keep pace with the growing demands of the nation as a whole. May we then refer somewhat in detail to the progress of our national and agricultural growth, keeping in mind the fact that such reference is for the purpose of establishing a substantial basis for the argument that the primary need of Minnesota today is for broad, unhindered roadways to the markets of the world?

Our national growth in population since 1850 has been continuous save for a very slight drop in the estimated increase occurring during the decade of the Civil War. A similar drop below the anticipated population growth may be looked for during the decade of the World War, but neither of these affect seriously the tendency toward population growth that assures us that within the next twenty or thirty years the population will pass 150,000,000. Meanwhile, the increase in the farm acreage of the nation, while showing a total gain from decade to decade, has gradually fallen behind, more particularly in the years since 1880. At the present time the tilled land per capita is lower than at any previous time in our history. Reducing this general statement to figures and using the best information available, the

United States census report for 1910, it appears that there were living on farms ten years ago only 31.4 per cent of the entire families of the United States, and in the state of Minnesota but 37.5 per cent of its families were tilling the soil. At the present time, assuming that the tendency discoverable from 1900 to 1910 remains con-

stant, only 29 per cent of the entire population of the United States is engaged in agriculture, as opposed to 71 per cent engaged in occupation demanding, but not supplying, the production of food; and the proportion for the state of Minnesota is indicated at the present time as 32 per cent on the farm toward 68 per cent in her cities, towns and villages.

Turning next to the question of what parts of the nation are maintaining its food supplies, let us call your attention to Chart 2, showing the trend of farm development in the United States according to geographical groups shown for the years 1850 to 1910 inclusive, as reported by the United States census. Without entering into details as to exact figures, you will observe that the greater number of the farms are located in the region situated between the Rocky Mountains and the Alleghenies, and that the growth in this region has been most pronounced. The Pacific and Mountain states have increased slowly and steadily, but there are limiting factors of topography and rainfall that keep them from entering largely into the production of food essentials. The New England states show, for three decades out of seven, an actual falling off in the number of farms reported, the number of farms

having remained practically stationary since 1860. The Middle Atlantic states reached the apex of their development in 1880 and since that time have had losses in two decades and a slight gain in one. The East North Central states, those bordering about the Great Lakes and east of the Mississippi river, reached their apex in 1900, and the decade from 1900 to 1910 shows a slight loss. Those conversant with existing tendencies of farm life are well aware that the report of the next census will indicate a still further dropping off in this region. The other remaining states, consisting of the West South Central, the East South Central, the Southern Atlantic and the West North Central, there is a gain shown, but not on a whole as compared to the gain in population for the decade; and in each case the development for the last decade in question falls off as compared with the development of the three decades subsequent to 1870.

A study of the map of the United States taken in connection with the factors of soil, climate, and topography, together with the all important factor of the difficulty or ease with which access to the seaboard may be obtained, shows that were the Great Lakes-St. Lawrence route navigable for ocean going ships, the harbors of Lakes Erie, Huron, Michigan and Superior would furnish seaboard facilities to the states of Iowa, Illinois, Ohio, Indiana, Kansas, Missouri, Kentucky, Nebraska, North Dakota, Minnesota, South Dakota, Michigan, Wisconsin, Colorado, Montana and Wyoming. We have, therefore, for the purpose of presenting the situation to your body, considered this block of states as the natural Great Lakes trade region. This region produces of the leading food necessities of the nation, flax included, 70 per cent of the total supply.

Produced in the Great Lakes Area		Produced Outside of Great Lakes Area	
	Per Cent		Per Cent
Flax	100	Flax	0
Rye	86	Rye	14
Oats	81	Oats	19
Barley	78	Barley	22
Wheat	77	Wheat	23
Corn	69	Corn	31
Potatoes	51	Potatoes	49
Hay	53	Hay	47
Pasture	46	Pasture	54
Sheep	48	Sheep	52
Cattle	52	Cattle	48
Dairy cows	54	Dairy cows	48
Hogs	63	Hogs	37

This 70 per cent of total national food production is obtained from 45 per cent of the total area. The states in their order are developed as follows:

	Portion of Great Lakes Devoted to Crop Production		Portion Awaiting Development	
	Per Cent	Per Cent	Per Cent	Per Cent
Iowa	83	17		
Illinois	79	21		
Ohio	74	26		
Indiana	73	27		
Kansas	57	43		
Missouri	56	44		
Kentucky	56	44		
Nebraska	50	50		
North Dakota	45	55		
Minnesota	38	62		
Michigan	35	65		
Wisconsin	33	67		
South Dakota	32	68		
Colorado	6	94		
Montana	4	96		
Wyoming	2	98		

It may very properly be mentioned that the percentage of developed and undeveloped territory of these states, such as Montana and Wyoming, has changed considerably since the period when the figures became available, (1910), but the fact remains that the relative proportions for the entire territory hold approximately as shown on the chart appended. We may say with some degree of reservation that not less than 50 per cent of the entire territory tributary to the Great Lakes and

Great Lakes-St. Lawrence Tidewater Congress

A GREAT LAKES-ST. LAWRENCE TIDEWATER CONGRESS will be held in Detroit, July 22-24. The program includes some of the most distinguished speakers of the United States, representing broad interests stretching from the Atlantic to the Pacific coast.

The call is issued by Hon. C. P. Craig, of Duluth, executive director of the Great Lakes-St. Lawrence Tidewater Association. The annual meeting of the association will be held on July 24 in connection with the Congress.

Following is the list of speakers:

Introduction—HON. JAMES COUZENS, Mayor of Detroit.
 HON. A. E. SLEEPER, Governor of Michigan.
 HORACE C. GARDNER, Chicago, President of Great Lakes-St. Lawrence Tidewater Association.
 CHARLES H. CAMPBELL, President Detroit Board of Commerce, presiding.
 CHAS. K. ANDERSON, New York, Vice-President American Manufacturers' Association.
 JULIUS H. BARNES, Former President U. S. Grain Corporation.
 MAJ. GEN. LANSING BEACH, Chief of Engineers, U. S. A.
 CHARLES EVANS FOWLER, New York, American Society of Civil Engineers.
 HON. FRANK B. KELLOGG, U. S. Senator from Minnesota.
 HON. I. L. LENROOT, U. S. Senator from Wisconsin.
 DR. R. S. McELWEE, Director Bureau of Foreign and Domestic Commerce.
 HON. MEDILL McCORMICK, U. S. Senator from Illinois.
 H. H. MERRICK, Chicago, President Mississippi Valley Association.
 HON. A. P. NELSON, Member of Congress from Wisconsin.
 HON. PETER NORBECK, Governor of South Dakota
 HON. ATLEE POMERENE, U. S. Senator from Ohio.
 HON. MILES POINDEXTER, U. S. Senator from Washington.
 WALTER L. ROSS, Toledo, President Clover Leaf Railroad.
 J. W. SHORTHILL, Omaha, Former Vice-President American Grain Exporters' Association.
 HON. C. E. TOWNSEND, U. S. Senator from Michigan.
 GARDNER S. WILLIAMS, Ann Arbor, American Institute Consulting Engineers.

(Three other names of men from whom acceptance has not yet been received are withheld.)

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south of the Canadian border today is undeveloped and awaiting the stimulus which better marketing facilities and better markets alone can afford.

In order to give an idea of the production of this territory during that portion of the past decade for which the figures are available, (1913 to 1918) we present herewith a chart (Chart 5) showing the production in millions of acres of the leading crops, corn, wheat, oats, barley, rye, and potatoes, the latter three being minor so far as acreage is concerned, and under the stimulus of war production show slight gains during the years 1917 and 1918. Oats show an appreciable gain, but the significance of the relation between the two great cereal crops, wheat and corn, must not be overlooked. Beginning with 1913, the acreage of corn dropped, and the acreage of wheat rose almost in proportion. In 1915, there was another slight drop in the acreage of corn and a somewhat marked increase in the acreage of wheat, due largely to the question of manpower and the uncertainty of market conditions, notably the shortage of cars for transportation purposes. The year 1916 showed a marked falling off in wheat and a rise in the corn acreage. This spread was continued in 1917. In 1918, under the stimulus of war production, the wheat acreage was increased and the corn decreased again practically to the same amount. The obvious deduction that must be made from these figures is that the farm area of the Great Lakes has reached the point of stable equilibrium, where unless the stimulus of better markets and marketing facilities is forthcoming, we may no longer

hope for a total increase in food production. We must, on the contrary, be content to see the north central portion of the United States take its place with the older farmed sections of the Union, as having reached its maximum development.

We wish to point out further in this connection that what has been said of the Great Lakes area as a whole applies with actual force to the local conditions within the state of Minnesota. Practically the same tendency toward a fixed volume of production from year to year is observed when comparing the wheat, oats, corn, barley, rye and potato crops, year by year, for the 1913 to 1918 period. The Minnesota farmer does not let his land lie idle, but he has reached that point in the development of the state's resources, where, because of the lack of transportation facilities, together with the prevalent shortage of labor and the high cost of all factors entering into production, he is not increasing the total of his acres in use, he shifts about from one crop to the other, according as his judgment or the season dictates, but the stimulus attendant upon ready facilities for marketing his produce is no longer calling him to clear up the unused areas of the state.

Naturally, when considering the question of ultimate food production, the question arises as to the facilities of future expansion. The continental area of the United States embraces 1,905,000,000 acres, of which there were in 1918, 478,000,000 acres improved. This amounts to 25 per cent of the total area; 31.5 per cent is forest and woodland and 39 per cent

range and pasturage. The balance is taken up by cities, roads and deserts.

To those conversant with the topography and climate of the nation, it is clear that whatever future development may be possible must largely take place within the area bounded by the Appalachians on the east and the 100th Meridian on the west. Lack of rainfall restricts the future of the western mountain region to a certain rather narrow limit. The mountain territory to the eastward has its limitations, the development of the valleys and more favored localities having proceeded nearly to their natural economic limit. Within the area south of the southern line of Missouri and between the Atlantic and central Texas, there are possibilities of great future expansion, but the climate and the natural training and natural tendencies of men enters in and makes that territory tend to develop largely along the lines of cotton and live stock, leaving to the north central section of the United States as heretofore the problem of finding a way to feed the millions already here and the millions to be.

When the nation is developed to its maximum capacity the farmed lands will be approximately 45 per cent of the total. The forest and woodland will be approximately 19 per cent of the total and range and pasture 32 per cent, with the balance in cities, roads and deserts.

If we omit from the reckoning our present exorable surplus, looking at it as a factor of safety rather than as a business or sales proposition, and assuming for the moment that we are merely caring for our own needs in

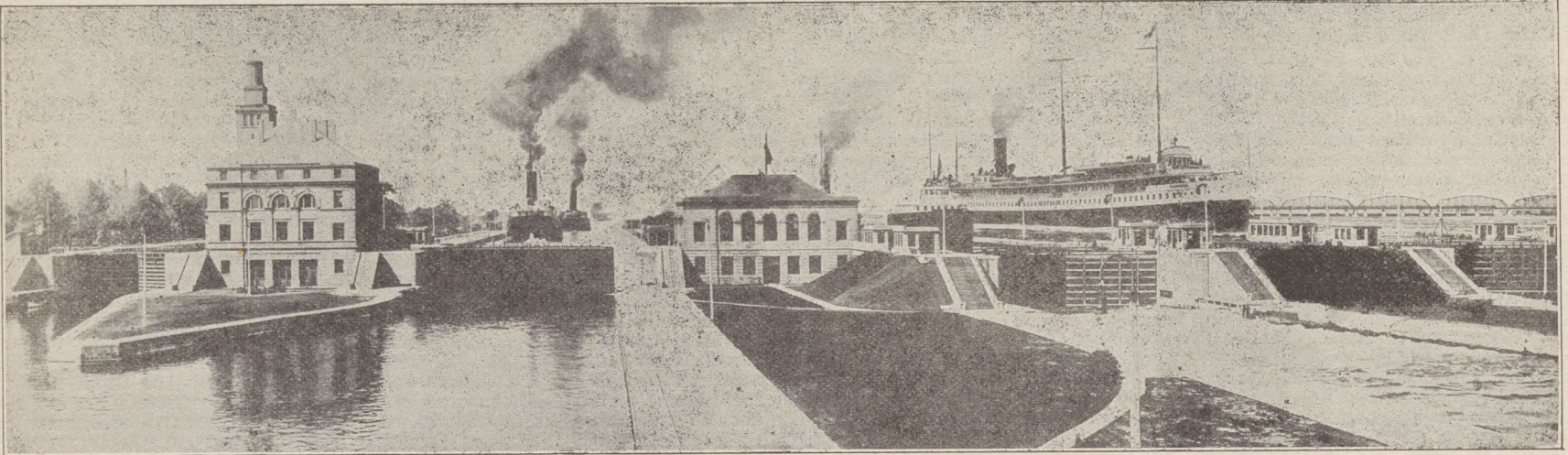
matters of food production, a comparison between the present farm development and that of the future, when our lands are put to their full economic use, shows that a question of food for the population of the United States will become a pressing one when the total population has reached 160,000,000, or according to the present upward trend of population, by about the year 1950, thus bringing this problem within the range of those matters that are pressing for immediate solution and forcing upon us, of this generation, whether we will or not, the duty of looking about for those means that will stimulate production in such manner that it will keep abreast of population demands.

With one-half of its territory awaiting development the Great Lakes region is the immediate answer as to where we can most easily and most profitably find new lands to develop without any disparagement to any other section of the country. The richness of its soil, the assurance of its rainfall, the nature of its climate, the ease with which its lands may be tilled, all point to the undeveloped portions of the Great Lakes area as the mine from which we may most cheaply extract the food essentials necessary for the maintenance of life. Without attempting to present the case for the other states within this region, let us suggest that their showing as to possible future development would be comparable for that of the state of Minnesota. Taking the essential factors of food, flax, rye, oats, barley, wheat, corn, potatoes, hay, pasture, sheep, cattle, dairy cows and hogs, out of this 70 per cent of all such food



The International Joint High Commission. Left to right—Hon. C. P. Craig, Executive Director Great Lakes-St. Lawrence Tidewater Association; Hon. Obediah Gardner, former U. S. Senator from Maine, Chairman of American Commission; Hon. Charles A. McGrath, Chairman Canadian Commission; Hon. H. A. Powell, Canadian Commissioner; Hon. Frank E. Randall, President Duluth Commercial Club; Senator C. D. Clark of Wyoming, American Commissioner; Sir William H. Hearst, Canadian Commissioner

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The Four Locks at the Soo, Capable of Taking Care of All the Ocean-going and Lake Traffic Demanded by the Construction of the Great Lakes-St. Lawrence Tidewater Canal.

produced in the Great Lakes area, Minnesota with the population of 2.5 per cent of the total population of the United States produces 7.4 per cent of these essential food products, and Minnesota does this on lands that are but 16 per cent tilled. Of the balance of her lands 25 per cent are in meadows and pastures; 2 per cent are occupied by roads and cities; and 57 per cent remains to be developed. In other words Minnesota is today furnishing the raw food supply for 7.5 millions of our people, or to put it another way, each person in Minnesota is responsible for the food of two persons outside of the state. This is not all together the story, only one person in three in Minnesota is engaged in agriculture, so the true meaning of the figures is that one farm family in Minnesota is furnishing the food for six families otherwise engaged.

This point may be illustrated by Chart 11. Distributing the total production of the United States in corn, wheat, oats, barley, rye and potatoes per capita among its population and considering the production of these essential food crops of Minnesota (A. D. 1918), we arrive at the following figures showing the degree to which Minnesota, less the one-third developed at the present time, is maintaining the food supplies of the nation. Of wheat we used at home 20 per cent and exported 80 per cent; our export amounting to 1,900,000 tons. Assuming that we use our per capita of corn, as we doubtless do in the production of live stock, we retain at home 69 per cent of our total production and export 31 per cent, or 1,000,000 tons. Of our oats we retain 20 per cent and leave for outside purposes 80 per cent, or 1,724,000 tons. Ninety per cent of our rye is used at outside points; 90 per cent of barley, or 940,000 tons is not needed at home and 67 per cent of our potatoes, amounting to 567,000 tons, finds a market beyond our borders. We have omitted from the above computation all mention of the products of hay lands and pastures, or of the minor crops, all the immense volume of garden products, all the products of our orchards, all our live-stock, all our dairy and have dealt simply with those vital foods that stand out in the thought of the world whenever it mentions crop production. With all these additional resources omitted we have a computed total tonnage of primary products, available for exportation, of 6,349,000.

We have been speaking of the present instead of the 16 per cent of land now under the plow in Minnesota. When our lands are properly developed, we shall have 36 per cent under the plow. Instead of 25 per cent in meadows and pastures, we shall have 38 per cent in better meadows and bet-

ter pastures. Instead of 57 per cent undeveloped, we shall have a possible 24 per cent devoted to properly handled forests. It is entirely possible that much of this 24 per cent, estimated as forest lands, will become farm lands, leaving to the less favored sections of the nation the problem of supplying the timber for the future. But thinking for a moment of Minnesota as a unit by itself, independent and upon its own resources, the one-fourth of its area devoted to forests will speedily fill all demands that may be made upon it. There are no waste lands in Minnesota. We have heretofore developed the more easily cleared lands, but the lands remaining are of a richness equal to, or if not surpassing the lands already cleared. The undeveloped lands include the rich marshes of the southern portion of the state, the immensely productive peat lands of the central and northern portion, the cut-over lands of the north-eastern third, and as these are brought into full development a profitable use will be found for practically each acre within our borders.

Again we are making an assumption, namely that the food producing ability of the state as a whole is in proportion to the lands in its plowed fields. With Minnesota at its maximum development, its plowed area is 2.25 times the present, and instead of 7,400,000 people now deriving their food from its soils, 5,000,000 of whom now live beyond our borders, we will be furnishing the food necessary for the support of 16,000,000 people. This we can accomplish only as we have an unimpeded road to market.

Minnesota desires the opportunity of developing her untouched resources in order that she may play her part in the food producing problems that lie before us. The bar to such development is in part and largely due to lack of physical connection between the producer on the farm and the consumer at the other end of the road. That the citizens of Minnesota realize keenly the importance of transportation problems is shown by the fact that they are now seriously discussing the expenditure of almost \$70,000,000 in the development of a network of highways to connect the farms with the shipping points. But when we have arrived with our produce at the initial point of shipment we find ourselves confronted with a car shortage that has become through its settled abnormality almost a normal condition of things. We refer you to the figures furnished by the Minnesota State Railroad and Warehouse Commission under date of May 15, 1920, indicating that on that date our Western railroads had the following percentages of the freight cars owned by them available for use on their roads. These percentages included, in addition to

their own cars on their own tracks, all foreign cars at that time in service on these lines:

	Per Cent Available
Chicago Great Western	77.6
Chicago, Milwaukee & St. Paul	100.8
Chicago, St. Paul, Minneapolis & Omaha.....	77.0
Great Northern	68.0
Minneapolis & St. Louis	91.6
"Soo"	60.0
Northern Pacific	64.3

representing approximately 77 per cent of the normal number of cars available on trackage covering the state of Minnesota. We have learned by long experience that when our cars laden with grain or potatoes, or butter or meats, pass beyond the Chicago terminals, they are in the area of congestion, and that the farther east they go, the more impossible it is to withdraw them from the jam and get them back into service in the west. We leave the matter of the discussion of the causes of this condition to those who are better informed on transportation problems. However, the essential fact remains that by reason of the shortage of cars, the farmer is handicapped in his marketing and is discouraged from attempting production beyond the volume of the present. Shortage of cars has within the past six months caused the loss of thousands of bushels of potatoes. It has prevented the sale of seed potatoes to outside points, thus restricting production. It has tied up on our farms and in our local elevators hundreds of cars of wheat that could not get to market when the grower wished to sell. The lack of cars for the moving of live stock has caused serious inconvenience and loss to the shippers of live stock throughout the state, thereby discouraging the further expansion of the live stock industry. The shortage of refrigerators or the handling of dairy products has caused serious inconvenience and the forced holding under unfavorable conditions of butter destined for Eastern markets. With the roads to market overtaxed by the food products already offered, it is a difficult matter to engage men in the further expansion of the food producing industry. We look upon this retardation of shipment, this inability to sell when purchase is offered or sale is desired to be made, as a more serious problem than the problem of rates, important as the latter unquestionably is. Unless the producer can be assured of the ability to sell when he wants to sell, he is not going to invest further capital in the production of commodities that are subject to the uncertainties of lack of transportation facilities.

A word in this connection about incoming shipments. The congestion to the eastward and lack of cars in the West makes the deliveries of supplies needed on the farm most uncertain. This applies to machinery, to building equipment and to all the general ne-

cessities of the farm and home, and because of the delays incident to such shortage, an apparent lack is created and often the producer finds himself forced to pay unwarranted prices for materials and supplies that he must have in order to go ahead with production.

Distance to market is measured, not in miles, but in cost of transportation, and in the time taken to deliver. As illustrating the direct benefits of ocean-going transportation, we may assume that the cost of a bushel of wheat from the harbor of Duluth to the port of Buffalo is \$0.0225. At Buffalo the transfer charges from boat to rail are approximately \$0.0075. The rail haul from Buffalo to New York, 439 miles, amounts to \$.04 and the cost of transferring from car to ship in New York harbor, \$.003. Freight charges under normal conditions from New York to Liverpool, 3,058 miles, is \$0.0525, making a total transportation charge from Duluth to Liverpool of \$0.1525. Deducting from this amount the three items connected with the transfer from ship at Buffalo to ship in New York harbor amounting to \$.0775, there is left a total water-haul charge of \$0.075. In other words, fully one-half the total transportation charges from the terminals at Duluth to the warehouses in Liverpool is taken up by an overland portage that leaves the bushel of wheat when in New York harbor further away from its point of destination than when it left the ship at Buffalo. Assuming the creation of a deep water highway from the ocean to Duluth, the carrying charges of such highway to be met by the creation of hydro-electric power, it seems apparent that there would be to the shipper a saving in charges equivalent to the cost of transportation from ship to ship from Buffalo to New York. If this saving, instead of being \$.075 per bushel, were only \$.05 per bushel, it would represent to the farmers of the state of Minnesota a very important financial consideration, because it may be assumed as a law governing the maintenance of freight rates that the cheaper and more accessible transportation route controls the rate. Consequently, the saving would not accrue only to the tonnage originating at our inland ports, but there would be a similar saving on competing tonnage traveling by rail.

The St. Lawrence waterway offers to us of the West a distinct shortening in time consumed en route from the food producing center of our continent to the food consuming centers, both of our continent and of Europe. In the case of a shipment of frozen meats cleared from Chicago in the summer of 1919 for European ports, the actual sailing time less delays en route not connected with trans-

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CLOVERLAND MAGAZINE

Time of Sewing Controls Winter Wheat Crops

By E. J. DELWICHE

Agronomist in Charge of Northern Wisconsin Experiment Stations

ONLY a few days' difference between the time of sowing winter wheat may represent the difference between success and failure. This fact is demonstrated on a plot at the Ashland Experiment station. It is a thesis in which the results from sowing winter wheat on August 24 and September 5, last year, clearly speaks for itself.

The wheat sown on August 24 withstood the winter freezing and sprang up into a vigorous growth early this spring. The plants were hardy, stooled out well, and showed rapid growth considering the backward spring, and give every indication of a splendid crop that will mature for early harvest and be out of the way for early fall plowing and sowing.

The wheat sown on September 5 suffered winter killing, and the plants came out in the spring, weak and with poor root growth, and did not stool out. Had a farm field of wheat shown up in such poor condition in the spring it would have been more profitable to have plowed it under and planted some spring crop. The stand would not be worth holding for harvest.

The picture shown here was taken on June 11, this year, and well illustrates the difference between early and late sowing. The early sowing shows success; the later sowing shows a crop failure.

The lesson is that winter wheat should be sown as early as possible—the latter part of August or before the first of September. This gives the plant a chance to get a start in the fall and obtain a good root growth, which enables it to withstand freezing in the winter and make a strong, vigorous plant in the spring that will insure healthy growth which makes well-filled heads and sound mature grain. Wheat sown late in the fall does not gain a good root growth before the growing season ends with cold weather, hence it cannot withstand the winter freezing so well and necessarily produces weak plants in the spring from which good crops cannot be expected.

As experiments have shown quite conclusively that the best yields of wheat are obtained by sowing plump rather than small and immature seed, only grain which is plump and uniform in size should be sown. The grain should be carefully cleaned with a good fanning mill to rid it of shrunken and immature seed, weeds and other impurities. One-year-old winter wheat seed is preferable to freshly threshed seed, as the newly threshed grain does not germinate as readily as that from the previous season. Experiments have shown that a resting stage of about two weeks is necessary to secure perfect germination. An added reason for this suggestion is that it is often impossible to get the crop threshed early enough to sow at the proper time.

Many farmers believe that after a few years wheat "runs out" and that from time to time the seed should be changed. This idea is wrong. With proper care in grading and cleaning so as to keep the seed pure, a variety adapted to the climate and soil conditions will not deteriorate.

Winter wheat outyields spring wheat in Wisconsin. At Madison winter wheat outyielded spring wheat on an average, 13 bushels to the acre; at Ashland, 8.2 bushels; and at Marshfield, 4.3 bushels.

Winter wheat is able to use plant food in the soil more efficiently than spring wheat. The fall grown crops make use of the plant foods which otherwise are leached out by autumn rains and would be lost.

Winter wheat excels as a nurse crop. It is harvested earlier than spring sown grain and thus gives the clover crop a better chance to compete for food and moisture.

Winter wheat does not rust as does spring wheat. The rust seldom attacks winter wheat while on the other hand spring wheat is often damaged by it.

The seeding of winter wheat comes in the fall while the seeding of spring wheat comes at the time of the rush of spring work. Where help is hard to get this is a factor decidedly in favor of winter wheat.

Winter-killing is the chief disadvantage of the winter wheat. When partly winter-killed the wheat stools so profusely that it usually pays to let the crop stand. When winter wheat is completely winter-killed early oats may be sown to get a crop from the field. When rust attacks spring wheat there is no way of getting a crop.

Land intended for winter wheat should be plowed in July or August rather than in September. The soil should be given time to settle between plowing and seeding.

Wheat requires a firm, well-compacted seed-bed. This allows the seed to come in close contact with the soil particles and enables the roots to feed readily upon the available plant food. A heavy rain after plowing will generally compact the soil sufficiently. If the weather is dry it will be necessary to compact the soil with a roller or other implement, particularly if a large amount of vegetation has been turned under. Green vegetable matter plowed under, unless compacted immediately after plowing, causes the soil to dry out excessively. The harrow should always follow the roller to form a mulch, thus preventing the loss of

moisture which is brought to the surface by the compacting of the soil.

It is also necessary for the surface of the seed bed to be loose and crumbly. This prevents the moisture from evaporating. Upon heavy soils this condition is most easily secured by disking immediately after plowing. In some sections the same results may be obtained by harrowing. Some conditions arise where it is necessary to disk twice and harrow. On heavy soils care should be taken to pulverize too much for if heavy rains should follow shortly after the grain is sown there would be danger that a crust would be formed, which would prevent the grain from coming up well and making a thrifty growth.

Rather small lumps ranging in size from that of a walnut to that of a man's fist and a little larger are no objection on a winter wheat field, as the action of frost tends to pulverize the lumps, leaving the ground in good condition in spring. These lumps also tend to hold the coating of snow over the field, preventing the freezing and thawing of the soil, which is one of the causes of winter-killing.

In the northern section of the state, winter wheat may be sown from August 25 to September 10. In the southern part of the state it is sown between September 10 and 20, varying somewhat with the season. Enough growth should be made so that the leafage may serve as a mulch for the roots, thus preventing early thawing. Besides, if the root development is strong there is less danger of heaving and consequent winter-killing.

The drill is preferred to the broadcast seeder for several reasons. In the first place less seed is needed to obtain a good stand, and in the second place the drill puts the seed at a more uniform depth, insuring greater uniformity in germination. Broadcast winter wheat suffers more from winter-killing than drilled wheat.

The depth of seeding will vary with soil conditions. The rule should be to place the seed deep enough to come in contact with moist soil. This is usually from one to three inches. In wet seasons on heavy clays care should be used not to sow spring wheat too deep.

Several factors influence the rate at which grain should be sown. Among these are the kind of soil and its condition with respect to fertility, time of seeding, the size of the kernel and the stooling habit of the variety. As a rule less seed is needed on rich soil to secure the same thickness of stand as on poor soil. Grain usually stools out better on good than on poor land. Less grain is usually needed on heavy than on light soils.

The rate is also largely determined by the time of seeding. Winter wheat sown late in August or early in September in upper and central Wisconsin and about the middle of September in the central and southern portions of the state will have ample time to stool out if a sufficient amount of moisture is present in the soil, and as a consequence less seed is needed than if sown three or four weeks later.

The size of kernels must also be considered in determining the rate at which to sow wheat. To obtain the same stand the gauge should be opened wider when sowing the larger than when sowing the smaller-kerneled varieties. For example, experiments have shown the Durum wheat, a large-kerneled and poor-stooling variety, requires approximately one-half bushel more seed to the acre than do the Fife and Marquis types. If, for any reason, it is necessary to sow seed which is shrunken, badly discolored, or somewhat damaged and immature, considerably more must be sown because of its size, condition, or low vitality. In this connection it should be added that all seed should be tested to determine its germinating power. The amount of seed of good quality to sow will vary from six to eight pecks an acre for both winter and spring varieties.

An excellent rotation for winter wheat is clover, cultivated crop, peas (field or canning), and winter wheat seeded to clover. The land is disked immediately after the peas have been removed, and the wheat is sown late in August or early in September. This rotation has given the best results of any tried at the branch experiment station at Ashland Junction. It saves labor, since no plowing is required for the wheat, and it provides a firm seed bed.

Winter wheat may properly be the first crop on new land, providing the land is broken in midsummer so as to allow time for the soil to settle well.

Spring wheat may also be sown on new breaking, but only when the plowing is done in the fall.

On rich soils where there is difficulty with small grains lodging, the first rotation suggested may be used with the exception that corn should follow corn or small grain should follow small grain. In the latter case the winter wheat could follow an oat or barley crop, thus affording a ample time to plow the stubble and get the wheat in the ground.

When it is desired to sow winter wheat on sod land, the sod should be well plowed, a jointer being used to turn down all grass. The plowing should be done

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This Picture Taken on June 11 Shows That Early Sewing Means a Crop, Late Sewing a Failure

CLOVERLAND MAGAZINE

Potato Leaf Hopper and the Leafburn

By DR. E. D. BELL, Professor of Entomology, and
DR. F. A. FENTON, Assistant in Entomology

Iowa Experiment Station, Ames, Iowa

(Courtesy of the Potato Magazine)

THE potato fields of the northern part of the United States, from New York and New Jersey, west to the plains region have been seriously suffering for a number of years with a burning which began on the margins of the leaves and in serious cases killed the vines before the potatoes had fully developed.

Plant pathologists and entomologists have been working on the potatoes for years attempting to control the fungous diseases and insect pests, and in some of their spraying — especially when bordeaux mixture was used — have noticed that they succeeded in checking the spread of this burning. This has furnished additional evidence to indicate that it was caused by a fungous disease but they have never been able to find an organism that caused it or how it was transmitted.

In 1918 the senior author visited potato fields in Southern Wisconsin upon the call of County Agent James Lacey. Mr. Lacey insisted that little green flies were causing the trouble and on investigation it was found that the potato plants were simply swarming with nymphs of the potato leafhopper and that as fast as the plants died these leafhoppers matured and flew away to infest other fields and adjoining bean patches, rapidly producing the same condition in the new fields they attacked. Preliminary experiments were carried on during the remainder of that season in efforts to substantiate the belief that the potato leafhopper was responsible for the burned condition and also to find out the number of generations of the insect. But the main work on both these problems was taken up by the junior author during the summer of 1919 at the Iowa Experiment Station.

Many facts still remain to be discovered but enough has been learned to demonstrate that this disease which has been named "hopperburn" is another insect-transmitted disease more or less closely related to the curly leaf of the sugar beet. This latter disease has been previously worked out and proved to be transmitted by a leafhopper. Many interesting things have been discovered in the two seasons' work and many problems still remain for solution. In fact, the more we investigate the more we find we do not

know, as is usually the case in scientific investigations. A few facts, however, seem to be clearly proven so it seems worth while to record the present state of our knowledge.

Most of this burning has been described as tipburn and explained on the ground that the potato leaves lost moisture more rapidly than the plant could furnish it, resulting in their wilting and subsequent death. If this were the correct explanation of the condition it would be expected that this burning would appear in gravel areas and on the driest locations first, that it would occur only under high temperature conditions first, and one would naturally expect to find it more prevalent in the hot regions of the Western deserts where the temperatures often become excessive and the air is especially dry. Instead it is never found in the arid regions but is apparently limited to the humid sections of the country. It almost invariably affects a field uniformly, at least on the same variety of potatoes, regardless of soil conditions.

If this burning were produced by the sun it would be expected to show on the top leaves of the plant and on those that were most exposed to the sun. Instead it always appears first on the margins some distance from the top, usually on those near the bottom and is as likely to appear on leaves that are partly or nearly completely shaded as on those more exposed. Some other explanation, therefore, must be sought to account for its occurrence.

The simplest proof of this which has been demonstrated time and again, consists in placing two cages over plants of equal size. In one of these cages 200 or 300 leafhoppers were liberated while the leafhoppers that were on the other plant were carefully removed before the cage was put over it. In three to five days, depending on the number of leaf-

hoppers inserted, the potato plant in the cage with the leafhoppers was found to be burned brown while that in the other cage had continued to grow in a green and healthy manner. In one case the cages were left on for eighteen days. At the end of that time when the cages were removed the plant that had the hoppers on it was shriveled and dead, except where it has sprouted up at the base, while the other plant had practically doubled in size and the new leaves were beautifully green. This experiment was carried on in a hot dry time in August.

In other experiments cages were placed over the plants before the leafhoppers came in the spring and kept on until harvest time in the fall. Inside of these cages the potatoes grew thriftily and without a sign of burning, remaining green and upright until harvest when all of the other plants in the field were burned and dead.

In the greenhouse potato slips were planted in moist sand and kept under relatively cool and humid conditions. On these slips leafhopper nymphs were placed from time to time. In every case the slip on which the leafhoppers were placed showed the typical burning while the check plants remained green and normal. Where potato leaves that were heavily infested with eggs were removed to the greenhouse and each nymph removed as soon as hatched, the leaves remained green and showed no signs of burning, even at the tip. While other leaves on which these nymphs were placed began to burn at the tip within a short time and the burning gradually extended until it surrounded the leaf showing that the nymphs are capable of producing the burning.

In another test fifty nymphs were placed on one tip, fifty females on another and fifty males on another. The tips that had the nymphs and the females showed typical burning in a short time, while the tip on which the males were placed gave no evidence of injury. This experiment was repeated several times with the same result. This does not prove that the males do not cause burning, but it does indicate that they are much less virulent. This may be partly due to the fact

that the males live only a short time and are relatively light feeders as compared with females.

The life history of this leafhopper proved to be rather simple. The adults live over winter, hiding in the brush and rubbish, in woods and fence rows. They do not appear until late in the spring, then they gradually come out and feed on the grass and weeds, rarely, if ever, touching a potato or bean at this time, even if the early ones are up. Suddenly on June 6, 1919, at Ames, the air was swarming with them in a spring flight and after this was over they settled down on the potato fields in large numbers. Every potato field that was up far enough to have well developed leaves at this time was about equally infested with these leafhoppers and they soon began to lay invisible greenish eggs in the stems and veinlets of the leaves. The females continued to lay eggs from one to two months and as they lived over winter it makes their total length of life over a year. The eggs hatched into nymphs which stayed on the under side of the leaves on which the eggs were placed. These leaves had by this time become full grown and were covered over with the younger leaves above. As the nymphs developed the burning began to appear at the tip of the leaf and extended around the margin. The nymphs shed five white skins as they developed and in many cases all of these five skins could be found on the under side of a single leaf where the burning first appeared, showing that the little leafhopper remained confined to this single leaf.

The potatoes that were not up at the time of the spring flight remained free from infestation until the first generation had matured on the early potatoes. In cases where they were so numerous as to kill the potatoes the adults flew away as fast as they obtained their wings, but where the infestation was less severe, they remained on these potatoes until the majority of the brood was out. Then suddenly again the insects took to the air and the summer flight was on.

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Fig. 1—Single Leaves, Showing Burn Extending in on the Nervures.



Fig. 2—A Leaf Showing Cast Skins of the Young Hopper.

CLOVERLAND MAGAZINE

Cost and Profit in Potatoes to the Farmer

THE Division of Markets conducted a public hearing in Milwaukee on April 23 to obtain figures relating to the cost of production of potatoes during the season immediately past. No such figures for recent years were available in the report of any department of government or of any educational agency in this state, or in any other state so far as inquiry could ascertain.

A further purpose in holding the hearing was to secure evidence regarding the customary course pursued by the farmer in marketing potatoes, with a view to considering any desirable change that the testimony might suggest.

