

# MICHIGAN FARMER

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\$2 FOR 5 YEARS.

## Deciding for Farm Life

### What a School-Camp Did for Some Michigan Boys

At the first Farm Boys' School-Camp thirty-two boys made their vocational choices, with the following results:

- 24 boys decided to become farmers.
- 2 boys decided to become engineers.
- 2 boys decided to become teachers.
- 2 boys decided to become bankers.
- 1 boy decided to become a business man.
- 1 boy decided to become a musician.

Seventy-five per cent of these farm boys made decisions for farm life.



THE average farm boy thinks of farm life in terms of Fourth of July hayings, cultivator dust clogging his nostrils, and plow handles jabbing into his ribs. If such thoughts are not sufficient to cultivate in him a desire to shake the dust of the farm off his feet he may reflect further upon the father who "knocks" his own business; or the teacher who hurries to the city every Friday night and pities him because he must remain in the country; or he may be blessed with a preacher who continually talks about a world which is beyond his imagination and who doesn't know the difference between alfalfa and pigweed. Added to these there is also the alluring city with its automobile factories and their five dollars per day.

The cumulative effect of the above-named reflections causes us to wonder, not why the boy should want to leave the farm but why, in the name of all that is eternally boyish, he should want to stay! And, most of them don't want to stay. They are leaving our farms in large numbers every year in answer to the challenge which comes from the city. The fact that they are leaving the farms gives us one good reason for having county life commissions, rural conferences and "back to the land" movements. Of course, such conferences and movements talk a great deal about "tenant

farming" and its remarkable increase; about "depleted soils," "rural credits," "social centers," and about innumerable other high-sounding things. But the crux of the whole rural problem lies in the fact that the rural population is degenerating both in numbers and vigor. If the man on the farm is properly educated for his business and is in love with it there will be no ten-

see! And, one of the things that we see very plainly is the inability of solving the problem by means of the "back-to-the-lander." Our only hope lies in the boys and girls who are now living on farms. Who's who in America, and every other evidence of success in this country proves to us that the rural community always has been the best place to develop leaders for

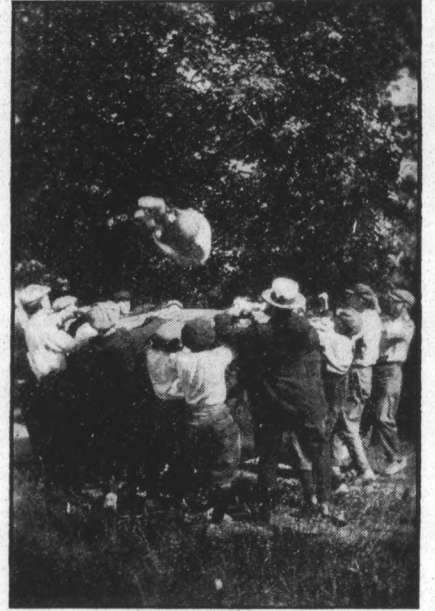


School-Camp Boys Talking Over Vital Life Problems Around the Camp-fire.

ant problem, no need for rural credits, and the soil and the social life will both be replenished. These commissions, conferences and movements have done very little in the way of giving actual assistance but they have in a measure opened our eyes to the seriousness of the problem. We still "see through a glass darkly," but we

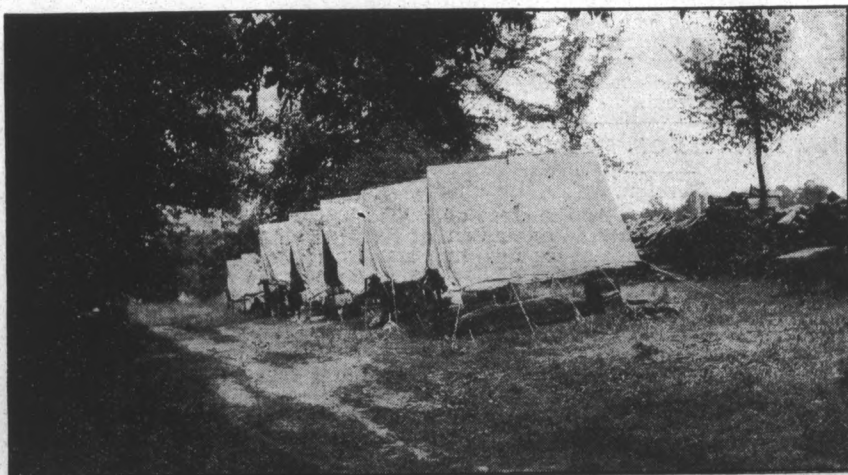
both the city and the country. If we are to retain or regain our splendid system of rural life which consisted of farms operated by the men who owned them, then we must educate rural boys and girls for rural life.

Various methods have been promoted for bringing about this new rural education. The study of agriculture,

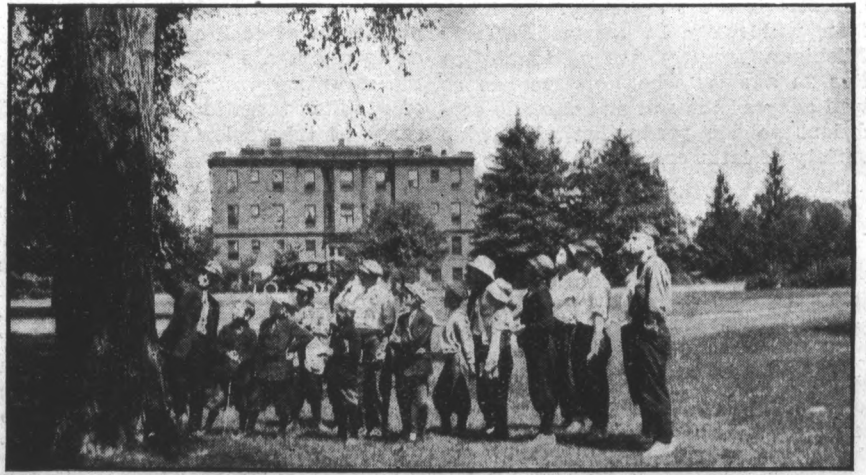


which has been at work for fifty years is at last wedging its way into the rural schools. The United States Department of Agriculture, through the epoch-making Smith-Lever bill, is extending its work so that the applied knowledge of agricultural science will be placed at the farmer's very doorstep, not in the form of a well-written bulletin but in the form of actual human help. In this program the boys—the farmers of the next generation—are not neglected. Nearly every state in the Union has organized agricultural and home economics clubs for boys and girls. There are over a half million of them at work on home projects this year. These club boys are getting a comprehensive education for rural life. They are putting into practice on their own farms the applied knowledge of scientific agriculture. Each club member agrees to grow a farm crop or raise a farm animal according to the best known practices of his state. And they perform every operation in connection with their club project, from seed testing to selling the crop and handing in an accurate report of all operations, costs and profits. Last year the farm boys of Michigan averaged sixty-seven bushels of shelled corn per acre. The average for the farmers of the state for a ten-year period was about thirty-two bushels per acre. The potato growers of

(Continued on page 339).



All Members of Boys' School-Camp Lived in Tents Pitched by the River.



Nature was Observed in the Open, Rather than through the Text Book.



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DETROIT, OCTOBER 16, 1915

### CURRENT COMMENT.

**In Diversity Lies Wealth.** The advantage in diversified agriculture to the farmers of any section is well illustrated in Michigan this year. Notwithstanding the fact that there are general and sectional crop losses in Michigan this year, the average yield of all crops in the state is approximately normal, being estimated at 99.1 per cent of the ten-year average in the general review of crop conditions prepared by the U. S. Department of Agriculture for October 1. Favorable weather since that date has undoubtedly improved late crops to a degree which would make the composite condition of all crops in the state fully up to the normal average yield for the state. Without the great diversity of agricultural production for which Michigan is justly famous, the situation would be vastly different, yet very many farmers do not fully appreciate the state's advantages in this regard. This can be illustrated in no better way than by a review of crop statistics for any one of the southern states where the one crop system generally prevails. In those states when the cotton crop fails, when there is an overproduction or marketing difficulties which reduce the revenue from the crop, the farmers suffer for even the necessities of life, for the purchase of which they have no adequate income from other sources. So serious was this condition the past year, that the government, aided by the commercial organizations of the south, conducted a general propaganda for a greater diversity of crops on the farms of the south. This propaganda was successful to some degree, and will add something to the prosperity of the farmers of that section of the country, but it will need to be carried on for many years before even a desirable degree of diversity in farming is brought about, and a wide diversity such as characterizes the agriculture of Michigan will never be attained. Truly Michigan farmers are fortunate to live in a state where nature has so well adapted the soil and climatic conditions to the production of a wide variety of farm crops.