The cost of producing potatoes in 1919—according to the testimony of potato growers at the hearing—ranged from 56 cents to \$1.08 per bushel or from 93 cents to \$1.80 per 100 pounds. The average among the witnesses examined was 78 cents per bushel or \$1.30 per hundred. These figures omit the case of Edward O'Connor of Hancock whose cost was \$2.57 per bushel or \$4.28 per hundred, due to the fact that his yield was cut down to thirty bushels per acre because of disastrous crop conditions.

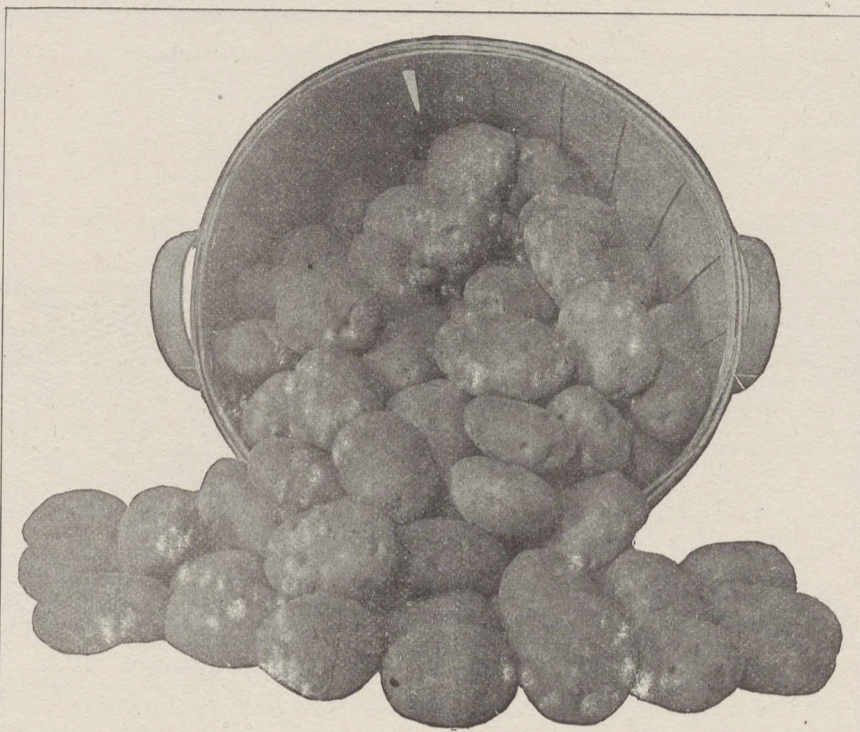
The primary factor creating the discrepancy in cost between 56 cents and \$1.08 per bushel is the yield per acre. Jens Uhrenholdt of Seeley, whose cost was 56 cents, had the high yield of 250 bushels per acre; while Soren Jensen of Lind, whose cost was \$1.08 per bushel, had the low yield of 106 bushels per acre.

The further influence of yield, to the extent that it is subject to uncertain weather conditions, is indicated in the experience of Arthur Larson of Sheridan, whose yield in bushels per acre during succeeding years was: 130 in 1919; 80 in 1918; 175 in 1917; 61 in 1916, and 153 in 1915. Assuming the efficiency of the grower and the costs per acre to have been constant during these years, it must be evident that the varying yield exercises a tremendous effect in either creating substantial profit or causing utter loss.

A secondary factor in affecting cost figures is the rate of wages. If wages are figured at 25 cents per hour, the cost per bushel will be from 20 to 25 per cent lower than if wages are figured at 50 cents per hour. It is significant that the wage figured by a farmer for himself seems to be \$100 per month, according to the testimony of Jens Uhrenholdt and M. O. Fruvog of the Bank of Colfax. The wage paid to hired help in 1919 was stated to be between \$65 and \$90 per month plus board, or between \$4.00 and \$5.00 a day without board.

The effect of yield per acre and wage per hour is illustrated in the following

By EDWARD NORDMAN, Director, Division of Markets, State of Wisconsin; and ALVIN C. REIS, Counsel, Division of Markets, State of Wisconsin.



There is a Wide Margin Between the Price the Farmer Receives for Growing Potatoes Like These and the Price the Consumer Pays.

table prepared by Mr. S. W. Mendum, agent of the United States Department of Agriculture in Madison, who testified:

son's prices, the earning of profits may be inferred—should be interpreted in the light of three qualifications: (a) The growers submitting these figures

Rate of Wages Per Hour	Total Cost Per Acre	Cost per bushel when yield per acre is					
		50 bu.	75 bu.	100 bu.	125 bu.	150 bu.	200 bu.
\$.25	\$ 81.50	\$ 1.63	\$ 1.07	\$.82	\$.65	\$.54	\$.41
.30	85.25	1.71	1.14	.85	.68	.57	.43
.40	92.75	1.86	1.24	.93	.74	.62	.47
.50	100.25	2.00	1.35	1.00	.80	.67	.50
1.00	137.75	2.70	1.84	1.38	1.10	.92	.69

Total cost per acre is figured on a basis of seventy-five hours of man labor at the different rates, plus the following which are assumed to be the same for the different yields within the limits named:

Horse labor @ 20c per hour.....	\$13.00
Seed @ \$2.00	20.00
Paris green @ 50c75
Equipment use	6.50
Rent of land	7.50
Manure and fertilizer	15.00
	\$62.75

The cost figures presented by the witnesses called at the hearing—from which, by comparison with the sea-

are the largest and most successful potato producers in Wisconsin, whose costs accordingly may be assumed to be unusually low and whose profits may be expected to materially exceed the average; (b) The estimate of profits accruing to the potato growers from prices received in the present crop should be balanced with the prices and accompanying profits extending over a period of years; (c) The conclusion as to the profit realized by the farmer must be based upon a recognition of

the fact that the income from potatoes may be partially offset by the lack or diminution of return on other farm projects—for example, the keeping of livestock which is essential to economical potato production—and that the only accurate standard of the farmer's business prosperity, therefore, is the return on his investment as a whole.

The bulk of the 1919-1920 potato crop of Wisconsin farmers was sold in 1919 before the high prices struck the market. Each grower questioned upon the point stated that he had no potatoes—either No. 1's or No. 2's—left for sale at the date of the hearing. John Hess, manager of the L. Starks farm at Starks—the largest potato farm in Wisconsin—testified that 90 to 95 per cent of his potatoes left his hands before Jan. 1. C. G. Kuney of Three Lakes, the largest grower of seed potatoes in the United States, testified that his entire crop was sold before Nov. 1. Jens Uhrenholdt gave figures which show that 79 per cent of his crop was marketed before Jan. 1. Soren Jensen of Lind—a grower who held his potatoes and sold late—testified that 55 per cent of Wisconsin potatoes were thrown on the market in the fall and that not over 9 per cent of the farmers of Wisconsin benefited by the recent high prices. Arthur Larson of Sheridan testified that, during the two months of September and October, the Northwestern Produce Company of Waupaca made 53 per cent of its total purchases for the season.

These figures are corroborated by the testimony of Daniel Rogers, government agent at Waupaca, who testified at the former hearing (March 1) that 33 per cent of Wisconsin's potatoes were shipped during the first four weeks following Sept. 30 and that fully half of the crop went into commercial shipment before Dec. 1.

That the Wisconsin farmer this season has not held his potatoes back from the market in order to take advantage of high prices, but has—on the contrary—sent them on the market earlier than usual, is established by figures.

Mr. Joseph Becker, crop estimate agent of the United States Department of Agriculture in Madison, testified at the previous hearing and has since filed a statistical table showing the percentages of the crop held by the farmer on identical dates in 1919, 1918 and 1917. These figures indicate that the farmer, throughout the present season, has withheld from the market a smaller percentage of his crop than in either of the two preceding years. The per cent of the crop unshipped on Nov. 1 was 49 for the 1919 crop; 63

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To grow a field of potatoes like this the farmer must use fertilizers, acid phosphates or lime, treat the seed and spray the plants at certain periods to prevent diseases and insect pests, in addition to thoroughly preparing the seed-bed, careful cultivation, and then harvesting and sorting to give the buyers the best of the crop.

CLOVERLAND MAGAZINE

Breaking and Cropping Cut-over Lands

By BENJAMIN JELINEK

THE new settler on cut-over lands is ordinarily hard pressed for cash and must needs plant some crops which will give him a good money return, but his usual methods of cropping could be improved upon greatly. After the land has been brushed and stumped it is usually broken up by the use of a team on a 12 or 14 inch walking plow of the common sod and stubble moldboard type. The use of such a breaking outfit demands that the land be fitted well before plowing by piling and burning all the roots and snags and this operation is one which entails a large amount of hard labor. A considerable saving in the cost of breaking may be made by the use of a twenty inch grub breaker pulled by a light tractor or a twenty-four inch breaker pulled by a larger one. With one of these larger plows, more of the ordinary rubbish lying on the surface will be turned under and will rot and add some humus to the soil. This type of plow is set to plow about eight or 10 inches deep and its long moldboard will lap the furrow slice over so that it will lie perfectly flat. The heavy construction of these breaker plows and the weight of the furrow slice hold them in their course so that they do not dodge around obstructions as lighter plows do but go right through.

I was interested in observing the breaking and fitting of a large tract of cut-over land in Hubbard County, Minn., last summer. A 10-20 tractor pulled a 20 inch grub-breaker and plowed under small jack-pine stumps and cut off live scrub oak grubs that were four to six inches in diameter, while an ordinary plow would merely slide around them. After breaking, the field was double disced always in the same direction as the plowing and when the top soil was well pulverized it was dragged twice with a common spike tooth harrow to level it. This dragging was also done lengthwise of the plowing so as to avoid turning up any of the sods or pulling out any more roots than one could help. After piling and burning the roots and snags which had worked out to the surface, the field was ready for planting.

The ideal rotation for newly broken land in the north is corn, rye or oats, and clover. The corn is planted in drills and because the roots and snags will clog up the ordinary riding cultivator it is best to use one of the one-horse walking type. I noticed a new wrinkle in working with such a cultivator that I believe is worth passing on. Often a horse that works steadily in a team will prove awkward on a single cultivator, but one may forestall any difficulty by taking the team,



A Powerful International Tractor Pulling a P. & O. Grub Breaker That is Turning Everything Under

having the lines as usual for plowing and then hitching each horse separately to a single cultivator. Then with one man driving the team and guiding one of the cultivators and the other man just guiding the second cultivator, they proceed abreast down two adjoining rows and the horses work steadily with very little trouble.

When the corn crop is removed in the fall, the field is disced thoroughly, dragged lightly, cleared of the snags which have been dragged to the surface and it is again ready for a crop. If the corn is removed early enough as is done when it is used for silage, one may sow rye, but ordinarily, it is best to wait until spring and sow oats. The field must again be disced up in good shape, then seeded to oats and clover. It is usually good practice to roll the field after seeding so as to pack down any of the ends of roots or snags that might interfere with the binder or with the mower the following year. In the fall of the third season, the clover sod should be plowed under at right angles to the direction of the breaking, and if this first plowing is done not over six inches deep, none of the rubbish which was turned under in the first breaking will reappear.

If the soil is a light sandy loam, some beans may be planted instead of corn in the first year of the rotation and will be a good cash crop. The best method for planting them is to use a grain drill with every second hole closed and then sow them in rows which will be twelve inches apart. The field may be left without cultivation as but very few weeds will

appear the first year anyway, and while the beans must be pulled by hand, it is a cheap crop to produce and will yield well if the season is not abnormally dry.

With this corn, grain and clover rotation one doesn't get much in the line of cash crops right at the outset, but if the settler has provided himself with the live stock which is such a necessary part of the equipment on a new farm, he will be able to feed his stock well and the proceeds from milk, beef, mutton and wool will help tide him over. At the same time he has avoided a considerable amount of hard hand labor in the first breaking and has started his farming on a definite rotation which will tend to conserve its fertility. Then after he has plowed under the clover stubble, his field will be mellow and well fitted for a good cash crop, and if he is in the potato belt, he can try his hand at that game, knowing that his land is in such condition that it can be worked efficiently by machinery and that when he begins harvesting in the fall, his digger will not be continually clogging with roots and grubs.

Another system of cropping which is used widely and is advocated by some extensive farmers consists of rye on new breaking, followed by a second plowing, then oats seeded down to clover. Then this clover sod is plowed under for potatoes or corn, after which a three year rotation of grain, clover and corn or potatoes is followed. As usually practiced, all stumps, brush and roots are removed, and the land is broken with ordinary walking plows and thoroughly worked

up. After the rye is harvested, the land is again plowed, such roots which have worked to the surface are piled and burned and the oats and clover are sown. By this time the wild growth has been pretty well subdued and the regular rotation can be followed.

The first system is the better of the two for the settler with limited means because of the following outstanding features: (1) One deep breaking is all the plowing necessary for three successive crops. (2) The first crop grown, corn, may be harvested by hand or by machine. (3) An abundance of feed encourages the keeping of live stock. (4) Excessive burning of brush and grass need not precede the breaking as the large plow will turn it under where it will add humus. When the breaking is done before July 1, the corn crop will provide some returns the first season while with a rye crop on the new breaking one must wait until late in the summer before seeding and no crop is harvested the first season.

Where the soil is not too light, field peas make a profitable crop on new breaking, and while they must be harvested by hand, they usually pay well. Peas of all kinds do best when sown very early and should be planted deep so as to prevent injury in case of a dry spell during the summer. The best means of seeding peas on new breaking is to broadcast the seed and then use a disc for covering it.

A settler who has done breaking with a team and then changes over to the tractor way will be surprised to find that the job is done without so much of the straining and risk of injury incident to the use of the smaller plow. In many communities, contractors use large power outfits for custom breaking. Where one is unable to finance his own outfit, this contracting outfit may be hired for the job and a large tract of land brought under cultivation in a hurry. One large power outfit seen working last summer pulled two twenty-four inch grub breakers. Each time the tractor went up the field, the wheel on the plowed land would pack down the two furrows just turned while the other wheel would flatten down the brush which had not been cut. With the tractor, only the largest of the old pine stumps were removed, as the smaller second growth stumps and oak grubs were turned under by the heavy plows. When one sees these large breakers turning under small stumps and brush, one realizes how much of the back breaking and expensive hand labor may be avoided by the use of the right tools.

CLOVERLAND MAGAZINE

Wisconsin's Agricultural Creed

By H. L. RUSSELL

Dean of Agricultural College, University of Wisconsin

WISCONSIN has gained a position of leadership in the agricultural world by aiming at a definite goal of accomplishment, deciding upon a course of action, and continuing to do those things for which she is pre-eminently adapted, and which she knew best how to do.

She early passed through the fire of adversity in the pioneer days of the single crop system, and has learned by sad experience the lesson that it is neither wise nor profitable to have her eggs all in one basket. The diversification of her agricultural methods diminishes the risk which climate and weather always impose; the character of her cropping and live stock systems makes for steady employment of labor and maintains her agriculture on a self-sustaining basis. These are the conditions which have made her success possible and will continue to do in the future.

Summed up, her agricultural creed may be stated as follows:

Better Farming—We need not only to know what to grow but how to grow it. Better farming is not only a means to financial success but a means to better thinking and better living.

Improved Farm Homes—A contented farm family depends much upon whether it dwells in a house or in a home. Improved farm homes are not centers of drudgery and dull commonplace living from which the boys and girls will want to escape as soon as possible, but they are centers of contentment where not too much hard work brings satisfaction and better standards of living. We of Wisconsin appreciate that improvements are needed as much in the home as in the barn and in the field. If a silo or milking machine serves to reduce man's labor and yields better results, so will running water in the kitchen, a well equipped bath room, and labor-saving devices in the laundry.

Improved Farm Crops—Better seed will produce better crops. Better culture will increase yields and aid in ripening crops on time. Pure bred seeds, good selection, and testing of seed for germination, followed by best methods of culture makes bumper crops more likely.

Better Live Stock—Better live stock production means first of all better sires, then it means better feed and care of the live stock produced.

Conservation of the Field Crops—As our agriculture becomes older and more intensified, the necessity for waging war on crop pests becomes greater. It is easier to prevent losses from disease than to allow ourselves to be taxed continually for the penalty of ignorance and inaction.

Efficient Utilization of Labor—The



Dean H. L. Russell, Who Has Made the Wisconsin College of Agriculture Famous with Its Noted Research Work and Aid Given New Settlers.

present high wage scale calls for the best use of labor. This means a wider use of labor saving machinery, good

management of the labor that is available, and a proper distribution throughout the year.

Lower Costs of Production—While it is of first importance that we improve our marketing processes, we must not overlook opportunities for lowering the costs of production. It will be to our advantage to try to use most economical ways of producing milk, meat, and other farm products. Our profit lies largely in how far each man can produce for less than the average costs of production.

Better Business Methods—More farmers succeed because they are good farm managers than because they are good producers. The best farmers are appreciating more than ever not only that farm accounts are necessary in their business, but they are finding out what accounts to keep and how to keep them in a simple and efficient way.

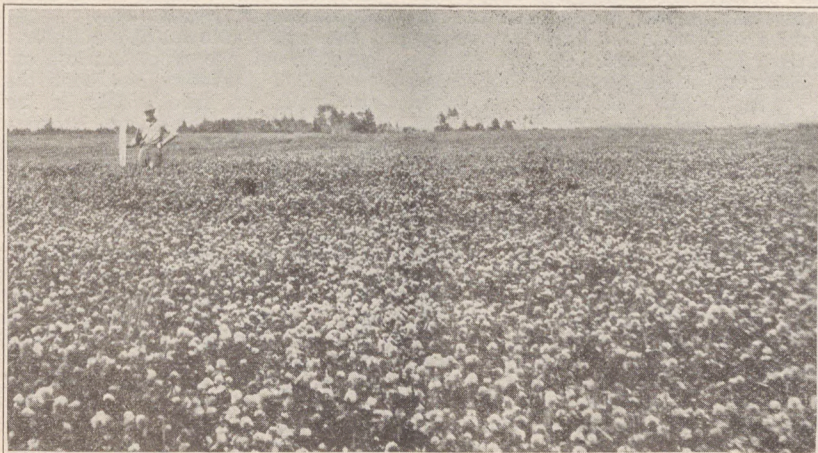
Fair Prices—The individual farmer cannot set a price for his products and say he will not sell until he gets it. His returns are based upon the world's demands where his product is consumed. Transportation and all intermediate charges between the producer and the general world market must first be deducted and the farmer takes what is left for his labor and investment. To have a permanence in agriculture, this price must keep up production. The journey from the field to the final consumer should be as direct as possible and for service actually rendered each unit throughout the chain should receive a return consistent with the service rendered. Groups of farmers can study the markets and the relation between supply and demand. They can then feed the market so as to keep supply and demand balanced throughout the season.

Extended Farm Credits—Wisconsin farmers more than those of most of her sister states have access to unusually favorable credit facilities, but federal loans and loans under the state land mortgage association act need to be more widely known and used. The progressive bankers of the state are meeting the farmers' needs by extending short time loans at reasonable rates and upon fair terms.

Responsible Farm Organizations—Men give the best service to themselves and to their fellowmen when they co-operate for mutual helpfulness. Wisconsin, already a leader in co-operative organizations, must continue to be known for its many sound, successful, mutually conducted enterprises. The country can well follow the lead of the city in this matter.

Wide Dissemination of Agricultural Knowledge—State institutions should continue to make the vast stores of agricultural information better known throughout the commonwealth. The county agent, the farm press, farmers' organizations, experiment station pub-

(Continued on page 38)



A Natural Growth of Clover the Foundation of Soil Fertility



A Farm Home That Has Reached the Full Stage of Development

COVERLAND

MAGAZINE

The Illustrated Monthly Magazine of Greater Cloverland

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JULY, 1920

Dogs or Sheep?

THE sheep industry is now getting a good start in Cloverland. A flock of sheep is within the ability of most any farmer to purchase and keep. Sheep return two cash profits each year—one in wool and the other in lambs. Sheep will return 100 per cent on the investment in one year, the only farm animal that shows such a big profit, considering cost, keep and labor. Sheep also do a valuable job of land clearing and make money for the farmer while they are doing it, a side profit that is inestimable.

Farmers and ranchmen who have cast their lot in Cloverland and engaged in this new industry have every advantage that bids for success except one—the dog is a menace. Dogs have been permitted to roam at will throughout Cloverland since the days of the Indian. As a rule, they have been comparatively harmless, but now comes a new condition, a new industry has been started which does not mix with dogs.

Cloverland now must say whether the most profitable farm animal—sheep—or dogs shall exist.

There is no demand for more dogs, but there is a serious demand for more mutton and more wool, and mutton and wool cannot be raised midst a flock of dogs.

Dogs that have never been known to annoy animals or human beings often turn out to be the most persistent sheep-killers. Dogs usually accomplish this slaughter at night, and during the day stay about the house or premises of the owner with all the innocence of a harmless pup. Many dog owners refuse to believe their dogs kill sheep until confronted with positive evidence, or some sheep owner, in righteous indignation, takes his trusty rifle down and kills the dog in the midst of his sheep.

But killing sheep is not all the damage dogs may do to a farm flock, or a big herd. Dogs may not kill sheep, but they delight in chasing them, and this practice, before lambing time, is fatal to the lamb crop. The loss of a lamb, frequently twins, and sometimes the mother, is even greater than the loss by direct death from being chewed up. So dogs are a menace to sheep, no matter from what angle the problem is viewed.

One of our new Cloverland citizens, a sheep breeder from Texas, who brought along a big flock of pure-bred Delaine sheep, the finest wool sheep in the world, had his lamb crop reduced this spring below more than half the normal increase due to nothing else than dogs worrying the ewes before lambing time. Some of these ewes are worth \$400 to \$500 each and were bred to an even higher-priced buck. There were 300 ewes in the flock and this breeder was in the habit of getting 125 to as high as 170 per cent increase. Assuming that only 100 per cent increase were possible and placing the lamb value at only \$100 each, mongrel dogs did \$15,000 damage to this one man. And not one sheep was killed outright by a dog.

There is a county in Wisconsin

once famous for its sheep industry, and that industry was absolutely obliterated on account of dogs.

Wisconsin now has a "dog law" that became effective the first of this month which has "teeth in it" and makes the owner of a dog positively responsible for all damage done to live stock. There has been some objection raised in the cities to the enforcement of this law on the grounds that it is "too drastic," but these city people should be asked this question: "Do you want wool and mutton, or do you want dogs?"

But the Wisconsin Department of Agriculture is going to see that the new dog law is rigidly enforced, because the sheep industry in that state is going to be fostered and protected, and all right thinking citizens will aid in its enforcement.

Sowing Wheat

THE article by E. J. Delwiche, agronomist in charge of the Northern Wisconsin experiment station work, should be read carefully by every farmer, and the advice contained therein carefully followed. The experiment cited and the advice given are as applicable in any section of Cloverland as in that portion of it in Northern Wisconsin. Soils and climatic conditions are approximately the same.

It is indeed remarkable what a few days difference in planting time will make in a crop of wheat. The experiment shows that a matter of ten days only is the difference between failure and success.

Such experiments as these are worth thousands of dollars to Cloverland farmers every year, regardless of climatic conditions, for the sound scientific principles proven hold good under any conditions but actually freak weather in the fall, which occurs perhaps once or twice in a lifetime.

The whole thesis is so simple that any farmer may grasp its significance. All there is to it is this: Seed sown early is given a chance to germinate and gain a good root growth before winter, so that it may better withstand freezing, and afford a hardy plant in the spring. Later sown seed does not gain sufficient root growth to withstand the winter, or if it does, it shows up a weakling in the spring and can not possibly bear heavy heads or sound grain.

It is all very simple but it is worth thousands of dollars.

This experiment also demonstrates the value of experiment stations and research work conducted by our agricultural colleges. This one demonstration alone is worth more to the farmers of Cloverland than the total cost of all the experiment stations in Northern Wisconsin, Northern Michigan and Northern Minnesota.

Any one of these stations pays the biggest return on the investment made by any state, and this one demonstration in itself ought to be sufficient argument for any legislature not to be niggardly about appropriations to carry on this splendid and productive research work.

Stump Land Pasture

STUMPS ordinarily occupy a small portion of a field compared to the entire area. Between the stumps is as good pasture as any when the brush is cleared and the land seeded, if forest fires have not done the clearing and the burned over area is self seeded before second growth timber gets a good start.

One of the biggest condensed milk concerns in the United States got its start and built up the largest export business in the world with milk from cows pastured on the cut-over lands of western Washington and western Oregon. It costs something to remove stumps in that country, in fact it would not be profitable to do so, but farmers saw the opportunity between the stumps and took advantage of it. They cleared out the brush so the grass could grow and turned cows in among

the stumps. The market was the condenser of one concern, and from the cows pasturing among the stumps the greatest export trade in the world was built up. Then creameries sprung up here and there, some of them far off the railroads in apparently isolated districts. The only signs of habitation was an occasional small clearing, a patch just big enough for potatoes, garden truck and a little grain. Cut-over land and standing timber surrounded these pioneer homes, but the brush was cleared from among the stumps. The dairy herds scattered over the cut-over pastures accounted for the creameries at the cross roads, the milk stations at sidings along the railroads.

It is dairy farming among the stumps, the best the farmers can do in a country where stumps are so large that it is not profitable to blast them, but they have made it pay big returns. Most of the stumps are of the heavy gum and pitch bearing variety, so they will not decay rapidly, so these stump farms may be handed down from one generation to another.

These western farmers also have learned that they can produce a fine quality of beef among the stumps. Hogs also are raised with success but sheep are not popular in this region because of the long rainy season.

The stump land farmers of this far western district work against far greater odds than the stump land farmers of Northern Wisconsin, or Northern Michigan, or Northern Minnesota. On hardwood land the stumps decay in a few years, and none are so large that they could not profitably be removed with dynamite or a stump puller. When the land is brushed and burned, the pastures are just as luxuriant as on the Pacific slope and more nutritious. Progress is retarded by not utilizing more stump land for pasture purposes in the Cloverland area. There is not a farmer who could not take on a few head of sheep, or a few hogs, or a beef animal or two, without noticing the additional labor. A dairy cow requires more attention but where a herd of considerable size may be maintained a milking machine goes a long way toward solving the labor problem.

There are approximately 100,000 farmers in these three northern states having cut-over land to clear, and if each of these farmers would only brush off five acres a year, it would add a half million acres of pasture land to the productive area annually, the equivalent feed for 1,000,000 sheep, or 300,000 dairy cows, or an equal number of beef cattle, when the land is seeded or a natural sod is permitted to form by self-seeding. And the annual product of this stump land utilized for pasture would increase several million dollars annually.

It can be done. Pacific Coast farmers are doing it. Why not Cloverland farmers, where all conditions are better?

Agricultural Readjustment

THERE will be a "back to the land movement" within the next two or three years, not the result of propaganda through the press, but the result of food production necessity. The cost of living will continue on the upward trend until the farms are repopulated, and new farms are developed.

Farmers these days are beginning to "keep books" the same as other business men. The revelation cost figures show is causing farmers to demand a say in the prices that shall be paid for farm produce. Farmers that have allied themselves with various organizations, and more particularly the American Farm Bureau Federation, for the purpose of collective bargaining in both buying and selling, may do something toward reducing cost production but this is not enough to reduce the cost of living. There must be greater volume of farm production to bring the cost of living down, and the volume can not be increased without more farm labor.

One of two things must happen. Farm wages must go up until they are on a parity with wages paid in the

factories and mills and skilled trades—and this increase in farm production cost must be passed along to the consumer just as it is passed by the mills and factories; or industrial wages must come down until they are on a parity with average farm wages.

Shoddy Shysters

ARE the shoddy manufacturers trying to break the wool growers?

Have the shoddy shysters and rag pickers drafted certain wool buyers into their league, to break the wool growers?

These questions have been forced upon wool growers by a combination of events that have taken place within the last year especially, and even more particularly since the introduction of the Capper-French bill in Congress, better known as the "Truth in Fabric Law," which provides that all shoddy goods shall be labeled as such on the selvege of the cloth and on the garment manufactured from shoddy goods or goods containing shoddy.

The shoddy interests have been putting up a vicious fight against this honest legislation through their powerful lobby and special agents in and out of Washington, and every form of sabotage known to the cunning minds controlling an industry that fears to have its practices exposed to public light or be regulated by a law similar to the pure food and drug act, to embarrass, hamper and annihilate sheep husbandry in the United States if they can not dictate prices for wool and keep it in competition with shoddy.

Wool buyers with Boston connection, or those in the speculative field, began engineering a tremendous onslaught upon the price of the 1920 wool clip early in the year, and prices have been beaten down until offers run as low as 25 cents a pound. Efforts are actually being made to force wool down to that low price, and even lower if possible.

No advantage by shoddy manufacturers has been overlooked to beat the price of wool down and gobble up all the 1920 clip for a mere song, while the marginal price between the cost of wool and the selling price of manufactured wool grows wider and wider.

While the wool lofts in Boston were filled to overflowing last December, delegates from these interests succeeded in getting the ear of the administration at Washington, and under authority of war power legislation, millions of pounds of foreign wool have been sold at auction in Boston at prices below those in the United States. These sales of foreign wool have been going on since last December and the National Sheep and Wool Bureau of America, composed exclusively of wool producers, finds that more than 1,000,000,000 pounds of wool are now in storage. Yet reworked woolen rags have been going into clothing and the price of clothing has been on the upward move except for a little flurry caused by "sales" in a few retail centers, the result of tight money and the necessity of raising funds to meet credit obligations. Rags are in greater demand by shoddy interest right now than ever before, while they are taking advantage of loading up on free foreign wool and at the same time beating down the price of American grown wool.

The answer to all this sinister manipulation of the wool market on the part of the growers has been the organization of wool pools in nearly every state in the union, based upon county and district units. The wool market has been transferred to Chicago by these agencies and Boston has lost one of its biggest commercial activities.

Efforts are even attempted to prevent the financing of these wool pools and marketing in Chicago, but thanks to the country banks, the farmers are getting the money for financing their local pools, and the big mid-west and western banks are helping out the larger units.

But all the wool pools in America will fail of their purpose without the passage of the "Truth in fabric" bill, which will take virgin wool out of competition with the rag pile.

CLOVERLAND MAGAZINE

The Crime of the Domestic Cat

By D. M. CRANSTON, in the Wisconsin Conservationist

THE cat was brought to this country from Europe some 300 odd years ago. Since then the treatment accorded it by the people of this country has been a combination of kindness, toleration, indifference and hostility.

But really, the cat has fared better than it deserves. It has never earned the privileges that it enjoys in millions of American homes because the qualities which make it an animal of some value as a ratter and a pet are not its only qualities. Nature endowed it also with qualities for doing acts which, in their effect upon this country's prosperity, neutralize any value that may be claimed for the cat.

Besides, the value of the cat has always been rated too high. The promise that its tribe would control rats and mice has not been made good. A 300 years' trial has proven the cat to be a failure as a rat exterminator. Its value as a pet is a doubtful value, as it has been proven that the cat is not immune to some of the contagious diseases that so often become epidemic among children and that it sometimes carries germs of diphtheria, scarlet fever, smallpox and ringworm on its coat of fur.

To establish the true value of cats, to the people of this country, their most important accomplishment, expert ability in destroying birds, must be considered together with their accomplishments as ratters and pets. This will determine the extent of their influence for doing both harm and good and whether they have a debit or a credit balance in their account. Cats are charged with contributing largely to the enormous annual loss suffered by this nation from damages to its growing commodities by insects. This is a grave charge and one that has never received the legislative attention its importance deserves. Evidence, in abundance, is available to prove that cats are deserving of no tribute that will excuse their crime to nature's birds.

Evidence to prove that the cats of this country annually kill millions of insectivorous birds and that, by doing so, they protect and permit our insect enemies to live and multiply and to accomplish many more million dollars damage than they otherwise would accomplish is complete.

Cats are hunters both by nature and instinct but unfortunately their delight is to hunt birds rather than to hunt rats and mice. They are most destructive to bird life during the nesting season when they not only destroy the mother bird but her nest and its contents as well. Naturalists are positive in their assertions that insectivorous birds are the only power that can control the insect-world and that the prosperity and happiness of mankind depend upon the success of their control. They assure us that, in the accomplishment of their nature given task, each insect-eating bird kills a daily average of 150 insects and that this work is worth \$5 per bird to the nation annually.

A recent bird census, made by the Bureau of Biological Survey, places the number of birds on the farm lands of the northeastern states at two birds per acre. This rate would give a bird population of about 750,000,000 for the farm lands east of the Mississippi river. Including the birds of the marshes and wild lands there is no doubt a total of 1,000,000,000 birds in the states east of the Mississippi river.

It is no stretch of the imagination to realize that a heap containing all of the insects killed in a day by all of the birds in the United States would be of huge size and would require several hundred railroad cars to cart it away.

Nature imposed the death penalty on these insects and decreed that

birds should execute them. But the cat, when it kills a bird pardons 150 insects that the bird would have killed the next day and the next throughout the season. Freed from death, by the cat, these insects breed their kind to augment the forces of the insect world which are now doing damages that is costing our nation more than \$1,500,000,000 annually. Good authority estimates the total number of house-cats in the United States at 25,000,000. There is nothing that does more to protect insects and to increase their damage to growing necessities of life than these millions of cats.

Dr. A. K. Fisher says field naturalists agree that the house cat is as destructive to birds as all other natural enemies combined.

Henry W. Henshaw says the cat is undoubtedly the most destructive mammal to bird life we have.

John Burroughs says that cats destroy more birds than all other animals combined.

Bird students have had a task to prove that as many as forty or fifty birds have been killed by one cat in a day and as many as fifty-eight birds by one cat in a year.

Dr. George W. Field estimates that the stray cats of Massachusetts kill approximately 2,000,000 birds annually.

Albert H. Pratt calculates the number of birds killed annually by the farm cats of Illinois to be about 2,500,000.

Dr. A. K. Fisher estimates the number of birds destroyed by the cats of New York state annually to be 3,500,000.

These estimates, by noted authorities, of birds killed annually by the cats of the three above named states total 8,000,000. These figures indicate that the total number of birds annually sacrificed for the cats of this country must reach the 100,000,000 mark or more. However, the number is variously estimated at totals up to 100,000,000 birds for that part of the United States east of the Mississippi river.

The activities of the cats of this country is beyond question highly destructive to bird life. But why is the destructive work of cats tolerated by the authorities of the state and nation? Is it because they consider the killing of millions of birds by cats of no serious consequence? If so, why are so many men, who kill but a few birds, brought into court and fined from \$50 to \$100 each?

The United States has a valuable asset in the millions of birds which wage an endless war on the foes of her most important industry. Naturalists assert that each of these birds are annually worth \$5 to this country because of their work in destroying these foes.

Yet, America placidly indulges in a 25,000,000 cat population that annually destroy 100,000,000 of these \$5 birds.

The indulgence is costing \$500,000,000 a year. The price is high but, with America infested with cats, it is going higher.

Our birds are at the mercy of this nation's unrestricted over-large number of cats. The unrestricted production of cats has, for years past, created a supply in excess of the demand for them in the homes of our people. This fact gives us the stray cats of the gardens and the fields which later become wild and take to the woods, marshes and hills of the country. These cats and their progeny are playing havoc with, not only song birds, but with game birds as well.

It is up to the sportsmen to solve the stray cat problem in this state. Shall these strays be tolerated and left to kill the birds or shall they be

killed to save the birds? Bird students, without exception, recognize the house-cat as a serious menace to birds and as presenting a problem most difficult to solve because of the hypnotic influence cats exercise over their human friends. But favor is due to those creatures that do most to advance the

Your Birdhouse
Should be Safe
from Cats

prosperity of our country and cats when compared with birds are outclassed.

Besides, the question is not whether we shall have more birds and no cats but whether we shall secure a normal bird population and greater yields in crops by restricting our nation's cat population to exclude its uncontrolled, surplus cats. The crime of the domestic cat has been proven and the jury's verdict is guilty. But what is to be the penalty? May it secure the destruction of all uncontrolled cats? This is by no means a radical proposition.

It is only advocating a sensible modern business method for saving millions of dollars from the \$1,500,000,000 it is costing the United States each year to feed her insects.

The future promises that Wisconsin, following the lead established by several Eastern states, will raise large sums of money by taxation for use in waging war against insects which are year by year becoming more and more destructive to growing crops, fruits and timber.

There is no argument that can justify future toleration of a large number of surplus cats in this country or that can minimize the present need of laws providing a \$1 license for each cat owned or harbored and for placing a marked collar on all cats for which the license fee is paid.

A cat license law will no doubt prove to be the best solution to be found for ridding our country of its surplus cats but, to be effective, it must also provide for the human killing of all cats not licensed.

Wisconsin, without birds would be a Wisconsin without flowers and trees,

without prosperity and progress and without promise and hope.

But Wisconsin without cats would continue a leader among the states of the nation and she would be richer in her birds and, because of them, richer in her harvests.

Fitting Calves for Baby Beef

By J. G. FULLER

Animal Husbandryman, Wis. College of Agriculture

CHAMPIONSHIPS in Wisconsin's Junior Live Stock Exposition to be staged in Madison next fall, will be partly if not largely won during spring. The young feeder who selects a good type to feed at this time will stand a good chance to win out, while the boy who picks a long legged "cow" type has no chance, no matter how he feeds.

The boys who were at the show will remember the appearance of the winning animals, blocky, short legged, vigorous types. The winning Angus was one of a lot which were all good beef types, and showed that the young exhibitor had a good type in mind. The winning Shorthorns were also another example; and so they went down the line, toward the endliners that showed that the owners did not have the right type in mind.

Breeding comes first. The winning breeders know the ancestry of their exhibits, and watch the markings of their animals. Calves with an appearance which promises to develop a good baby beef is the next step. This means that successful exhibitors chose good individual animals to feed—such as have a good covering of flesh, short legs, wide and deep body with good chest, good head, in short the large, roomy type.

All farm boys know the difference between the thrifty sort of an animal which has a good appetite and lots of vigor, and the scrawny, dull haired, scrub type that eats half heartedly. The boy who picks the first type to exhibit is making a big move toward winning the blue ribbon. The breeder who wins watches the good animals at a show, and fixes the desirable type in his mind's eye so that he can choose a similar kind himself. Every exhibitor should be able to visualize the kind of beef that wins.

Constant attention is the final point which is necessary to produce the best baby beef. You have now picked good, blocky calves of the beef type, which are neither scrubs nor dairy bred animals. You have also avoided the coarse, nervous, or weak animals who will not be able to make the most of their feed. Careful observation will be required to finish the lot for exhibition or sale. The old saying that "the eye of the master fattens the cattle" still holds good. A good ration for producing a beef must be accompanied by attention to the animal itself, and by observation to see how the feed is being used. Breeding, promising conformation, thrift and vigor, and constant attention, are used by the best breeders in raising baby beeves for exhibition and for the market.

Crop shortage this year is going to force a "back to the farm" movement next year.

The farmers produced 52 per cent of the total wealth of the United States in 1919.

There will be an awakening to the importance of agriculture next year.

More poultry means more money.



Our Ambition: Ideal Telephone Service for Michigan

The Michigan State Telephone Company has set itself earnestly to the task of making the telephone service in Michigan as near ideal as possible.

To us, ideal telephone service is summed up as follows:

First — When the service given present subscribers is as intelligent and as nearly perfect as human ingenuity and mechanical accuracy can make it.

Second — When every home and business, that has any use for a telephone, has one.

Third — When there is a mutual understanding between the Telephone Company and its subscribers, that fosters confidence and encouragement and courtesy.

The attainment of such an ideal calls for the best brains, the nimblest fingers, the most careful training, the expenditure of vast sums in buildings and material —yet it is a task that we are entering upon with all the enthusiasm of an age when mighty things are being accomplished.

There will be many obstacles and discouragements, but honest effort will overcome them all.

It is our purpose in these announcements, from time to time, to tell you of the progress we are making, and if we can know that we have your confidence and co-operation it will lend strength to our efforts and courage to our hearts.

MICHIGAN STATE TELEPHONE COMPANY



HIS STOCK IN TRADE

By REX BEACH

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"THE SCIENCE of salesmanship is quite as exact as the science of astronomy," said Mr. Gross, casting his eyes down the table to see that he had the attention of the other boarders, "and much more intricate. The successful salesman is as much an artist in his line as the man who paints pictures or writes books."

"Oh, there's nothing so artistic as writing books," protested Miss Harris, the manicurist. "Nothing except acting, perhaps. Actors are artistic too. But salesmen! I meet lots in my business, and I'm not strong for them."

Mr. Gross smiled at her indulgently; it was an expression that became him well, and he had rehearsed it often.

"The power to sell goods is a talent, my dear Miss Harris, just like the power to invent machinery or to rule a city, or—or—to keep a set of books. Don't you agree with me, Mrs. Green?"

Mrs. Green, the landlady, a brown, gray woman in black, smiled frigidly. "You're so original, Mr. Gross," said she, "it's a pleasure to hear you, I'm sure."

Gross was an impressive talker, due to the fact that he plagiarized office platitudes; he ran on pompously, dropping trade mottoes and shop-worn bits of philosophy until young Mitchell, unable longer to endure the light of admiration he saw in Miss Harris's eyes, rolled up his napkin to the size of a croquette and interrupted by noisily shoving back his chair and muttering under his breath:

"That stuff comes on printed cards. They give it away."

Mrs. Green called to him, "It's bread pudding, Mr. Mitchell, and very nice." "Thanks! My gout is bad again," he said, at which some of the more frivolous-minded boarders snickered. "Mitchell is a bright boy—in many ways," Gross remarked, a moment later, "but he's too fresh. I don't think he'll last long at the office."

Instead of climbing to his hall kennel on the fourth floor rear, Louis Mitchell went out upon the rusty little porch of the boarding house and sat down on the topmost step, reflecting gloomily that a clerk has small chance against a head bookkeeper.

Life at Mrs. Green's pension—she called it that, rates six dollars up, terms six dollars down—had not been the same for the youthful hermit of the hall bedroom since Gross had met him and Miss Harris in the park a few Sundays before and, falling under the witchery of the manicurist's violet eyes, had changed his residence to coincide with theirs. Gross now occupied one of the front rooms, and a corresponding place in the esteem of those less fortunate boarders to whom the mere contemplation of ten dollars a week was an extravagance. Mitchell had long adored the blonde manicurist but once the same roof sheltered her and the magnificent head bookkeeper he saw his dream of love and two furnished rooms with kitchenette go glimmering.

Time was when Miss Harris had been content with Sundays in the park, vaudeville—first balcony—on Wednesdays, and a moving picture now and then. These lavish attentions, coupled with an occasional assault upon some delicatessen establishment, had satisfied her cravings for the higher life. Now that Gross had appeared and sown discord with his prodigality she no longer cared for animals and band concerts, she had acquired the orchestra-seat habit, had learned to dance, and, above all, she now possessed a subtle refinement in regard to victuals. She criticized Marlowe's acting, and complained that cold food gave her indigestion. No longer did she sit the summer evenings out with Mitchell, holding his

hand in her lap and absent-mindedly buffing his nails, warning him in sweet familiarity that his cuticle was "growing down." In consequence of her defection, fierce resentment smoldered in the young man's breast. He was jealous; he longed to out-squander the extravagant Mr. Gross; he lusted to spend money in unstinted quantities, five dollars an evening if or when necessary.

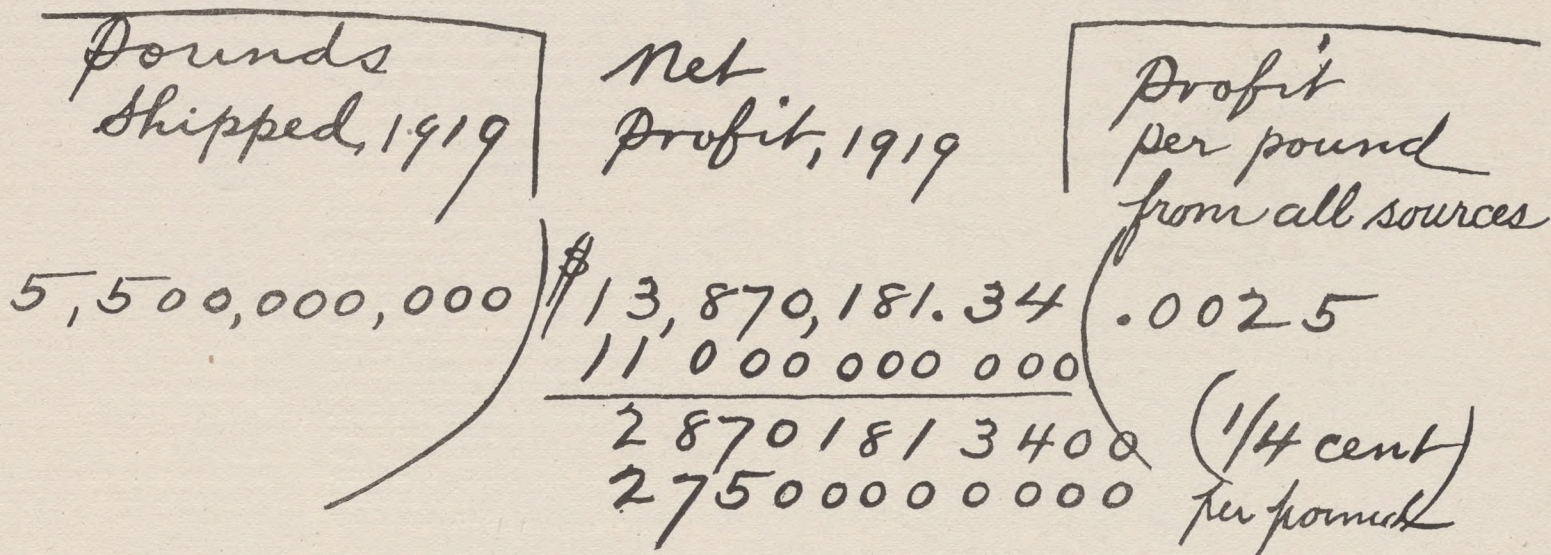
But there seemed little hope for his ever attaining such a purse-proud position, for while he loomed fairly large in the boarding-house atmosphere of Ohio Street—or had so loomed until the advent of the reckless bookkeeper—he was so small a part of the office force of Comer & Mathison, jobbers of railway supplies, as to resemble nothing multiplied by itself. He received twelve dollars a week, to be sure, for making telephone quotations and extending invoices between times; but when, as the evening shadows of pay-day descended and he drew his envelope, the procedure reminded him vaguely of blackmail, for any office boy who did not stutter could have held his job.

When at seven forty-five Miss Harris appeared upon the porch with her hat and gloves and two-dollar-ticket air, and tripped gaily away in company with Mr. Gross, young Mitchell realized bitterly that the cost of living had increased and that it was up to him to raise his salary or lose his lady.

He recalled Gross's words at supper-time, and wondered if there really could be a science to business; if there could be anything to success except hard work. Mr. Comer, in his weekly talks to the office force, had repeatedly said so—whence the origin of the bookkeeper's warmed-over wisdom—but Mitchell's duties were so simple and so constricted as to allow no opening for science, or so, at least, it seemed to him. How could he be scientific, how could he find play for genius when he sat at the end of a telephone wire and answered routine questions from a card? Every day the General Railway Sales Manager gave him a price-list of the commodities which C. & M. handled, and when an inquiry came over the 'phone all he was required, all he was permitted, to do was to read the figures and to quote time of delivery. If this resulted in an order the Sales Manager took the credit. An open quotation, on the other hand, made Mitchell the subject of brusque criticism for offering a target to competitors, and when he lost an order he was the goat, not the General Railway Sales Manager.

No one around the office was too lowly to exact homage from the quotation clerk, and no one was tonguetied in the matter of criticism, hence his position was neither one of dignity nor one that afforded scope for talent in the money-making line. And yet if salesmanship really were a science, Mitchell reasoned, there must be some way in which even a switch-board operator could profit by acquiring it. What if he were buckled to the end of a wire? Human nature is the same, face to face or voice to voice; surely then, if he set his mind to the task, he could make himself more than a mere string of words over a telephone. Heretofore he had been working wholly with his fingers, his ear-drums, and his vocal cords; he determined henceforth to exercise his intelligence, if he had any. It was indeed high time, for Miss Harris was undoubtedly slipping away, lured by luxuries no clerk could afford, and, moreover, he, Mitchell, was growing old; in a scant two years he would be able to vote. He began forthwith to analyze the situation.

(Continued on page 34)



Depend upon our figures— they are reliable

Swift & Company, from time to time, publishes facts and figures on the meat packing business.

These figures are published in the interests of the public, the stock raiser, and the industry itself.

We want you who raise live stock to believe these statements for your own sake and the sake of the industry in which we are mutually engaged with you, as much as for our own.

Swift & Company is a branch of your stock raising business. It is your distributing department, getting your raw material into shape for consumption and getting it into the hands of the consumer.

Any instructive information that can be brought out regarding this vast, vital indus-

try helps you and helps the public as much as it helps us. It tends to a more intelligent handling of the problem which we are helping each other to solve, with benefit to all concerned. We need each other, and we need to understand each other.

You can depend upon Swift facts and figures. They are the very figures we use in determining from day to day what conditions in the industry are, and where all of us, you, Swift & Company, and the people we serve—stand in relation to them.

They are taken directly from our current books and records. They are carefully verified by certified public accountants. They are gone over every year by the United States Internal Revenue Department, in checking up our income and profit returns.

Swift & Company, U. S. A.

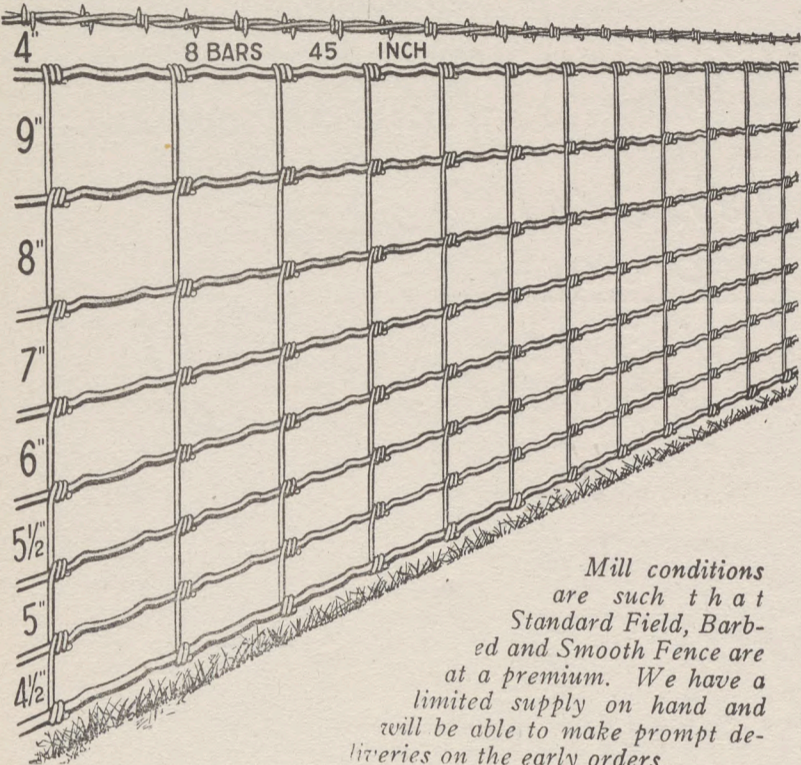
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Mill conditions are such that Standard Field, Barbed and Smooth Fence are at a premium. We have a limited supply on hand and will be able to make prompt deliveries on the early orders.

WE carry a complete stock of sheep and cattle Fencing, Roofing and Hardware Fixtures for stock sheds and ranch houses. Our warehouses are so situated within the Cloverland territory that we are able to make prompt deliveries.

A complete line of Dynamite Fuses and Caps for spring land clearing

Send us your requirements and prices will be sent you the same day your letter is received.

Northern Hardware & Supply Company

Wholesale Jobbers
Long Distance Phone 400
MENOMINEE, MICHIGAN

MOTOR TRUCKS

By F. W. LUENING

AMERICAN agriculture ought to erect a monument for those who evolved the motor truck. Farm marketing will depend more and more upon this vehicle.

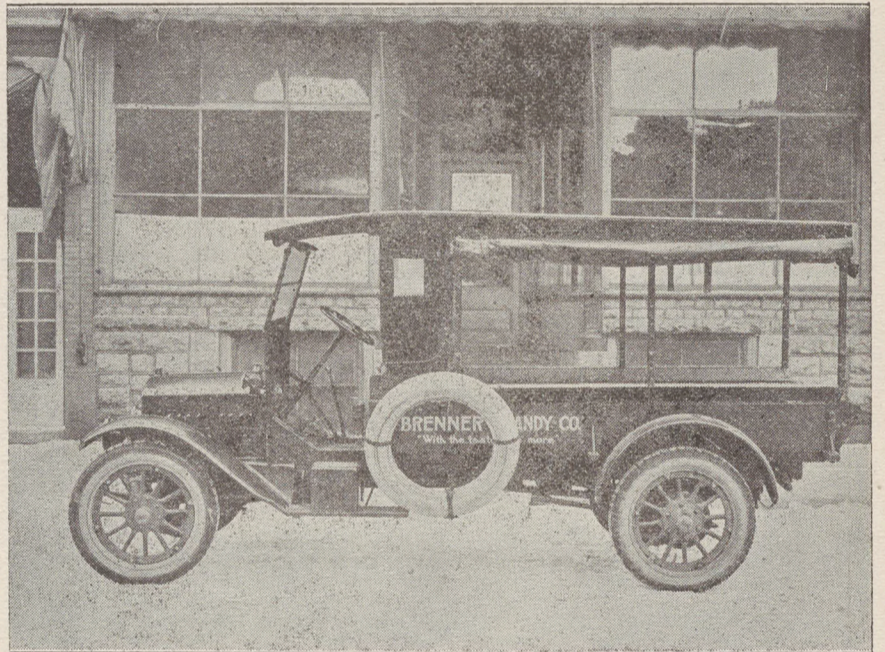
The motor truck comes as an answer to transportation problems. It moves over country roads. It carries supplies to the farmers' door step. It takes, from the farms, their produce and delivers it to the doors of the consumer.

Present day conditions have brought out the vital, effective, and unexpectedly large part which the motor truck can play in the nation's commerce. Railroads have been crippled. It has been impossible to get cars. Long delays in shipments have been experienced. Food stuffs have spoiled in the tangle of tracks at transfer points. Prices have gone higher and higher. Consumers have clamored for more produce on the one hand, and decreased cost on the other. The farmer has received less of the increase than was his right. For, the delay

tances are comparatively great. That is, the country is not as closely populated as in some other territories. The motor vehicle, traveling from town to town, on schedule, can serve the farmers in this north country as nothing else can. It can bring supplies to them—machinery parts, for instance—when reliance upon the trains would mean loss of valuable time.

The trucks also can pick up produce and get it to market where no other vehicle could accomplish it. The truck is already being used extensively. In many sections, away from the railroad, dairying is possible only because trucks pick up milk and cream shipments. And yet, dairying is the great and ultimate future of this entire country. It means, therefore, that the motor truck is today supporting the beginnings of an industry that would be almost impossible without them.

In these same communities—located at distances from shipping points—many shipments of live stock could



This Candy Company Has Solved Its Delivery Transportation Problem by Using Trucks Which "Make" Country Towns.

and the loss in transit used an appreciable part of the increased price. But where the motor truck has come into its own, transit difficulties have been smoothed out.

Motor trucks are operating in more rural communities today than is generally known. In nine months, between the cities of Akron and Cleveland, motor trucks relieved railroad transit of 1,170 per cent over the nine preceding months. This means 885 freight cars per week. In tonnage it meant approximately 3,175 tons per week. But this is merely one—and perhaps a minor—example. At Omaha more than 1,300 car loads of hogs were brought to the market during the first six months of 1918 by motor truck. By count, this meant 92,708 hogs. At the Union Stock Yards at Indianapolis 574 motor trucks were counted in a single day, hauling live stock, cattle, hogs, and sheep from the farms. Each carried from 1,500 to 2,000 pounds of stock.

Motor truck lines have been established in hundreds of communities. They usually center in a city, and are operated through the farming community around the city.

Nowhere in the world can the motor truck be operated as effectively as in the northern states—particularly in the upper half of Michigan, Wisconsin and Minnesota.

Nowhere are roads in better condition to carry the trucks. Those who have toured extensively in these three states know that the highways are wonderful. On the other hand, dis-

not be economically raised without motor truck transit. Hogs, for instance, cannot be driven long distances. To haul them by wagon is a slow, tedious, and costly process. To wait for cars, even when they are thus hauled to shipping points, may mean large losses.

But, when motor trucks can be backed up to the farmer's barn and when hogs can be loaded upon them, and carried to the best market, within a radius of 150 miles, then the truck is, indeed, a boon.

Motor truck operation is costly. Freight rates, by motor truck, must for a short time, be relatively high. And yet, even today, these rates compare with express rates, by railway. The cost of operation decreases in proportion to the state of the roads over which the trucks must travel. Trucks that must plow their way through mud and sand naturally cost more than trucks that move over hard highways.

Those counties, therefore, that best improve their roads, will profit most through the operation of motor truck lines.

The motor truck has become a factor to consider in any road building progress. The ordinary highway of macadam or gravel will not bear up under motor travel. Roads may be ever so good, and ever so satisfactory where such travel is light, but as motor vehicles increase, and as touring, or truck operation, penetrates the country, the character of the roads

(Continued on page 43)

Menominee Saw Co.

Menominee Michigan

MANUFACTURERS OF

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HEADING
EDGER
CONCAVED
LATH
SIDING

SAWS

Fully Warranted

GANG
MITRE
GROOVING
CROSS CUT
DRAG
MILLING

SAW REPAIRING OF ALL KINDS



Leaf Hopper and the Leafburn

(Continued from page 8)

When they settled down again after this excursion most of them were found on the late potatoes where the second brood developed and caused burning in the same way that it had appeared on the early potatoes two months previously. At this time the late potatoes are well developed and have comparatively large tops and if the leafhoppers are not extremely numerous the burning does not seriously injure the plants. But where they hatch at the rate of 2,000 per plant, or 10,000,000 per acre, as they did in Ames the past season, even these potatoes are seriously injured.

Fungous diseases under favorable conditions sweep off large numbers of the nymphs and even some of the adults. Egg parasites took about 40 per cent of the second generation this season. These factors together with variable climatic conditions will cause this insect to fluctuate greatly in numbers and we may expect periods of severe injury to be followed by periods of comparative freedom. The writers considered it necessary to accurately determine the number of generations before attempts were made to study its control on a large scale. Plot experiments, however, showed that they could be killed by spraying with nicotine sulphate, one to 800 with five pounds of soap added. Fluke found in Wisconsin that bordeaux mixture acted as a repellent and reduced the number on the plants but not sufficiently to prevent their destruction where seriously infested. Parrott reported at the St. Louis meeting successful control at the Geneva Experiment Station with bordeaux to which an excess lime had been added, but the infestation was not as heavy as in the Iowa fields. Duffey at the same meeting reported successful protection of plots in Wisconsin by nicotine sprays. They have also been controlled by spraying with kerosene emulsion, but to be successful with either the tobacco solution or the kerosene it is necessary that the spray should either be applied from the under side or else that the plants be drawn over ahead of the spray nozzles so that the solution will come in contact with the leafhoppers which are always on the under side of the leaves. Where they attack the potatoes early the spraying outfit should probably be equipped with nozzles set at an angle so as to spray up from the under side. Where they attack the later potatoes after the vines have fallen down it will be necessary to use a plank and draw the vines over. In every case the spray should be applied as soon as the insect appears in numbers.

Make Poultry Crates

IF YOU are handy with a hammer and saw, you can easily make shipping crates for poultry.

They should be 48 inches long, 30 inches wide, and 12 inches high, for chickens and ducks; and from 15 to 18 inches high for turkeys and geese. The best size for corner posts is 2x2 inches, but 1x2 inches will do, although they will not make as durable crates.

Cut six pieces, 30 inches long, and nine pieces 12 or 15 inches long, for each coop. Make three frames out of these pieces, one for each end, and one for the center. For the bottom, use half inch boards laying tight, or cover cracks with lath. Use lath, or thin strips of boards for sides, ends, and top, putting them about 1½ inches apart. Leave two strips loose on top in the center, to put the poultry in. Then take lath and nail around the crate at each end and in the center. This will make the crate stronger, and prevent the laths from coming off.

Do not crowd the crates when shipping—not over 100 pounds of old hens during hot weather, or 120 pounds during cold weather; spring chickens,

when small, about fifty to sixty pounds; large spring chickens, about seventy to ninety pounds. Spring chickens weighing less than a pound should not be shipped, as they do not sell as well, or bring as high prices, as chickens weighing a pound or a pound and a half; the most desirable weight being two pounds.

Tack a tag on each end of the crate (never on top) with the name and address of your commission firm, and be sure to have your own name and address plainly written.

Ship your poultry so they will arrive on the market from Tuesday until Friday, as the middle of the week is the best time to sell. Keep your poultry separate, if possible. That is, old hens in one crate, spring chickens in another, etc. Do not mix ducks with chickens.

Cloverland is the best farming and live stock district in the United States today—no droughts, no long distance to markets, no lack of diversified crops, and when the new ocean canal is built Cloverland will be the biggest farming and live stock district in the United States as well as the best.

Isn't it strange that so many of those city folks who talk about the

big money there is in farming don't try it out for a few years? And still, farming pays, but it requires a lot of hard work, eight hours in the forenoon and eight hours in the afternoon.

Don't forget to write your congressman and senators to work and vote for the "Truth in Fabric" bill. There is nothing like these "letters from home."

COUNCIL MEATS

Better Meats That Cost Less
No Waste · No Ice Needed
Always Tender
Ready-Cooked To Perfection

Made in
Cloverland
in our
\$2,000,000
Packing Plant
at Green Bay,
Wisconsin

Every Council Brand
Label
Advertises Cloverland

Ours is the largest
producing industry in
Cloverland today.
Make it yours, too.

15% to 25% More Actual Meat to the Pound

YOU buy uncooked meat and you pay for trimmings and for bones. You can't eat them—they're not meat. But you pay for them—at meat prices.

In ready-cooked Council Meats there are no bones, no waste, just meat—fine, tender cuts, cooked as you like them, seasoned as you season them. Ready to eat except for a few minutes' warming.

And they can be had in almost endless variety; roast beef, roast mutton, hamburger steak and onions, corned beef hash, etc., etc.—each as good as it can be and at prices that give you 15 to 25% more actual meat to the pound (counting the shrinkage in cooking) at the same price per pound you're now paying.

Therefore, to use Council Meats is to actually save from 15 to 25c out of each dollar you now spend for meat. You can't afford to overlook such opportunity for economy.

INDIAN PACKING CORPORATION
Consumers' Building, Chicago, Ill.

Six Economical Meat Dishes

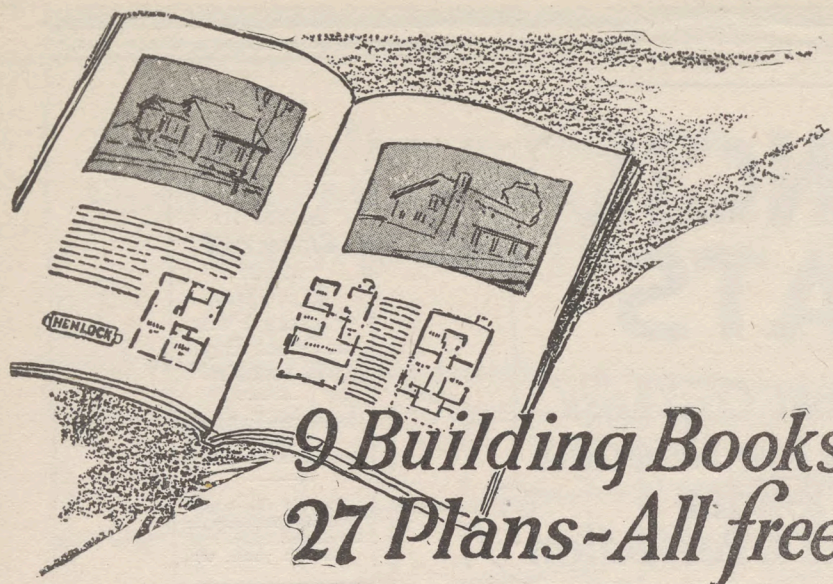
ROAST MUTTON For 5-70c VIENNA STYLE SAUSAGE For 5-60c POTTED TONGUE For 5-80c

HAMBURGER STEAK AND ONIONS For 5-60c VEAL LOAF For 5-60c OVEN BAKED BEANS For 4-25c



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9 Building Books 27 Plans-All free

The books give illustrations and layouts of nearly every kind of building—the plans are large size working plans.

Tell us what kind of buildings you are interested in and we will send the appropriate books. You can later get the plans from your local lumber dealer.

This will call your attention to the merits of "Old Faithful" HEMLOCK lumber, and you will undoubtedly use it to your great advantage. Simple, is it not?

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We spread the good news about "Old Faithful" HEMLOCK, but we do not sell it. Get it from your LOCAL LUMBER DEALER.



HEMLOCK

"Old Faithful"

300 years on American Farms

ABERDEEN-ANGUS 54,
Herefords 7, Shorthorns 6
Cross-breds 2, Mixed 1



That's the official summary of the inter-breed steer grand championships at the Chicago International Live Stock Exposition since the first show in 1900. It covers single steer, steer herd, carlot and carcass.



Aberdeen-Angus steers have won the carlot honors at 14 shows out of 18 and the carcass title 17 times to 1 for all other breeds, crosses and grades. Write for literature.

**American Aberdeen-Angus
Breeders' Association**

817 CM Exchange Ave.

Chicago

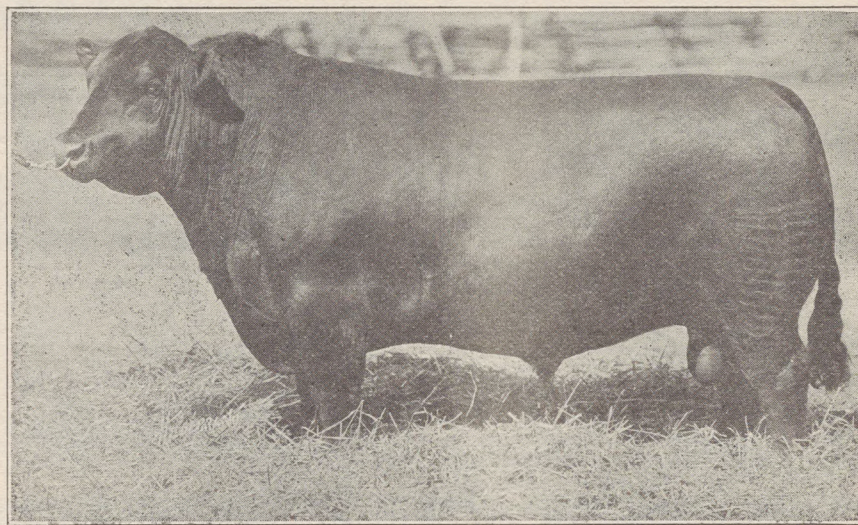
The "Bonnie Doddies" in Cloverland

(Continued from page 3)

the countries south of the Rio Grande. They are no better, often worse, than the original cattle, excepting where pure-bred sires have been brought in to cross on the native females. Thus was our beef cattle industry built up, or rather carried along, until the Shorthorn, then the Hereford, and finally the Aberdeen-Angus were im-

ported to improve this Spanish stock. Times changed rapidly with the breaking up of the range, the rise in value of land, feed and labor; and today we have the "baby beef" going to market at the age of 16-20 months. In the last twenty-five years this transformation has largely taken place. The greatest influence in this change has been the International Live Stock Exposition, held annually at Chicago, and the greatest vehicle on which the early-maturing, labor-saving, market-topping cattle rode has been the Aberdeen-Angus. This breed has set the pace for the readjustment of beef making. This is true on both sides of the water. The first yearling steer to be made a grand champion at the International was an Aberdeen-Angus, and the first carload to attain this honor was the same kind. The first two-year-old to lower the age limit at the Old Country's Smithfield show was an Aberdeen-Angus in 1881, and at the last show of that famous gathering, only a few weeks ago, a yearling Aberdeen-Angus won the high honor, breaking under the two-year-old line for the first time.

the fourteenth victory for Aberdeen-Angus in the eighteen Internationals held since the great show was launched in 1900. Reserve grand champion honors at the Florida State Fair also went to the Blacks along with the top grand championship. Single steer victories always stand out in the popular mind as of the great-



Idolmere, the Grand Champion Bull at 1919 International, That Lost His Life in a Car Fire Enroute Home After the Exhibition. Valued at \$50,000.

est importance, and here as usual, the Aberdeen-Angus has won its share and Aberdeen-Angus share is usually rated at 75 to 90% of the possible chances. Beginning at Denver with the championship of the grades and cross-breeds, Wichita, Brandon, Edmonton, Indianapolis, Syracuse, Detroit, Fargo, Grand Forks, Sioux City, St. Paul, Huron, Yakima, Los Angeles, San Francisco, Oklahoma City, Dallas, Des Moines, Muskogee, Jacksonville and Toronto were added in rapid succession on the string of inter-breed grand championships for single victories. True, the San Francisco heifer was a cross-bred

The name "Baby Beef" originated at the Chicago market with a load of Illinois Aberdeen-Angus several years ago. The world's record for dressing percentage also is held by the Aberdeen-Angus, a two-year-old at the Smithfield show dressing 76 3/4%, six or seven per cent higher than what we ordinarily think of as high dressing. However, dressing is not all in quality meat, as in marbling, or the mixing of fat and lean. Aberdeen-Angus possess the ability to carry this out as no other breed.

Taking up the show ring, we find that the "Bonnie Doddie" has lived up to its reputation as grand champion beef breed by winning over 90% of the steer grand championships over all breeds around the circuits. In the carlot shows, Salt Lake City's third annual Inter-Mountain Fat Stock Show returned an Aberdeen-Angus grand champion, while Kentucky and Florida State Fairs, Buffalo's second annual Fat Stock Show and the Chicago International all did the same. At the Kentucky Fair three important carlot victories fell to the Aberdeen-Angus, grand champion load of feeders and grand champion load of heifers going to the Doddies, as well as the fat carlot honors. At Chicago, however, the honors were especially significant, for the cattle fed and exhibited by John Hubby of Illinois were range-bred from Colorado. This was

**REGISTERED
GUERNSEY
BULL CALF**

Whose ancestry on both sides has fine records, the best guarantee for future production.

Write at once
WILLIAM J. WESTON, Prop.
Oak Ridge Dairy,
WAKEFIELD, MICHIGAN

There's Money Under Your Stumps

Money in high price crops. Let's help you get it. Clear your land quickly and at low cost with a

HERCULES Stump Puller

All-steel—triple power. 30 days' free trial. 3-year guarantee. Write Today for catalog and special low introductory price.

HERCULES MFG. CO.
944 28th St., Centerville, Ia.

BINDER TWINE 13 1/2c

Standard Binder Twine, 500 ft. to the pound, 13 1/2c per lb. Less in Louis Jasse carloads. Write for circular.

Dept. C-14
MILWAUKEE, WIS.

as was the Michigan and Oklahoma State Fair winners, but they carried the kind of blood that added quality and smoothness, early maturity and high dressing percentages. While the International gave the Doddies the reserve grand championship for single steer instead of the top honor in this division, there were three Aberdeen-Angus steers standing in the final ring when the judge tapped the lone White-face, and last year both top honors went to the dusky kind.

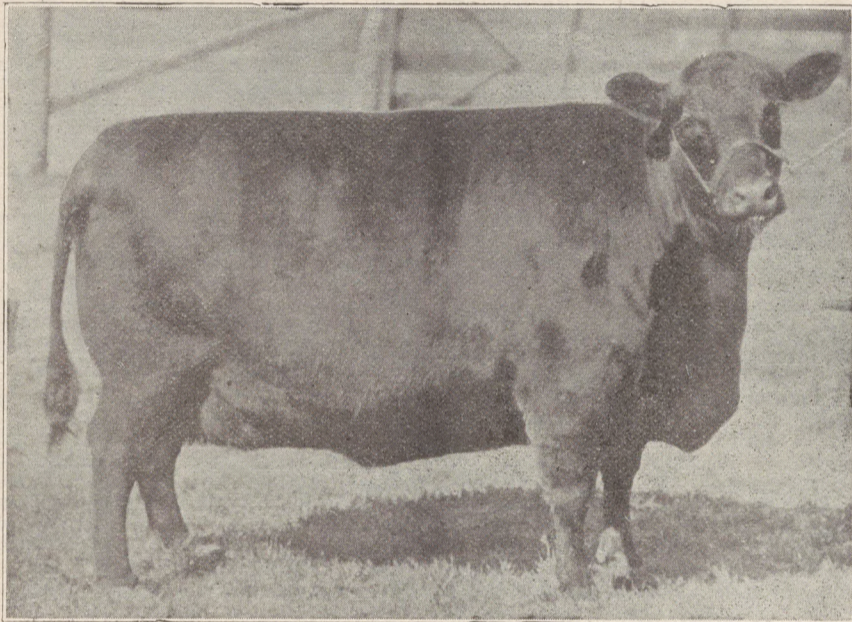
In groups of three, four and five, Aberdeen-Angus also upheld the tradition of the "Black banner," winning grand championship and reserve at the Florida State Fair on herd of three; "get of one sire" and best five at the International, though only four of the five carried Aberdeen-Angus blood and two were cross-breeds; and at the Eastern States Exposition, at Springfield, Mass., grand champion steer herd was Aberdeen-Angus, while at Edmonton, Alberta, early in the year, the same kind won the honors on herd; and at Toronto, the best four steers were the "black doddies."

The carcass contests, or demonstrations, which have been so sweeping for the Aberdeen-Angus wherever put on, continue to roll up victories for them,

previous year at the first show at Honolulu.