**The Sugar Tariff Program.** The recently published announcement by Secretary of the Treasury McAdoo relating to the probable trend of new legislation to be enacted by Congress at the next session contains an item of more than passing interest to a large class of Michigan Farmer readers. According to this statement the administration program will include the retention of the present duty

on sugar as one means to the end of sustaining the needed revenues of the country, which have fallen off materially on account of the great shrinkage in importations since the outbreak of the European war. Notwithstanding the necessity which this unexpected contingency has compelled the government to face, there is a business side to this proposition which should not be overlooked. Subsequent to the passage of the administration tariff law, which provided for the gradual elimination of the duty on sugar importations, government agents were sent into Michigan and presumably into Louisiana, where there is a considerable cane sugar industry, to investigate the cost of producing sugar. These investigators took into consideration the cost of producing the raw material on the farms of the state as well as the cost of manufacturing the finished product in the sugar factories. While no public report of the result of this investigation has been made, it is a reasonable presumption that government officials are in possession of accurate data on these points, and inasmuch as the southern state of Louisiana as well as the northern state of Michigan has a vital interest in the equitable adjustment of this schedule, it is also a fair presumption that business, rather than political and general predominate in the settlement of the problem. If, as seems probable, the proposed retention of the present duty on sugar is based on the investigation above mentioned, as well as the necessity for the conservation of the national revenue, it is a tentative admission of, as well as a strong argument for the review and revision of all tariff schedules on a business rather than a partisan or political basis. This is not a new theory nor one which is lacking the support of thinking people of all classes and political affiliations. But the putting of the theory into actual practice would be a new departure in our legislative program which there should neither be incentive nor reason for covering with the cloak of temporary expediency.

**The War on Tuberculosis.** The battle now being waged in Michigan against tuberculosis, for which the last Legislature appropriated \$100,000 to be expended by the State Board of Health was officially begun early this month. The plan will be for the officers engaged in this work to visit one county at a time. Wexford county has been selected as the scene of the first activities, and Barry and Ottawa counties will follow in order. In each case Dr. Kleine, who is in charge of the work, and his helpers, will spend one, two or three weeks in a county in an effort to interest the people in their important health problem. An attempt will be made to locate each case of tuberculosis within the county and to have nurses visit these patients in their homes for the purpose of giving them instructions on how to live in order to most successfully combat the disease.

In addition, a complete survey of the counties will be made to determine the actual health conditions. The physicians of each county will be asked to co-operate with these agents of the state board of health as a means of enabling them to quickly locate the cases of tuberculosis in each county and to carry on the work after the agents of the state board of health have passed on to other fields of labor. A specialist in tubercular troubles will hold daily conferences with the physicians in regard to the latest and best methods of treating and preventing the disease. "Health First" has been chosen as an official slogan in this movement. Certainly no more important appeal could be made to the people of any section, since without health other human blessings are of little avail. The people of each

county of the state should one and all do everything in their power to co-operate with the authorities charged with this important work, to the end that early progress may be made in this important battle and final victory won in the practical eradication of the dreaded white plague from our state.

### MICHIGAN CROP REPORT.

**Wheat.**—The estimated yield of wheat in the state is 20.18, in the southern counties 21.17, in the central counties 21.61, in the northern counties 16.22 and in the upper peninsula 21.53 bushels per acre. The final estimated total yield for the state, sections and counties will be given in the November Crop Report. The per cent of acreage sown this fall as compared with last year is 94 in the state, 95 in the southern counties, 90 in the central counties, 96 in the northern counties and 99 in the upper peninsula. The average date of sowing wheat in the state is September 24th, in the southern counties the 27th, in the central counties the 23rd, in the northern counties the 20th and in the upper peninsula the 16th.

The total number of bushels of wheat marketed by farmers in September at 74 flouring mills is 175,055 and at 89 elevators and to grain dealers, 229,712 or a total of 404,767 bushels. Of this amount 297,626 bushels were marketed in the southern four tiers of counties, 93,452 in the central counties and 13,689 in the northern counties and upper peninsula.

The estimated total number of bushels of wheat marketed in the two months, August-September, is 1,750,000. Thirty-seven mills, elevators and grain dealers report no wheat marketed in September.

**Rye.**—The per cent of acreage sown this fall as compared with last year is 96 in the state and southern counties, 93 in the central counties, 99 in the northern counties and 103 in the upper peninsula.

**Barley.**—The estimated yield per acre in the state is 28.12, in the southern counties 28.19, in the central counties 28.91, in the northern counties 25.34 and in the upper peninsula 30.04 bushels.

**Oats.**—The estimated average yield per acre in the state is 39.72, in the southern counties 42.67, in the central counties 37.85, in the northern counties 34.46 and in the upper peninsula 40.64 bushels.

**Corn.**—The estimated average yield in the state is 27.77, in the southern counties 31.49, in the central counties 26.78 and in the northern counties 18.15 bushels per acre.

**Potatoes.**—The estimated average yield in the state is 67.56, in the southern counties 68.98, in the central counties 60.99, in the northern counties 60.14 and in the upper peninsula 96.38 bushels per acre.

**Beans.**—The estimated average yield in the state is 9.44, in the southern counties 9.90, in the central counties 9.30, in the northern counties 8.55 and in the upper peninsula 12 bushels per acre.

**Sugar Beets.**—The estimated average yield in the state is 9.88, in the southern counties 10.38, in the central counties 9.74, in the northern counties 9.09 and in the upper peninsula eight tons per acre.

**Buckwheat.**—The estimated average yield in the state is 14.42, in the southern counties 16.25, in the central counties 13.48, in the northern counties 12.10 and in the upper peninsula five bushels per acre.

The estimated yield of beans, corn and potatoes is 26, 15 and 22 per cent respectively, below the ten years' average from 1905 to 1914, inclusive.

Seventy-three per cent of our crop correspondents in the southern counties complain of severe damage to corn, beans, potatoes and sugar beets by cold weather, excessive moisture and blight and 80 per cent of correspondents in the central and northern counties and upper peninsula, report corn, beans and potatoes badly injured by rain and frost.

### HAPPENINGS OF THE WEEK.

#### Foreign.

**The European War.**—At the close of last week the Germans made gains on all three fronts. They succeeded in capturing Belgrade, the capital of Serbia, pushed back the Russians along the river to the west of Dvinsk and by a counter attack at Tahure in the Champagne district of France they recaptured a strip of territory about 100 yards deep and two and one-half miles long which constitutes a small portion of the land taken by the French in the recent drive. It is not expected that a real battle will develop on the Serbian front for some

time as the engagements so far are with the outposts of the defending army, the main line being back from the Danube in more mountainous districts. The Anglo-French forces are now marching north from Salonika, Greece, to aid the Serbians. The Bulgarians have not opened their campaign; they are probably waiting to learn the success of the German invasion and they may fear the attack of the Russian and Anglo-French fleets upon her coasts. The Germans are endeavoring to carry out their Russian program by taking Dvinsk and are meeting with some success as indicated by the advance mentioned above, but the Russian opposition is strengthening which, with the other demands upon the Teutonic armies may mark the end of the great invasion of Russia. France reports advances elsewhere in the Champagne district that balance the Germans' success at Tahure. There has been artillery action in Belgium, around Atrois, to the north of Avre, and in the district of Argonne an intense bombardment is in progress. Germany is establishing a submarine base on the Bulgarian coast, it is reported. A British submarine torpedoed a German vessel in the North Sea, while two other steamers, one British and the other Greek, were sunk last week; the crews of all three vessels were saved. The Italian attack upon Austria has broken down and with it the fear has developed that the Teutonic Allies may send an expedition through northern Italy and attack France from the south. Gen. Joffre is now in consultation with Gen. Cordona of the Italian forces, presumably on the possibility of such an undertaking.

Official advices have been received at Washington from South American countries of agreements to the proposal to recognize the Carranza government organization in Mexico as the de facto government. The extension to Carranza of this recognition is expected within a week. Despite the action of the Pan-American governments, General Villa is reported to have decided upon continuing his operations against Carranza. This country will bar the exportation of arms to other Mexican factions. It is believed that this handicap to his enemies will enable Carranza to gain control of the country.

Failure of Germany's state department to reply to a note on numerous passport frauds against this government which pointed to the implication of high German diplomats, is causing concern in Washington and Ambassador Gerard is instructed to make a special request at Berlin for an answer.

#### National.

A memorial signed by leading business men of the Philippine Islands has been sent to this government protesting against the conditions imposed by the recent seamen's act passed by Congress. These men complain that disaster to the industries of the islands will follow the enforcement of the law.

Landslides into the Panama Canal are offering additional trouble as dirt above is falling into the channel as fast as the dredges can clear it away. It may require till near the first of next year to free the watercourse so traffic can be resumed.

The directors and counsel of the New Haven railroad will face trial this week in New York upon the charge of conspiracy in an attempt to monopolize traffic in New England. These 12 men are being tried under the criminal clause of the Sherman anti-trust law.

The indifference of Chicago saloon-keepers toward the law culminated last week in a public demonstration of those standing for decent government. Fully 60,000 people marched through the streets as a protest to the law violators and largely as a result the 7,000 saloons were closed on Sunday.

American consular and commercial representatives in foreign countries are being instructed to secure exhaustive reports on industrial organization and the relations between industry and the government in the countries where they are located. The reports will include a thorough investigation of industrial and business systems throughout the world.

The program of the Naval League of the United States contemplates the organization of a junior department in which special efforts will be made to teach the children the patriotic history of their country and to drill naval boy scouts, junior naval reserve troops and to organize girls into first aid groups and nursing corps.

The International Peace Congress opens at San Francisco October 10 for a three-days' session.

Fire visited a lumber yard in West Detroit Sunday and did damage to the amount of over \$50,000.



## Developing Northern Lands

THE northern counties of Michigan are of continued interest to one agriculturally minded. There are continually new viewpoints and new adaptations of crops to suit conditions. The many, many square miles of stump lands and low spots needing drainage is one of the state's farm problems. Migration has swept over and around these lands for the western states as a whole, while men with persevering faith in these lands have proven their worth as farmers.