In boys' and girls' calf classes and contests, Aberdeen-Angus have demonstrated the same marked ability to mature earlier into finished beef that will bring the highest price from the packer. South Dakota, Texas, Oklahoma, Minnesota, Iowa and Florida state contests were all won by Aberdeen-Angus calves, the one at South St. Paul going to a calf fed and owned by a girl and selling for the record price of 76 cents a pound to Swift. While the Wisconsin contest this year was not won by an Aberdeen-Angus, when the packer buyers got into the auction ring after the show, the Aberdeen-Angus calves they bought cost 4 cents a pound more than one rival breed and 1 cent more than the other. The Sioux City Inter-State Fair Show also had an Aberdeen-Angus champion. The Iowa victory was especially fine, the black calf standing at the head of 174 calves and eventually coming to the International and being made grand champion beef carcass of the world's greatest steer show for the Iowa State College. Dozens of little county contests were also won by Dottie babies for their youthful owners.

In this sale ring, the Aberdeen-Angus cattle also went ahead with tre-



Erica of Woodcote 12th, a Grand Champion Aberdeen-Angus Cow from Michigan

though the contest is very unpopular with other breeds and is held only at the International on anything like a big scale. At the last International, Aberdeen-Angus won their seventeenth successive grand championship, having the first prize carcass in each class. The steers were judged by two different butcher experts, one placing the steers on the hoof and the other judging the meat after the animals were slaughtered. The second judge has only the hideless carcass to guide him, and has no means of telling how the first judge placed the animals. Not since 1900 has any other breed won the carcass contest at the International. At Hawaii's second annual territorial fair, an Aberdeen-Angus also won the carcass contest, as was the case the

mendous strides the past year, 114 sales of cattle in the past year averaging \$511.59 a head on over 5,412 head of pure-breeds, or a gain of \$125.95 a head over last year's sales. Not only were there more sales and bigger sales, but the cattle went to a much larger territory than heretofore. Some 40 states and provinces took the cattle this year, while bids came from practically every state.

On the market, too, Aberdeen-Angus cattle continue to set new records and top the various markets wherever they appeared in finished form. The complexion of the stock yards gets darker year by year, many of the corn belt markets now getting a stream of black beeves where a few years ago they were a curiosity.

How to Dress Calves for the Market

CALVES, from three to six weeks old, weighing from eighty to 120 pounds, are the most desirable, and bring the highest prices. Small underweight calves, under three weeks of age, are liable to confiscation and the shipper is also liable to prosecution, on the charge of selling unwholesome meat.

Remove the head from the carcass, leaving the hide of the head on the skin. Cut the legs off at the knee joints. Open up the carcass from end to end, and remove the viscera and internal organs, except the kidneys. Do not wash out the carcass, but wipe with a dry cloth. Hang carcass, so

dressed, for at least six to eight hours, or over night, where it can thoroughly cool before shipping. Many carcasses spoil in transit because of improper cooling.

Very heavy calves, such as have been pail fed on skim or buttermilk, do not sell well, nor bring fancy prices. Ship calves so they will arrive on market before Saturday.

Fasten shipping tag to the hind leg, with both the name of the commission firm, and your own name and address plainly written.

The farmer is going to do the best he can alone this year.

Do you realize that ZENOIL is really the highest grade Motor Lubricant Marshall-Wells can find, and always will be the best-by-test that the world's markets afford?

What Users Say About It

Speaking of the 1919 Elgin Auto Road Race of 301 miles, contested by the leading cars and drivers of the country:

"Of the thirteen cars which started, but seven finished,—lubricating trouble, with resulting burned-out bearings, forcing most of these cars to quit.

"In the twenty-second lap, Ralph Mulford, leader up to that point, pulled up at the pits, his machine suffering with lubrication trouble.

"Despite the efforts of a small army of helpers, including Barney Oldfield, the machine could not be re-started in time to make up the lost time."

The motor trade is beginning to learn that they must give more attention to the lubrication of their cars.

Among Marshall-Wells' visitors have been the sales manager and service manager of the Pence Auto Company of Minneapolis, Northwestern distributors of Buick cars.

After visiting our Oil Laboratory, Oil Testing Station, and Oil House, they said: "We have heard of your wonderful lubricant, Zenoil, but never thought you had such facilities for investigating oils."

ZENOIL Versus Fordson Tractor

Sometime ago a test was made in Fargo between ZENOIL and two well-known competitive oils, in a Fordson Tractor.

On account of conditions, it was impossible to do actual plowing, but a running test was made inside of the garage.

The Fordson Tractor was run for two hours; the oil was drained out and sent to the laboratory for analysis. The following percentages of kerosene were found, which had leaked past the piston rings, because the lubricant did not seal the compression:

First Competitive Oil	30% Kerosene
Second Competitive Oil	28% Kerosene
ZENOIL	6% Kerosene

You can readily see that, in a day or a week, such heavily "kerosened" mixture would grow poorer and poorer, as a lubricant or seal.

MARMON CAR DRIVEN 7,000 MILES, USING ZENOIL

Going over this car, the mechanics were impressed by the ease with which carbon deposit was removed. Came off like soot, no caking, and easily brushed off.

From Martin Forslund of Greenland, Mich.

"It sounds almost fabulous, but nevertheless it is true, that I made 1,487 (practically 1,500) miles, consuming less than one quart of your No. 6 ZENOIL.

"I have a five-passenger, Model 37 Buick car, which was loaded to full capacity at all times during the trip."

Guin Bros., Formerly of Deer Creek, Minn.

"No doubt, you know we sell a little amount of ZENOIL. Well, we were selling some, but of late it has been selling itself.

When we started to handle ZENOIL we had a hard road to travel, for there are all kinds of automobile oils handled in this territory, ranging in quality all the way from cheap to poor and worse.

We talked ZENOIL until we had an oily taste in our mouth, and finally got people to try it out, and then the oil went to talking.

While we don't sell all the oil that is used in this territory, we have people who tell us we sell the best that is sold here.

All we can say is that it is good goods, or people would not be shouting for it."

Marshall-Wells Company, of Duluth

Also Portland, Spokane, Aberdeen (Wash.), Billings, Great Falls, Winnipeg, Edmonton, Vancouver, B. C.



**MORE MILK
MORE BUTTER**



MAKE US PROVE IT

SULLIVAN FARMS
James Sullivan, Owner

Barker, Minn., March 1, 1920.

The J. L. Ross Co.,
Superior, Wisconsin.

Gentlemen:

I will admit I did not fully appreciate the real value of your feed, "No. 11 Dairy Feed," until I put my cows on test. I put ten cows on test and every one of them made A. R. O. records. It is more than you ever claimed for it. My experience in carefully watching all cows during the test showed the cows need more protein than our farm grain and crops furnish.

Then your feed supplies the cows a good maintenance ration as well as the milk and butter fat producing qualities. When I had a few cows not producing a high test in butter fat or a heavy flow of milk, I diluted with ground oats and barley and made your feed go farther.

I recommend your No. 11 Dairy Feed very highly. Without it I could not expect to get the production that I do. Until I used it my cows were just average producers. I am very well pleased with it.

I just received the last order O. K.

Yours very truly,

(Signed) JAMES SULLIVAN.

Ask your dealer. If you prefer, write us direct for prices and some further dollar-and-sense facts.

SAVE FREIGHT SAVE TIME SAVE MONEY

THE J. L. ROSS COMPANY
SUPERIOR, WISCONSIN

Made In Greater Cloverland



The CaloriC is made and guaranteed by the Monitor Stove Company, a million-dollar institution that has been making quality heating appliances for 101 years.

PIPELESS CALORIC FURNACE
Original Patented Pipeless Furnace



—every room in your home, upstairs and down, warm as you want it when the blizzards of winter rage outside.

—temperature controlled as easily as pressing an electric button.
—stoves, fuel, ashes, dirt and smoke banished from your rooms.

All this modern comfort, convenience, and cleanliness you may enjoy by installing the CaloriC Pipeless Furnace.

The CaloriC is the wonderful, patented system of heating buildings with healthful, circulating warm air. Heats homes of eighteen rooms or less through one register—at a proven saving of $\frac{1}{3}$ to $\frac{1}{4}$ the fuel.

More than 100,000 CaloriCs in use. Installed in old homes or new usually in a day. Sold under the manufacturer's money back guarantee and our own personal guarantee of your complete satisfaction.

Morley-Murphy Hdwe. Co.
Green Bay, Wis.

Farmers Indorse St. Lawrence Waterway

THE proposed Great Lakes-St. Lawrence river deep waterway was endorsed by the state farm bureaus of twelve mid-western states at a two-day session held at Ames, Iowa, June 22 and 23.

Minnesota, Wisconsin, Michigan, Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, Oklahoma, Nebraska and South Dakota were represented by their principal officials and other delegates, and there were scattering representatives from a half dozen other states.

Marketing was the general theme of the entire program, and many tentative solutions were offered for the relief of farmers by controlling the flow of grain and live stock so that prices would be stabilized, thus preventing excessive market fluctuations which catch the farmers with low prices when he is forced to sell, and elevating prices after the products have gone beyond their control.

One of the most important means of stabilizing market conditions for the benefit of the farmers was the early construction of the proposed deep waterway from the Great Lakes to the ocean. The acute car shortage, excess transportation charges via the Erie Canal, which also entails high fees for breaking cargo at Buffalo and New York and the spoilage of millions of bushels of grain in New York harbor for lack of storage, and high freight rates to seaboard, were included among the reasons cited for the necessity of a waterway outlet from the interior of the continent to the sea.

An investigation of the car shortage is now being conducted by the American Farm Bureau Federation. One railroad official reported that, in his opinion, the rolling stock required could not be provided within less than a period of six years. This was contrasted to the time fixed for the completion of the deep waterway, which would be about six years, and might be less if properly speeded up.

No matter what problem came up the discussion inevitably drifted toward a better system of marketing, which, in turn, required more storage facilities near the districts of production and better means of transportation. And again and again the quickest, cheapest and surest way out, coupled with stability and permanency, appeared to be through an ocean-going ship canal from the Great Lakes to the sea, via the St. Lawrence river.

A resolution presented by C. A. Peterson, secretary of the Wisconsin State Farm Bureau, endorsing the canal, was unanimously adopted, as the climax of the two days' session.

The next conference will be held at Lansing, Michigan, July 27 and 28.

The fact that the agricultural and live stock industry of the nation is now in jeopardy and that the farmers are facing disaster unless better marketing facilities and marketing conditions are brought about in the near future may be gleaned from a detail report of the two days' session by L. E. Troeger, under an Ames (Iowa) date line of June 24, which follows:

Officials of twelve middle west state farm bureau federations ended a two-day session here yesterday on grain and live stock marketing, wool pooling, car shortage and selling hogs at the markets on grades on a "hog exchange."

Concerted action of all organizations and states interested in these matters is to be sought at two conferences to be arranged by the American Farm Bureau federation soon. The farm bureau folks will bid leaders in the grange, co-operative grain and live stock associations; the equities, unions, non-partisan league, state live stock associations, and any others interested. The motion calling for a grain meeting was made by Secretary E. H. Cunningham of the Iowa Farm Bureau and the live stock round-up

by Knute Espe, president of the Iowa co-operative shippers. President C. W. Hunt of the Iowa Farm Bureau presided the first day and Howard Leonard, president of the Illinois Agricultural association, the second day.

That something must be done to eliminate some of the chances and costs of marketing was the general sentiment of the live stock men present. They said that unless live stock feeders were assured of a more uniform profit on their operations the industry was certain to decline, only to be followed again by excessive production and demoralized conditions. The live stock survey was advocated as one means, when perfected, to control the flow of stock to market and prevent sharp fluctuation in prices. Some thought the zone plan might be improved. The "hog exchange" was outlined in detail and recommended by Dr. O. E. Dyson, former state veterinarian of Illinois, who was questioned by a number who could not see how it would make prices any better. A. Sykes, president of the Corn Belt Meat Producers' Association; Martin Sar, secretary of the Iowa co-operative shippers; Knute Espe, E. H. Cunningham and others spoke to this question. Several other speakers advocated radical plans, but the general belief was that the best results would be obtained for all by first trying to improve the present system rather than attempting to overthrow it.

"The packers have agreed with us that gluts and breaks are bad for all and they say they stand ready to help us," said a prominent stockman. "Let's take them at their word and see what can be done to control the runs. If they do not come clean, then we can take the bull by the horns."

William C. Eckhardt, director of grain marketing of the Illinois Agricultural Association, opened the grain marketing discussion by telling of the results of the hearings he has recently conducted in ten congressional districts of Illinois. He also explained the plan on which the Illinois association is working, which calls for organizing local farmers' elevators in communities not having them now, and providing ample financing to carry grain over low priced periods. Also to market the grain by shortest route, install drying plants, provide for local grading, and finally to establish terminal elevators.

"We have come to believe that the terminals will not be so essential as we first thought," said Eckhardt. "We will store much near home and be able to ship direct to the miller."

He also said that a government grain expert had assured them that federal machinery was now in existence to grade the grain at the local elevators and prevent the juggling of grades at the large grain centers.

Financing the elevators was one of the least of their problems, Eckhardt declared. Local bankers had shown readiness at all of the ten hearings to back them up. Eckhardt said they would go ahead on two lines of work as soon as the twenty hearings were completed, first, to organize local elevators; second, to set up terminal facilities needed. He exhibited a sample poster which will be put up all over Illinois soon, which sets forth that "farmers must own the elevators." It will take a number of years to complete the plan, it states. "God grows a pumpkin in ninety days, an oak in 100 years," is a concluding sentence.

He declared that all grain states must work together and be in a position to say all their surplus should go through their own marketing machinery. If all the grain cannot be marketed each month as scheduled, farmers must be able to carry the grain until a fair price is obtainable.

Legal obstacles were the largest problem, said Eckhardt. To play safe, he declared, they should organize as a non-profit organization. With fifteen clearing houses in Iowa he esti-

mated that \$1,000,000 a year in commissions could be saved to farmers. "Use this to build terminals," he said. "Nothing in the law prevents this."

He declared that it was possible to form a midwest farmers' exchange which could market the farm products and buy the main supplies.

A. L. Ames of Buckingham, Iowa, asked who would be designated to hold their grain. Eckhardt replied that he did not think there would be serious crowding. Canadian farmers have worked this out, he said, by naming a fair selling price and taking a man's crop when he had to sell. The price was averaged up by participating certificates between growers who sold and those who held.

He urged preparing to market the grain in all states as soon as possible, say, within two years. "Cut the snake's head off quick," he said. "It is better than to go through hell, like the co-operative elevators have the past twenty years."

Mr. Ames said he was worried most over who should market first. "Every one wants a chance to sell," he said, "and if a man is on the waiting list he must be assured he will get the same as the other man. We are up against that now."

Eckhardt said this would be cared for by a pool created from levying 2 cents or thereabouts on each bushel and use this to even up the return for all. This does nothing to impair competition between growers.

Mr. Allen of Minnesota asked if the plan provided for a terminal to care for export at New York, for example, where flour and wheat have been exposed to the weather for lack of storage. Eckhardt said the savings made under the plan could be used for this purpose.

A. L. Middleton, Eagle Grove, Iowa, urged caution. "It will cost us money," he said. "We are not satisfied with the present system, it is true. But with 50 per cent of Iowa farmers tenants, facing a hard problem of

financing themselves, due to high rentals and so on, the proposition of launching the Illinois plan would be an enormous undertaking. Let us go safe and be sure of our steps. You will get votes for the plan, but there will be Benedict Arnolds."

The speaker also warned against expecting too much in what could be saved in selling commissions over the present plan. "The farmers will have to pay for service the same as any one else," he said.

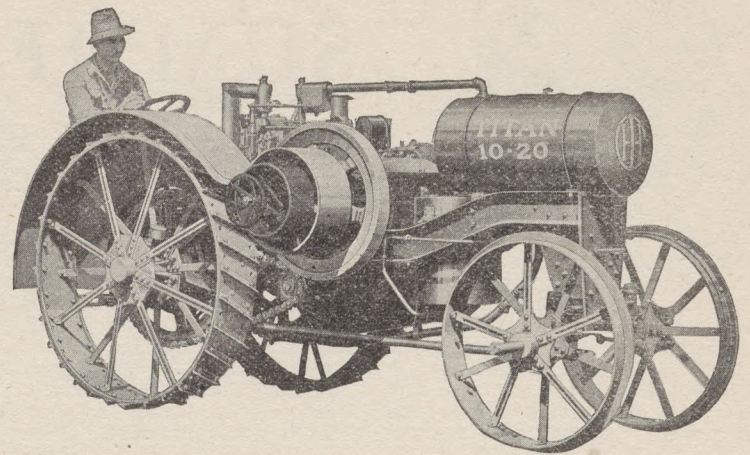
M. S. Soeth of Estherville, Iowa, wanted to know what the probable reserve in Iowa would be this year. Eckhardt said that was information which would have to be obtained. He believed, however, that the country had reached a point where there was not much probability of a large carry-over.

Ralph Snyder, president of the Kansas bureau, said the plan looked good. A problem was that some farmers would fly the track. Some liked to gamble also, and there would be a continual tendency to hold grain for the last cent. The Kansas situation was peculiar, as the men who controlled the farmers' elevators were openly in opposition to the farm bureau.

Charles R. Weeks, secretary of the Kansas Farm bureau, said he understood that the Illinois plan was patterned after the Canadian plan quite closely, but when he heard that the Canadians handled only about 100,000,000 bushels he did not think so much of it, as Kansas will have 110,000,000 bushels alone. In Canada, furthermore, the government guarantees growers against loss, and that can be done there, as grain growing is the one big business in Canada.

A. J. Meyer of Columbia, Mo., secretary of the Missouri federation, told of a bad situation in Mississippi county, Mo., among wheat growers. They are ready to market and can't move the crop. Appeal to St. Louis bankers

(Continued on page 25)



Half a Decade of Tractor Progress

Five years of steady progress and unparalleled success is the record of the **Titan 10-20 Kerosene Tractor**. And during these five years in which it has achieved leadership in the tractor field, no radical change has been made in its design or construction, proving that from the first it embodied the fundamental principles of a successful, all-around tractor. It was designed right.

But progress is forward-moving and demands constant improvements. Thus, in the case of the **Titan 10-20**, in order to add to its durability, comfort, ease of control and general satisfaction, such minor changes as the following have been made:

Plain bearings which required frequent lubrication to prevent wear, were replaced with roller bearings, insuring long satisfactory service even when neglected.

The original steering mechanism, while suitable for a man, was somewhat difficult for a boy to handle, and, as many owners depend upon boys to run their tractor, an easier control has been provided. A twelve-year-old boy can now handle the **Titan** with ease.

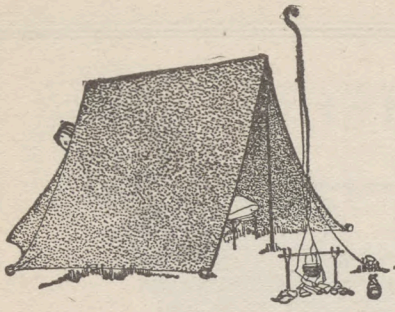
By a slight change in the engine the plowing speed has been increased to $2\frac{7}{8}$ miles an hour, which is $1\frac{1}{2}$ times as fast as the average horse walks, and the maximum speed under which plows will take to the ground well or do a good job of plowing, under most conditions. At this speed, pulling three plows or an equivalent load of other machines, the **Titan** does more and better work than any tractor near its rating, with less wear and tear, less expense, and with entire safety to itself, its load and the operator.

Half a decade of progress finds the **Titan 10-20** more than holding its own. It leads the field in all particulars.

RED CROWN Gasoline line is made especially for automobiles. It will deliver all the power your engine is capable of developing. It starts quickly, it accelerates smoothly, it will run your car at the least cost per mile, and it is easily procurable everywhere you go.

Standard Oil Company
(Indiana)
Chicago, Ill.

INTERNATIONAL HARVESTER COMPANY
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MINNESOTA AS A SUMMER RESORT

By HON. FRED D. SHERMAN

Minnesota Commissioner of Immigration

IT DOESN'T make any difference how engrossed you are in your own private affairs; it matters not how pressing are the demands of employer or business; it is immaterial how pleasant your local surroundings are, the "Call of the wild" is bound to come to you if you are human. You long for new sights and scenes; you long for a change; you want a vacation. The "call" may come to you in the springtime, just when nature is preparing to take on her summer robes, when the air is pungent with the odor of vegetation and the scent of early wild flowers, or it may come to you some lazy day in mid-summer, when the stifling heat of shop or office becomes oppressive and well nigh unbearable and the rattle of machinery or the busy hum of the office work wears on your jaded nerves and you close your eyes momentarily to see the vision of cool shady groves, shimmering pebbly bottomed lakes and murmuring brooks, of boating and bathing and then you long to be there. It may linger till fall time when the early September frosts have changed the grass to gold and turned the foliage of the trees to a hundred changing colors and the air is cool and bracing and the sun is bright. Then you long to wander through forest and field with gun and dog and listen for the "whir" of the fleet winged prairie chicken, partridge or grouse and later on to try a day on the "pass" for a bag of ducks. To the more rigorous perhaps the "call" may not come till the November weather has set the stamp of winter on the earth and there is a "tang" in the air that sets your blood leaping through your veins, when your thoughts turn to the great pine forests of the North where the deer, moose and elk make their home and you are sure one is waiting there for you. The "call" will surely come and then you want a vacation. But where to go? And that is why this story is written.

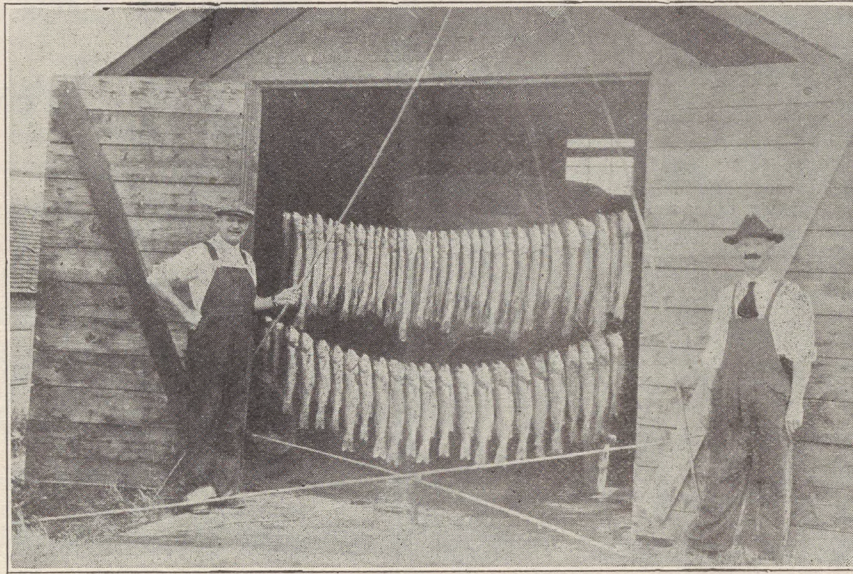
Minnesota with her 10,000 lakes and almost as many rivers and streams, all of which teem with various kinds of fish, presents one of the most alluring spots on the globe for the summer tourist, not entirely because of her great water area alone, but because of her remarkable climatic conditions.

Minnesota occupies the most elevated plateau between the Gulf of Mexico and Hudson Bay, the average elevation being 1,000 feet above the sea level. Fogs and prolonged damp weather are almost unknown. The general dryness of the atmosphere

makes the region a very healthful one. This is evidenced by the fact that the city of St. Paul received the highest award at the Paris Exposition as the healthiest city in the world, which reputation is still being successfully maintained.

Although there is plenty of warm weather here during the summer, the heat is not oppressive. Observations conducted at St. Paul, extending over a period of more than twenty-five years, show the mean summer temperature as 70 6-10 degrees. During

branching out from the cities or by a few hours ride on the train where good fishing can be found and up to date hotels, picnic grounds, boats and fishing tackle are ready to accommodate the visitor. But if one wishes to "rough it" let him arrange to visit the extreme northern counties of the state where he can go many miles from railroads and even habitations and pitch his camp on the shores of one of the countless lakes or beside the rushing trout brook and be alone with nature.



A String Caught Near Coleraine, Minnesota, by Dr. R. T. Glycer of Brooten and W. J. Stock of Coleraine.

the hottest week of the seasons the thermometer registers on an average from 85 to 90 degrees and the dryness of the air prevents the heat from being oppressive while the nights are refreshingly cool.

The lakes in Minnesota range in size from one to thirty miles in diameter and are distributed quite uniformly over the state excepting in the extreme southwestern corner and southeastern corner where few lakes are found, but in the noted park region, which is generally referred to as Central Minnesota, we find large and small lakes in close proximity.

None but those who have spent a summer among the Minnesota lakes can fully appreciate their wonderful grandeur and accessibility. Many lakes can be reached by electric lines

It will hardly be necessary for the writer of this article to attempt to exploit the splendid fishing or the kind of fish found in our many lakes. The rates for board, room, boats, etc., at the Minnesota hotels and summer camps are for the most part very low, ranging in price from \$3 to \$8 per day and in most cases special rates by the week are given.

A department known as the "Ten Thousand Lakes Association," is maintained for the purpose of giving information relative to Minnesota summer resorts and a letter addressed to the secretary of that association, Athletic Club, St. Paul, Minn., will bring to the applicant auto road maps and descriptive literature of interest to the tourist.

While Minnesota's lakes and excellent fishing are a great drawing card for summer tourists and sportsmen, they are by no means the only inducement we have to offer, for at fall time there is unexcelled sport in forest and field. Go to any part of the state and you will find an abundance of game. In Minnesota the stubble fields at fall time furnish excellent sport for there it is that the turtle dove, snipe, prairie chicken, white breasted or sharp tailed grouse, woodcock, upland and golden plover are found in great numbers, while later on in the fall, geese and ducks, particularly the latter, pay their annual visits to the lakes and streams while many geese and brant make their feeding grounds on the western wheat fields.

In the timber portions of the state, viz: Eastern, Central and Northern Minnesota, the quail, partridge, ruffed grouse and pheasant make their homes and in the dense thickets which are found in many parts of this region, the partridge are found in abundance and the quail and grouse are taken in limited numbers. Many ducks of all

varieties are found in the rice beds of the lakes and streams.

In the great woods to the north, though now on the fringe of civilization, the white tailed deer are found in great numbers, while elk, moose and caribou are found to some extent and a bear is occasionally seen. Stringent laws protecting the game and fish of Minnesota have been passed by our legislature and the state commissioner, assisted by a corps of wardens, keeps these laws strictly enforced and the good work is already in evidence for it is now conceded beyond a doubt that wild game in this state, particularly deer, prairie chicken and partridge, are becoming more plentiful each year and the 1919 session of the legislature enacted a law preventing the taking of prairie chickens until the fall of 1922. The successful propagation of fish in our state hatcheries foretells the fact that Minnesota's lakes will never be destitute of fish.

Fur bearing animals of nearly all varieties are found along our lakes and streams, even in the highly developed sections of the state, while further to the North in the sparsely settled districts fox, wolf and other fur bearing animals are found in great numbers, and trapping is followed quite extensively by many of the settlers with profitable results.

We extend to the reader, a cordial invitation to spend your vacation in Minnesota where health and strength await you. Lay aside your business cares for a few weeks and come to Minnesota where you can loaf through the hot summer days on the broad, cool veranda of one of our many summer hotels, or camp in the shady forests and bathe in the clear, cool waters of our lakes. A vacation in Minnesota is one long to be remembered and when you return home after it is over, we want you to tell your friends how you spent your vacation in Minnesota and why you are going to spend your next one there.

All resorts and choice camping places are easily accessible from any one of the larger cities in the state, by good train service to points nearest the lakes and streams, thence only a short distance by auto or team, and many places have the advantage of direct rail accommodations. Of course the "wilds" must be entered over canoe routes or trails.

Breeders and other Buyers

The Wisconsin State Fair, Milwaukee, Aug. 30 to Sept. 4 inclusive, will present the Best the Great Badger State has to offer in Life Stock, Agriculture and Allied Industries //

One Wisconsin County alone will send over 400 Dairy Cattle, including Grand Champions and Champions //

The Wisconsin State Fair aims at Commercial Results, as well as Educational and Inspirational results //

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Oliver E. Remy Secretary State Fair Milwaukee

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"OCTORARA" "JUNIATA" "TIONESTA"

of the Great Lakes Transit Corporation.

Sailing from Houghton every third day.

CRUISE FROM HOUGHTON TO BUFFALO and HOUGHTON TO DULUTH

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Orchestra—Dancing

Fare includes meals and berth.

Visit the wonderful Locks at Sault Ste. Marie—beautiful Mackinac—St. Clair Flats, the "Venice of America"—Detroit River—daylight cruise on Lake Erie—Buffalo and majestic Niagara Falls.

For complete folder and fares, address

C. O. BERGLUND, General Agent,

Phones: South 1067-South 1068

Houghton, Mich.

The Soo, Its Locks, Scenery

By WILLIAM H. BRIGGS

(Continued from June, 1920)

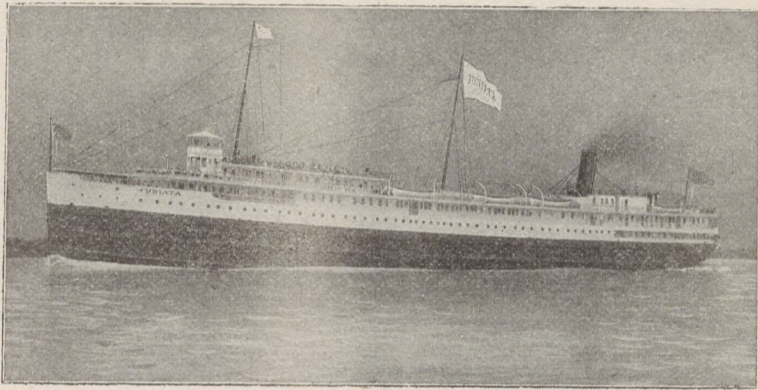
YOUR curiosity may prompt you to inquire the history of the wooden propeller which now occupies a place of honor on the grounds between the American locks at the Soo. This was salvaged from the Independence, the first steamer on Lake Superior, which was hauled over the portage and launched in Superior in 1845, only to come to an ignominious end from boiler explosion shortly after. Tradition says that she was originally built for carrying grain direct from Chicago to Europe, but as her speed would not exceed five miles per hour and as her full carrying capacity of coal would not carry her half way across the Atlantic, she was transferred to Lake Superior service. The first American sailing vessel on Lake Superior was the John Jacob Astor, launched in 1835 and wrecked in 1844.

If those early settlers, who very likely thought modes of transportation had reached their zenith in their day, could look upon the sleek giants

ental countries, but the Torii is the most simple of all. Here is the equivalent of an arch without a keystone. By a certain equal distribution of weight no keystone seems necessary. It is an example of Japanese skill in defying the laws of gravitation. The two stone horizontal bars across the top are somehow joined at the center.

Just beyond the Torii as you enter the Government park at the Soo there are two other examples of Japanese art—mammoth replicas of the pagoda-roofed bronze Japanese lanterns we frequently see in oriental art good stores. These also are the gift to the city by the once Michigan governor.

That ex-Gov. Osborne liked to bring the unusual in statuary and art to his home city—Sault Ste. Marie—is further evidenced by a huge replica of the famous wolf of Rome, which ancient history tells us suckled Romulus and Remus, founders of the city of Rome, when they were cast into the Tiber and lodged on one of its banks.



The SS. Juniata, One of the Palatial Steamships of the Great Lakes Transit Corporation, Heading for the Soo Locks.

of the inland seas plying through the canals and locks today, they probably would think the millenium was at hand. No less a person than Henry Clay, renowned statesman, vehemently opposed the project of constructing a canal and locks, declaring that it was a work beyond the most remote settlement in the United States, if not in the moon. What would Henry say today, we wonder, could he visit the king of inland waterways as exemplified at the Soo? Then, as now, there always was an element against progressive policies. Residents of the Soo had made their living by assisting in the portage of goods from one vessel below the falls to another above, or vice versa, hence they saw this work getting away from them.

Like the charitable spirit of the early missionaries, the spirit of the present leaders in Sault Ste. Marie activities inclines toward giving. The city has many charitable institutions; many public-spirited men and women who have the well being of their city at heart. Ranking high among these is former Gov. Osborne, of Michigan, who has given the city several unique works in stone, marble and bronze, pieces he has gathered in his travels to remote points of the globe. One of these is an archway gracing the entrance to Government Park opposite the Park Hotel, the Soo's leading hostelry. This is a replica of the famous Torii of Japan, a structure that is built over the avenue of approach to the temples of Ise, the mecca of devotees to the Shinto faith. Whereas, the Buddhist temples are extreme in their fantastic design, the shrines of Ise are examples of simplicity.

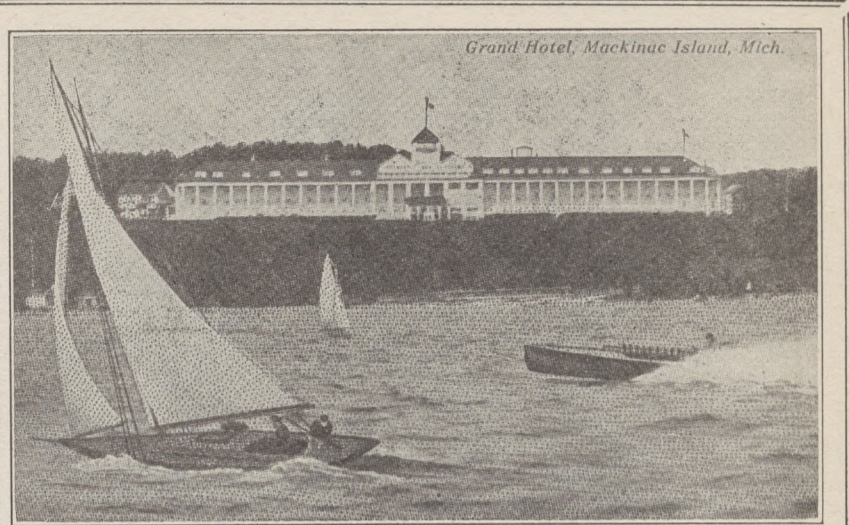
The Torii, or gateway arch, originally was designed as a perch for fowls, which sang to the dieties until daybreak, but in more modern times it has become known as a gateway characteristic of the Shinto shrine. Similar arches may be found in other ori-

Here the wolf is supposed to have nursed them and the original statue, of which the Soo statue is a replica, may be seen today in Rome.

These replicas of art are but a few of the interesting things you will want to see when you visit the Soo. There are tablets and monuments marking spots made sacred to the memory through the scenes years and years ago enacted by the individuals who made the early history of the great central west.

Let us forget for a moment, if we can, the city of Sault Ste. Marie and take in a larger circle than that embraced by the city. In Chippewa county, which is larger than the whole state of Rhode Island, you will find what the people who live there call "the garden spot of the world." Truly, they raise magnificent crops on the gently undulating acres that reach from the shores of Lake Superior to the Straits of Mackinac and Lake Huron. Sloping back gently from the St. Mary's river which bounds the eastern side of the county, one finds farming lands that do not have to take a back seat for any other in the world. But it must not be supposed that all of Chippewa county is farming; there are large stands of timber which invite your inspection if you would revel in the forest primeval. Game and fish abound, and while it is somewhat farther removed from the greatest scene of activity in the county than it was when the Indians called the Soo "Bowating," still it is there and the wonderful roads and modern means of conveyance, make the nimrods' paradise almost as close as in the days when the Indian hunted within a stone's throw of his tepee, or lodge.

Any number of circle drives may be taken over roads which delight the eye and the body, but perhaps the most popular one will be along the Dixie highway to Pickford and then



Mackinac Island

The
Summer Resort
of America



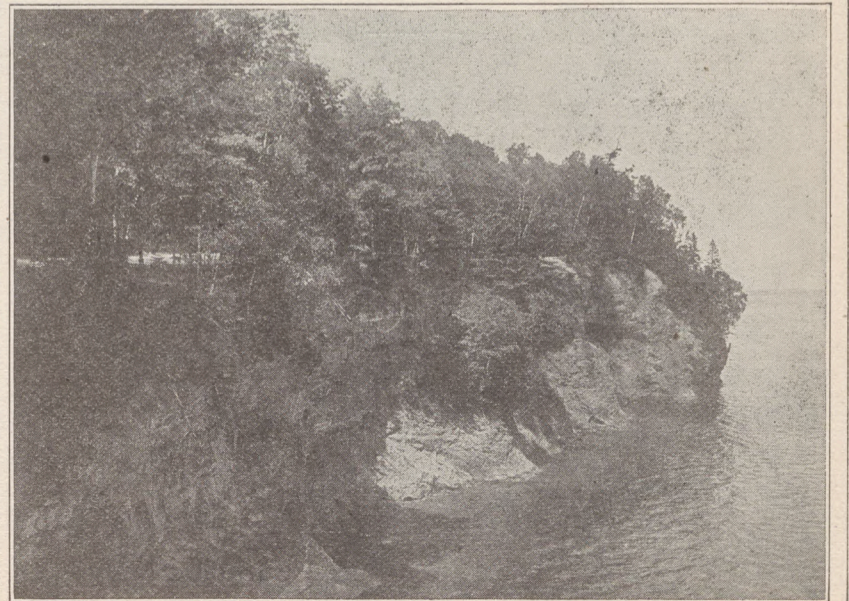
The art work of nature, Indian legend, and panoramic scenes that have made history in time of war and in time of peace all blend in harmonious welcome to tourists entering Cloverland through the southeast gateway, or bid adieu to the traveler after a sojourn at the wonderful Mackinac Island.