The small farmer who can get a few acres under cultivation and free from stumps has the bean and pea crop as a quick cash return. At even the very smallest villages is a pickle salting station which is another immediate cash crop which lends itself to new land conditions most admirably.

A labor income in the city at common shop work may be \$500 or \$600 per year, with outlay of over half for rent, fuel and farm portion of living, i. e., eggs, vegetables, etc. Ten acres of cleared land will give a gross return for the legume crops equal to the average laborer's income. In the meantime there is being constantly added more cultivated land and improvements and finally a well-equipped farm with good crop conditions results.

The land looker carries with him a posthole digger and insists on a mixture of clay or a clay subsoil. It is the latter that has the fundamental soil conditions. In Europe there has been re-bottoming of land by putting in a strata of ground lime a foot or so under the sand top and by growing legumes the land becomes very productive. Nature has attended to these conditions where a clay subsoil exists and that is what the man with the posthole digger looks for. High prices for legumes, like peas, beans of all kinds—white garden stock and soys—vetch, etc., constitute a stimulant to improvement of the stump land country. Then the wild pasture land that surrounds the cultivated tracts allows stock to use the legume roughage for winter feed to advantage and these wild tracts for summer feed. Some splendid sheep and young cattle are noted and these are certainly grown at less cost than on the high-priced lands in the southern portion of the state.

One of the unique institutions in Ogemaw county is the E. E. Evans seed farm. This farm is the clearing house of agricultural advices and has been the place where local problems have been tried out. Soy beans were held to be unsuited to Michigan climatic conditions until a variety was found suited to northern Michigan. The soy bean stands out as the champion disease and insect resistant, husky member of the bean family that disdains anthracnose and blight. Lamb feeders are enthusiastic over the soy beans, while corn, rape and soy beans are described as the paradise of swine and of profit to the growers.

One can well admit that there are hardships and hard work ahead in making a farm out of the northern cut-over lands and that there is land not suited to farming, yet for the man who has foresight and is willing to work there are opportunities not to be overlooked when one is seeking a farm home.

There are occasional settlements of Polish people with the huddling of farm buildings in a distinctive foreign manner. At first glance one would imagine that he had come into an Indian settlement, with their teepees greatly increased in size. Closer observation shows the pyramidal piles of fire-wood around the Polish homes. There is an air of thrift in these settlements that is seen in the flocks of chickens, also pigs and cattle. The land is completely cleared up to a certain line and evidence of the contin-

ued assaults on the stumps and brush in the area beyond. The newly-built school house is always in evidence which is notice to the world that the land is to be permanently cultivated and civilization advanced on a substantial basis.

While not intimately connected with agriculture, yet relating to the live stock industry, is the importation from the Yellowstone National Park of a herd of elk. There are twenty-three in number and these are being pastured in a quarter-section of wild land enclosed with a 72-inch woven wire fence on the Michigan Forest Reserve. A full grown elk will weigh around 700 pounds and live almost entirely on browse and wild grasses, with occasionally a feed of hay in the winter season. Full grown antlers of the elk have been known to weigh 40 pounds. Elk were formerly native to this state and their presence is remembered in the "Thumb" section in naming one town Elkton.

Shiawassee Co. J. N. McBRIDE.

### CLEANING THE CHIMNEY.

At this season of the year the chimneys should be carefully cleaned, as hot fires will soon be in order and many fires result annually from the accumulation of soot burning out and overheating the adjacent woodwork. I have used two methods of cleaning out our chimneys with considerable success. The first method is to take a limber apple bough and scrape it around the chimney until all of the soot has fallen down where it may be shoveled from the chimney hole with a small scoop shovel. The second and best method is to take an old grain sack and fill it with several small stones. Fasten this securely to a strong rope or chain and lower it up and down in the chimney until all of the soot has been shaken loose.

In using the stones in the sack be careful not to take stones that are too large or they may become lodged in a narrow chimney and cause no end of trouble. In removing soot from the chimney hole it is best to attach a piece of wrapping paper to the wall with thumb tacks or have a helper hold it while the soot is being removed. This prevents injury to the wall paper.

At the same time that the chimneys are cleaned it is well to clean and overhaul the stove and replace any broken parts. These can always be ordered from the repair parts list which your stove maker will gladly send you. It is an economy to keep the stoves in the best of repair as it seems as if good stoves are becoming more expensive every year and the replacing of one broken part, although it seems of little importance, will sometimes add several years to the life of the stove as well as increase its heating efficiency.

Clean stoves and clean chimneys are maximum heat producers at a minimum fuel expense and in this day of expensive fuel it is good management to obtain a dollar's worth of heat for every dollar's worth of fuel consumed. Another point in buying a stove is the fact that you will seldom buy a stove too large for your use. The small stove has to be crowded on a cold day and that results in a rapid burning of expensive fuel plus the fact that the bulk of the heat goes up the chimney. The large stove can be used economically in all kinds of weather as it can be regulated from a moderate fire to the hottest blaze and as the radiating area is large the results on a cold day will be very good and the heat will not go up the chimney. The best of stoves will fail without clean chimneys and now is the time to climb up on the roof and push down the soot.

Ingham Co. R. G. KIRBY.



MORE and more, motorists are learning that power is more than a matter of correct mechanical adjustment.

If the fuel charge escapes down past the piston-rings during the compression stroke, power plainly goes to waste. If, on the power stroke, the force of the expanding gases escapes past the piston-rings, power again goes to waste.

Piston clearances vary in different types of motor. You cannot secure full power unless you maintain a proper piston seal.

Again: Different types of lubricating systems are used in different motors.

Unless the oil you use is adapted to the feed system of your motor, incomplete lubrication must result.

So a very important demand of full power is high-quality oil of correct body for your motor.

Below is shown our Chart of Automobile Recommendations which for years has been the motorists' standard guide to scientific lubrication. Here you will find listed the correct oil for your car.

If your car is not listed, a complete Chart will be sent on request.

After you have cleaned out your motor and filled the crank case with the grade of Gargoyle Mobiloils specified for your car, you will discover what full power means.

If power is what you want, you should stop guessing about your lubricating oil and act on the scientific advice furnished in the Chart on this page.

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. For information, kindly address any inquiry to our nearest office.



**Mobiloils**  
A grade for each type of motor

The four grades of Gargoyle Mobiloils for gasoline motor lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A"  
Gargoyle Mobiloil "B"  
Gargoyle Mobiloil "E"  
Gargoyle Mobiloil "Arctic"

### CORRECT AUTOMOBILE LUBRICATION

**Explanation:** In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A". "Arc." means Gargoyle Mobiloil "Arctic," etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

| MODEL OF             | 1911   | 1912   | 1913   | 1914   | 1915   |
|----------------------|--------|--------|--------|--------|--------|
| CARS                 | Summer | Winter | Summer | Winter | Summer |
| Abbott Detroit.....  | A      | Arc.   | A      | Arc.   | A      |
| American.....        | A      | Arc.   | A      | Arc.   | A      |
| Apperson.....        | A      | Arc.   | A      | Arc.   | A      |
| Auburn (4 cyl.)..... | A      | A      | A      | A      | A      |
| " (6 cyl.).....      | A      | A      | A      | A      | A      |
| Avery.....           | A      | E      | A      | A      | A      |
| " (Model C).....     | A      | A      | A      | A      | A      |
| Buick.....           | A      | Arc.   | A      | Arc.   | A      |
| Cadillac.....        | A      | Arc.   | A      | Arc.   | A      |
| " (8 cyl.).....      | A      | Arc.   | A      | Arc.   | A      |
| Chevrolet.....       | A      | Arc.   | A      | Arc.   | A      |
| Chrysler.....        | A      | Arc.   | A      | Arc.   | A      |
| Chandler.....        | A      | Arc.   | A      | Arc.   | A      |
| Chase (air).....     | B      | B      | B      | B      | B      |
| Chase (water).....   | A      | Arc.   | A      | Arc.   | A      |
| Chevrolet.....       | A      | Arc.   | A      | Arc.   | A      |
| Cole.....            | A      | Arc.   | A      | Arc.   | A      |
| Dodge.....           | A      | Arc.   | A      | Arc.   | A      |
| " (8 cyl.).....      | A      | Arc.   | A      | Arc.   | A      |
| Dodge.....           | E      | E      | E      | E      | E      |
| E. M. F.....         | A      | Arc.   | A      | Arc.   | A      |
| Empire.....          | A      | Arc.   | A      | Arc.   | A      |
| Flanders.....        | E      | E      | E      | E      | E      |
| " (6 cyl.).....      | A      | Arc.   | A      | Arc.   | A      |
| Ford.....            | A      | Arc.   | A      | Arc.   | A      |
| Franklin.....        | A      | Arc.   | A      | Arc.   | A      |
| " Com'l.....         | B      | A      | A      | A      | A      |
| Grant.....           | A      | Arc.   | A      | Arc.   | A      |
| Haynes.....          | A      | Arc.   | A      | Arc.   | A      |
| Hudson.....          | A      | Arc.   | A      | Arc.   | A      |
| Hupmobile.....       | A      | Arc.   | A      | Arc.   | A      |
| " (Model 20).....    | A      | Arc.   | A      | Arc.   | A      |
| I. H. C. (air).....  | A      | Arc.   | A      | Arc.   | A      |
| " (water).....       | A      | Arc.   | A      | Arc.   | A      |
| International.....   | A      | Arc.   | A      | Arc.   | A      |
| Interstate.....      | A      | Arc.   | A      | Arc.   | A      |
| Jackson.....         | A      | Arc.   | A      | Arc.   | A      |
| Jeffery.....         | A      | Arc.   | A      | Arc.   | A      |
| " Com'l.....         | A      | Arc.   | A      | Arc.   | A      |
| King.....            | A      | E      | A      | E      | A      |
| " (8 cyl.).....      | A      | Arc.   | A      | Arc.   | A      |
| Kissel Kar.....      | A      | Arc.   | A      | Arc.   | A      |
| " Com'l.....         | A      | Arc.   | A      | Arc.   | A      |
| " (Model 48).....    | A      | Arc.   | A      | Arc.   | A      |
| Krit.....            | A      | A      | A      | A      | A      |
| Lozier.....          | A      | Arc.   | A      | Arc.   | A      |
| Marion.....          | A      | E      | A      | E      | A      |
| Marmont.....         | A      | Arc.   | A      | Arc.   | A      |
| Maxwell.....         | A      | Arc.   | A      | Arc.   | A      |
| Mets.....            | B      | Arc.   | A      | Arc.   | A      |
| Mitchell.....        | A      | Arc.   | A      | Arc.   | A      |