The island is justly famed for its scenery. The heights command views of sea and shore, ever changing with the varying lights and shades of the hours and the movements of passing ships. Well kept roads—thirty miles of them—lead in various directions from the village, through the woods, amid curious rock formations, now along the edge of the bluff with vistas of the lake, and again to some open outlook, whence the panorama is bounded only by the limitations of vision. There are glens and ravines innumerable; open spaces which were the ancient gardens of the Indians; and delectable parks, whose clumps of shrubs and trees are so effectively arranged that one at first thought credits the artistic effect to the skill of the landscape artist rather than to the caprice of nature.

WRITE OR WIRE FOR RESERVATIONS

GRAND HOTEL COMPANY
MACKINAC ISLAND, MICH.

LOGAN BALLARD, President CHARLES A. HOLDEN, General Manager



Amazon—the Best of Tires

AMAZON Tires have been improved and perfected to the point where we can join the makers in truthfully saying *a better tire was never built.*

Knowledge of what tire users expect and demand plus the ability to build exactly that kind of tire has placed the AMAZON Tire in its front rank position.

We carry a complete stock of AMAZON Tires, both Cord and Fabric, in a wide range of sizes.

DEALERS: Write today for proposition.

NORTHERN HARDWARE & SUPPLY Co.
MENOMINEE, MICH.

Collecting Rubber on Brazilian Plantation



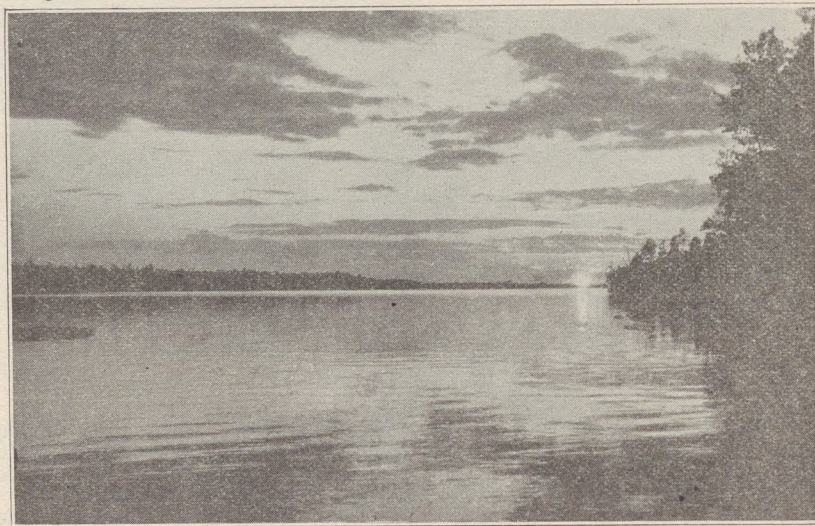
east to the Hay Lake road skirting the beautiful St. Mary's river and bringing you back to the Soo by the way of the Country Club, where, by the way, there is a fine nine-hole golf course which is for your pleasure and convenience. As you drive back toward the Soo, with the St. Mary's river on your right and the beautiful blue Laurentian mountains far in the distance in the Dominion, there flashes before you a panorama of delightful beauty. Mighty monsters of Great Lakes shipping glide ever back and forth through the river; here and there are magnificent islands, while all along the roadway you can find the resorter enjoying these fruits of nature on the right and the householder with his domain on the left of the road. Away to the west stretches the fertile acres which earn for Chippewa county the right to claim leadership for hay and other farm production when compared with any state in the Union.

Sault Ste. Marie is the northern terminus of the Dixie highway, of the roads from Chicago, Milwaukee and Minneapolis to the west and the great Northern highway from Toronto to Sault Ste. Marie, Ontario. This city is the terminus of all the important roads leading to the north and offers a great attraction to the automobile traveler as an objective point because of the variety of return trips available after reaching the Soo. The tourist from the south over the Dixie highway can return by way of the North-

vient to this engineering monument. And why not? The whole world affords no such another example of man's ingenuity as these mighty locks and canals.

The Sault Ste. Marie locks are the great gateways through which must pass the products of a mighty empire; the varied merchandise of the East, the iron of Duluth and Marquette and the copper of Keweenaw; the coal of Pennsylvania, Ohio and the Virginias; the grain of the Dakotas and Manitoba; the lumber of the continent. These canals and locks have certainly been the leading factors in the development of the Great West—a west much greater than those first settlers at the Soo could foresee or imagine—and a leading stimulant to the development of the whole country, north and south.

The gateman turns his hand and the United States takes a new place among the nations of the earth. As a direct result of this easy step, enormous ore pits deepen before the steam shovel on the Mesaba range; 100,000 farms spring up on the western prairies. The flour ground yesterday at Duluth or Minneapolis finds a waiting market a few days hence in London, Amsterdam and Rome. Bread is cheaper in a multitude of foreign and domestic homes because of that canal; it lessened the cost of the homes themselves. The copper ingots freighted through last year are transformed into humming cables in far Ceylon, or trolley wires in Siam, or armatures in Egypt. The native of the Orient



The Placid Waters of St. Mary's River Just Above the Locks

WE are keenly interested in the development of the agricultural and grazing opportunities of Cloverland.

What helps any part of this Empire of the North helps it all.

Calumet & Hecla Mining Company

JAMES MacNAUGHTON

Vice-president and General Manager

CALUMET MICHIGAN

ern highway to Toronto or Buffalo, or by way of Chicago, whichever he prefers. The traveler from the east by way of the road through Canada from Toronto can return by way of the Dixie to Detroit, or by way of Chicago. Several options thus are afforded and one who visits the Soo does not have to back-track.

The Dixie highway connects two great resort sections—Miami, Fla., on the south, and the Soo on the north. Travel over this route and the feeders that connect with it from the east and west, promise to make it an all-year favorite.

The Northern highway extending from Toronto to Sault Ste. Marie, runs through some of the most beautiful scenery in Canada, passing through the famous Muskoka Lake country, skirting the shores of Georgian Bay, Perry Sound with its 10,000 islands, and thence northward through the virgin forests of Ontario.

The new Roosevelt Memorial highway from Portland, Ore., to Portland, Me., will pass through the Soo and its completion within the next few years will add one more alternative to the many available at the present time.

You should go to the Soo if for no other reason than to see the greatest of inland waterways. I believe I am safe in saying that many Americans have gone to Panama expressly to see the canal and the Canal Zone, yet they never have seen Sault Ste. Marie, or scarcely given it a thought. However, there have been thousands who have visited the Soo and marvelled at the volume of traffic which is subser-

spans his ravines with bridges made of this cheaply transported ore now passing by; these narrow walls made Pittsburgh and Gary possible; our mighty ironclads sailed this inland waterway before they sniffed the salt air; the locomotives of Brazil rode over these stone sills and so did the rails that bear them.

Hats off to these canals and locks, for they have turned the old time luxuries into necessities, and have made present luxuries possible. Is it too much to say that America dominates the world of steel because of these canals and locks? Is it too much to say that the United States owes its supremacy in transportation, manufactures, mining and agriculture, more to these waterways than any other one thing?

Nowhere in the world is tonnage moved more cheaply than through the Soo locks and canals. A dollar will carry a greater tonnage of goods a given distance here than it can by any other means of transportation. Think of it! Coal is carried through the Soo at the rate of 3,000 tons for \$1.

Here is reason enough for visiting the Soo and if this is not enough let me again call your attention to the fact that this remarkable city of the north and its environs have an abundance of romance, virgin forests, of sky blue water, of game and fish, camping spots, fine scenery, and splendid roadways that offer pleasure to every seeker. There is something sacred and holy about Sault Ste. Marie, not especially apparent, but you feel you are treading sacred ground.

Indorse St. Lawrence Waterway

(Continued from page 21)

Monday failed to bring them relief in the way of financing them until they could sell the crop. President Snyder said the same situation existed in parts of Kansas.

E. C. Dustin, secretary of the Oklahoma marketing commission, said they had been preparing wheat growers to hold grain by building storage bins on the farms. Local bankers have said they would loan money on grain so stored, but not in the stack. The crop will be in shock at the end of this week, he said, and will have to be stacked, but there are few good stackers available, as young men are out of practice.

D. O. Thompson, secretary Illinois association, urged action, saying the temper of Illinois farmers demanded it.

President O. E. Bradfute of the Ohio federation said that the problem in his state was peculiar owing to the fact that farmers were in the minority and "hardly two of them could talk prices without being convicted under the anti-trust law." One of the first moves is to obtain good legal talent, he thought, so that legal obstacles could be cleared away. He urged building the whole marketing plan soundly and from the bottom, concentrating on the local communities, although not overlooking the value of state organizations.

Mr. Eckhardt told of a plan which had been submitted to farmers' elevator leaders by M. H. Pickell, editor of a grain journal, which would set up a statistical bureau to determine the world supply of grain and head it by some man like Julius Barnes. The bureau would act as a guiding hand and use Pickell's paper as the official organ. They would seek to steady the flow of grain and other reforms in marketing. The farmers' companies would finance the bureau. It would sell through established agencies. Eckhardt said the joker was in the last sentence. The farm bureau officials thought they saw in the plan a scheme to "beat them to it" with the co-operative farmers' elevators.

Mr. Eckhardt asked that no mercy be shown in the analysis of the Illinois plan and it came in for the most critical examination which it has met with to date. Many of the men present thought it had great possibilities, but it took a good deal of faith to believe the plan could be put into operation in a reasonable time and at a cost which the country would stand for.

President Howard of the A. F. B. F. read a telegram to the conference from Washington which stated that the wool growers who went there from the Chicago meeting Thursday (reported in full in Friday's Drovers Journal) had been able to arrange with the federal reserve board a plan to finance the western growers and any others needing help.

President Howard also predicted that the financing of the wool clip in the future would be done at Chicago instead of at Boston as a result of the failure of the latter to advance money this spring. The new plan was put through by the National Farm Bureau federation.

Reports on wool pooling in different states were heard. O. E. Bradfute of Ohio said there was a movement on in

that state to buy wool at ridiculous prices. He feared wool pool would be broken up unless farmers stiffened up their backs. Hard as it was to conceive that the large wool interest would try to break the sheepmen, he said it looked very much like it was being attempted.

C. A. Bingham, secretary of the Michigan federation, said that they would pool 3,000,000 pounds of wool this year and in spite of the efforts to break their pool the farmers were sticking. Money was being secured at 6 per cent, due to the good banking facilities at Detroit. Secretary C. R. Weeks of the Kansas bureau said they had 35 county pools and they would handle 1,000,000 pounds of wool this year. Great trouble is being experienced in financing the clip, as the banks have loaned to the limit on wheat. The discussions brought out the remark by John G. Brown of Indiana that farmers might well begin to plan for their own systems of credit. Secretary Lincoln of Ohio stated that bankers were determined to keep the farmers from doing it and would try to knock out the federal farm loan system.

By a vote the next conference will be held at Lansing, Mich., July 27-28. A delegation of farm bureau men is planning to attend the Canadian wheat growers' conference at Winnipeg on July 13.

John W. Coverdale, secretary of the A. F. B. F., reported on the investigation which his office had been instructed to make at the Chicago meeting. He said the railroads did not have this information, and it would take time to get it. Mr. Coverdale read a long list of questions on the car situation, answers to which were being sought by Clifford Thorne, attorney for the federation.

He also read statements from leading carriers of farm products showing freight cars and engines turned over to the government, the number now in service and number required. One road replied that it did not believe the rolling stock needed could be built short of six years. One road official stated they were paying 7½ per cent for loans. All the replies will be checked with the data obtained by Attorney Thorne. Secretary Coverdale said the car shortage was no worse in the corn belt than anywhere else, and their office received appeals from all over the country continually. He did not express much hope for early relief. Rushing cars into one part of the country only seemed to work against other parts.

Several seemed to think the railroads would try to make as poor showing as they could to influence government loans. In reply he said that railroads were unquestionably hard up and were paying 7 to 7½ per cent to get money.

A. Sykes discouraged any one from thinking that the interstate commerce commission would issue special orders to send cars to different localities. He said the commission would no doubt order cars to be sent into the different freight classifications, but it would be left to the roads to distribute the cars in localities.

Charles R. Weeks of Kansas declared farmers must demand preferential orders. The growers can't build bins; grain will spoil in the stack, and there are no warehouses available. Without relief a great slump in morale among growers is inevitable.

The Adamson law came in for hard knocks by a number of speakers. Repeal of the law was advocated as one of the ways of getting better service from railroads.

A. L. Ames declared the car shortage was a myth. The trouble was brain shortage in handling the cars.

A referendum on the repeal of the Adamson law is to be undertaken by the A. F. B. F.

The proposed waterway route from the lakes to the gulf was indorsed by the meeting on motion of Secretary C. A. Peterson of the Wisconsin state farm bureau.



When the Lumberjack Moved On

THE picturesque lumberjack and the screaming saws have moved on. The lumbermen were interested in the wealth of timber and not in the wealth of the soil.

The forests, the lumberjack and the busy mills have given place to quiet rural scenes. The timber land of yesterday is the Cloverland of today.

Cloverland banks are co-operating in the development of this rich territory. Keep in touch with your local banker.

**FIRST WISCONSIN
NATIONAL BANK**
•• Milwaukee ••

Out-of-Town Remittances from Depositors

can be sent to this bank by mail. Checks, drafts and money orders received in business transactions or through the mail can be endorsed

**"For Deposit Only,
John N. Smith"**

placed in an envelope, addressed to this bank, and dropped in the mail box or handed to the R. F. D. man with the rest of your letters.

We'll credit the amount to your account and return a receipt promptly. Save time and expense! Bank-by-mail.

First National Bank

MARQUETTE, MICHIGAN

DESIGNATED UNITED STATES DEPOSITORY

Organized January 22, 1864

Capital, Surplus and Undivided Profits \$300,000

W. P. WAGNER, Pres. H. S. ELDRED, V.P.
GEO. D. NAU, V.P. H. P. KLAUS, Cashier
R. W. SMITH, Asst. Cashier

**Citizens National
Bank**

Capital and Surplus \$500,000.00

GREEN BAY, WISCONSIN

These Strong Cloverland Banks Are Ready and Willing to Give Every Possible Cooperation to New-comers. They invite Correspondence.

First National Bank of Calumet

Calumet, Michigan

Capital \$200,000.00

CALL IN AND SEE US
We are always pleased to serve you

Officers: John D. Cuddihy, Pres.; Edward Ulseth, Vice Pres.; Edward F. Cuddihy, Cashier; Daniel C. Harrington, Asst. Cashier; Pierce Roberts, Asst. Cashier

First National Bank of Menominee

Menominee, Michigan

Resources Over \$2,000,000.00
Oldest and largest Bank in Menominee County and under same management for 32 years
Depository for United States and State of Michigan

Officers: G. A. Blesch, Pres.; John Henes, Vice Pres.; C. W. Gram, Cashier; A. J. Klumb, Asst. Cashier

First National Bank of Bessemer

Bessemer, Michigan

Capital, Surplus and Profits,
\$150,000.00

Oldest Bank in
Gogebic County

The Lumbermen's National Bank

Menominee, Michigan

One of the Oldest and Strongest
Banks in Cloverland

Officers: Warren S. Carpenter, Pres.; Wm. Webb Harmon, Cashier

ESCANABA

is the leading city in Cloverland

The leading bank in that city is the

Escanaba National Bank

Correspondence invited

Commercial Bank of Menominee

Menominee, Michigan

"The Bank of the People"

Invites correspondence from prospective settlers. You can bank by mail with us

The First National Bank of Alger County

Munising, Michigan

Officers: William G. Mather, Pres.; G. Sherman Collins, Vice Pres. and Cashier; John N. Korpela, Asst. Cashier

Houghton National Bank

Houghton, Michigan

United States Depository
Capital \$200,000
Surplus \$200,000
Undivided Earnings \$250,000

Officers: J. H. Rice, Pres.; W. D. Calverley, Vice Pres.; A. N. Baudin, Vice Pres.; C. H. Frimodig, Cashier; R. T. Bennallack, Asst. Cashier; Edward Rompf, Asst. Cashier; F. C. Stoyke, Asst. Cashier

The State Bank of Ewen

Ewen, Michigan

Officers: L. Anderson, Pres.; J. S. Weidman, Jr., Vice Pres.; E. J. Humphrey, Vice Pres.; A. M. Anderson, Cashier. Directors: L. Anderson, Calderwood, Mich.; J. S. Weidman, Jr., Trout Creek; E. J. Humphrey, Ewen; J. N. Howlett, Bruce Crossing; J. F. Foglesong, Ewen; Nugent Dodds, Ewen; A. M. Anderson, Ewen.

The Newberry State Bank

Newberry, Michigan

Capital, \$30,000.00
Surplus, \$6,000.00

A General Banking Business. Commercial and Savings Departments.
3% Interest paid on Savings Deposits

Officers and Directors: F. P. Bohn, Pres.; W. G. Fretz, Vice Pres.; L. H. Fead, Vice Pres.; E. M. Chamberlain, Cashier; E. L. Fretz, Andrew Weston, J. C. Foster, Matt Surrill

First National Bank of Iron River

Iron River, Michigan

Capital, \$50,000.00
Surplus, \$20,000.00

We invite letters of inquiry regarding Iron County

Officers: Ellsworth S. Coe, Pres.; Wm. J. Richards, Vice Pres.; A. J. Pohland, Cashier

First National Bank of Sault Ste. Marie

Sault Ste. Marie, Michigan

Since 1886 this strong bank has been interested in the growth and development of Chippewa County.
Correspondence invited

Officers: R. G. Ferguson, Pres.; Otto Fowle, vice Pres.; Chase S. Osborn, Vice Pres.; E. H. Mead, Vice Pres.; Fred S. Case, Vice Pres. and Cashier

First National Bank of Marquette

Marquette, Michigan

Over \$2,000,000.00 Resources

Officers: Louis G. Kaufman, Pres.; Edward S. Bice, Vice Pres.; Charles L. Brainerd, Cashier

First National Bank of St. Ignace

St. Ignace, Michigan

The oldest and largest Bank, and the only National Bank in Mackinac County

Your business inquiries will receive prompt and courteous attention

Officers: O. W. Johnson, Pres.; E. H. Hotchkiss, Vice Pres. and Cashier

Marquette National Bank

Marquette, Michigan

Capital and Profits, \$160,000.00
United States Depository
We invite correspondence

Officers and Directors: J. M. Longyear, Pres.; D. W. Powell, Vice Pres.; Chas. H. Schaffer, Vice Pres.; F. J. Jennison, Cashier; H. R. Fox, Asst. Cashier; E. A. Brown, Asst. Cashier; Daniel W. Powell, Austin Farrell, Chas. H. Schaffer, Frank J. Jennison, A. T. Roberts, R. P. Bronson, E. L. Pearce, J. E. Sherman, J. D. Reynolds, John M. Longyear

The Marquette County Savings Bank

Marquette, Michigan

Officers and Directors: H. L. Kaufman, Pres.; S. R. Kaufman, Vice Pres.; G. A. Carlson, Cashier; O. E. Barber, Asst. Cashier; E. J. Hudson, E. S. Bice, Louis G. Kaufman, Chairman Advisory Committee

Industrial Decentralization

By JOHN A. DOELLE

Secretary-Manager Upper Peninsula Development Bureau

THE Honorable A. P. Nelson, of Wisconsin, in an address before the House of Representatives of the Wisconsin legislature on Friday, March 19, 1920, struck the keynote of future power to the Upper Peninsula of Michigan when he declared that "our country should become more and more industrially decentralized, because of the tremendous distances of our transportation hauls. The raw material should be manufactured into the finished products, as far as practicable, within its own geographical zone or circle of distribution."

Congressman Nelson was presenting Wisconsin's argument in favor of the Great Lakes-St. Lawrence deep waterway project and his argument for industrial decentralization, while covering Wisconsin's situation admirably, is no less true of the Upper Peninsula of Michigan, or of any section of the country where industry is carried on to any extent—no matter what the industry.

He said, further: "We should not go east with the raw materials and then ship them back as finished products to the west. Neither should we ship west the raw materials and then ship them back east as finished products." Is there any section of the country where the argument applies more directly than to Upper Michigan with its vast wealth of natural resource, its lumbering and mining—both big factors in the region's industrial activities—and its favorable location with regard to transportation of products by rail, water or highway to almost any other section of the country?

"We must reduce carrying charges by a sane policy of conservation in manufacture and distribution of raw materials into finished products," declared Congressman Nelson. And how much good American money is spent every year by Upper Michigan's varied interests in shipping the raw product to the below-the-lakes mills and furnaces—to the western woolen mills and the middle-western stock yards. And is it because the Upper Peninsula of Michigan is not equipped to carry the raw material from its origin to the finished product? I believe not.

Let us take, for instance, iron and copper—Upper Michigan's largest and most profitable industries. Every year there are mined thousands of tons of raw iron ore from the fifty or more shafts now operating throughout the great Iron Range, and, in the same way thousands more tons of precious copper rock from the famous Calumet and Hecla and other high grade producing mines throughout the Copper Range—in Houghton and Keweenaw Counties.

And what becomes of it? Dug from the earth, loaded on cars, dumped into boats and—that's the last Upper Michigan sees of it until it comes back, later, in steel rails, iron and steel girders, locomotives, cables and various other kinds of steel and copper products. Rail rates, freightage, lockage and dockage are tacked on, together with various forms of utilities taxes until, finally, the very region which produced the raw material finds itself burdened with an excessive rate on a finished product for which that region produced the raw materials. If we could estimate, for instance, the amount of raw steel in a car wheel—precisely what it cost to bring that amount from the ground, and follow it through to its transformation into the finished product, I am sure our eyes would be quite opened to the vast amount of unnecessary "red tape" and excessive expenditure required to complete the job.

If Upper Michigan were "land bound" it would be a different story. If Upper Michigan consisted of a perfectly level expanse of territory entirely devoid of any facility which

would make manufacture possible—such as water for power and transportation, labor for operation, and rich farms to feed the laborer—then that would be another matter.

Thousands of clear, crystal-like inland lakes, into which flow thousands of rapid streams, dot the entire region. Labor is plentiful and efficient. The region is located within a thirty-six hour "haul" to four or five of the most active markets in the country, and the municipalities are stretching out their hands to offer every inducement, every possible assistance to a new industry or a progressive move of any kind.

This does not apply, solely, to the iron and copper activities.

The past three years has brought into the Upper Peninsula of Michigan over 45,000 head of sheep and 8,000 of beef steers. The region is established as an excellent grazing country for sheep and cattle, and thousands more of both are on the way to graze on the cut-over lands this summer.

What becomes of them? During August, shearing time, thousands of pounds of virgin wool is clipped from the sheep, shipped to the eastern, western or southern mills and is there either made into the almost extinct "all-wool" garment or comes back to the people of Upper Michigan, mixed in with "shoddy" and bringing exorbitant prices. It is OUR wool—yet we don't get it.

And the beef and mutton. During October and September car after car of live stock leaves Upper Michigan bound for South St. Paul, Chicago, Detroit or Buffalo. Last year some of our stuff "topped" the markets. The packers grabbed it up as "prime stuff," and dealt it out to the wholesalers at record prices. What did Upper Michigan get out of it? A 50 per cent boost in prices of practically all meats—beef and mutton particularly.

And not until last year did the possibilities of the grazing industry occur to the people of Cloverland. Now, however, Iron County boasts a packing plant, known as the Peninsula Packing Company, which has built up its capitalization to \$100,000, with shares available at \$100. It is a big step and a good one, if through its organization the packing company will aim to give to the Upper Peninsula of Michigan the benefit of the opportunity. If that is its policy, the company will "go big" in Cloverland. And there will be room for a few more just like it.

The First National Bank of DULUTH

At the Center of Cloverland

CAPITAL, SURPLUS
and PROFITS

\$3,250,000

THE development and progress of Northeastern Minnesota has for 38 years been the interest of this bank. In the future of this community and in the success of its people we have a vital concern

Talk your problems over
with us or consult
us by mail.

RURAL BETTERMENT

By B. G. PACKER

Director of Immigration, Wisconsin Department of Agriculture

IN SPITE of the rapid growth of American cities half of our population still live in rural sections. Twelve million farmers on six million farms furnish an aggregate yearly output of twelve billion dollars. No other country is duplicating the record. None equals the production per man because none has developed and put on the market so many types of labor-saving machines for planting, cultivating and harvesting crops.

Did you know that of the fifty epoch-making inventions of the world during the last half century thirty-five are credited to Americans? That those inventions are steadily changing the complexion of rural life?

Fifteen years ago, hardly longer than that, one hour's drive carried the Wisconsin farmer eight miles on his journey to town. Not high steppers, of course, but the ever-day team. Today sixty minutes takes him twenty miles, thirty, maybe farther if the constable isn't watching. He can cross the state from Hudson to Lake Michigan between daylight and dark.

Seventeen hundred rural route carriers travel 40,000 miles every day delivering mail to farmers of Wisconsin. Wisconsin has 105,000 rural telephone subscribers. We are told of the good old days on the farm. Were they really as good as they are painted? With less service, more hand labor and longer hours would many people like to go back to them?

Fifteen years ago furnace makers neglected the farm. Now every agricultural paper features their advertisement. In 1905 there was no practical electric farm lighting outfit at a price one could afford to pay. A single manufacturer has sold a hundred thousand the last four years and estimates its output as about one-tenth of the total marketed in the United States during that time.

Once it was six-tined fork and a wheelbarrow in the stable. Now an automatic litter carrier takes its load direct to the spreader. Not long ago we were wondering if corn silage was fit for cows, and today Wisconsin claims more silos than any other state.

It is not to be presumed that every farm combines all these modern improvements, they cost money, but progress is rapid in that direction. The phonograph has brought music into the home. Circulation of traveling libraries in Wisconsin has multiplied. They reach every corner in the state. Thirty-one county nurses are working in twenty-seven Wisconsin counties, and ten additional counties have voted appropriations for that purpose. Ten

years ago there were no county agricultural representatives; now we have forty.

Evidence of rural betterment is witnessed on every hand, but it must be remembered that during this period of activity the city did not keep still but blew its whistle. It advertised. Its very make-up in itself is an advertisement, the noise, the lights, crowds and all.

Greater opportunity alone did not pull away from the farm boys who might have made good on the farm. Passing up the reason why they left or wisdom in so doing, it is nevertheless true that rural communities in Wisconsin now are beginning to understand the force of advertising. Exhibits at fairs and expositions, land clearing campaigns and stock breeders' associations are illustrations. Articles for publication by county agricultural agents, county orders of the Wisconsin Experiment Association in disseminating pedigreed grains, community potato growers' work and the never-tiring efforts of the local newspaper editor are others.

Wisconsin recently passed a rural planning law and within eight months thirty counties have organized rural planning committees. It is their duty to feature the advantages of rural life in their particular counties. Co-operating with the division of rural planning in the state department of agriculture, they are mapping out this program:

County campaigns for modern improvements in country homes by means of exhibits, articles for publication and schoolhouse meetings.

Organization of town-and-country teamwork clubs in every village to encourage more social life among people residing on farms and those in town.

To obtain grants of land for rural parks and playgrounds.

To co-operate with the highway commission in roadside planting of trees and shrubs.

To promote greater use of all forms of rural public property.

Inventive genius and rapid highway transportation have removed the board fence formerly separating the city and country. There is not today any advantage in the large city that may not be duplicated in smaller Wisconsin towns and rural communities if combined effort is made to get it.

The rural planning law with its system of county rural planning committees provides the necessary machinery. City planning has arrived. Country planning must follow.

Farm Bureau Favors National Highways

FARM sentiment is very strongly in favor of the construction and maintenance of a national system of highways by and under the direction of the federal government, if replies received to a referendum by the American Farm Bureau Federation can be taken as a criterion. The federation is one of the largest farm organizations in the United States with local federated organizations in twenty-eight states.

Answers to the highway question are still coming into the office of J. R. Howard, president of the federation, but those received thus far are almost unanimously in favor of a broadened national road policy. Several of the writers express the belief that only through actual governmental participation can a network of highways be built. Many letters express the feeling that once the states and counties are relieved of the burden of aiding in construction and maintenance of the main lines which have an interstate importance, the construction of farm to market roads will proceed much more rapidly.

The statement of Senator Charles E.

Townsend, chairman of the senate committee on postoffices and post roads, that no further road appropriations should be voted at the last session of congress because of the unsettled condition of the treasury and because of the fact that large funds are already available for continued construction, is concurred in by several of the Farm Bureau officials who hold that further increases should not be undertaken.

The senator's belief that unification of highway activities under the direction of a body which shall give close attention to engineering features and to a study of the economics of transportation, will result in economy, is generally approved.

The federation is the second national farm organization to undertake such a referendum on national highway legislation. As a result of similar discussion, carried on by members of the national grange, that body officially adopted a special report calling for a national highway law.

A large potato field this year means big profits.



A firm belief in the great success of the Cloverland country is held by The Northwestern National Bank.

For nearly half a century this bank has been closely associated with the business and agricultural progress of the Northwest, and that the Cloverland is destined to become one of the richest sections of this district is its confident prediction.

If you are in need of a metropolitan bank, we will be pleased to give you the benefit of our many years' experience.

Resources, \$79,000,000

**NORTHWESTERN
NATIONAL BANK
MINNEAPOLIS**

OUR Certificates of Deposit afford a convenient and secure manner of investing any desired amount—with the principal always available.

**CITY NATIONAL BANK
of Duluth**

AMERICAN EXCHANGE NATIONAL BANK OF DULUTH, MINNESOTA

Checking Accounts

Foreign Exchange

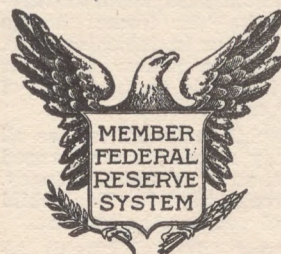
Savings Accounts

Safe Deposit Boxes

Travelers' Checks

Bond and Trust Department

Total Resources, December 31st, 1919 Over \$20,000,000.00



CATTLE and Sheep Men locating in this vicinity will find us both able and willing to assist them.

SAULT SAVINGS BANK

THE BANK FOR YOU

SAULT STE. MARIE, MICH.



Woman and the Home

By HARRIET L. HARLOW



VACATION TIME and WHAT IT BRINGS



“WHERE are you going my pretty maid?”
 “On my vacation, sir,” she said.

No matter where we go, we hope it is near a beach where we may go bathing, lay in the sand, rest, and later have lunches and dancing.

Vacation to the beach always means a new bathing suit and all that goes with it to complete the outfit. There are always changes in style and materials for bathing suits, the same as with other dress.

The two most popular materials used this season are black sateen and wool jersey.

In the one illustrated the tie-on sleeveless blouse is shown with a straight gathered skirt. The bloomers are gathered at the waist, with a close fitting knee cap. About five yards of 30 inch sateen are required for this garment.

For the kiddies and their bathing suits any wool material may do, made in romper style, low neck, short kimona sleeves and bandless around the knee.

An old flannel shirt of father's, or a black and white check wool skirt of

mother's will answer for these garments, if not too badly worn.

Below I am suggesting a few lunches or suppers to be served in an informal way by the woman who does her own planning and cooking at the beach. Much of the work may be done in advance of the

meal. The cakes should be baked, the meat cooked ready to be sliced, the ingredients for the salads placed in the ice box, dressings prepared, and a desert made—all the day before the outing.

Supper No. 1.

- Creamed chicken
- Lemon gelatin
- Pickles or olives
- Marshmallow sauce
- Lettuce sandwiches
- Cup cakes
- Iced tea with lemon

Supper or Lunch No. 2.

- Shrimp salad
- Strawberry shortcake
- Oatmeal bread in biscuit form
- Peach pickles
- Iced tea or milk

Supper or Lunch No. 3.

- Cold sliced ham
- Cheese sandwiches
- Grape jam
- Chocolate cake
- Cucumbers or tomato salad
- Iced tea or milk

Supper or Lunch No. 4.

- Cinnamon rolls
- French fruit salad
- Oranges or lemon jam
- Cocoa with marshmallows
- Tea wafers

Supper or Lunch No. 5.

- Baked rice and cheese
- Bread toasted
- Oil pickles
- Rhubarb shortcake
- Tea or coffee

In planning these menus I have endeavored to have some cold suppers or lunches where everything could be prepared in advance, and also a warm supper without meat, and still a good meal.

Shrimp Salad, Manhattan Style.

- 1 pint shrimps, canned or fresh
- 4 tablespoons fat
- 1/2 teaspoon of salt
- Dash of pepper
- 1 teaspoonful of lemon juice
- 1 tablespoon of flour
- 1 cup of milk
- Yolks of two eggs

Clean the shrimps and cook in half the fat for two minutes. Add seasoning and lemon and cook two minutes longer. Remove shrimps and make a white sauce of the remaining fat, flour and milk. When thickened add yolks of eggs slightly beaten, stirring in gradually and allow to cook two minutes. Then add the shrimps.

Creamed Chicken.

- 3 cupfuls cooked chicken, diced
- 2 1/2 cupfuls milk
- 5 tablespoonfuls flour
- 1/8 teaspoonful of pepper
- 5 tablespoonfuls of fat
- 1 teaspoonful salt
- 1/8 teaspoonful celery salt

Scald milk, melt fat, add flour, seasoning and milk slowly. When thick, add chicken, and cook long enough to heat chicken. Serve at once. A little pimento added improves the flavor.

Baked Riced and Cheese.

To three cupfuls of rice that have been cooked in milk add one cupful milk, two tablespoonfuls of flour, one-half pound of grated cheese, and one-half teaspoonful of salt. Make a sauce of the milk, flour, cheese and salt. Into a greased baking dish put alternately layers of rice and sauce.

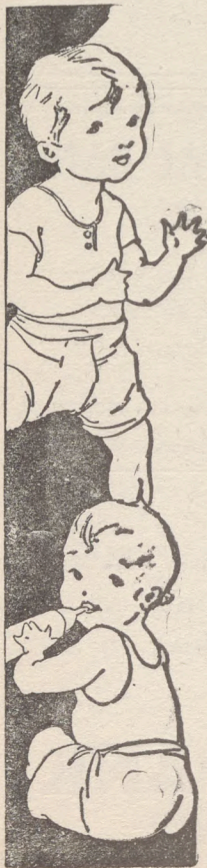
Cover with greased bread crumbs and bake until brown.

Marshmallow Sauce.

One-fourth pound of marshmallows, one-half teaspoonful of vanilla, one cupful of powdered sugar, one-fourth cupful of boiling water. Melt the marshmallows in top of double boiler. Stir sugar into boiling water until dissolved. Add slowly melted marshmallows and stir until thoroughly blended. Chill and add vanilla. For a change one cup of chopped nuts or candied cherries may be added.



Growing Child and His Food in Summer



WHAT are you feeding your child? This is the first question asked by the physician when he is called to look at a sick child, during the warm months of July and August. Too much stress can not be laid upon the importance of selecting food for children during this season. The child's food not only supplies energy for his intense activity, and his activity is intense if he is normal, but to nourish growth in every part of his body.

Regularity in feeding is the most important of all. It is also advisable to teach him to eat what is set before him regardless of what

the older ones may have. Permitting a child to taste the food of the adults is a pernicious practice. It upsets his digestion, gives him a craving for foods he should not have at his age, and makes a fussy baby, crying for what he would never desire were it not for the thoughtlessness of those caring for him.

Milk is, and should be made to be, the most important part of the child's diet. But he need not always drink the milk to get the required amount. It may be given him in custards, soups, simple puddings and desserts. Never take butter or milk away from a child and give him substitutes. Never neglect to give him mild flavored vegetables and fruits—the former in the pulp, and the latter in juices or pulp. Cereals strained as jellies, and later as unstrained, should form a part of the everyday menu.

Sometimes children seem to lose all appetite. They should be encouraged to eat by tact, strategy and diplomacy. Never use force or threats. Each child is a study and you are the student.

Children grow tired of cereals always served as porridge, so they may be cooked and prepared with jellies.

Eggs carefully cooked must also be part of his diet. If a child is hungry between meals a slice of bread and butter, or a glass of milk may be given

him, but never give him sweets to satisfy his hunger. Give water freely between meals, but never ice water. Very often little children are thirsty and don't know it, and a cool drink will quiet many a fretful child.

Below I am giving a few suggestions for menus for children between 2 and 5 years old. As the child grows older the range of foods may be increased. These are merely suggestions with the thought that they may help mothers to plan these and others, gaining therefrom an idea of food values:

Breakfast.

- Shredded orange juice
- Cream of wheat
- Toast
- Milk

Dinner.

- Spinach with egg yolk
- Toast
- Soft custard
- Plain cookie

Supper.

- Steamed rice
- Banana pulp (cooked)
- Zwiebach
- Milk

Breakfast.

- Apple pulp
- Strained oatmeal
- Toast
- Milk

Dinner.

- Pea soup
- Oatmeal crackers
- Tapioca cream
- Top milk

- Supper.
- Milk toast
- Date marmalade
- Stale bread
- Milk

Breakfast.

- Prune pulp
- Farinia
- Dry bread
- Milk

Dinner.

- Poached egg
- Asparagus tips
- Toast
- Baked Custard

Supper.

- Baked potato
- Apple sauce
- Toast



SUMMER WRAPS



SUMMER wraps and wraps for the vacation this season are nothing, if not jaunty. The cape contour or shawl effect is exceedingly new, and there is a difference between the capes of this season and those from whose successes they drew their inspiration. Heretofore the cape of fashion has been a thing of length seeking to combine the dressy elements, but this season less attention is given to the practical character of the wrap and more to its ornamental features. These short capes have

been edged around with plaited flounces or braid and fringe. They are made of serge, taffeta, satin, tweed or jersey cloth.

For those who prefer a wrap of more serious mission comes the shawl suggestion. Unlike the old-fashioned shawl these new creations are rather short in front but three-quarters length in the back, and are made of tricotine, silk, jersey, or the heavier duvetyn. Usually these are lined with satin of the same color, or a foulard may form the interior finish.

FASHIONS IN BRIEF

COLORED embroidery on white collar and cuffs makes a dainty finish for wash dresses for little folk.

Paniers caught up in puffs add the necessary bouffant effect on some of the newest skirt models.

Loop fringe of tinsel thread is used to outline designs on foulard and taffeta frocks.

Loose legged Mexican boots of soft tan leather are a correct accompaniment of the sports costume.

Ivory, amber and tortoise-shell are a few of the expensive mounts that are shown for small bags of elegance.

Pink crepe narrowly hemmed with black satin and embroidered in black satin leaves is one of the newer effects in lingerie that appeals to those seeking the unusual.

Elaborate handkerchiefs adorned with real lace and handwork of drawn thread are a necessary accessory, following the arrival of gorgeous ostrich fans.

The full length sleeve is the exception, not the rule.

Fashion prophets predict the large brimmed hat for summer wear.

For wear over the little dancing dresses coats of satin and taffeta have been designed.

Foulard, which has regained its old time popularity, is used in combination with plain material with pleasing effect.

Rumor that the wide skirt will find more and more vogue continues persistent, and many of the new models feature this type.

Black and white is gaining favor for spring and summer and is accredited with being quite the most promising combination for fashionable wear during these seasons.

Umbrella-parasol, with colored handles, done in the fashion of Chinese lacquer with tips of ivory, are among the season's favorite novelties.

Horsehair lace is used in making many of the season's charming chapeaus, and bids fair to become one of the popular foundations as well as trimmings for summer millinery.

Silk and wool jersey cloth and a heavy knitted silk fabric that has been popular for two or three seasons are employed in the development of very smart sport skirts, blouses and entire dresses.

While women will continue to wear the dress in one piece under a long coat, it is said that new models will show basques so short that they will look like the waist frills we have already seen in afternoon dresses.

Vanity cases made of shirred ribbon framed in silver, with handles of braided ribbon, are quite the smartest achievement in this line of art.

Cleaning Windows

CLEANING the windows of a new house or a newly painted house is no enjoyable job. The paint comes off easily, however, if given a little of the right kind of help.

One would hardly go to an automobile accessory store or a garage to find something with which to clean windows, yet it will be found that an ordinary tar remover, used by motorists to clean up their machines after a trip over newly tarred roads, is one of the best things obtainable for taking ordinary house paint off glass. Once housewives learn this, dealers in tar removers are going to have lots of customers who do not own an automobile and never expect to own one.



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Modern Business Service

WE want Cloverland grazers and farmers to look at this store in that way. We are here to serve you carefully, courteously and whole-heartedly.



The Marinette Store
Whose Perfect Service by Mail
Reaches Your Very Door

You can purchase by mail just as satisfactorily as if you were in Lauerman's Store in Marinette, doing your buying personally. Your goods are shipped same day order is received.

YOU CAN SAVE TIME, FREIGHT
AND MONEY BY SENDING IN
YOUR MAIL ORDERS TO US.

It will be of great benefit to you to have your name on our mail-order list and receive price lists and quotations on whatever you need.

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Food Products

The Standard
of Excellence
in Greater Cloverland

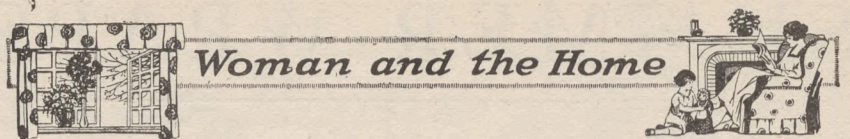


Follow the Sign of the Rose

Roach & Seeber Co.

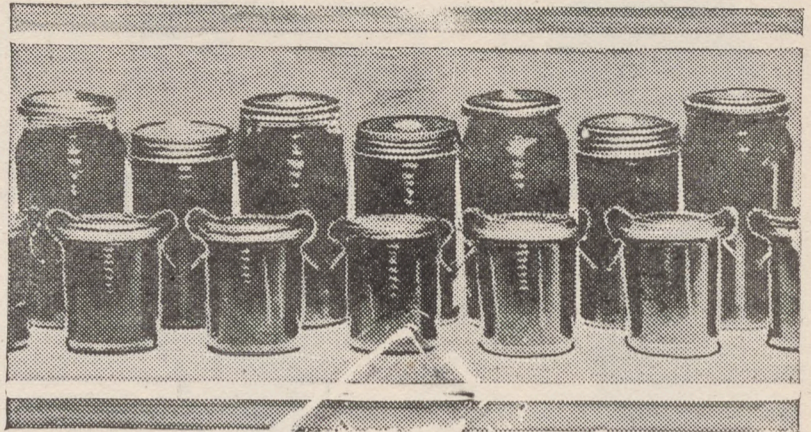
Wholesale Grocers

CALUMET, MICH. MARQUETTE, MICH.
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Woman and the Home

CANNING



FOLLOWING is a table for canning different fruits. The sugar and water must be boiled to a syrup before adding the fruit:

For 1 qt. Cans.	Boil, Minutes.	Sugar, Cups.	Water, Cups.
Cherries (slowly)	5	2	2
Raspberries (slowly)	6	1	2
Blackberries (slowly)	6	2	2
Plums (slowly)	10	1	2
Strawberries (slowly)	8	1	2
Huckleberries (slowly)	5	2	2
Small soup peas	30	1	2
Bartlett pears in halves	20	1	2
Peaches in halves	8	1	2
Pineapple (cut)	15	1	1
Crabapples (whole)	25	1	2
Sour apples (quartered)	10	2	2
Ripe currants	6	1	2
Wild grapes	10	1	2
Tomatoes	20	0	2

To prepare the syrup put the sugar and water in a sauce pan and stir on the stove until the sugar is dissolved. Heat slowly to the boiling point, and boil gently without stirring for ten minutes. For the proportions of sugar and water given in the foregoing table.

Canned Cherries.

1 quart cherries, stemmed
3/4 cup sugar
1/2 cup water
1 quart or 2 pint cans, air tight.
Select large, dark sweet cherries, wash, stem, and stone in colander over preserving kettle to save the juice. Boil sugar and water to a syrup ten minutes, add the cherries and boil five minutes. Put in hot sterilized jars and seal.

Canned Peaches.

8 quarts of peaches
1 quart of sugar
3 quarts of water
Select the large, early freestone peaches.

Put the sugar and water together and stir over the fire until the sugar is dissolved. When the syrup boils skim it. Draw the kettle back where the syrup will keep hot but not boil. Pare the peaches, cut in halves and remove stone, unless you prefer to can the fruit whole. I find the latter method gives a much better flavor to the fruit. When canned in halves put one or two stones in each jar.

Put a layer of the prepared fruit into the preserving kettle and cover with some of the hot syrup. When the fruit begins to boil, skim carefully, and boil gently for ten minutes. Then place the fruit in the jars and seal.

When the fruit is not thoroughly ripened a little more time will be required for cooking. It should be cooked until it is so tender that it may be easily pierced with a silver fork. It is best to put only one layer of peaches in the preserving kettle at a time. While they are cooking another batch may be prepared.

A Delicious Jam.

Delicious currant or raspberry jam may be made easily by thoroughly crushing the fruit, leaving none whole, and adding an equal amount of granulated sugar by measure. Mix thoroughly, put in cans, seal air tight, and keep in a cool place. The delicate flavor of jams prepared in this manner will surprise those who taste it the first time. The preparation is cool work and so easy as compared with the old way, which adds to the satisfaction of having a fine delicacy at the same time.



This is a Canning and Cooking Club of Felch, Michigan, Started During the War, and Which is Still Maintained.



HINTS ON LINGERIE

DURING the warm summer months many school graduates are preparing for their first venture in the school room as a teacher, and are spending some time on planning her wardrobe, which necessarily includes a select supply of under garments for the coming year. The favored materials for these garments at this time are the fine, soft crepe de chine for the camisole, heavy meteor silk for the bloomers, cotton figured crepe or

nainsook for the night gowns. They are all lace trimmed.

Some of the newer designs for the night gowns are shown in pajama style, with the ruffle at the ankle. The waist part of this garment is plain, with insets of lace around neck and waist. Little lace ruffles are used on the kimona sleeves.

In looking for something to make and make quickly, the little crepe de chine camisole is very easy. They are exquisitely feminine made of all white crepe de chine, with insets of filet lace around top of camisole and a narrow insertion part way down. Just plain satin shoulder straps are used.

If crepe de chine is forty inches wide, twelve inches of the material in length is all that is needed, with one-half yard of ribbon and forty inches of filet lace for around the top. They are gathered in at the bottom on a rubber band, and slip on over the head.

When it comes to the question of our linens for the bedroom, one wants something pretty, up-to-date, and at the same time simple in design and pattern. There are many accessories which are decorative and desirable, but the bed and dressers usually come first. Scarfs, stand covers and pin cushions may all be made out of the same quality of linen with embroidered designs and initials. For the bed linen, sheets and pillow cases, a heavy linen or sheeting must be used, with the same design at the top.

Facts Worth Knowing

Ammonia and turpentine, equal parts will take out paint stains.

Broiled green peppers make a delicious finishing touch to a steak.

An oyster shell in the tea kettle will attract all the lime in the water.

Pastry should be rolled lightly, that the air may not be pressed out of it.

Tender spinach requires no added water for cooking. If thoroughly washed, enough water will cling to the leaves to prevent its burning.

Jelly tumblers with light tin covers make excellent pudding moulds, as you can tell when the puddings are done without removing the cover.

Line your drain basket in the sink with paper. It is quite a labor saver, as the basket or strainer will have no refuse sticking to the sides of it, and can be washed the easier.

To paint window and door screens, cover a small block of wood with a piece of Brussels carpet. Take a saucer of screen paint and dip in the block and scrub over the screens. It will not fill up the holes, as in the old way, but everything is covered.

A CONVALESCENT

should not only have the purest of foods, but the dainties which are allowed should be most palatable.

Van Duzer's Certified Flavoring Extracts

are made of the finest fruits and are absolutely pure. They impart a delightful true fruit flavor.



Van Duzer Extract Co.
New York, N. Y.
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"REPUTATION SEEDS"

For Northern Gardens

Ask for catalog and free sample packets

DULUTH FLORAL CO.,

Dept. B.

Duluth, Minn.

Ziegler's Chocolates

Package Goods of
Paramount Quality
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Artistic Design

"A Can of . . . Royal Baking Powder!"

That's the way the wise woman starts her order for the Baking Bee. No ifs and buts about it! She says ROYAL with an emphasis, determination and finality that leave no room for misunderstanding.

ROYAL Baking Powder

Absolutely Pure

Contains No Alum . .

Leaves No Bitter Taste

This time of year

it's a good idea
to combine fresh
fruit or berries
with your morn-
ing dish of



Grape-Nuts

The blend of flavor proves
delightful and is in tune
with June.

"There's a Reason"

Northern State Normal College

MARQUETTE, MICH.

New Buildings

Excellent Equipment

Splendid Faculty

College Courses leading to A. B. degree—Normal School Courses for teachers of all classes—Special Courses in Art, Music, Manual Training, Home Economics, Kindergarten and Commercial.

The school has had more calls for teachers than it can supply
Write for information and bulletin

DORIS I. BOWRON, Secretary

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Woman and the Home



Use good judgment
in meeting the high
cost of living

Coffee prices are 'way up
Postum sells at the same
fair price—Why not drink

INSTANT POSTUM

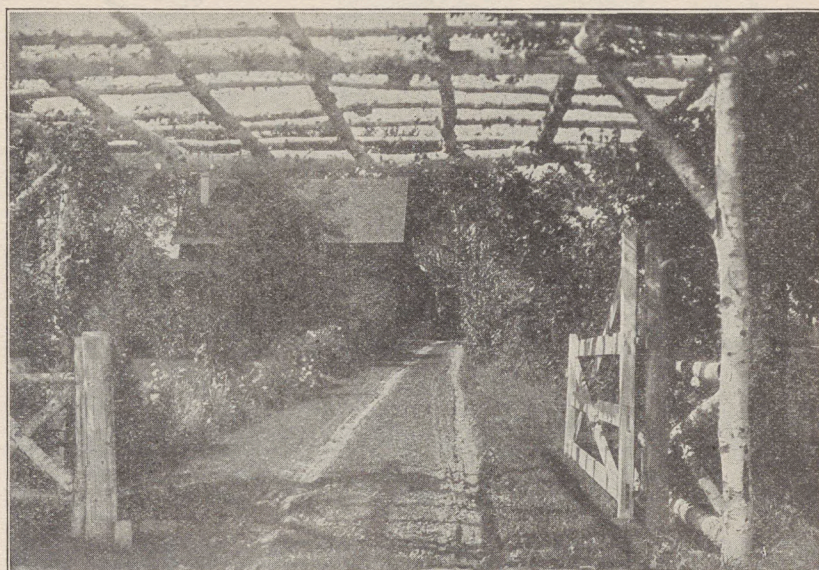
Instead of coffee
as many are doing

A table beverage of coffee-
like flavor.

Better for health—At lower cost

Sold by Grocers Everywhere

Made by Postum Cereal Co., Battle Creek, Mich.



A Pretty Arbor Made of White Birch Poles and Covered with Vines.
Not Expensive, but a Very Attractive Entrance.

Of Interest to Women

THE ladies of ancient Rome dyed their hair with a denoction made from nutshells.

The Business Women's Club at Greenwood, Mass., will erect a \$75,000 clubhouse.

The first woman's hospital on the Pacific coast was established in San Francisco in 1875.

Queen Marie of the Belgians is the most talented violinist among the women of European royalty.

Nearly one thousand young women are included in the present study body at Oregon Agricultural college.

Alice Cary, whose centenary is to be celebrated April 20, had her first literary efforts published when she was 18.

Mrs. Elizabeth Whilling, of Rochester, England, who last year swam sixteen miles in the Medway, will this year try to swim the English Channel.

According to one authority, a woman's feet should be to her height in the proportion of fourteen to one hundred—that is, as nearly as possible, one-seventh of the height.

A recent count showed the arrival in Los Angeles in a single month of more than fifty "screen-struck" girls, each seeking an opportunity to become a moving picture actress.

Many of the Chinese names are of a "flowery" character. A common name for a little Chinese girl baby is "My thousand ounces of gold."

Something like 75,000 women in the United States are engaged in cultivating fruit, among them being several of California's most successful fruit-growers.

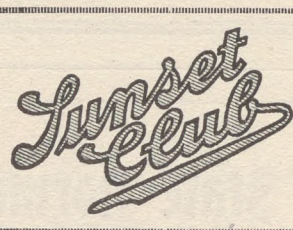
Louise Smith, a 9 year old miss of Northeast Cherry, Me., is the champion girl huntress of the Pine Tree State. All unaided, she trapped a big wildcat in the woods, clubbed him to insensibility, and then carried him home on her back.

Some of the girls and women who have taken up farm work in Australia have accomplished marvelous results, but perhaps the most remarkable record is held by a 10 year old girl living in the south of Pinnaroo district, who in one season cultivated 300 acres and drilled 200.



Truly a Quality Coffee

*It is the result of twenty-two years
of careful and intelligent blend-
ing by coffee experts.*



INSIST ON THE GENUINE

ROASTED and PACKED BY

JOANNES BROS. COMPANY

GREEN BAY, WISCONSIN



A School Display of Garments Made from Old Clothes, the Accomplishments of Girls Trained to be Economical.



Development Section

Of the Cloverland Magazine



Along the northern rim of the Great Lakes Basin—across the states of Michigan, Minnesota and Wisconsin—there is a great belt of undeveloped land.

A few years ago it was considered worthless—just stump land, no longer good for lumbering, and therefore useless. Today this area is recognized as the greatest frontier America has yet offered her people.

Clover is indigenous—therefore this country has been called "Cloverland"; but every other crop, native to the north-temperate zone, and every form of live stock, has been made to thrive in this new country.

Today there are many settlers, many fine farms, many thriving towns, and wonderful cattle and sheep ranches. There is room, on some 30,000,000 acres, for thousands of additional men and women, some of whom will surely achieve unusual success, and perhaps fortunes.

The Magazine is convinced that the Cloverland country has more real opportunities for farmer, rancher and business man than any other section of the United States today. But these opportunities must be carefully and soundly handled.

On the following pages you will find articles relating to this great cut-over country, known as "Cloverland." They are written by men who already live in the country, and who know it. The Magazine does not assume responsibility for all of the views or expressions included in these articles, recognizing that sometimes as individual experiences though truthfully set forth, may not be applicable to every other similar situation. However, the Magazine accepts statements only from men of standing and responsibility and believes, therefore, that the following pages fairly reflect the conditions and probabilities of the North Country—"Cloverland."

Land Clearing in Northern Minnesota

By J. C. BOWE

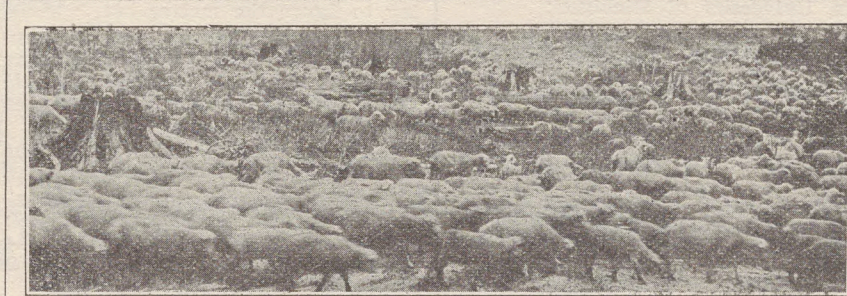
FOR many years Western stockmen have expended millions of dollars irrigating the arid lands of Montana and other Western states. Now that the grazing lands of the Western states have nearly all been utilized, the eyes of stockmen naturally must turn to a new field. This field which is offering golden opportunities, is the cut-over lands of Northern Minnesota, Wisconsin and Michigan.

If millions can be expended in irrigating the arid West for grazing purposes, why is it not possible to clear our fertile cut-over lands of Northern Minnesota for raising clover and grain for winter feed. Northern Minnesota affords summer grazing for millions of sheep and cattle. The wonderful lakes and streams offer the best watering facilities; lumber can be procured very easily for building purposes. Therefore the only problem that remains to be solved is winter feed, the solution of which is land clearing.

I will endeavor to relate briefly my experience in clearing land in Northern Minnesota.

Mr. Tanner and I after completing our course in agriculture at the University of Minnesota, decided to go into the sheep industry. At this time Uncle Sam called us to the colors. Capt. Tanner was overseas during most of this time, while I was held on this side as an instructor in the air service. We both came back safely and started in the live stock game where we had left off two years before. At this time, however, our funds were of a nominal nature, and so we had to look around for capital.

The North West Sheep and Wool Company owned a tract of land in Lake County near Ely, Minn. We looked the proposition over and made



These Sheep Are on the Job

a contract with them to put on a sheep ranch. This tract was well equipped with buildings and watering facilities. The only thing we found lacking was winter feed and this meant land clearing.

This land clearing project, which comprised 100 acres, was started on Sept. 15 and extended over a period of forty days. While stump pullers can be used to a very good advantage in clearing, we found dynamite to be most effective and more economical than stump pullers, providing the man blasting stumps can handle dynamite intelligently. We found that 30 per cent gave the best results as its action was slower than the 40 per cent and left the stump in a condition that the roots were well loosened and free from dirt. The stump was so split that the parts could be easily and quickly piled with a team and chain. Here I wish to emphasize the fact that by using dynamite it is surprising how

quickly a man and team can pile the roots on a large area. It must also be remembered that the stumps, well split up, with dirt removed from the roots can be burned very easily. We used two and one-half tons of dynamite for the 100 acres or fifty pounds per acre. About five-sixths of a pound of dynamite was used per stump on an average of sixty stumps per acre. The stumps ranged from six inches to forty inches in diameter, and were mostly white pine with some Norway pine and birch. The timber had been cut for about nine years, and while some of the white pine stumps were partially rotted, the Norway pine were still solid. A little trouble was experienced in removing the birch stumps on account of small shoots or suckers.

Here is an itemized account of the average cost per acre:
 Dynamite, caps and fuse.....\$13.50
 Labor for dynamiting..... 4.00

Brush cutting and piling wind-	
falls	7.00
Team work	6.50
Burning and pick up work.....	5.00
Total	\$36.00

It will not be necessary to plow this land as the soil which is a loose clay loam, can be sufficiently pulverized by double discing. Then oats and clover may be sown, preferably with a single disc drill using seeder attachment. Judging from the crop of clover produced last year on an adjacent clearing, this tract will easily produce two tons of clover hay per acre. At the present price of hay this would almost pay for the cost of clearing one and one-half acres of land. Show me land in Southern Minnesota ranging in price from \$150 to \$300 per acre that will produce a greater yield of clover hay.

When land in Northern Minnesota bought at a nominal price can be cleared on an average of \$36 per acre is there any reason why the sheep or cattle industry can be anything else but a success? The time is now ripe for the development of the cut-over lands and in a very few years many a man will say to himself, "Why didn't I buy a piece of land in Northern Minnesota?"

At the present we are wintering 500 sheep, mostly Western Ramboulets with a few Shropshires and Cotswolds. We find that the Shropshires and Hampshires are not particularly adapted to conditions here as they are not rustlers. The Westerners and the Cotswolds are about on a par and either are very well adapted to conditions here as they are good rustlers and very hardy. These sheep are all

(Continued on page 45)



A Section of Cut-over Land in Northern Minnesota That Would Be Easy to Clear

Fifty Counties in Upper Michigan Have Millions of Acres of Idle Lands

CLOVERLAND is now on the map as the greatest live stock and dairy district in the United States today—it is the last frontier of America. Are you going to grasp the opportunity now or wait until prices begin advancing and eventually become prohibitive for the homeseeker or careful investor?

Inquire Now;
Prices Are Low

The Public Domain Commission of Michigan

WILLIAM KELLY, *Chairman*, Member Board of Control, College of Mines;
JUNIUS E. BEAL, Board of Regents, University of Michigan;
THOMAS E. JOHNSON, Superintendent of Public Instruction;
COLEMAN C. VAUGHAN, Secretary of State; ORAMEL B. FULLER, Auditor General;
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GEORGE L. LUSK, Secretary Commission and Commissioner of Immigration

The Keweenaw Land Association Ltd.

— OFFERS —

Cutover Lands

in Chippewa, Dickinson,
Iron, Gogebic, Ontonagon
and Houghton Counties
in the Upper Peninsula of
Michigan in tracts to suit

Clay loam, sandy clay loam, sand loam and sand
soils at \$5.00 to \$15.00 per acre.
Generally well watered.

J.M. LONGYEAR, *Agent*, Marquette, Mich.
D. S. DEAN, *Treas.*, 87 Milk St., Boston, Mass.

His Stock in Trade

(Continued from page 14)

There wasn't much to it. His telephone calls came almost wholly from the purchasing departments of the various railroads. Daily requisitions were filled by the stenographers in those railway offices, young ladies who through their long experience were allowed to attend to the more unimportant purchases. It was in quoting prices on these "pick-ups" that Mitchell helloed for eight hours a day. Of course no large orders ever came over his wire but this small business carried an unusual profit for supply houses like Comer & Mathison, and in consequence it was highly prized.

After a period of intense and painful thought the young man realized, for the first time, that it was not the telephone itself which asked for price and time of delivery, but a weak, imaginative human being, like himself, at the other end of the wire. He reasoned further that if he could convince that person that the voice from Comer & Mathison likewise issued from a human throat, then it might be possible to get away, in a measure at least, from the mechanical part of the business and establish altogether new relations. If there were really a science to salesmanship, it would work at long distance as well as at collar-and-elbow holds, and Mitchell's first task, therefore, should be to project his own personality into the railroad offices. He went to bed still trying to figure the matter out.

His opportunity to test his newborn theory came on the following morning when an irritable female voice over the Santa Fe asked the price on twenty kegs of rivets.

"Good morning, Santa Fe-male," he answered cheerily.

There was a moment of amazed silence, then the young lady snapped: "Good morning? What is this, the Weather Bureau? I want Comer & Mathison."

"Gee! Can't a fellow display a little courtesy in business?" Mitchell inquired. "I'd rather be nice to you than not."

"All right, Mr. Comer," the voice replied, sarcastically. "Make a nice price on those rivets—and cut out the kidding."

"Listen; my name's not Comer; it's Mitchell. I'm not kidding, either. I want you to ask for me whenever you call up. Every little bit helps, you know."

"Oh, I see. You want the carriage man to call your number. All right, Mitch. If you're out at lunch with Mr. Carnegie the next time I want a dozen number ten sheets I'll have you paged at the Union League Club."

If the speaker liked this kind of blank verse, she had called up the right supply house, for Mitchell came back with:

"Say, if I ever get your number, I'll do the calling, Miss Santa Fe."

"W-what?" came the startled reply.

"I mean what I say. I'd love to call—"

"Is that so? Well, I do all the calling for our family, and I'm going to call you right now. What's the price of those rivets?"

"Two sixty-five."

"Too high! Good-by."

"Wait a minute." Mitchell checked the lady before she could "plug out" on him. "Now that you've got those rivets out of your system, may I get personal for an instant?"

"Just about an instant."

"I could listen to you all day."

"Oops, Horace; he loves me!" mocked the lady's voice.

"See here, I'm a regular person—with references. I've been talking to you every day for six months, so I feel that we're acquainted. Some pleasant evening, when your crew of hammock gladiators palls on you, let me come around and show you the difference."

"What difference?"

"I'll show you what a real porch-climber is like."

"Indeed! I'll think it over."

Ten minutes later Miss Santa Fe called up again.

"Hello! I want Mitchell, the junior partner."

"This is Mitchell."

"Did you say those rivets were two-fifty?"

"Should they be?"

"They should."

"They are."

"Ship them to Trinidad."

"That's bully of you, Miss Santa Claus. I want to—" But the wire was dead.

Mitchell grinned. Personality did count after all, and he had proved that it could be projected over a copper wire.

An hour later when Miss Northwestern called him for a price on stay-bolt iron she did not ring off for fifteen minutes, and at the end of that time she promised to take the first opportunity of having another chat. In a similar manner, once the ice had been broken at the C. & E. I., Mitchell learned that the purchasing agent was at West Baden on his vacation; that he had stomach trouble and was cranky; that the speaker loved music, particularly Chaminade and George Cohan, although Beethoven had written some good stuff; that she'd been to Grand Haven on Sunday with her cousin, who sold hats out of Cleveland and was a prince with his money, but drank; and that the price on corrugated iron might be raised ten cents without doing any damage.

On the following afternoon Murphy, the Railroad Sales Manager, stopped on his way past Mitchell's desk to inquire:

"Say, have you been sending orchids to Miss Dunlap over the Santa Fe? I was in there this morning, and she wanted to know all about you."

"Did you boost me?" Louis inquired. "It won't hurt your sales to plug my game."

"She said you and she are 'buddies' over the wire. What did she mean?"

"Oh, wire pals, that's all. What kind of a looker is she, Mr. Murphy?"

The Sales Manager shrugged his shoulders. "She looks as if she was good to her mother." Then he sauntered away.

Mitchell, in the days that followed, proceeded to become acquainted with the Big Four, and in a short time was so close to the Lackawanna that he called her Phoebe Snow. The St. Paul asked for him three times in one afternoon, and the Rock Island, chancing to ring up while he was busy, threatened to hang crepe on the roundhouse if he were not summoned immediately to enter an order for a manhole crab.

Within a week he became the most thoroughly telephoned person in the office, and had learned the tastes, the hopes, the aims, and the ambitions of his respective customers. Miss C. & E. I., for instance, whose real name was Gratz, was a bug on music; Miss Northwestern was literary. She had read everything Marion Crawford ever wrote, and considered her the greatest writer Indiana had produced, but was sorry to learn from Mitchell that her marriage to Capt. Jack Crawford had turned out so unhappily—some men were brutes, weren't they? There was a hidden romance gnawing at the Big Four's heart, and Phoebe Snow had a picture of James K. Hackett on her desk and wanted to start a poultry farm. The Santa Fe had been married once, but had taken her maiden name, it was so much pleasanter in business.

As Mitchell's telephone orders piled up, day after day, Murphy began to treat him more like an employee than a "hand," and finally offered him a moderate expense account if he cared to entertain his railroad trade. When the young man's amazement at this offer had abated sufficiently for him to accept he sent the office-boy around to the Santa Fe on the run, instructing him to size up Miss Dunlap and report. It was the first order he had ever issued in the office, and the news

Land Opportunities for 1920



NEVER in the history of this country has there been such an awakening to the possibilities of land ownership as today. The entire agricultural sections of America have realized an advance in the price of their lands. As is usually the case, the developed country advances in price first, but as sure as this advance comes, as it certainly has in the entire Northwest, the reaction is felt in unimproved lands the following year. We wish to bring this home forcibly to the man who is considering the purchase of cheap land for grazing purposes. To those who came into our country during 1919, the best we can say is they were fortunate, and during 1920 new grazers and cattlemen will still be able to find ideal land for their purposes at attractive prices. Any further delay on the part of such buyers will be costly indeed.

It is common knowledge among all those familiar with land values that in very many instances throughout the Northwest the improved lands have advanced during 1919, **ONE HUNDRED PER CENT**, and in 1921 it is safe to say there will be an advance of at least **One Hundred Per Cent** in cut-over lands over prices prevailing during 1919.

THE NORTHERN MICHIGAN LAND COMPANY wishes to announce through the Cloverland Magazine that our prices for 1920 have not changed materially over 1919 and we are ready to take care of the buyer of large or small tracts along the same lines as advertised in this medium during 1919.

We have had hundreds of inquiries from the mid-west during the past year, some who have already made their purchases and others who contemplate so doing in 1920. We wish to call your attention again to the necessity of **ACTION** if you wish to secure a dependable range in a proven country and at a price that you can afford to pay. Our new literature on individual tracts, financial assistance and general information is out and a letter stating your needs will bring it. **WRITE TODAY.**

NORTHERN MICHIGAN LAND COMPANY

MANISTIQUE, MICHIGAN

309 Caswell Block, MILWAUKEE, WISCONSIN

**A New Farm
In a Proven
Farming District
Insures Success**

**Inquire About
Ontonagon County,
Michigan**

**Ontonagon
County,
Michigan**

is an agricultural region sparsely populated with practical, successful farmers, who have had the advantage of a splendid clay-loam soil as the basis for farming. There are thousands of acres of this same type of cut-over land in Ontonagon County awaiting the settler, or big rancher. Most of the timber was taken off years ago, a greater portion of the land is open, and there is an abundance of clover and grass ready for range purposes, pasture and wild hay. The county's chief industry is agriculture, so you will be settling among farmers in Ontonagon County.

No Real Estate Game

The County Board of Supervisors of Ontonagon County are inviting you in this advertising space to inquire about their county, and they will give you official service in helping you find the location you want. Detail information may be had by addressing a letter or post card to

WILLIAM KROHN
County Clerk, Ontonagon County,
ONTONAGON, MICHIGAN

A DEPENDABLE RANGE

is the goal of every stockman. With a dependable range he feels sure of success and secure against future adversity. A tract of select, cut-over land in Cloverland offers stockmen this opportunity.

Tracts to Suit Needs

We have several choice ranges among our holdings which we will sell to practical stockmen on terms that will be to his advantage.

CONSOLIDATED LUMBER CO.

MANISTIQUE, MICHIGAN

"In the Heart of Cloverland"

spread quickly that he had been "raised."

Mr. Gross took occasion to congratulate the despised underling with pompous insincerity, whereat Louis admonished him scowlingly to beat it back to his trial balance or he'd bounce a letter-press on his dome.

When the office-boy reappeared he turned in a laconic report, "She's a peach!"

Mitchell sweated the lad for further details, then nearly strained a tendon in getting to the telephone booth.

"Hello, Miss Dunlap," he called.

"Are you tied up for tonight?"

"I'm knot. The k is silent."

"Will you go to the theater with me?"

"Nickelodeon?"

"No, Montgomery and Stone."

The lady muttered something unintelligible, then she tittered nervously. "Those top balconies make me dizzy."

"How about the orchestra—sixth row? Could you keep your head there?"

"You must own a bill-board."

"No, it's a bank-book; same initials, you see. I'm an heiress."

"See here, Mitch"—Miss Dunlap became serious—"you're a good little copper-wire comedian, but I don't know you nor your people."

"Well, I come from one of the oldest families in Atwood, Michigan, and that town was settled over thirty years ago."

"But you don't know me," the lady demurred.

"I do, too. You're a tall blonde, gray eyes, blue dress; you have a dimple—"

"Well, I declare! All right then; seven-thirty tonight, six hundred and twelve Filbert Street, fourth apartment and many thanks."

Fifteen minutes before the appointed time, Louis Mitchell was fidgeting nervously outside the Filbert Street cold-water "walk-up" known as Geraldine Manor, wondering if Miss Dunlap would notice his clothes. Twelve dollars a week had starved his wardrobe until it resembled the back-drop for a "Pity the Blind" card; but promptly on the minute he punched the button at the fourth apartment. An instance later he realized that no matter how he looked he had it on Miss Dunlap by 80 per cent.

She was a blonde, to be sure, for the time being, and by the grace of H2 O2. One glance convinced her caller of two things—viz., that his office-boy did not care much for peaches, and that the Santa Fe purchasing agent had a jealous wife. The most that possibly could be said in praise of Miss Dunlap's appearance was that she was the largest stenographer in Chicago. Then and there, however, her caller qualified as a salesman; he smiled and he chatted in a free and easy way that had the lady roped, thrown, and lashed to his chariot in three minutes by her alarm clock.

They went to the theater, and when Montgomery sprang a joke or Stone did a fall Miss Dunlap showed her appreciation after the fashion of a laughing hyena. Between times she barked enthusiastically, giving vent to sounds like those caused when a boy runs past a picket fence with a stick in his hand. She gushed, but so does Old Faithful. Anyhow, the audience enjoyed her greatly.

At supper Mitchell secured parking space for his companion at the Union Cafe, and there he learned how a welsh rabbit may be humiliated by a woman. During the debacle he fingered the money in his pocket, then shut his eyes and ordered a bottle of champagne, just to see if it could be done. Contrary to his expectation, the waiter did not swoon; nor was he arrested. Root-beer had been Mitchell's main intoxicant heretofore, but as he and the noisy Miss Dunlap sipped the effervescing wine over their ice-cream they pledged themselves to enjoy Monday evenings together, and she told him frankly:

"Mitch, you're the nickel-plated entertainer, and I'll never miss another Monday eve unless I'm in the shops or the round-house. You certainly have got class."

At breakfast Miss Harris regarded

Louis darkly, for Mr. Gross had told her just enough to excite her curiosity.

"Where were you last night?" she inquired.

"I went to a show."

"Were the pictures good?"

"They don't have pictures at the Grand."

"Oh—h!" The manicurist's violet eyes opened wide. "Louis—you drank something. You're awful pale. What was it?"

"Cliequot! That's my favorite brand."

Miss Harris clutched the tablecloth and pulled a dish into her lap. After a moment she said: "Maybe you'll take me somewhere tonight. We have not been out together for the longest time."

"Oh, I see! This is Gross's night at the Maccabees, isn't it?" Louis gloated brutally over her confusion. "Sorry, but I'll probably have to entertain some more customers. The firm is keeping me busy."

At the office things went most pleasantly for the next few weeks; sixty per cent of the city's railroad business came to Comer & Mathison; the clerks began to treat Mitchell as if he were an equal; even Gross lost his patronizing air and became openly hateful, while Murphy—Louis no longer called him Mister—increased his assistant's expense account and confided some of his family affairs to the latter. Mr. Comer, the senior partner, began to nod familiarly as he passed the quotation clerk's desk.

Nor were Louis's customers all so eccentric as Miss Dunlap. Phoebe Snow, for instance, was very easy to entertain, and the Northwestern took to his custody like a hungry urchin to a barbecue. He gave them each one night a week, and in a short time all his evenings were taken, as a consequence of which he saw less and less of Miss Harris. But, although he and his manicurist were becoming strangers, he soon began to call the waiters at Rector's by their given names, and a number of the more prominent cab-drivers waved at him.