| MODEL OF            | 1911   | 1912   | 1913   | 1914   | 1915   |
|---------------------|--------|--------|--------|--------|--------|
| CARS                | Summer | Winter | Summer | Winter | Summer |
| Moline.....         | A      | Arc.   | A      | Arc.   | A      |
| " Knight.....       | A      | Arc.   | A      | Arc.   | A      |
| Moore (4 cyl.)..... | A      | Arc.   | A      | Arc.   | A      |
| " (6 cyl.).....     | A      | Arc.   | A      | Arc.   | A      |
| National.....       | A      | A      | A      | A      | A      |
| Oakland.....        | A      | Arc.   | A      | Arc.   | A      |
| Oldsmobile.....     | A      | Arc.   | A      | Arc.   | A      |
| Overland.....       | A      | Arc.   | A      | Arc.   | A      |
| Packard.....        | A      | Arc.   | A      | Arc.   | A      |
| Paige.....          | A      | Arc.   | A      | Arc.   | A      |
| " (6 cyl.).....     | A      | E      | A      | E      | A      |
| Pathfinder.....     | A      | Arc.   | A      | Arc.   | A      |
| Premier.....        | A      | Arc.   | A      | Arc.   | A      |
| Rambler.....        | A      | Arc.   | A      | Arc.   | A      |
| Regal.....          | A      | Arc.   | A      | Arc.   | A      |
| Reo.....            | A      | Arc.   | A      | Arc.   | A      |
| Saxon.....          | A      | Arc.   | A      | Arc.   | A      |
| Studebaker.....     | A      | Arc.   | A      | Arc.   | A      |
| Stutz.....          | A      | Arc.   | A      | Arc.   | A      |
| " (4 cyl.).....     | A      | Arc.   | A      | Arc.   | A      |
| " (6 cyl.).....     | A      | Arc.   | A      | Arc.   | A      |
| White.....          | A      | Arc.   | A      | Arc.   | A      |
| Winton.....         | A      | Arc.   | A      | Arc.   | A      |

| Model of Tractor                        | Summer | Winter |
|-----------------------------------------|--------|--------|
| Aultman-Taylor (4 cyl. horizontal)..... | A      | Arc.   |
| Avery.....                              | B      | A      |
| Best.....                               | B      | A      |
| Big Four (20).....                      | A      | Arc.   |
| Bull.....                               | A      | A      |
| Bulley (Model A1).....                  | A      | A      |
| Holt Caterpillar.....                   | A      | A      |
| C. O. D. (2 cyl. horizontal).....       | A      | Arc.   |
| Denning (Models B & C).....             | A      | A      |
| Eagle.....                              | A      | A      |
| E. B. Farm.....                         | A      | Arc.   |
| Emerson-Brantling's.....                | A      | A      |
| (Model L—Big 4-20).....                 | A      | A      |
| Fairbanks Morse.....                    | A      | Arc.   |
| Farquhar.....                           | A      | Arc.   |
| Flour City.....                         | A      | A      |
| " (Heavy Duty).....                     | B      | A      |
| Gray.....                               | A      | A      |
| Hackney Auto Plow.....                  | A      | A      |

| Model of Tractor                           | Summer | Winter |
|--------------------------------------------|--------|--------|
| Hart Parr.....                             | B      | A      |
| Heer.....                                  | A      | Arc.   |
| I. H. C. (2 cyl. horizontal).....          | A      | Arc.   |
| Imperial (40).....                         | B      | A      |
| Lambert (Model X).....                     | A      | Arc.   |
| Leader (Heavy Duty).....                   | A      | A      |
| Lion.....                                  | A      | A      |
| M. & M.....                                | A      | A      |
| Nichols & Shepard (2 cyl. horizontal)..... | A      | Arc.   |
| Ohio.....                                  | A      | Arc.   |
| Reeves (40).....                           | A      | A      |
| Rumely.....                                | A      | Arc.   |
| Russell.....                               | A      | Arc.   |
| Simplex (4 cyl. horizontal).....           | A      | Arc.   |
| Stite.....                                 | A      | A      |
| Twin City.....                             | A      | A      |
| Universal.....                             | A      | A      |
| (Models A & B).....                        | Arc.   | Arc.   |
| Wallis (Type D).....                       | A      | Arc.   |

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Your oil must meet the heat conditions in your engine. Many oils thin out too much in the cylinders. Three troubles result: (1) Compression escapes and power is lost. (2) The cylinder walls are exposed to friction. (3) Excess carbon is deposited. The oils specified below will prove efficient.

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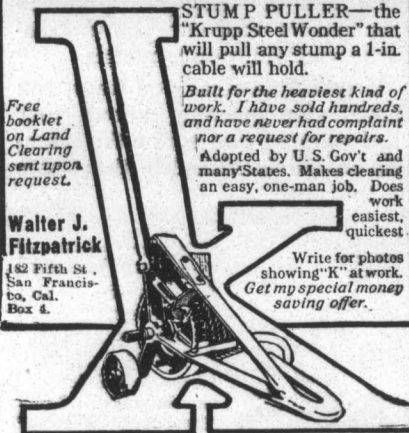
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The immense stump shown above—a fir 5 feet in diameter—was pulled by C. E. Prather, of 7431 Gatewood Ave., Seattle, Wash., with a "K" HAND-POWER STUMP PULLER—the "Krupp Steel Wonder" that will pull any stump a 1-in. cable will hold.



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## Experiments in Liming Soils

**N**EARLY all general farm crops are sensitive to an acid condition of the soil and will thrive much better if a certain amount of lime carbonate is present. As is well known some of these, particularly alfalfa, clover, blue grass, timothy, beans, beets, and others can scarcely be grown with success unless the soil contains a liberal amount of carbonates. A few plants, on the other hand, do better on an acid soil, such as blueberry, cranberry and the common sorrel. In practical farming such a great majority of the crops to be grown do better on well-limed soils that it is unprofitable to have the soil in an acid condition, provided only that limestone can be obtained at an economical price. The use of cover crops especially legumes, emphasizes the importance of lime in connection with fruit growing. Comparatively little data is available as to the direct effect of liming on the growth of various fruits, but in general it is known that the tendency of lime is to check excessive wood growth and promote fruitfulness.

Phenomenal results are often obtained from the practice of liming the land, and since it is such results that are most talked about, there is some danger that those just beginning the use of limestone may be led to expect too much from it. When attempting to grow certain crops, particularly alfalfa on acid soils the use of limestone as against using no lime quite frequently makes all the difference between a success and complete failure, and of course the value of liming in such cases can hardly be overestimated. In general practice the use of lime should be expected to produce results that are mild and lasting, rather than phenomenal and short-lived, and its use should be part of a systematic scheme for building up the soil in respect to its content of phosphorus, organic matter and lime carbonate and for improving its physical condition.

At the New Jersey Station one application of two tons per acre of ground limestone gave the following increases per acre of crops grown during a period of five years following: Of grains, corn gave an increase of 4.3 bushels; oats 4 bushels wheat 6.7 bushels; rye 8.0 bushels; of vegetables, potatoes were not increased, but beans gave a gain of 2.1 bushels; tomatoes 4,870 lbs; cucumbers 3,500 lbs; of forage crops, oats and peas gave an increase of 400 lbs. dry matter; vetch and rape 2,750 lbs; timothy and clover 690 lbs; rye and cowpeas 370 lbs.

Experiments by the Ohio station showed that lime does not take the place of other fertilizers or manures, but supplements them. Contrary to the generally accepted theory of its tendency to liberate potassium, it seldom has any practical effect of this kind. When the use of lime in any form is continued alone and no adequate provision is made for maintaining the supply of other fertilizers and organic matter, crop yields cannot be kept up, and the returns from the use of lime in such a system become less and may finally drop below that of land unlimed.