One morning when, for the tenth successive time, he slid into his desk-chair an hour late, Mr. Comer bowed to him, not only familiarly, but sarcastically, then invited him to step into his private office and see if he could locate the center of the carpet. It was a geometrical task that Louis had been wishing to try for some time.

The senior partner began with elaborate sarcasm. "I notice you're not getting down until 9 o'clock lately, Mr. Mitchell. Is your automobile out of order?"

"I have no automobile, Mr. Comer," the youth replied, respectfully.

"No? I'm surprised. Well, if eight sharp is too early, you may set your time."

Mitchell tried his best to appear disconcerted. "You know I'm busy every evening with my trade," said he.

"Nonsense. I've seen you out with a different dressmaker every night that I've been down-town."

"Those are not dressmakers, they are stenographers from the railroad offices. I'm sorry you're not satisfied with me, but I'm glad you called me in, for I've been meaning to speak to you about this very thing. You see, I have practically all the railroad business in the city, and it takes too much of my time keeping it lined up. I have no leisure of my own. I'll quit Saturday night, if convenient."

Mr. Comer grunted like a man who has stepped off a flight of stairs one step too soon. "I didn't know it was really business. Of course, if it is, why, you needn't quit—exactly—"

"I'm afraid I'll have to. Mitchell dropped his eyes demurely. "I've had a number of offers, and in justice to myself—"

"Offers? You? How much?"

"One hundred a month and expenses."

Mr. Comer removed his glasses, he polished them carefully, then he readjusted them and leaned forward, looking the young man over from head to foot, as if he had never until this moment seen more than his vague outlines.

TO BE CONTINUED.

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What does it stand for?

It stands for all that is best in live stock commission service because it stands for

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Sales that Suit, Purchases that Please
Service that Satisfies

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CORN, CLOVER AND COW FARMS

Menominee County, Cloverland, and Marinette County, Wisconsin, In the Great Green Empire



FINE FERTILE FARMS NOW PRODUCING AS MANY DOLLARS PER ACRE AS ANY ILLINOIS, INDIANA, OR IOWA LAND WORTH FOUR TIMES THE PRICE.

Since the removal of the timber many lumberman farmers are offering their farms, some with stock, crops, and equipment, giving possession any day at prices that make them a real speculation.

Also 100,000 Acres—Unimproved, stock and farm lands at prices ranging from \$15.00 to \$30.00 per acre.

Send your name for farm lists and beautifully illustrated County Book.

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Suitable for Grazing or General Agricultural Purposes

FOR SALE

in Alger, Chippewa, Gogebic, Luce,
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THE Northern Peninsula of Michigan is the best Live-stock and Dairy country in the United States, if not in the world. It can care for 8,000,000 sheep and 1,000,000 head of cattle.

For information write

LAND DEPARTMENT, Charcoal Iron Company of America
MARQUETTE, MICHIGAN

Wisconsin's Agricultural Creed

(Continued from page 11)

lications, agricultural classes in elementary, secondary, and higher schools are all of tremendous influence in extending the influence of best knowledge of better farming.

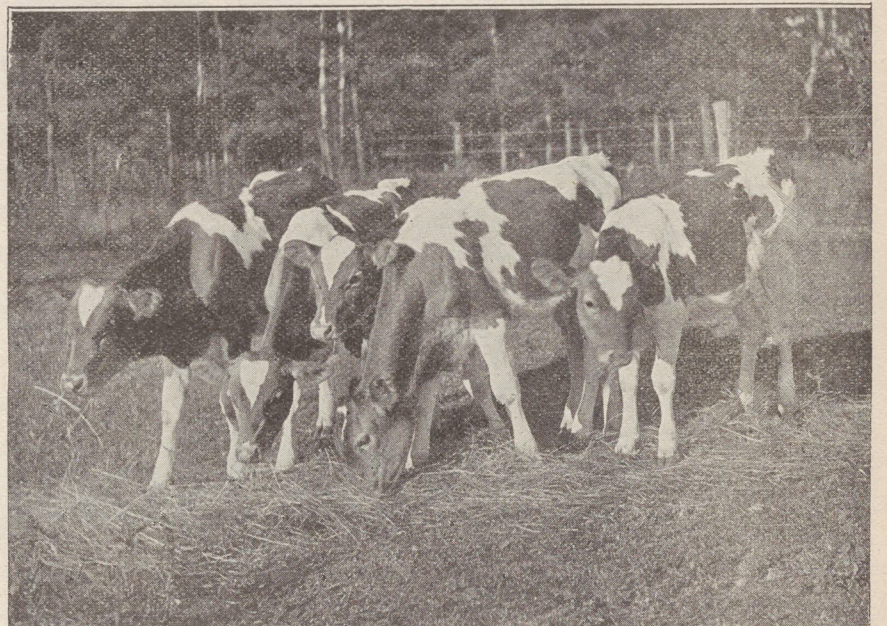
Vitalized Rural School Education—Modern rural schools have live teachers in good school buildings. The country school shows the health of the community. Head work is rising in value in the country and the best rural schools are running along lines of broad community interests.

Better Country Churches—The religious life of the country is too often unbalanced. Many sections are over-churched through the construction of too many churches for the community to support while other regions lack in religious opportunity. The strong country church is in a peculiar posi-

tion to stimulate the social and moral wellbeing of the rural community. For it to perform its work thoroughly and well, a properly supported resident pastor must find here a career of service.

Humanized Rural Life—How to farm is not all that there is to farming. A satisfied rural life may come in part through a community effort in which ideas circulate and in which an association of farmers and their ideas can take place. Living on good terms with neighboring folks gives health to the body and mind. Man is at his best when he lives and thinks with other people.

Better Wisconsin — Good farming will bring good business, good business will go arm in arm with better living. Better living will naturally forward a bigger and better Wisconsin.



Dean Russell Believes in a Young Dairy Herd Like This

Barley for Beef Cattle

IS BARLEY going to win a prominent position in the affections of Wisconsin stockmen, equal, at least, to that of corn, or shall the areas well suited to the growth of one of Wisconsin's greatest cereals be diverted to some other less productive crop, and let all past efforts in barley development go for naught?

That is the question that recently faced Wisconsin barley growers, but with true Wisconsin ingenuity they have sought and are finding a solution of the question.

In a demonstration recently held at the College of Agriculture it was shown beyond a doubt that barley can be used as a substitute for corn in rations for live stock of all kinds.

"Good quality barley closely approaches corn in feeding value, pound for pound, not only for swine, but also for other classes of stock; the relative prices of barley and corn being the decisive factors in making a choice between the two," declares F. B. Morrison of the Wisconsin Experiment Station.

A feeding trial was recently carried on at the Experiment Station by J. G. Fuller and F. B. Morrison in which two lots of steers were fattened and fitted for the market. One lot was fed a ration containing cracked corn and the other an equivalent amount of crushed barley.

"Throughout the trial," said Mr. Fuller in his report to the Wisconsin stock feeders, "the crushed barley lot of cattle seemed to present the best general appearance and consume the ration with more relish than the corn lot. Their attendants observed that they consumed their ration more readily and believe that barley in connec-

tion with silage furnishes a variety to the ration which is very appetizing. At no time during the trial did the barley fed cattle fail to clean up their feed allowance before the next feeding, which was not the case with the corn fed lot as they approached the end of the trial.

"With the price of the feeds at their present level, the selling price of the barley fed steers, necessary to meet cost of feeds and animals, was only 22 cents per cwt. higher than for the corn fed steers. It was anticipated by some that the barley fed steers would not dress out as high a percentage as the corn fed. This question, however, was settled by a communication from the head of the beef department of the packing plant to which the steers were shipped, who reported that the corn fed steers dressed a yield of 59.75 per cent beef and a fat yield of 5.75 per cent, while the barley fed steers made a yield of 60.26 per cent beef and 6.30 per cent fat."

"Wisconsin has developed a barley which is very superior in many of its qualities to that grown in any other state. Throughout the state the yield per acre from barley is greater than for oats and in the northern part, where corn does not usually mature, it becomes a very important crop. Even in Southern Wisconsin," says Mr. Morrison, "many farmers would profit by growing more barley in place of oats."

What has been done in barley development need not be lost and barley growers may rest assured that there will be, not only a permanent, but a growing market for their product.



The Transformation of Cut-over Land Into Valuable Farm Land.

Gogebic County, Michigan Offers YOU—

UNEXCELLED clover and blue grass growing and farm lands are to be had here in large or small tracts.

Several 1,500 acre, 3,000 to 8,000 acre tracts are available. 50 per cent of these lands are burnt over and 30 per cent of them are open with an abundance of pasturage for both cattle and sheep.

Transportation facilities are good. The C. & N. W. and the D. S. & S. course the entire length of Gogebic County, providing excellent unloading and loading opportunities.

Nearly all tracts lie adjacent to the Cloverland Trail and other splendid roads. Plenty of clear spring water.

Green Bay, Wis., St. Paul and Chicago, 200, 225 and 400 miles distant from Gogebic County, furnish the markets. Shipping facilities good.

These lands are rolling with little if any swamps. Small winding streams course through most of them.

Good roads intersect at frequent intervals all through the county. Our school system is the best that we can make it.

The local markets of Ironwood, Bessemer, and Wakefield and other smaller cities and villages furnish good markets for all farm products. Our clay loam soils are highly productive. The proximity to busy, bustling mining cities of 20,000, 6,000 and 3,000 is a natural asset.

The undersigned will put you in touch with land owners or their representatives, show you the county and see that proper unloading chutes, etc., that you may desire, are ready for you upon your arrival.

We believe in our lands and shall render you all the service at our command. A postal will bring you an answer to your inquiries.

*A Never-failing Range That Is Never Overcrowded
May Be Found in Gogebic County, Michigan.*

ADDRESS

C. E. GUNDERSON

County Agricultural Agent

IRONWOOD

MICHIGAN



Proof That Oneida County, Wis. Has Stood the Test

LAST year 25,000 western sheep were pastured in Oneida County. Some of these sheepmen carried their stuff through the winter with such favorable results that they will become permanent ranchers. Others are shipping to Oneida County again this year. The successes last year are the inducements to repeat this year and become permanent settlers.

For information concerning ranges, address

COUNTY BOARD of SUPERVISORS
Rhineland, Oneida County, Wisconsin

"SHEEP MANAGEMENT"

By Prof. Frank Kleinheinz
The Noted Sheep Judge and Expert of the Wisconsin College of Agriculture, Madison

PROF. Kleinheinz has had thirty years practical experience in handling breeding, feeding and judging sheep. He has judged sheep at the International Live Stock exposition at Chicago, many state fairs and numerous county and district exhibitions. For thirty years he has had charge of the sheep division of the Animal Husbandry Department of Wisconsin Agricultural



College. He is one of the best recognized authorities on sheep in the United States and enjoys a splendid reputation abroad.

THIS splendid book of 320 pages, illustrated with 100 fine plates on—

Sheep Management Breeds and Judging Price \$1.60

This is a book any farmer now raising sheep, or any farmer contemplating sheep raising SHOULD have.

ADDRESS:

CLOVERLAND MAGAZINE
MENOMINEE MICHIGAN

Cost and Profit in Potatoes to Farmer

(Continued from page 9)

for the 1918 crop; 62 for the 1917 crop. On Dec. 1, it was 35 for 1919; 52 for 1918; 54 for 1917. On Jan. 1, it was 27 for 1919; 44 for 1918; 48 for 1917. On Feb. 1, it was 14 for 1919; 32 for 1918; 43 for 1917. On March 1, it was 10 for 1919; 24 for 1918; 32 for 1917. On April 1, it was 6 for 1919; 14 for 1918; 21 for 1917. On May 1, it was 2 for 1919; 7 for 1918; 11 for 1917.

The detailed statement — supplemented by figures showing the total commercial shipment and agricultural production in Wisconsin during the tabulated years—follows:

Remaining to Be Shipped.		
	1919 crop	
	Percent.	Cars.
Nov. 1	49.0	10,200
Dec. 1	34.5	7,200
Jan. 1	27.3	5,700
Feb. 1	14.2	2,970
Mar. 1	9.7	2,000
Apr. 1	6.2	1,300
May 1	2.3	500
1918 crop		
Nov. 1	62.6	15,900
Dec. 1	51.6	13,200
Jan. 1	44.1	11,200
Feb. 1	31.8	8,100
Mar. 1	24.4	6,200
Apr. 1	13.7	3,500
May 1	7.1	1,800
1917 crop		
Nov. 1	62.1	
Dec. 1	53.8	
Jan. 1	48.4	
Feb. 1	42.5	
Mar. 1	31.7	
Apr. 1	21.0	
May 1	11.0	

Total shipment, cars—	
1919	20,900
1918	25,510
1917	16,000
Total production, bushels—	
1919	28,199,000
1918	33,418,000
1917	34,998,000

Ninety-seven per cent of Wisconsin potatoes are sold outside of Wisconsin. Only 3 per cent are marketed within the state. One-half of these—or 1½ per cent of the total Wisconsin crop sold—goes to Milwaukee.

These figures, presented by Mr. Rogers at the former hearing, are corroborated by the testimony of witnesses at the recent hearing. Mr. Kunev testified that he did not sell a single potato north of the Mason and Dixon line. Mr. Hess testified that only a small per cent of his potatoes were marketed in Wisconsin.

The correlative of the fact that practically all of Wisconsin potatoes are sold outside of the state is that the price on Wisconsin is set by the market outside of the state. Arthur Larson testified that the price paid by warehousemen in Wisconsin is determined by the quotation expressed in a market bulletin published by produce men in Chicago. The witness testified that, occasionally, the Wisconsin warehousemen received a wire directly from his representative in Chicago instructing him what to pay. The witness testified that there was no concerted action on the part of farmers to fix the price for potatoes. The testimony at both hearings reveals that the market for Wisconsin potatoes is a buyer's, not a seller's, market.

Two conclusions may properly be drawn from the testimony at the hearings:

(1) The consuming public in Wisconsin is interested in the availability and price only of those Wisconsin potatoes—amounting to 3 per cent of

Wisconsin's commercial production—which stay in Wisconsin.

(2) The consuming public in Wisconsin is vitally concerned with getting hold of these potatoes—that is, the 3 per cent at prices more nearly approaching the cost of production than the present market price and in a manner affording reasonable assurance of a sufficient supply throughout the season.

The practical expedient to attain these ends is the establishment in Wisconsin of central warehouses, (such as exist in some communities in Pennsylvania) properly equipped to store at least a share of the potatoes intended for consumption in Wisconsin, the storage of these potatoes normally to take place early in the season before winter road conditions and car shortage set in and before abnormal price rises can creep in to disturb the market. The maximum price to growers before Nov. 1, this season, was \$1.05 per bushel, or \$1.75 per hundred. The quotation today, May 11—practically an empty quotation because a few Wisconsin potatoes are left to be sold at any price—is \$3.90 per bushel or \$6.50 per hundred.

Gov. E. L. Philipp has accordingly been requested to include in the call for a special legislative session the matter of authorizing municipalities to construct and operate warehouses for the storage of potatoes.

The suggestion that the municipalities be authorized to establish warehouses does not necessarily mean that the city itself shall buy and sell the potatoes which it stores. The recommendation forwarded to the governor is confined to the matter of constructing warehouses which will provide the required storage facilities and place potatoes at the disposal of the community at a time when it is difficult to transport them, and when, in the event of a short crop, the winter and spring supply may be depleted. The problem inhering in the purchasing by a municipal corporation for re-sale, upon a market which fluctuates and which may fall as well as rise, is not a matter within the scope of the present recommendation.

It is not contemplated that municipally controlled warehouses shall constitute the exclusive storage facilities for potatoes in Wisconsin. It would be highly desirable, if warehouses were established by railroads both at terminals and at principal shipping points, such as Waupaca and Bloomer. It is recognized that shipping point warehouses would be primarily for the benefit of the growers or warehousemen and might include potatoes destined ultimately for interstate shipment, except, insofar as space could be reserved in these warehouses for Wisconsin commission men or Wisconsin municipalities, where these latter are engaged in operating public markets. The allotment of storage space in warehouses operated by common carriers would be subject to state control, in order to assure equitable distribution and to regulate the rate of storage charge. There is no legal obstacle to such procedure. The recognized law pertaining to common carriers—supplemented by the more recent application of the doctrine to grain elevators—settles any constitutional difficulties.

Cut-over clover lands in Sawyer, Bayfield, Rusk and Price Counties, Wisconsin, for sale in large or small tracts. Reasonable prices.

AMERICAN IMMIGRATION COMPANY,
Chippewa Falls, Wisconsin

Iron Mining District Goes to Farming

GOGEBIC County, Mich., has shown the greatest awakening as to the agricultural possibilities within its borders, and the necessity for developing its agricultural resources, of any county in Cloverland that does not depend almost entirely upon agriculture for its principal source of revenue. Gogebic County is an iron mining district with nearly a \$10,000,000 payroll, busy mine operators and business men realize agricultural development is necessary to stabilize local economic conditions, is needed as a vital business supplement to the iron mining industry, and they are a unit behind the big agricultural movement that is now taking hold throughout the county.

No better illustrations of how rapidly this county is going forward in agriculture could be obtained than the weekly news letters County Agent Gunderson sends out to the farmers. Here is a sample of one of his news letters, which would have great significance in a strictly agricultural county:

Farmers throughout the county are co-operating in the purchase of a carload of dynamite. In addition to the considerable saving being realized in this way, much more land clearing is done, thus opening up a larger number of Gogebic County's cut-over lands for agricultural purposes, and township boards of Ironwood, Erwin and Marenisco have placed their orders with the farmers, to help make up a carload. This is a move in the right direction. The more dynamite used, the farther back goes the brush-line each year.

The pure bred stock clubs organized last week are so keenly interested in securing their pure bred animals, that a shipment of registered Guernsey and Holstein calves will be made within a few days. J. K. Jackson, Raymond Dick, J. G. Helli, Thomas Saari, T. J. Voyce, K. Gunderson, R. Lutey, Thomas Butson, this week received a carload of agricultural limestone and are busy applying it to their fields. Limestone stimulates the growth of clover, and releases other plant foods in the soil for use. It has been found decidedly beneficial wherever used. The same men are awaiting a shipment of 16 per cent acid phosphate.

Two pure bred Holstein Sires from the Newberry State Hospital herd have been ordered this week for L. J. Anderson of Bessemer, and Thomas Butson, of Ironwood.

About fifteen farmers in the county have secured quantities of Mammoth Russian sunflower seed at the county agent's

office during the past week. They are planning an experimental plot of about one acre, while three or four are going in for from five to eight acres of it. Its value as cow feed in the form of silage is stoutly upheld by the experiment stations of Minnesota, Wisconsin, Montana, and our own U. P. experiment station. Its frost resisting power and the heavy tonnage grown per acre, make it look decidedly attractive.

Every sheep owner in the county should read the article on "Sheep" in the April issue of the Cloverland Magazine written by Supt. D. L. McMillan of the U. P. experiment station. It deals with the importance of the proper handling of the lamb crop.

The Michigan State Farm Bureau has purchased a large warehouse at Grand Rapids, Mich., which is to be used in storing the Michigan wool-clip this spring. An arrangement is being provided now, whereby the wool-clip from every county in the state may be sent to the State Farm Bureau, with an assurance that the highest possible price will be paid for the wool. Gogebic County sheep men are urged to watch this bureau grow and to plan to derive the benefits it offers.

Several demonstrations will be carried on throughout the county this year in the growing of grains and potatoes. Drilled widths of oats, wheat and barley will be planted, using ground limestone alone in some instances. Then together with 16 per cent acid phosphate and again without any fertilizer. As a result, we believe, of the stress laid upon the growing of more barley throughout the county for cow feeds, by G. W. Putnam, Crops Experimentor of the U. P. Exp. Station, at our Farmers' Institutes this spring, a far larger number of farmers are planning to grow more acres of Oederbrucker barley. Barley is a sure crop, and contains 90 per cent of the feeding value of corn, which is an uncertain crop in this county.

At the meeting of the Lake Superior Guernsey Breeders' Association, in the county agent's office this week the operations of the association were extended to Bessemer. Up to date it has functioned only in Ironwood township. This step toward making it a countywide organization, thus extending its field of service, is a move in the right direction by the officers of the association. Rene Bergeron and Leo Wolkowski of Bessemer, represented the farmers from the east end of the county.

Since the inauguration of the county-wide silo campaign, some weeks ago, no less than ten farmers have interviewed the county agent regarding the value of the silo on the farm and it has been brought to our attention that six of these farmers have placed orders for the erection of silos this summer. Silos make for prosperity on the dairy farm, as more home grown feeds can be produced and utilized in this manner, than storing them in any other way.

Hog Cholera Immunity Lasting

OPINION differs as to when pigs should be inoculated against cholera by the simultaneous or double method. Some claim that immunity to cholera is not permanent if a pig is inoculated while still sucking its dam, or when it weighs forty pounds or less and others would postpone inoculation until a weight of sixty or seventy pounds has been reached.

Some definite experimental data on that proposition has recently been obtained by the Iowa State College, working in co-operation with the United States Department of Agriculture, that should prove of great interest to our readers at this time. A total of 171 pigs were inoculated by the double method from the time they were one week old till six weeks of age and the degree of their immunity tested

at times varying from five to ten months after inoculation. The pigs that were one week old were given ten cubic centimeters of serum and one-half cubic centimeter of virus and those that were three to six weeks old received ten to fifteen cubic centimeters of serum and one-half to three-fourths cubic centimeter virus. In no case were any ill effects noticed from the inoculation and in all cases the pigs remained immune, as was proved by injecting into them five cubic centimeters of virus without the slightest ill effect and in some cases the pigs were ten months old when subjected to that severe test.

These facts appear to disprove the statement so often made that it is undesirable to inoculate pigs against cholera till after they have been weaned.

WORK

"BOB" BURDETTE was noted for his philosophy and sound judgment as well as his wit, although his talent for saying and writing funny things gained him prominence. However, there are many passages in his writings which reflect soundest reasoning and suggest sober thought. The following paragraphs by Mr. Burdette read as if he were writing for present day consumption to offset the apparent insatiable desire for shorter hours and less work, although they were written many years ago:

"Remember, my son, you have to work. Whether you handle a pick or a pen, a wheelbarrow or a set of books, digging ditches or editing a paper, ringing an auction bell or writing funny things, you must work. If you look around, you will see the men who are the most able to live the rest of their days without work are the men

who work the hardest. Don't be afraid of killing yourself with overwork. It is beyond your power to do that on the sunny side of thirty. They die sometimes, but it is because they quit at 6 p. m. and don't get home until 2 a. m. It's the interval that kills, my son. The work gives you an appetite for your meals; it lends solidity to your slumbers; it gives you a perfect and grateful appreciation of a holiday.

"There are young men who do not work, but the world is not proud of them. It does not know their names even; it simply speaks of them as 'old So-and-so's boys.' Nobody likes them; the great busy world doesn't know that they are there. So find out what you want to be and do, and take off your coat and make a dust in the world. The busier you are, the less harm you will be apt to get into, the sweeter will be your sleep, the brighter and happier your holidays, and the better satisfied will the world be with you."

STATE FAIR MILWAUKEE

Aug. 30, 31; Sept. 1, 2, 3, 4. 6 Days; 6 Nights

50 CENTS DAY OR NIGHT **Automobiles Free**
-SPECIAL RATES-
-ALL RAILWAYS-

BEST IN THE LAND

of Cattle, Horses, Sheep, Swine, Poultry; Dairy, Agricultural, Horticultural, Apiary Products; Women's Work, School Work and the Year's Round-Up of Badger State Boys' and Girls' Club Activities.

EVERY DAY!

ETHEL DARE, The Girl With a Spartan Heart,

CHANGES PLANES 4,000 FEET FROM EARTH!

— ALSO —

Marvel of **LOCKLEAR** Daredevil All Ages **Supreme**

IN PLANE CHANGES—(Watch for Dates).

SIX NIGHTS!

The World's Greatest Show -- \$20,000 Fireworks Spectacle
"Siege of the Dardanelles"

500-Foot Stage, 1,000 People and 25 STAR CIRCUS AND VAUDEVILLE ACTS on Two Mammoth Stages.

MUSIC EVERYWHERE!

Famous Million Dollar Band, With Six Soloists. Eight Other Bands and Orchestras Day and Night.

Automobile Show and "Truck Town"

150,000 Square Feet of Exhibits and Demonstrations, Including All 1921 Models.

HARNESS RACING PROGRAM

(First Race at 1 P. M.)

MONDAY		WEDNESDAY	
2:17 Trot	\$1,000	2:14 Trot	\$1,000
3 year old Pace	800	2:15 Pace	1,000
2:03 Pace	1,200	2:10 Pace	3,000
2 year old Trot	500	2:06 Trot	1,200
		3 year old Trot	800
THURSDAY		FRIDAY	
2:12 Pace	\$1,000	2:20 Trot	\$1,000
2:10 Trot	3,000	2:20 Pace	1,000
2:05 Pace	2,000	2:09 Trot	1,000
Free-for-all Pace	1,200	2:08 Pace	1,200

AUTO RACING!

TUESDAY AND SATURDAY, AT 2 O'CLOCK
 America's and Europe's Greatest Dirt Track Drivers and Cars.

HORSE SHOW IN STOCK PAVILION

Monday, Tuesday, Wednesday, Thursday and Friday Nights, at 8 o'clock.

50 ACRES OF TRACTORS AND OTHER FARM MACHINERY

SPECIAL EXHIBITS—U. S. Government, State Marketing, Wisconsin Department of Agriculture, Household, New Era and a Score of Other Added Exhibits.

SPECIAL SHOWS—The C. T. Kennedy 10-Acre Exposition.

THE MUDLESS AND DUSTLESS FAIR

Monday, Aug. 30—All Wisconsin School Children Free.

THE WISCONSIN STATE FAIR "Educates, Inspires, Entertains on Biggest Possible Scale."

Would This Ranch Suit You?

5,000 Acres

Heavy timothy and clover range; pure water streams and lakes; camp buildings for herdsmen; barns and sheds for stock; 300 miles to Chicago market; 270 miles to St. Paul market; ranch 4 miles from railroad.

LOW PRICE EASY TERMS

PERSONAL INSPECTION URGED

THIS is a splendid opportunity for a real stockman who wants to establish a permanent range. This range consists of cut-over hardwood land, which is adapted for all field crops when cleared of stumps. The brush and slashings have been burned off and there is now a heavy growth of sun-nurtured clover and timothy, with a sprinkling of blue-grass, the kind of feed that puts on fat and shapes stock for late summer or early fall market if pastured early in the spring. All parts of the range have plenty of good, pure water in small streams and lakes.

Write at Once for Terms

This proposition will not be on the market long because our price and terms are so liberal and the range is in such excellent condition for profitable grazing that it will be snapped up by some stockman who is interested enough to visit the place and see for himself. A post-card will bring you full particulars.

Address

SAWYER GOODMAN COMPANY
MARINETTE, WISCONSIN

Or

GEORGE H. HEDQUIST, Supt.,
GOODMAN LUMBER COMPANY
GOODMAN, WISCONSIN

An Outlet From the Great Lakes to the Sea

(Continued from page 6)

portation matters, represented a saving of about two weeks over similar shipments sent by rail to the Atlantic Coast and thence across the ocean. Under existing conditions, we may safely say that a cargo of wheat or flax or potatoes, or of meat or of dairy products can clear from the port of Chicago or of Duluth and can enter the harbor of Boston or Philadelphia or New York before a similar quantity of food can arrive by rail, and in the matter of cost, the water route is to be preferred.

Minnesota is not asking for preferential treatment as against any other section of the country. It is considering the fact that according to the best estimates available, \$4,000,000,000 is necessary for the rehabilitation of our railroads. Measured in days of labor and in material equipment, these \$4,000,000,000 cannot be spent for years to come, and meanwhile, the growth of the nation is going on. Give us the best physical outlets to the sea, but so long as those outlets are restricted to rails and to terminals and to cars and engines and the men to operate them, we shall find ourselves again crippled by under-equipment through the normal process of the expansion of production that a bettered road to market would immediately bring about. A water highway, however, such as nature has offered to us in the St. Lawrence, is not subject to these limitations. With an unlimited capacity for tonnage and with better than 90 per cent of the merchant marine of the world able on occasion to utilize the channels provided, no possible development of the Central West can outrun the capacity of the world's shipping to carry its products to the world's market. Under such conditions, the farmer may go ahead confidently and plan for the future, and the business man may build in confidence that the markets of the world are open to him.

To bring mid-America 1,000 miles closer to her terminal markets means to enable her to maintain, and reasonably to increase, the production of her staples—grain, live stock, and dairy products. The failure to do this may mean—will mean!—the slowing down of her productive processes, the cessation of expansion, the ultimate degradation of her industries to a position of relatively secondary importance.

We here in mid-America are trying to think, not of how much this will mean to us, great as the benefits would be, but we are trying rather to think in terms of the needs of the entire continent. We must have broad highways down to the sea and across the seas to the market of the world if we are to continue as the leading food producing area of the globe. It is not enough that we have fertile soil. In fertile soil we have competition a-plenty. Central China has fertile soil, and Siberia, and the Ukraine, and Australia, and South America. It is not enough that we have and use machinery. Others can do the same. Our cheap lands and high production per man have in the past saved us. Our lands no longer are cheap. Production outlays for

rent, taxes, fertilizer, labor, all are on the increase, and already the waterborne products of other lands can be laid down in Eastern harbors at a less transportation cost than we can ship our central-western products by all-rail routes to these same ports.

The battle for our own Eastern markets has begun. We not only have to protect our place in the export trade of the world; we have also to protect ourselves against the imports of other nations. If the expenditure of less than 5 per cent of the amount considered necessary for the rebuilding of our railroads will provide an all-water route from the heart of the American continent to the sea, if this expenditure will bring the Mississippi Valley and the plains of Canada 1,000 miles nearer to Europe, and if, finally, it will divert from the Eastern states a volume of through traffic that serves no other purpose than to congest roads already breaking down under the load of local traffic and of continental traffic originating within the manufacturing area along the Atlantic coast—then it would seem that immediate steps should be taken to add the St. Lawrence all-water route to our transportation system in order to relieve our overloaded and crumbling system of continental transportation.

Development Necessity

By FRED D. SHERMAN

AS Commissioner of Immigration for the State of Minnesota, whose duty it is to advertise this state with a view of attracting more settlers upon our vacant lands, I thank you for the privilege of addressing you a few remarks in which I will endeavor to point out to you the immense value of the construction of this project not only to the State of Minnesota but to the entire Northwest.

We have in Minnesota at the present time more than 15,000,000 acres of good, rich agricultural lands which have never felt the point of a plow; lands when properly subdued and properly tilled are capable of furnishing homes to more than 100,000 farmers and producing sufficient food-stuffs to fill the mouths of 10,000,000 people. In order to properly develop this vast area of land in Northern Minnesota it is necessary that we procure settlers to locate on, develop and till these lands and in order to hasten this movement, as Commissioner of Immigration, I must be in a position to present to prospective settlers the opportunities and advantages for them to settle upon these lands.

I find that the most effective argument to present to prospective settlers seeking new farm homes is the argument of good markets. It is true that at the present time in Northern Minnesota the markets for what farm products that are now being produced are quite sufficient, but at the rate of

MORE FARMERS

There is room for 100,000 new farmers on the cut-over lands tributary to the SOO LINE in Upper Michigan, Upper Wisconsin, and Northern Minnesota.

Good lands which will fulfill any conditions imposed by the new farmer as to location, soil, climate, rainfall, water-supply, roads, schools, churches and neighbors. Lands which can be bought at a price that will fit the pocket of the poor man, as well as meet the requirements of the man of means. Write for information.

H. S. FUNSTON, Land Commissioner SOO Line Railway
MINNEAPOLIS, MINN.

Wisconsin Central Ry. Land Grant Lands in Wisconsin

increased production which is now taking place annually, in Northern Minnesota, the supply will soon be greater than the local demand, thus making it necessary for the Northern Minnesota farmer to seek a market for his product at some distant point. If this Great Lakes-St. Lawrence Tidewater Route is constructed the question of markets for the products of Minnesota and for the whole Northwest, in my opinion, will be solved forever. If it will be possible for me to point out to the prospective immigrant that within a period of three and not to exceed five years this Great Lakes-St. Lawrence Tidewater Route will be constructed, thus putting the producers of the Northwest in touch with the markets of the world, it will not only hasten the development of the idle acres of Northern Minnesota and the entire Northwest, but will add much to the increased production of food-stuffs in this territory and the demand for increased production is a question that enters into practically every movement along the line of progress at the present time.

I do not believe that there is a single industry of prominence in this state that is not vitally interested in the construction of this proposed water route. The farmer, the manufacturer, the miner, the merchant, and banker are all interested and are eagerly waiting for the decision upon this matter which means so much to Minnesota and the Northwest.

Minnesota is represented here today by a comparatively small committee of men who are urging the state's cause, but this does not mean by any means that the people of this state almost to a person are not intensely interested in seeing this proposition put through. There is not a city in this state that is not interested and would not willingly have sent a committee of citizens here to urge its cause. There is not a commercial club or civic organization in this state, and we have many, that would not willingly have sent men to speak for them on this matter. In fact, I do not believe that there is an organization of men in private or public life, that would not have been glad to have representatives here to work for this measure so that the group of men who are here today are speaking not only for themselves individually by any means, or for the departments or associations that they represent, but they are speaking the sentiment of practically every person in the state. I do not believe that there has been a convention or association meeting of any importance in this state for the past year but that the construction of this Great Lakes-St. Lawrence Tidewater project has been unanimously endorsed and urged upon the members to lend all possible aid and assistance in bringing about its construction.

I cannot speak for our sister states of the Northwest, but I can say to you that Minnesota, with its two and one-half millions of people is solidly behind this move and it is for them that we appear before you using immediate action for the construction of this great system which means so much to Minnesota.

Give to the Northwest producers the assurance that there will be a market which will place their products in fair competition with the other producers of the world and you will, in my opinion, witness the rapid development of millions of acres of present idle lands and a substantial increase in production of food-stuffs.

MOTOR TRUCKS

(Continued from page 16)

must change. In the northern half of Michigan, Minnesota and Wisconsin, the highways are wonderful—but this is partially due to the comparatively light travel over them. These same roads, constructed in a densely populated southern county, would go to pieces in a season. Automobiles and trucks pound the life out of every gravel and macadam highway in a surprisingly short time. It is all a question of how many cars pass over the highway. A few may be operated,

A Commercial Necessity

By R. A. HERR

IN connection with food commodities, taking the items that represent the heaviest tonnage—which items would be represented under coffees, sugars, dried fruits and canned foods—I desire to make two statements—one which will cover the volume of business represented by these items that comes directly to Duluth firms; and I further desire to set up and to show the volume and tonnage of these items that would come to Duluth for distribution into the Northwest states if, from a transportation stand point, the Great Lakes-St. Lawrence deep waterway to the sea should be built.

Offering for evidence the subject of coffees as an item which would be materially affected in a transportation way by the building of such a waterway, there is an actual tonnage today flowing into Duluth market proper of sixty thousand bags, representing a tonnage of eight million pounds. This coffee is roasted and distributed from Duluth into the Northwest and into Duluth proper.

Of the item of sugar the Duluth market takes practically five hundred thousand 100-pound bags a year, representing a tonnage of fifty million pounds. Of this amount, at this time, it is estimated that one hundred thousand bags are now traveling from the East and therefore represent sugars coming from the Eastern refineries and which would travel over the waterway, and this would represent an actual tonnage of Eastern sugars moving into the Duluth market of ten million pounds. The balance of the sugar would be represented by beet sugar produced in the Middle West.

Of the item of dried fruits there is but a very small tonnage moving into this market by shipment from the West coast through the Panama Canal and by lake and rail into Duluth. Practically all of this tonnage comes directly from the coast by rail. The amount moving by waterway and rail would be practically nil at this time.

There is at present of canned goods moving from the East by rail and by water into the Duluth port, one hundred fifty cars a year, representing goods packed in the East and which now come practically by rail and water, representing a tonnage of six million pounds.

In addition to the above items on which we have dwelt specifically, there is at this time lake and rail shipments moving from the East of imported merchandise and items originating at New York and which enter into food distribution and which could to advantage pass over the deep waterway, and which would be represented by the following items: Fish (imported and domestic); olives (imported); olive oil, sauces, condiments, imported nuts, chocolates and cocoas, which would represent an estimated tonnage of at least twenty-five million pounds and which could move to advantage over the deep waterway.

The above figures are built upon reasonable and conservative estimates made from actual facts and which can be substantiated through the buying power of the Duluth market.

(Continued on page 46)

and the road will stand for many years. Let enough cars use the route, and the road breaks up. Concrete is the only material that will take the terrific strain of a well developed motor vehicle travel.

The northern counties, therefore, should begin to consider concrete construction, and they should begin to consider a wider use of the motor truck. With concrete roads, and motor truck lines operating over them, the transit problems of these counties will be solved.