Because of the caustic properties and finely powdered condition of burned lime the theory has often been advanced that it is better to use than the limestone. There is no evidence, however, from any carefully conducted field test to show that this is ever the case. On the other hand, nine years of comparative trials in the field at the Ohio Agricultural Experiment Station, four years at the Tennessee station, 11 years at the Maryland station, elaborate experiments at the Rhode Island station, together with much other evidence from this and

from foreign countries, have shown that ground limestone gives at least as good results, and often better, than its equivalent in burned lime. These experiments cover soils of various types, containing much and little organic matter; and they deal with small, medium and large applications of lime and with nearly all general farm crops. These experiments entirely discredit the theory that burned lime is any more effective for soil improvement than its chemical equivalent of ground limestone. They show that ground limestone is likely to produce better results on the average than burned lime. Ground limestone is safer to use, since applied in almost any quantity at any time, it can have no injurious effect (excepting that it, as any material capable of neutralizing acidity, produces conditions more favorable to development of potato scab). Instances are on record, on the other hand, of positive injury to crops from the use of caustic lime. Ground limestone is so much more convenient to handle that this fact alone will usually lead the farmer to decide in its favor after he has once had experience in applying the two forms.

Washington, D. C. G. E. M.

Notwithstanding that the above data is based on the results at many experiment stations, there are cases in which caustic lime can be used to advantage. The writer had an experience two years ago in preparing a field for alfalfa where ground limestone was applied in the spring before sowing the alfalfa in July. The supply of ground limestone became exhausted before the entire field was covered and a wagon load of hydrated lime was purchased in the local market and used to finish out the field. The ground limestone was applied at the rate of two tons per acre and the hydrated lime at the rate of about 500 pounds per acre. In all other respects the soil was handled the same, yet good inoculation, and a good crop the first year after seeding was secured on that portion of the field on which hydrated lime had been applied, as well as on a small part of the field where ground limestone had been applied two or three years previous. The balance of this field, or that part to which the ground limestone had been applied did not become well inoculated until the following year and produced only a small growth of alfalfa the first year after seeding. The next season, however, there was no difference to be seen and there was no doubt that the application of ground limestone will suffice for a much longer period.

This experience indicates, however, that in cases where liming is done just before sowing alfalfa, it is better on an acid soil to apply some caustic lime in order to get early results. In liming a field the following year we used both the ground limestone and a small application of hydrated lime. Also where a farmer lives a long distance from the railroad station from which the ground limestone must be hauled, it may be more profitable to use hydrated lime or some form of caustic lime. As a general proposition, however, ground limestone is doubtless the most satisfactory amendment for acid soils.—Ed.

### CROP ROTATION RETURNS.

One plat at the North Dakota Experiment Station that has been in wheat for 15 years has produced 206 bushels. A similar plat that has been in corn one year followed by wheat three years, and so on throughout the 15 years, has produced 233½ bushels of wheat, while another plat on which the corn was manured and followed by three crops of wheat, produced 262½ bushels of wheat. The total re-

turns for the three plats were: For the first, \$109.39; for the second, \$170.30, and the third \$196.09 or nearly twice as much as from the first one. This is a fine demonstration of how the most simple rotation greatly increases the returns.

### MISTAKES IN TILE DRAINAGE.

**A**S the labor and expense of draining land with tile is considerable it is well to guard against certain errors quite likely to be made by the inexperienced.

In laying out a field for drainage the first consideration will be the grade, and if small tile are used more fall is required—at least one-half inch to the rod, although one may get along with less where the grade is kept quite regular. It is quite possible, however, to have too much fall, for a very rapid current tends to undermine the clay around the tile so as to get them out of place. The head of the drain needs more fall than elsewhere; otherwise it may fill up with dirt on account of the slow current and small volume of water. Place a stone at the head of drain, taking care to make all joints very tight for at least 15 or 20 feet from the head. Small flat stones, earthenware or thick glass are excellent for this purpose. An uneven grade is a stumbling block for most beginners and this alone may seriously impair the drain, even if it is all right in other respects. This makes the tile more liable to fill up while it is more difficult to make close fitting joints. This error can largely be overcome by using a small spirit level attached to a thin bar of iron about eight feet in length, three-sixteenths of an inch in thickness and about one inch wide. The level being placed in the middle of bar and laid on bottom of ditch to test the grade. The bar must be straight and the edges perfectly true. We have laid a good many rods of tile and have had excellent results in grading with this simple contrivance which does not cost over 35 cents at a hardware store.

Many tile drains are unsatisfactory for the simple reason that too small tile and not enough of them are used to drain the land. And right here we would emphasize the importance of making drainage systems so complete that they will drain the whole field. If one is to tile drain a ten-acre field there is one thing to be determined before any digging is done: Can it be done by a single system, that is, with one line of large tile with several lateral connections, or must there be several separate lines each having an outlet of its own? The former is the more desirable method; but can it be done? That is for the owner to determine and if in doubt he should consult an experienced man as the success of the job and economy of construction will depend on a wise decision. Be sure to drain the whole field; if part is tiled with one wet spot left this may stop operations in the field and delay in seeding be the result. It may not be necessary to tile the whole ground, but all the wet places should be. I would rather have one field thoroughly drained than have the same number of tile placed in several fields.

Another error commonly made is a poorly constructed outlet. If soft tile are used at this place instead of hard burned ones they will soon need replacing. The last tile may not be properly protected by walling around and filling up of outlet. If the outflow is into a creek or rivulet where there is a large volume of water in time of freshets it is better to have it enter at an acute angle instead of right angle as the latter tends to retard the flow, but with an acute angle directed down the stream the outcoming water will naturally be borne along with the current. The same principle holds

Ohio.

H. E. WHITE.



## Making Fall Pigs Profitable

I AM aware that with the many farmers, breeders and raisers of pigs there are those who claim that breeding and feeding fall pigs does not pay. There are reasons for such an opinion.

Where pigs are raised from inferior stock in a neglectful and indifferent manner, there are good reasons for the lack of profit. If the pigs are pinched for sufficient feed to enable them to grow while young, the habit of unthriftiness is fixed for a long time, if not for life and, of course, they will not pay a profit on the feed they consume. If, while young, the pigs are compelled to sleep, in the fall of the year, in a damp nest where draughts of cold air can strike them, and storms beat upon them, it is not to be wondered at if they are not healthy, strong and thrifty. If the pigs are compelled during stormy weather, to pick their feed, which may be entirely corn, from slush and mud, seek shelter wherever they can find it, we need not wonder if they make known their discomfort by vigorously squealing and chasing about the yard, and do not thrive and make good returns for what little food they are allowed to consume. Under such conditions about all a pig can eat is required to keep him alive.

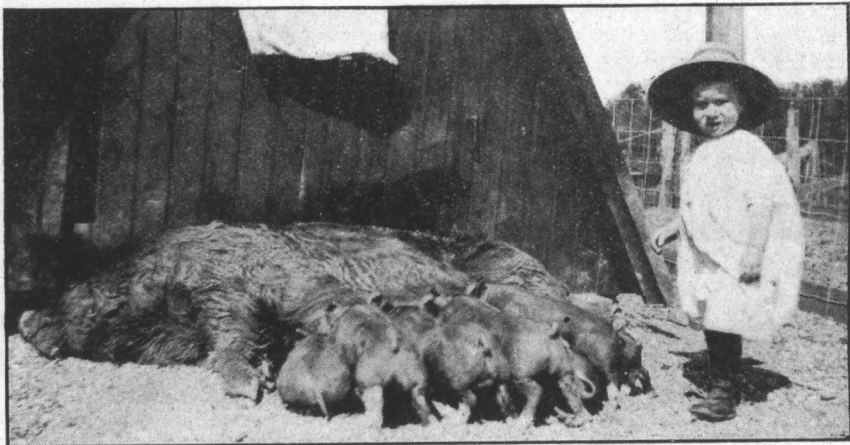
Among some pig raisers there has a system prevailed of allowing pigs to run with the herd until the mother tires of them, weans them and then they are compelled to shirk for them-

In the first place, good breeders and feeders are careful about the selection of the breeding stock from which they raise their pigs. The fundamental thrifty habit has been fixed in the ancestors and that desirable characteristic has become inherent.

In the second place, the breeding stock has been roaming in the pastures during the summer, have had an abundance of exercise to put them in proper condition to bring healthy pigs, and transmit to them strength and vigor. Good breeders see to it that the sows are not emaciated in flesh, or loaded with a superabundance of fat.

In the third place, the great variety of green feeds has put the sows in condition which will enable them to yield a large flow of milk, which will start the pigs along, filling them up and growing rapidly. Under such conditions the sow should not have a large amount of rich, heating feeds. The fall grass, together with a moderate amount of light feeds, such as wheat middlings and ground oats in slop given in moderate quantities, with a little corn, is all that will be required the first two weeks.

In the fourth place the weather conditions are generally ideal in October for saving and starting young pigs. The warm weather is such as to invite the little pigs to come out of the nest and play on the "soft carpet" of green grass, nip at it at will, and learn to eat it. This exercise by getting



The Pigs Can be Made to Weigh 50 Pounds Each at Weaning Time.

selves. Under such conditions, the larger hogs crowd for the best places at the trough, get the best places where grain is thrown out, and the pigs must take what they can secure by stealth and nimble movements to get out of the way of the larger hogs. Such a practice brings about a nervous disposition which makes them restless, ill-shaped and unthrift. Such pig raisers will fatten their hogs for market only as fast as they grow to the point when they can crowd the smaller ones back, get the bulk of the best feed, and, in course of time, become fat enough to kill. Those do not plan to market their hogs at any particular season, but sell when some of their hogs are fleshy enough to be accepted by the drovers.

Raised under the conditions described we need not wonder if fall pigs do not pay well. It would surprise us if they should pay, even part of the time. It is no wonder if there is a great percentage of losses by death in such cases. The practices are likely to bring about conditions among the pigs which will enable diseases to invade the premises and dwarf the young pigs, if it does not destroy them. Such conditions are the reasons why fall pigs do not pay some people.

More Humane and Profitable Methods. There are a good many breeders and pig raisers who look upon the fall of the year, especially during the month of October, as the ideal time in which to start the young pigs and secure good results. There are good reasons for the expectation of profits which I will try to describe.

out of the nest and basking in the sunshine, playing in the open air, is just the thing needed to promote the health of young pigs and at the same time avoid the many diseases that are likely to claim, as prey, the pigs reared under unfavorable conditions.

### Promoting Growth.

One of the first things to consider while the pigs are young and small, is means by which a rapid growth can be promoted. The more constant the growth the more rapid the gains in weight, and the better the quality the meat, the larger the percentage of lean meat, and the less it will cost to produce the gains.

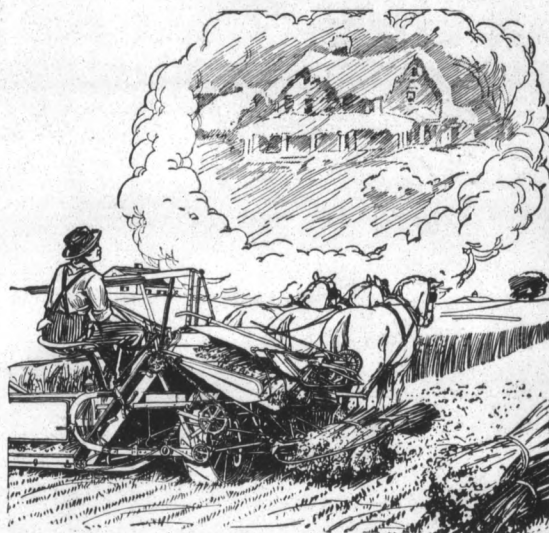
By the time pigs are three weeks old they will begin to look for feed of some kind and they should be furnished something to chank on. A little shelled corn thrown where the mother can pick it up, is a good beginning for the pigs will see her pick up the kernels and they will imitate her and learn to eat the corn. Take a little extra pains with them by putting a small and shallow trough in a creep where the sow can not get to it and fix up some unusually palatable sloppy feed and put in the trough and get the pigs to walk over to the trough, smell the feed, taste of it and learn to eat. I never found any better feed for this purpose than scalding a little fine wheat middlings, sweeten a little with say a tablespoonful of cheap molasses, mix with sweet milk and put in the trough while warm. As soon as the pigs come to the trough they smell the feed, taste and eat it greedily.

(Continued on page 351)

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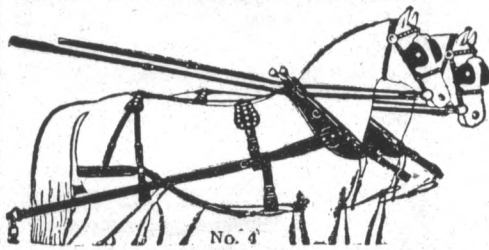
give the same excellent service year after year as long as the building stands and OLD homes are equipped just as easily as new ones. Thousands of farm homes already have IDEAL Boilers and AMERICAN Radiators. You will probably find them in some of your neighbors' homes—ask them. Call up the local dealer and get him to submit an estimate. This will not obligate you in any way.

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FILLING with concrete is suitable for small cavities in large trees, where no strain will be brought to bear on filling when tree bends and twists. It is also suited to treatment of "basal" cavities, that is, those occurring near the ground, where the tree bends little and where the drainage is good. It is not suited to large complicated cavities extending far up into the tree. In this method as in all the others, the work begins with the thorough excavation of all of the dead wood. This is a laborious process employing many different tools, such as gouges (mainly the inch and three-quarter size), augurs and hatchets. The edges of the mouth of the cavity are next attended to. They must be so shaped as to tend to retain the cement filling and must present a smooth edge against which to bring the surface of the cement. Then the interior of the cavity is thoroughly disinfected, say with carbolineum, and painted with one or more coats of tar or heavy pruning paint. Braces, if needed, are put in position. The tree is now ready for filling. The mixture used is rather rich, about three parts of bank gravel to one of Portland cement. It is mixed fairly dry as a rule so that it can be built up into the cavity and pressed into place. In the "wet method," however, some kind of dam is contrived in front of the cavity and a wet mixture, such as is used in ordinary cast concrete, is used. Concrete fillings are usually divided

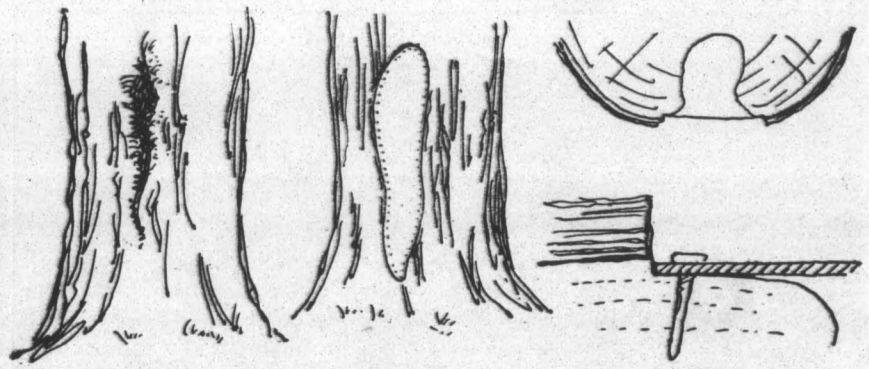
the oakum is reinforced with a few wires run through staples at the sides of the cavity and it is then painted thoroughly with asphalt cement. This method seems to be of much value, especially in New England, where oftentimes cavities have to be filled cheaply without excavating the rotten wood in order to prevent Gypsy moths.

A method of cavity treatment which has been used a long time is the covering of the mouth of the cavity with sheet metal, just as you would cover a knothole in a grain bin. This method is suitable for cavities with small openings, but is not suitable when the opening is so large that the mouth "opens and shuts" in a storm, for in that case the metal will be torn away from the nails which hold it.

Fairly heavy sheet zinc should be used in this work and never light roofing "tin" which is sheet iron washed with tin and quickly rusts out at the edges. The cavity is excavated and disinfected as for a filling of concrete, but the edges are cut with a special ledge, upon which the metal is nailed. The edge of the zinc is close to and just back of the cambium, so that the young callous will quickly cover the nailheads. The zinc should be painted. When a small hole is found in the center, when a large limb is cut off, zinc can be used to cover it.

### The Best Method of Treating Cavities.

Finally, there is the open system, in which no filling or covering is used.



Concrete Filling of Basal Cavity. Cross Section of Trunk. Enlarged Section Showing how Concrete is Kept Just Below Bark.

into horizontal sections by inserting a sheet of paper every ten or fifteen inches. This is done to control the formation of the inevitable cracks.

### Concrete for Filling Purposes.

When the filling is "roughed in" it is allowed to protrude farther than it is in the finished job. After the concrete has stood half a day and become firm, this excess is trimmed down with a trowel and the filling smoothed off. The surface of the filling must come just back of the cambium, the growing layer between the bark and the sap-wood, so that the callous which forms at that point will quickly seal the joint between the concrete and the wood. The final step in the process is the painting with tar, after the concrete has thoroughly hardened, of the surface of the filling.

Asphalt has been used in many different ways as a filling for cavities. It has the advantage over concrete in that it is much more like wood than concrete. Being elastic it binds instead of breaking when the tree sways and it does not draw water from the moist wood, as the cold concrete is liable to do. The asphalt can be mixed, when hot, with sand, for use in some types of cavity. It can also be used in combination with excelsior and sawdust to make a very economical and effective filling. Asphaltic cement, with a little oil added to prevent it from getting brittle in cold weather, can often be poured hot into split crotches, and is the best material for that purpose.

Quite recently oakum, the material used by ship-builders, has been suggested as a filling material. After being pressed into place the surface of

In this brief sketch of the treatment of cavities, enough has been said to illustrate the difficulty and expense which are involved, and to drive home in the same degree the importance of the preventive measures which make this laborious cavity work unnecessary. It is not often that farmers and orchardists will find it profitable to treat any but simple cavities and I recommend that they use the open system whenever possible. But every farmer and fruit grower should make himself master of and use constantly the methods of correct pruning, wound treatment, bracing and other measures I have described for the prevention of the decay and physical injury of trees. For the farmer, that is by far the most important part of tree repair.

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## Practical Science.

### PRESERVATION OF FOOD PRODUCTS.

BY FLOYD W. ROBISON.

#### Drying, Concentrating, Etc.

One of the old and well known methods of food preservation is the application of the principles of drying. This method of food preservation has been used for an indefinite period and is very commonly understood by many of the wild tribes. In fact, it may be said to ante-date civilization. When the American continent was discovered, the early explorers found this method in active use by the Indian tribes with which the continent was peopled. The principles of drying at that time were invoked in the main in the curing of meat products and in the preservation of certain vegetable products (such as tobacco. Meat, a product very prone to decomposition under ordinary circumstances becomes, when thoroughly dried, very resistant indeed to the agencies which promote decomposition. It is not strange that the wild nomads very early discovered this fact and made extensive use of it for their particular purposes. Even at the present time this is one of the most familiar and popular methods of preserving food products. We take dried beef, dried fish, dried apples, peaches, apricots, and the like, as very wholesome types of preserved foods.