Ranches Ranges Farms

Any acreage you want,
Any easy terms you want,
Any way you want to buy,
Any kind of land you want,

**RIGHT NOW
WRITE NOW**

The County Board of Supervisors of Iron County, Wisconsin, wants practical stockmen to take up large ranches in their county, and will aid them in locating and financing.

The County Board of Supervisors of Iron County, Wisconsin, wants experienced farmers to take up small or large acreages of the best hardwood land in the cut-over country, and develop them into paying live stock farms. The Board will help them find a good location close to local markets, on good roads and with railroad facilities.

**Ranches \$10 An Acre,
Farm Lands, \$10 to \$20 An Acre,
Ranges Free for Season.**

Any ranch in Iron County is within 200 miles of South St. Paul, and 400 miles of Chicago. Two railroads go direct to either market.

Any farm in Iron County has a local market within a few miles that will absorb all farm products at the highest market prices, because these markets are in mining or lumbering districts without developed farms to provide sufficient food supply.

This district is old in mining and lumbering, but **NEW IN AGRICULTURE**, and the County Board of Supervisors wants you to help them do the big job of converting the thousands of idle acres of cut-over land and pasture into productive fields, and in turn will help you get along.

If you want a good chance to make good, write to

DANIEL REID

**Chairman County Board of Supervisors,
HURLEY, WISCONSIN**



These companies were the first to bring cattle to its cut-over lands, and carry on profitable and successful grazing in Cloverland.

WE offer the western grazers their choice of 75,000 acres of cut-over lands in Cloverland; 25,000 in Northern Michigan; 50,000 in Florence and Forest Counties, Wisconsin.

Several ranches were selected and taken over last year by well-known western cattle and sheep men.

Write us for particulars or come and see these lands for yourselves.

J. W. WELLS LUMBER CO.
MENOMINEE, MICH.

GIRARD LUMBER CO.

J. W. Wells, President

DUNBAR, WIS.

MENOMINEE, MICH.

FARMERS' PICNIC AT ASHLAND EXPERIMENT STATION

THE annual picnic and demonstration day at the Ashland Experiment Station will be held on July 21, the previous date having been postponed on account of the late season. This affair, especially for the farmers of Bayfield and Ashland Counties, is an educational event, and is held at a time when all crops and experiment plots at the station are at the right stage for observation and demonstration work. However, farmers from adjoining counties and others interested in agriculture and live stock are requested to attend.

The Ashland Experiment Station has the most elaborate assortment of field crop experiment plots of any northern experiment station, and is the largest pea breeding station in the world. E. J. Delwiche, who has charge of the

Northern Wisconsin experiment station, is a nationally recognized authority on pea breeding, and is an agronomist of note. His successes in breeding and propagating other grains to resist diseases and climatic restrictions have spread over extensive fields of research work and commercial crop production.

The farmers of Ashland and Bayfield Counties recognized in this station as their source of direct education in planting field crops, and other Northern Wisconsin counties are equally interested.

An unusually large crowd is expected at the picnic and demonstration this year, especially in view of several special experiments that have now reached the stage of release for farm practice in Cloverland.

Time of Sowing Controls Wheat Crop

(Continued from page 7)

early, no later than Aug. 15. The ground should be well rolled, then disked. This will aid in the rotting of the sod by preventing the growth of grass between furrows, and it will allow for the absorption of rainfall. When seeding time comes the land should be thoroughly packed with the roller so as to provide a firm seed bed.

Tests to determine the best varieties of wheat adapted for different sections of Wisconsin have been in progress at the experiment station at Madison and at the branch stations at Ashland and Marshfield since 1906.

One hundred thirty-six varieties and strains of spring and winter wheat have been tested and most of them have been discarded. Only those that showed promise were continued for a longer period than five years. The yields tabulated report only on the most promising varieties, beginning with the year 1914.

Of the winter wheat varieties those of outstanding importance are the

Ped. No. 2—Turkey Red and Ped. No. 408—Bacskas. Other varieties have shown very good promise so far as yield is concerned, but these two are not only high yielders but are also the two best wheats from the milling and baking standpoint.

Of the spring varieties the Red Fife and Marquis show the best yields. It will be noted, however, that the Marquis is outstandingly the best variety at Madison while the Red Fife gave the highest yield at Ashland. The yields at Marshfield are rather inconclusive—Marquis, Red Fife and Early Java are about on a par. Taking into consideration yield, quality and availability of seed the following recommendations are made:

For southern Wisconsin—Pedigree No. 2—Turkey Red for a winter variety and Wisconsin No. 50—Marquis, for spring.

For the northern section of the state—Pedigree No. 2 and Pedigree No. 408 are recommended for winter varieties, and Red Fife and Marquis for spring.

A Cloverland Truck Garden

Fayette, Mich.
Editor Cloverland Magazine.
Dear Sir: I am sending you a list of the produce that I raised last summer and also what it sold for:

Tomatoes, ½ acre, 400 bu., \$2 per bu.	\$ 800.00
Cabbage, ¼ acre, 1 ton, \$60 per ton	60.00
Cauliflower, ½ acre, ½ ton, 16c per lb.	16.00
Cucumbers, ½ acre, 200 bu., \$1 per bu.	200.00
Strawberries, ½ acre, 500 qt., 25c per qt.	125.00
Potatoes, 1½ acres, destroyed by leaf hoppers.	
Egg plant, 50 plants, 10 bu., \$2 bu.	20.00
Muskmelons, 4 hills, 100 melons, 10c per one	10.00
Sweet corn, ¼ acre, failure.	
Pumpkins, planted amongst sweet corn, 1 ton	40.00
Peppers, 50 plants, 5 bu., \$3 bu.	15.00
Golden wax beans, ¼ acre, in pods, 20 bu., \$1 per bu.	20.00

Golden wax beans, ripe for seed, 8 bu., \$11 per bu.	\$8.00
Total	\$1,294.00
Total acreage—4 1-3.	

Yours very truly,
HERMAN WINTER.

Herman Winter is a market gardener of Fayette, Delta County, Michigan. His truck garden is at Sac Bay, in Fairbanks township, on the Garden Peninsula, about one mile from Little Summer Island and the same distance from Fairport Harbor. Fairbanks township is one of the oldest settled sections of the Upper Peninsula, and is noted for its heavy crops of alsike, red clover, peas and garden produce.

Choice Cut-Over Hardwood Lands

Especially adapted to grazing and general farming, located on trunk line railways twelve hours from Chicago markets. For sale, in small or large lots, at reasonable prices, terms to suit purchasers. For particulars write

The Northwestern Cooperage & Lumber Co.

GLADSTONE, MICHIGAN

FARMERS' ANNUAL ROUND-UP AT U. P. STATION

THE annual "round-up" of farmers, agricultural agents, home demonstration agents, boys' and girls' clubs and others interested in agriculture, will be held at the Upper Peninsula Experiment Station, Chatham, Mich., Aug. 11 and 12. Elaborate preparations are being made to make it the biggest agricultural educational meeting ever held in the Upper Peninsula.

Boys' and girls' club work, county agent work, home demonstration agent work, and experimental station work are being especially featured.

The boys' club workers, numbering more than 200, will have a two day camp, pitching a large tent on Slapneck Creek on the Station Farm. Their program is in charge of Ray Turner, state club leader, and A. W. Kettunen, Upper Peninsula club leader. The first day will be given over to instructions with live stock by the best instructors from M. A. C., and the second day to live stock judging. The winner of the dairy stock judging contest will be awarded a registered Holstein heifer, the winner of the hog judging contest a registered Duroc-Jersey sow pig, the winner of the sheep judging contest a registered Shropshire ewe lamb.

Miss VanHeulen, state girls' club leader, will put on special work for the girls, and Miss A. B. Potts, home demonstration agent leader, will have a complete program for the women for the two days. A large tent will be used for offices and an auditorium.

The county agents will hold a conference the first day, meeting simultaneously with the State Board of Agriculture. During the conference the county agents will be assigned to special duty for the day following, when the big crowd of farmers is expected.

On the night of Aug. 11 the M. A. C. Alumni Association will meet at Au-

Train Falls, four miles from the station. Miss Potts, secretary of the association, has charge of the program.

The second day is farmers' day. The forenoon will be given over to demonstration work with crops, live stock and other features. A stump blasting and ditch digging demonstration will be an all-day attraction.

James Waldron, dairy specialist from M. A. C., will have charge of the dairy demonstration; George Brown, professor of animal husbandry, M. A. C., will have charge of the hog and sheep demonstrations, and G. W. Putnam, crops experimenter at the station, assisted by the county agents, will have charge of the crop demonstration.

Alger County will give a big barbecue for all attending the second day of the "round-up," and for the noon hour those present will be guests of the county. The barbecue will be served in the grove adjoining the station.

A speaking program will follow the barbecue. Among the speakers will be F. S. Kedzie, president M. A. C.; Jason Woodman, member state board of agriculture; R. S. Shaw, dean of agriculture and director of extension work; Dr. Eben Mumford, state county agent leader; R. A. Turner, state leader of boys and girls' clubs; Miss A. B. Potts, leader home demonstration agents.

Dinner and supper will be served on the grounds on the 11th, and breakfast and supper on the 12th. Rooming accommodations may be reserved by notifying the station not later than Aug. 10.

D. L. McMillan, superintendent of the station, has been giving the "round-up" wide publicity, and in outlining a program has prepared an event that was never equalled in the Upper Peninsula of Michigan.



250,000 Acres

unimproved Cut-over Lands

For Sale

in Tracts to suit
the purchasers.

Located in four-
teen counties in
Cloverland — the
Upper Peninsula
of Michigan.

Prices:

\$5 to \$15 per Acre

Terms are reasonable

Write me for definite quotations, maps, etc.

J. M. LONGYEAR

MARQUETTE, MICHIGAN

Land Clearing in Northern Minnesota

(Continued from page 33)

doing well and are getting nothing but clover hay.

When an acre of land will produce two tons of clover hay per acre, which will winter ten sheep, with wool selling at 59 cents a pound, and lambs at 15 to 20 cents per pound, where is there a more profitable investment than in Northern Minnesota land?

The sheep and cattle industry mark an era in the development in the growth of Northern Minnesota which is of vital importance not only to the state but the country as a whole.

The industry has been tried out and has proven successful. Why not take advantage of this opportunity offered by northern cut-over lands.

Hog Lice Very Expensive to Feeders

LICE on hogs are extremely expensive. The fact was proved in experiments, recently concluded by the Bureau of Animal Industry of the United States Department of Agriculture. It was shown that lousy hogs not only consume more food and make less meat, but that they are uneasy or restless, a condition that doubtless lessens the pork producing abilities of the animals. When not eating, the lice ridden swine spend most of their time rubbing themselves or running around. If strangers came near they were noticeably excited. This did not hold true of the hogs free from lice. Three experiments, each extending three months or more, and with from twenty to thirty hogs as subjects, were conducted. In one experiment it cost exactly \$1 a 100 pounds of pork more to feed the hogs with lice than it did to feed the clean animals. In another it cost \$1.50 more, and in the third \$2.04 more. The specialists who conducted the experiments reached the conclusion that the main reason why hogs with lice consume more protein feed is due to the fact that the lice suck the blood from the animals, and the latter must use more feed to replace their losses. But the lice-ridden hogs cannot make up for the blood sucked by their parasites. For instance, at the beginning of one experiment, fifteen hogs with lice weighed a total of 1,167 pounds, and fifteen

hogs without lice weighed 1,025 pounds. At the end of the experiment the lousy hogs weighed 2,872 pounds and the clean hogs weighed 3,150 pounds, although the total feed consumed by the clean hogs weighed only 203 pounds more than that eaten by the animals with lice. The department of agriculture will be glad to supply farmers with publications that tell how to free their hogs of lice.

Corn Belt Farmers

It looks as if corn belt farmers are going to invade the north this year. Pioneers in the north can help them in many ways by offering advice based upon northern experience, and at the same time gain a lot of new and valuable ideas from these new settlers who are schooled in intensive and live stock farming.

Cloverland Pointers

Keep your pigs on clover.
There is room for sheep on every farm.
A few colonies of bees help the farm cash drawer.
Sheep clear land and make a profit in wool and mutton while they are doing it.



A farm— your own!

In a Great New Country; where men with less than \$300 have succeeded; where \$1,000 is CAPITAL; where a year or two of consistent work will make you independently successful.

Our Development Department can tell you about these farms and this country; can help you find a location, friends, business connections, banks.

Write for information.

Green Bay Association
of Commerce
Green Bay Wisconsin



Great Lakes Outlet to the Sea

(Continued from page 43)

I wish to call the commission's attention to the possibilities of tonnage that would exist and which could be anticipated would travel over the deep waterway to the Duluth port, for distribution into the Northwest, and in submitting these figures I wish to state that they are, to some extent, theoretical, yet I have based my estimates upon known figures of per capita consumption of the items which I desire to consider.

Governmental statistics and statistics built up and formulated by national associations give to us a definite per capita consumption of these items, and I have taken the states that could be served from the Duluth port and have based the population of the states that could be so served to advantage to twelve millions of people, and in this way I feel I am making a reasonably authentic statement as to the possible tonnage that could travel to advantage over the deep waterway to the Duluth port for distribution, to advantage of transportation in time, in service, and in rates, and without question it would move by such route, once it was established.

Taking the item of coffees from the above standpoint, I would estimate that there would move over the deep waterway and into the Duluth port, for distribution in the Northwest states, one million bags of coffee, representing a tonnage of one hundred and thirty million pounds. These figures are based, as you can understand, on the per capita consumption, which shows for the United States twelve pounds per capita.

In the items of canned foods, I would call the commission's attention to the fact that there were produced in the Eastern markets forty-four million seven hundred and twenty-five thousand cases of the item of vegetables. These figures are based upon the 1919 pack. In addition to that there is produced in the East the item of canned soups, amounting to five million cases. The estimated per capita consumption of canned vegetables and canned soups is ten cans per capita. Basing our figures upon the serving of twelve millions of people, we would have a consumption in the Northwest states of five million cases, representing a tonnage of two hundred and fifty million pounds, which we could anticipate for distribution into the Northwest territory.

In addition to canned vegetables which we have referred to there are the items of canned fruits and canned fish, the bulk of which is produced on the West coast—in the states of California and Oregon. The total production of canned fruits and canned fish shown against the 1919 pack is nineteen million five hundred and ninety-one thousand cases of fruits and ten million five hundred and seventy-five thousand cases of canned fish.

Statistics tell us that the average consumption of canned fruit is about four cans per capita and of canned fish about four cans per capita—salmon being based on four dozen to a case as against the average pack of two dozen fruits and vegetables. Taking the two items of the West coast product—fruits and canned fish—on the basis of per capita consumption of eight cans, to serve twelve millions of people would mean a total number of cases of approximately two million, representing a tonnage of one hundred and thirty million pounds, and upon the item of canned fish approximately one million cases, representing a tonnage of sixty-five million pounds.

These West coast items would therefore represent a total tonnage of one hundred and ninety-five million pounds, and it would be only reasonable and logical to draw the conclusion that boats plying directly between the West coast of California by the Panama canal through the deep waterway and into the ports of the Great Lakes and the port of Duluth—which would be a most natural route of transportation—that a large bulk of this tonnage would move over such a route, as there could unquestionably be excellent time made, there would be a freight saving and the goods would be damaged less

in transit than through the medium of direct rail transportation.

Along the same line of reasoning all dried fruits—all of which are produced and packed upon the West coast—would move by direct waterway into the Great Lakes ports and which would serve the twelve millions of people through the Duluth port, would give a further and additional tonnage that could be figured on for transportation over the deep waterway of approximately one thousand cars, representing a tonnage of sixty million pounds.

On the item of sugars there are many figures to be considered. The question of per capita consumption of sugar has grown very materially within the last few years, and it is practically a safe estimate that the per capita consumption of sugar has gone from the pre-war period of seventy-five pounds to the present per capita consumption of unquestionably in the neighborhood of one hundred pounds.

The amount of sugar that would be consumed in the Northwest by the twelve millions of people would be one billion two hundred million pounds. It is fair to estimate that eighty per cent of this sugar would be produced by the beet sugar factories located through the Northwest country. This would leave two hundred and forty million pounds of cane sugar to move by the deep waterway into Duluth, serving twelve millions of people.

There is, however, another most important factor which would be developed by the deep waterway and which would be of tremendous advantage to the sugar refineries situated in the Northwest, and that would be the possibility of the transportation of Cuban raw sugars direct from Cuba to the Great Lakes ports and to the Duluth port, for distribution to these refineries, making it possible for the beet sugar refineries to operate twelve months in the year as against a present operating season of from two to three months, thus producing an economic condition that would be of advantage to the people of this country to a very marked degree.

The investment in the beet sugar factory is on the average of about two and a half to three million dollars. Their operating season being so short, the overhead expense is tremendous, although they have been able to compete with cane sugars in the past and at a profit, but every beet sugar factory is capable, without any changes in the machinery of the factory, to refine cane sugars, and it would seem that if they could secure Cuban raw sugars to advantage by an all-water transportation route, thus enabling them to run their plants at least ten months in the year and thus placing a basis of supply the year around, there would be an economic saving which would ultimately reach to the benefit of the public and would obviate such congestive conditions as have existed in the East for the past year and which have made it practically impossible for Eastern refineries to ship any sugar to amount to anything into the Western markets.

I would call your attention to the fact that during the term of the Equalization Board the government stopped the distribution of all Eastern sugars West of Buffalo, conserving the Eastern sugars entirely to the Eastern market.

I would call your attention to the fact that of the ninety beet sugar refineries in the United States, Michigan has 16; Colorado, 15; Utah, 18; Nebraska, 4; Idaho, 7; Wisconsin, Minnesota, Montana, Wyoming and Iowa, 9; so that 69 of the beet sugar factories of the United States, out of a possible 90, lie directly in this Northwest country, which could be served to advantage with Cuban raw sugars over the deep waterway.

It is not improbable to imagine that a deep waterway would open the markets on Hawaiian sugar, making it possible to bring these sugars through the Panama Canal into the Lake ports and to distribute Hawaiian raw sugars to the beet factories of the Northwest and Middle West.

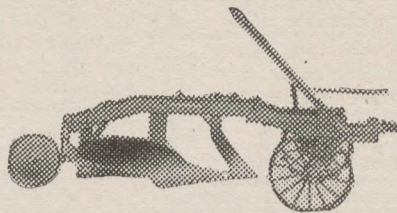
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Northern Minnesota
Farm Mortgages
Negotiated for
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LA CROSSE TRACTOR GRUB PLOW

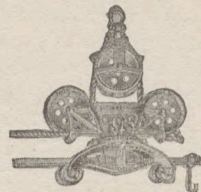
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18, 20 and 22 Inch Sizes



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Farm Machinery Minneapolis, Minn.

Hudson Barn Equipment Hudson Haying Tools

Used In Cloverland
Made In Cloverland



HUDSON MFG. CO.,
Janesville Minneapolis De Pere

LANDS

20,000 Acres in the Mille-Lacs Lake region—Mille-Lacs, Morrison and Aitkin Counties. The stockman's paradise of Minnesota. Grass in abundance, blue joint and redtop, five to six feet in height, timber loam, clay subsoil. The greatest grass and clover producing district in Minnesota. Forty acres to a section. Easy terms. For particulars, write

E. L. TRASK,
104 So. 4th St., Minneapolis, Minn.

FOR SALE

Ten thousand acres of choice land in Itasca County, Minnesota. Fine soil, good roads. Will sell in small tracts. Easy terms. Address

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PILLSBURY LAND SYNDICATE

own and offer for sale in tracts to suit 50,000 acres choice cut-over lands in Aitkin, Cass, Itasca, and Hubbard Counties, Minn., near good markets and schools. \$12.00 to \$20.00 per acre on very liberal terms. Send for lists and maps.

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\$1.50 per acre cash, balance on or before 20 years, 5% interest. Minnesota "cut-over" land in the CLOVER district. For sale by owners. Write for list.

Crookston Lbr. Company,
906 First National-Soo Bldg.,
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lead the world for size, type, health and production.

For definite information on the world's greatest cattle, write the

MINNESOTA HOLSTEIN FRIESIAN BREEDERS ASS'N.,
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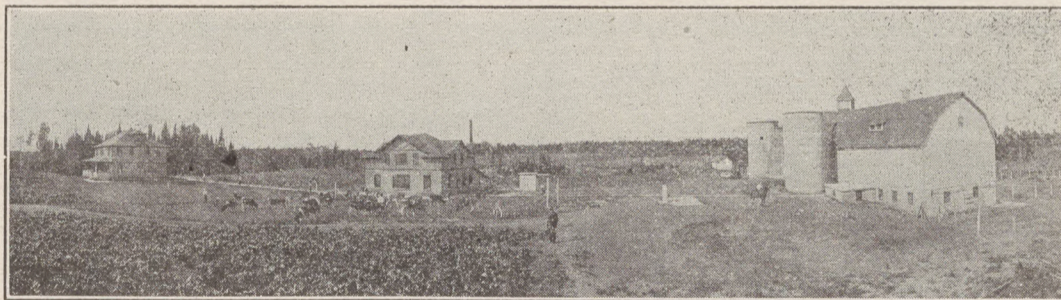
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Unimproved Lands

Write us for descriptions and terms

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Real farm homes are building daily in Upper Minnesota and Northwestern Wisconsin.



Wild lands at low prices become fertile agricultural areas in a few years.

You, too, can acquire a farm— a real home—where your labor will represent comfort and independence.

The Minneapolis Association of Commerce has no land to sell. But it wants you to write for information, for suggestions, and for advice. The city's foremost business men—bankers, manufacturers, merchants, and professional men—earnestly desire success for every settler in the territory surrounding the city. They want to help you toward this success.

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NORTHWEST DEVELOPMENT COMMITTEE
CIVIC AND COMMERCE ASSOCIATION MINNEAPOLIS, MINNESOTA

Cloverland Bargains

RATE: Seven Cents a Word

Copy for the Cloverland Bargains column must be in the office not later than the fifteenth of month preceding publication. Address all want ads to the CLOVERLAND MAGAZINE, Cloverland Bargains Dept., Menominee, Michigan

OCONTO COUNTY, WISCONSIN—The Garden Spot of the Universe. If at all interested you should at once become acquainted either by way of a visit in person or correspondence with me relative to my most unexcelled bargains, of either improved or unimproved hardwood timber farm lands. The best quality of productive clay loam soil, with excellent climate conditions produces unfailing big crops of diversified grains, alfalfa, clover, sugar beets, potatoes, fruits. Dairying very highly developed, the best of modern environments by way of church, school, cheese factory, grain and live stock markets, improved farms immediate to hand. At bargain prices thereupon. If interested better act at once for prices are destined to inebriate in value rapidly. Charles A. Best, Oconto, Wis.

LANDS FOR MIXED FARMING AND GRAZING—In Marquette and Alger County, Mich. Cut-over Hardwood Timber Lands, suitable for General or Special Farming, Stock Raising, etc. Excellent Water. Soil of Rich Sandy Loam. Exceptionally Liberal Terms. Also some Choice Tracts in Antrim and Emmet County. Write at once for our Beautiful Illustrated Booklet. Jackson & Tindle, Inc., 503 Niagara Life Bldg., Buffalo, N. Y.

MICHIGAN SNAPS — 120 acres near Houghton. Small clearing. Good soil, no waste land. Only \$2,000; \$500 cash. 80 acres close to Ewen. Nice little house and barn. 20 acres cleared. Only \$1,600; \$600 down. Hardy-Ryan Abstract Co., Waukesha, Wisconsin.

TWO MICHIGAN BARGAINS—80 acres. House, barn, clearing. Near Paynesville. \$1,250; \$250 down. 80 acres near Ewen. \$1,200; \$200 cash. Both on roads. Good land. Wm. Hardy, owner, Waukesha, Wisconsin.

FOR SALE—3,500 acres in one block. Seven miles north of Oconto. A low price will be accepted for the whole tract. W. H. Grunert, Green Bay, Wis.

A FINE FARM FOR SALE—280 Acres, one mile west of Carney, Michigan, which has good schools and a creamery. 150 Acres of this land is cleared; has a good house and hay barn and small orchard, plenty of running water all the year. Uncleared land is well seeded to grass; the soil is clay loam. There is not an acre of poor land in the farm. Easy terms. Address Box 58, % Cloverland Magazine.

FOR SALE—120 Acres, good loam soil with clay sub-soil; 3 miles from town, ½ mile from school, on macadamized road, 75 acres under cultivation, balance pasture with spring stream; good 2-story 10-room house; barn 35x35; hay barn; tool shed; garage; chicken coop; hog house; wood shed; smoke house; 2 wells; 100-tree apple orchard. Personal property included, wagons, mower, rake, binder, disk harrow, cultivators, plows, harrows, drill, fanning mill, etc. I am offering this farm with personal property complete for \$10,550.00, \$7,000.00 cash, balance terms to suit. Write P. L. Kaiser, Menominee, Mich.

HAY—Write or wire us whenever in need of Clover or Timothy Hay, also Straw, in carload lots. Dafter Hay & Grain Co., Dafter, Michigan.

FOR SALE—250,000 acres of unimproved cut-over lands in tracts to suit purchaser. Prices \$5 to \$15 an acre, terms reasonable. Address J. M. Longyear, Marquette, Mich.

FOR SALE—Choice cut-over hardwood lands, especially adapted to grazing and general farming. Small or large tracts at reasonable prices, terms to suit purchaser. Northwestern Cooperage & Lumber Co., Gladstone, Mich.

FOR SALE—2,000 Acres land, in one block. Excellent soil. Well located. Price and terms attractive. Write Fred A Roper, Menominee, Michigan.

AGENTS WANTED—If you are making less than \$150 a month, write us today. We have no "get rich quick" plan, but if you are wide awake, honest and willing to work with us and give us at least part of your time, we can offer you an opportunity to make from \$30 to \$50 a week. Just drop us a postal card for complete particulars free. Box 123, Cloverland Magazine.

FOR SALE—One fine 3,200 lb. team, bay geldings, 6 and 7 years old; gentle, experienced farm team; includes heavy farm harness in A-1 condition; price \$450. One grade cow, half Jersey, half Guernsey, 8 years old, gentle as a lamb, milks 14 quarts when fresh, freshens in July; price \$150. One 1918 Ford touring car, excellent mechanical condition, tires new; price \$450. One western saddle pony, rein broken, speedy, full of life, gentle; includes fine western saddle; price \$60. Ten tons A-1 clover hay; 25 tons clover and timothy mixed; baled; at market price. Address, W. B. Wallace, Lake-wood, Wis.

FOR SALE—Yearling bucks for breeding purposes. Shropshires. Apply to West-leigh Farm, Lake Forest, Ill.

FOR SALE—1,000 head of breeding ewes, 2 to 5 years old. These sheep to be sold in lots to suit purchasers. Write for prices and further information. John Rachon, Sidnaw, Mich.

SHEEP FOR SALE—500 breeding ewes, 1 to 4 years old. Averaged 8½ lbs. wool this season. Lots to suit purchaser. \$10.00 per head. Teams if desired. Vail & Smith, Alvin, Wis.

FOR SALE—160 acres hardwood timber. C. W. Lightfoot, 910 Minn. Ave., Gladstone, Mich.

WAUKESHA FARM FOR SALE—56 acre highly improved farm in Waukesha Co., 14 miles from Milwaukee, 5 miles from Waukesha. Concrete road will pass farm. 10-Room brick house, hardwood floors and hot water heat, acetyline lighting system in house and barns. Basement barn 36x70, silo 12x26, all in good repair. This location suitable for general store, auto supply or hotel. Price \$14,000. Liberal terms to responsible parties. Address John Casper, R. 4, Waukesha, Wis.

80 A, half under plow, level, good road, R. F. D., phone, school on land, near cheese factory, milk route by door, nice stream, no stone, good buildings, best of soil, right price and easy terms. V. E. Conwell, Ladysmith, Wis.

HAMPSHIRE—Am offering my entire flock of breeding ewes, lambs and yearling rams. Also Champion and third prize ewes of 1918 International. Write for catalog and special prices of carload lots. Mrs. Harley R. Emmons, Elsie, Mich.

FOR SALE—We have tracts of cut-over lands of all sizes for practical stockmen who want to succeed in a permanent manner. Consolidated Lumber Co., Manistique, Mich.

FOR SALE—Upper Peninsula cut-over lands suitable for grazing or general farming, in Alger, Chippewa, Gogebic, Luce, Mackinac and Schoolcraft counties. For information write, Land Department, Charcoal Iron Company of America, Marquette, Michigan.

FOR SALE—We own 15,000 acres of cut-over lands in Dickinson, Baraga, Menominee, Iron, and Gogebic counties in the Upper Peninsula of Michigan; 20,000 acres in Forest and Florence counties, Wisconsin. Any size tract on easy terms. J. W. Wells Lumber Co., Menominee, Mich.

FOR SALE—80 Acres in Menominee County, Cloverland; A-1 clay loam soil, 2 miles from town; on main line of C. & N. W. R. R.; 60 acres under cultivation; 2 pasture with running water; good 2-story 6-room house, hardwood floors and stone basement; barn 40x60; small orchard. Excellent farm, good neighborhood with all conveniences, schools, churches, bank, macadam roads, etc. Price \$6,000.00, \$3,000.00 cash, balance terms at 6%. H. M. Wright, Menominee, Mich.

FOR SALE—Any part of 100,000 acres stock lands or farms in Michigan or Wisconsin. Write for books and prices. Menominee Abstract & Land Company, Menominee, Mich.

GET OFFICIAL INFORMATION regarding soils, climate and crops of Price County, Wisconsin, from the Representative of the College of Agriculture and the U. S. Department of Agriculture. Improved, partly improved and undeveloped land \$10 to \$100 per acre in Price County. Most rapidly developing live stock, dairy and general farm county in the clover belt of Wisconsin. Write H. J. Rahmlow, County Agricultural Agent, Phillips, Wis.

FOR SALE—Pure bred Guernsey bull, 2½ years old; Sire, Masher Rockingham; dam, Carlon Chosan. Price, \$200, or will exchange for breeding ewes. Address Herbert Burrows, Emetta P. O., Lake County, Minn.

FOR SALE—Several sections of best cut-over land, near railroad, on good roads, close to Superior, \$20 per acre, easy terms. Also have a few good improved farms for sale. For information, write John W. Lake, Poplar, Wis.

FLORENCE COUNTY, WISCONSIN LANDS

for sheep and cattle ranches, in tracts of 320 acres up to 5,000 acres. For full particulars, write PETER McGOVERN LAND CO., Florence, Wis.

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Cut-over Hardwood Lands. Good Soil. Fine Water. Accessible by Railroads and Good Highways. Near Settled Communities.

Prices \$7.50 per acre and up ——— Easy Terms

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- Choice of 400,000 acres of land at prices ranging from \$20 to \$30 an acre for cut-over land.
- A climate the same as upper New York, northern South Dakota and central Minnesota—this district is 600 miles south of the much advertised wheat belt of Canada.
- A variety of soils fit for all crops grown in the north temperate zone.
- Good roads, good schools, good water and climate.
- Home markets that now are forced to depend on outside communities for much of their food.
- Railroad service that brings 10,000,000 people within a night's ride for farm products, and the equal of that afforded the farmers of Indiana, Illinois and Iowa.

Fruit, Dairying and Live Stock,
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Root Crops

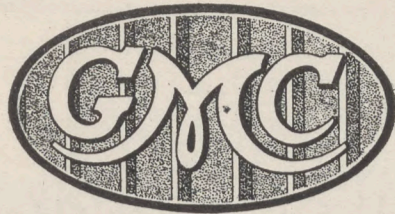
—An unsurpassed fruit country, protected by 1,000 miles of shore line along Lakes Michigan and Superior—a practical insurance against frost damage. A choice of five lines of farming.

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A PRODUCT OF
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Built in All Sizes from 3/4-1 Ton to 5 Ton Capacity



At Menasha, Wis.

A 1½ ton GMC equipped with cord tires and a twenty-five passenger bus body.

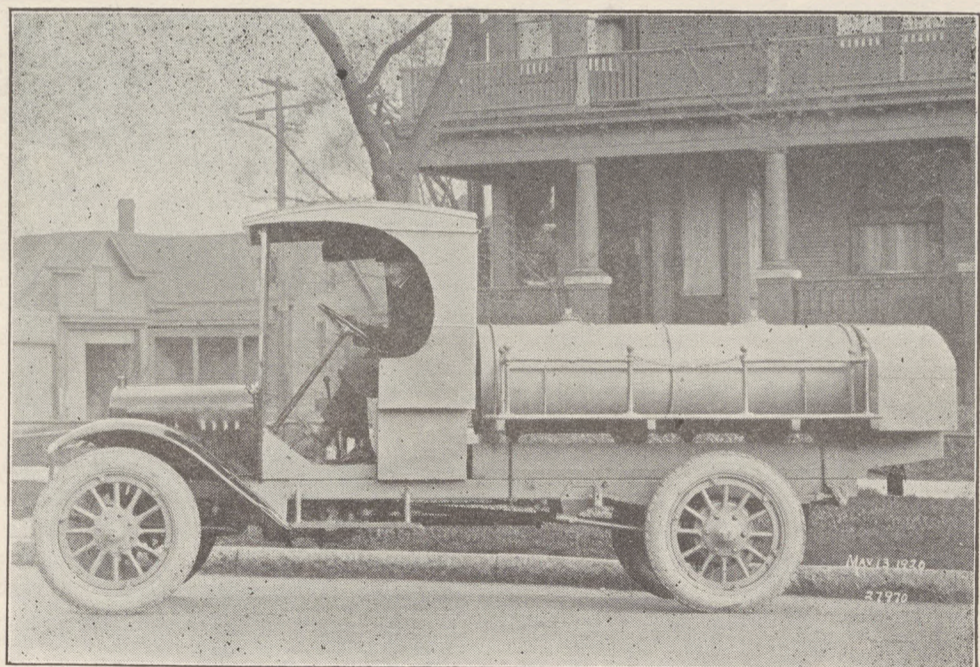
So satisfactory has been the steady, day-after-day service that another GMC has just been added on this run.

At Manistique, Mich.

A 3/4-1 ton GMC equipped with a 250-gallon oil tank. This is in the service of the Cloverland Oil Company.

Oil companies in the United States operate more than 1,000 GMC trucks.

The biggest company in the world, the General Motors Corp., backs their investment



These Cloverland Dealers will be glad to tell you about GMC Motor Trucks

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Highway Service Garage, Marathon, Wis.
J. T. McCann Co., Appleton, Wis.
Cloverland Garage & Machine Works, Manistique, Mich.

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A. C. Homan Auto Co., Menasha, Wis.
Hathaway-Buick Co., Oshkosh, Wis.
Munising Motor Co., Munising, Mich.
V. L. Lipsett, Pickford, Mich.
Austin Lipsett, Sault Ste. Marie, Mich.
Larson & Asplund, Ashland, Wis.

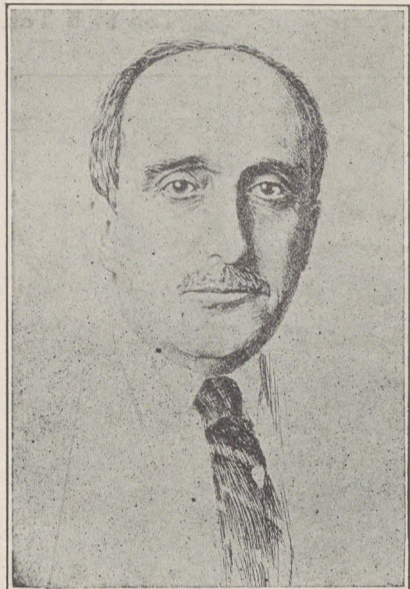
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Johnson Motor Co., Fond du Lac, Wis.
Auto Supply Co., Plymouth, Wis.
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Bingham Motors Co., Janesville, Wis.

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GENERAL MOTORS TRUCK COMPANY OF WISCONSIN : Milwaukee, Wis.

DISTRIBUTORS FOR WISCONSIN AND UPPER MICHIGAN

A Twelve Million Dollar Endorsement For Cloverland



J. OGDEN ARMOUR

TO THE EDITOR, CLOVERLAND MAGAZINE:

I BELIEVE in the agricultural and live stock possibilities of "Greater Cloverland," that rich belt comprising Northern Michigan, Northern Wisconsin and Northeastern Minnesota, with its thirty million acres of available cut-over, or former timber lands.

This belief is shared with enthusiasm by my business associates. It is reflected in the recent completion and operation of Armour & Company's new packing plant at South St. Paul, representing an investment of twelve million dollars.

My investigation in November, 1919, showed a remarkable development activity in "Greater Cloverland," both in the taking up of small farm holdings and the movement to this section of thousands of cattle and sheep from less favored ranges.

"Cloverland," the well named "Last Frontier," is a place of opportunity for the hustler, the working, modern farmer; a place of vigorous climate, rich and productive soil, and all of it within a few hours by rail of the great central and northwestern markets.

Rich as have been its yields of timber and mineral, and almost exhaustless as they seem today, I hold with those who believe that the greatest wealth of this new Northwest is in its possibilities for agriculture and live stock, already developing in every county.

(Signed) J. OGDEN ARMOUR,
President of Armour & Company.