#### Absence of Moisture Unfavorable to Bacteria.

The scientific principle underlying the preservation of food by drying is mainly conceived to be the creation of an unfavorable condition for micro-organism growth. Micro-organisms of all types require moisture in considerable abundance for their most favorable development and consequently to discourage their activity a most effective way is to remove the moisture from the food product. This same principle holds in the preservation of food products by concentration, although perhaps the introduction of other principles here materially affects the life activity of the organisms. A very efficient method of concentration of syrups is by prolonged boiling. Of course, the boiling itself destroys the organisms present but the same result may be accomplished by an evaporation of the syrup at a low temperature by which procedure the moisture is rapidly withdrawn from the product until quite a concentrated state is reached. Taking the case of a sugar syrup which has been concentrated to the point where the sugar is 50 per cent of the total weight, there is still sufficient amount of moisture to encourage the active growth of bacteria and other micro-organisms so undoubtedly we have the effect here of some other scientific principles, for a 50 per cent syrup will keep without spoilage for a very considerable period of time.

#### Concentrated Syrups Exert Very High Pressures.

What this other principle involved is has been somewhat disputed, but undoubtedly the principle of osmotic pressure enters in here to materially affect the life activity of many organisms which may be present. In plain language any organisms which may be existing in sugar concentrated to the extent of 50 per cent will live under exceedingly artificial condition. They must adapt themselves to a condition such as individuals would meet were they transported a great distance beneath the surface of the ground. For instance the pressure existing in a 50 per cent sugar solution would amount to an atmospheric pressure in the vicinity of 500 pounds per square inch.

If we take the types of organisms such as a mold or yeast, and attempt to propagate it under the pressure of 500 pounds to a square inch, we would find some considerable difficulty in getting the product to grow. So the absence of moisture and the creation of an artificial atmosphere of an exceedingly high pressure undoubtedly are two of the greater factors influencing the preservation of the food in a concentrated medium.

#### Molds Very Hard to Destroy.

Probably one of the most resistant types of organisms to all of the conditions which we have described, are the molds. They seem to develop in the comparative absence of moisture at times and on fairly well concentrated products. In some types of foods they are exceedingly destructive and very difficult of extermination. They will develop in a very cool atmosphere and frequent spoilage of vegetable products, particularly, can be laid to the activity of molds.

#### Fat a Good Preservative.

Still another method of the preservation of food products, particularly meat food products, is by interposing next to the meat itself a layer of animal or vegetable fat. Fat products are practically destitute of moisture. Absolutely pure fat will not observe more than about 0.3 per cent of moisture and consequently bacterial action or the action of other micro-organisms of the ordinary type attack fatty products very slowly. When, therefore, all of these matters are taken into consideration and the destruction of the micro-organisms present is accomplished by the aid of heat the types of food preservation known as concentration, evaporation, dessication (in the case of eggs) and ordinary drying will be found to be very effective and very desirable types of food preservation.

### CATALOG NOTICES.

"The Loudon Barn Bulletin," published by the Loudon Machinery Co., Fairfield, Iowa, is a 32-page illustrated booklet showing plans and equipment for barns, hog houses and other farm buildings, with bill of material and estimates of cost on different types. This booklet will be a valuable aid in the securing of economy and efficiency in barn building. Write for a copy, mentioning the Michigan Farmer.

"Feeding Poultry for Profit," is the title of a 32-page free booklet published by Edwards & Loomis Co., Chicago, Ill. Six well known authorities collaborated in the writing of this booklet, which will be of value to any poultry raiser. Write for a copy, mentioning this paper.

The Majestic Manufacturing Co., of St. Louis, Mo., manufacturers of the great Majestic range, awarded a gold medal at the Panama Pacific International Exposition, will send literature describing their ranges upon request from readers of the Michigan Farmer.

"How to Run the Gas Engine," a hand-book for engine owners, traction-eers and motorists, by Lawrence St. John, is a 64-page booklet published by the Manhattan Electrical Supply Co., of New York. This booklet has chapters on ignition, compression, carburetion, lubrication, cooling, etc., and sells at 50 cents per copy. The above named company will, however, send a free copy to Michigan Farmer readers who will send dealers' names.

The Iron Crib & Bin Co., Wooster, Ohio, will send literature describing the Marshall Iron corn cribs and grain bins, the manufacture of which is their specialty. Write for circulars describing their different types and sizes of rat-proof cribs and grain bins.

"Mileage Talks" is the title of a handsomely illustrated booklet published by the Firestone Tire & Rubber Co., Akron, Ohio, sent upon request to Michigan Farmer readers. It contains information of value to tire users and describes the methods of manufacture and the product of this well known company.

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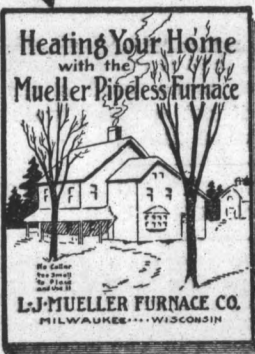
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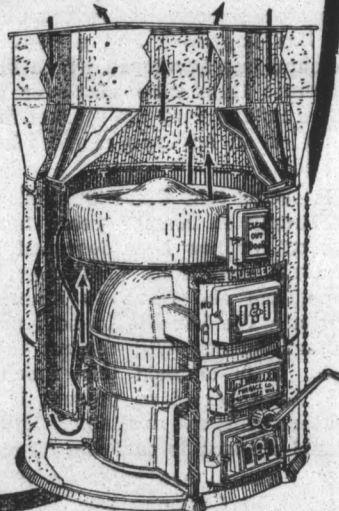
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# Magazine Section

LITERATURE  
POETRY  
HISTORY and  
INFORMATION

**MICHIGAN FARMER**  
AND **LIVE STOCK**  
PUBLISHED WEEKLY.  
**JOURNAL**  
ESTABLISHED 1843.

The FARM BOY  
and GIRL  
SCIENTIFIC and  
MECHANICAL

This Magazine Section forms a part of our paper every week. Every article is written especially for it, and does not appear elsewhere.

**T**HERE!" said the mother, as she rose to her feet. "It looks mighty pretty!"

"It certainly does," Anne agreed, as she surveyed herself with naive satisfaction in the inadequate mirror.

The rosy ribbon, pinned about her waist, fell in long streamers over her dark serge skirt. The effect was somewhat startling, but Anne and her mother had no doubts. They were far away from the subtleties of metropolitan fashion, they liked plenty of color.

A coarse straw hat with a pink rose

## Little Anne in the City

By TEMPLE BAILEY

was set on Anne's sunburnt hair. Beneath it the girl's eyes looked out eagerly.

"Oh, mother," she breathed, "I'm glad David's goin' to drive me to the station! He ain't never seen me look like this!"

"Well, you needn't worry," her mother teased. "He'd think you was

all right if you hadn't nothing on but your old blue gingham. He looks at you as if you was a red apple, and he'd like to eat you."

"Hush!"

The rattle of wheels outside took them to the front door—Anne walking a little stiffly in the closeness of her new suit, Mrs. Stubbs' shuffling in old

slippers and the freedom of a loose wrapper.

"Dave," said the older woman, as the mud-spattered buggy stopped at the step, "you are early enough. You will have to wait when you get to the station."

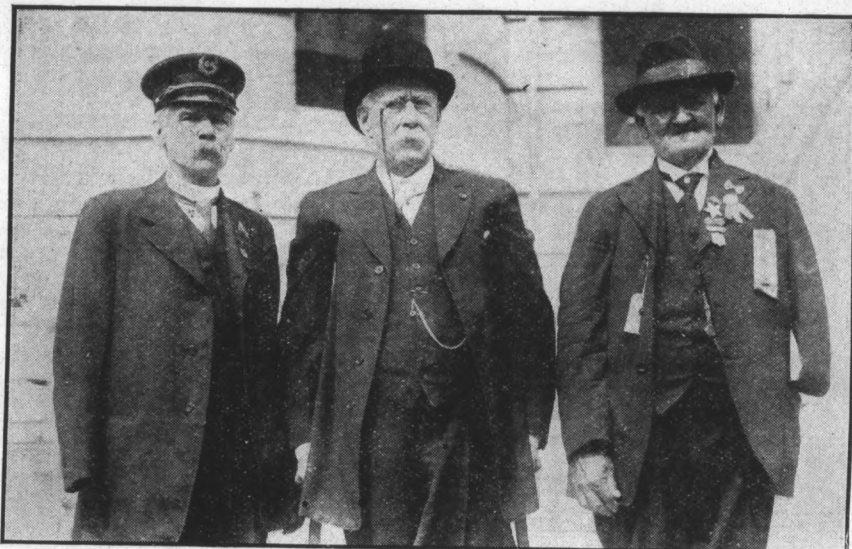
"I didn't want to miss the train," the boy explained.

But there was another reason for his promptness. When they had left behind the half-dozen tow-headed youngsters who waved at them from the front gate, and the big man who

## WORLD EVENTS IN PICTURES



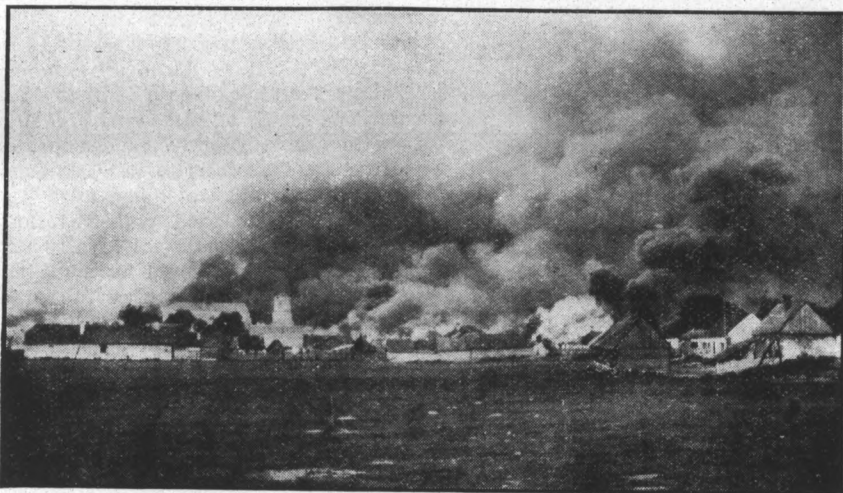
Robt. Burns Crosses Continent Afoot in Eighty Days, a New Record.



Each of the Above G. A. R. Men Gave a Limb for his Country's Cause Back in '61. Photo Taken at Encampment in Washington.



Dr. Cox, of New York, Invents a Pocket Wireless Telegraph.



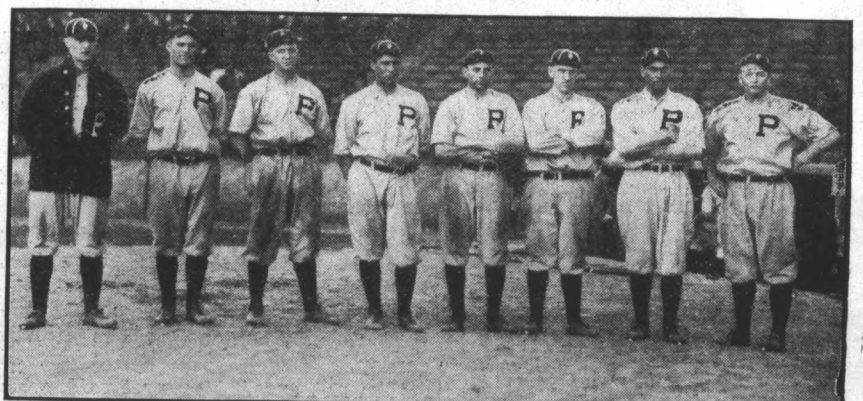
Russian Village Burning After the Retreat of the Czar's Forces from Brest-Litovsk During the Recent German Drive.



The World's Fastest Trotter, Uhlan, Having a Record of a Mile in One Minute and Fifty-four and One-half Seconds.



The Boston Red Sox, Champions of the American League, who Won by a Narrow Margin over the Detroit Tigers.



The Pitching Staff of the Philadelphia National League Team which Won the Pennant in the National Association for 1915.





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hallowed from the field—when they were beyond the sights and sounds of the farm, and had come upon the quiet of the forest road, he let his nerve walk.

"Anne," he began, and stopped.

Her glance met his, and she laughed nervously.

"Look here!" He hesitated. "Look here, Anne."

"I'm lookin'," was her tremulous repartee.

"Look here, ain't you goin' to let me kiss you good-by?"

"Here?" The great trees bending above the road made for them a sanctuary of love. "Here?" she whispered again.

"Yes. There's so many people at the station!"

"But I ain't never let you kiss me, Dave."

"You ain't never been away before."

"I know—but I'm comin' back in a week."

"Somethin' might happen. Let me kiss you, Anne."

He dropped the reins and the old horse stopped. The girl swayed toward him, and he took her in his arms. She was only a sunburnt mountain child, but her eyes shone like stars, her cheeks were as pink as the rose, her lips were warm and sweet. To him she was altogether lovely.

On the platform he warned her:

"Don't you fall in love with any of those city fellows!"

"Of course not," she laughed, conscious of her power.

"You won't?" he urged jealously.

But she gave him no further satisfaction than a coquettish—

"You'll see!"

At the city end of her journey she was met by Margaret Drake. Her father had supplied fresh eggs and butter to the Drakes for ten years, and it had been Margaret's whim to bring the little country maid to town and show her the sights.

Anne was half afraid of the luxury of the claret-colored cushions of the limousine, but she was more afraid of the dancing eyes of the young man who had come with Margaret. He was like a being from another world, with his soft, white hands, his smooth, fair skin.

"So this is our mountain rose," he said, and Anne blushed to the roots of her hair.

When they reached the big house, Margaret showed Anne to a room all pink and white and gold, and said:

"You can dress for dinner, dear, and then I'll come for you."

Anne gasped.

"I—I haven't any other dress," she stammered.

"Oh!" Margaret apologized. "I never thought of that. But—I have a white gown with a short waist—I could make it fit you, I think."

So it happened that when little Anne came into the dining-room that night she created something of a sensation. Margaret had looped up the rough locks with a bit of silver ribbon, and two curls bobbed over one ear and were caught by a white rose. The silken gown swept in folds about the tiny straight figure, and hid the awkward feet, while a chiffon scarf made a charitable place of concealment for the red hands.

The young man who had driven home with them came forward eagerly.

"Cinderella!" he murmured, laughing into Anne's startled eyes.

"Don't tease her, Mark," Margaret protested, with a perceptible note of irritation in her voice.

"Is he your beau?" Anne asked her friend eagerly, as they sat together, later, in a dim corner of the library.

The men were smoking on the balcony, which overlooked the Italian garden.

"I'm not sure," Margaret said, with a catch in her voice. "We are not engaged, if you mean that."

"Has he ever kissed you?" Anne demanded.

Out of a long silence, Margaret whispered:

"If he had, what then?"

"Because that would show that he wants to marry you. Dave kissed me this morning on the mountain—and that means that I'm his!"

"You dear!" Margaret said quickly, and then turned the subject to other things.

But that night, when little Anne was in bed in the pink and white room, Margaret came in, looking very beautiful, with her long braids framing the white oval of her face, and hanging dark and glossy against the silken folds of her scarlet gown.

"Tell me about Dave," she commanded.

It was a simple little tale, but it breathed of youth and love.

"And when you marry him," Margaret brooded, "you will live up there on the mountain, and take care of your babies, and wash and scrub for the rest of your days!"

"Well, that's just what mother did,"

was little Anne's easy philosophy, "and she's mighty happy."

Remembering the wholesome radiance of Mrs. Stubbs, Margaret was forced to acquiesce.

"I believe she is, and she has raised ten of you."

"Eleven," little Anne corrected, "with the new baby."

"Mark wants to marry me," Margaret said slowly. "He asked me to-night, after you came up."

Little Anne sat up in bed.

"Then it's all settled?"

"No, it isn't settled. I can't be sure of Mark. He knows that I have money, and that father has influence, and he is an ambitious young lawyer. Oh, little Anne"—she threw herself down beside the wondering child—"I am afraid it is not love he gives me!"

Little Anne, puzzled by complexities which had never disturbed her pellucid mind, reiterated:

"He wouldn't have asked you if he didn't love you."

In spite of her doubts Margaret was comforted by that simple faith.

Next evening, little Anne again wore the white gown. After dinner she sat alone on the balcony with Mark, while Margaret played for them. Below the balcony the garden was asleep under a silver moon. From beyond the stone walls came the soft night-sounds of the city streets.

"Do you like it here, little Anne?" Mark asked.

"I like it, but I miss mother and Dave," she told him.

"Dave?"

"I'm goin' to marry him."

"You're much too pretty to marry a countryman."

He threw his cigar away, and sat down on the marble coping which encircled the balcony. His change of position brought him just behind her, so that she had to turn to look up at him. He bent toward her suddenly.

"Such a waste of sweetness!" he murmured, and kissed the parted lips. She flung him from her, and stood very still and silent in the white moonlight.

"If you were up on the mountain, Dave would surely kill you for that!" she said at last, and he shrank from her primitive fierceness.

In the other room the music had stopped.

"Come here," Margaret called, "both of you!"

Anne went to her swiftly, like a bird flying to cover. Mark followed slowly. When they stood beside her, Margaret talked of plans for the next day—a matinee and dinner at Martin's or the opera and Russian dancers.

"You—you needn't plan for me," little Anne said. "I'm goin' home."

Margaret stared at her in amazement.

"You promised me a week."

"I'm sorry, but I've changed my

mind," little Anne insisted obstinately. "Mother needs me."

But that night she crept into Margaret's room.

"It's Dave I want," she confessed.

They clung together for a moment in the darkness; then Anne whispered:

"Don't you marry Mark, Margaret."

"Why not?" was the sharp demand.

"Because—oh," she whispered, with a shuddering sense of the secret she must not share, "wait till somebody loves you like Dave loves me, Margaret!"

The next day Dave, driving to the mail train, found more precious freight.

A soft rain fell on the mountain, and made the forest road a thing of moist fragrance and misty vistas. Dave drove the old horse to the place where he had stopped the morning of little Anne's departure. Then he let the reins drop, and held out his arms to his sweetheart. She yielded this time without resistance.

"I ain't ever goin' away from you again Dave!" Her face was hidden in his rough, wet coat. "I ain't ever goin' away again!"

He laughed with a triumphant sense of possession.

"I knew them city fellows couldn't take you from me," he said. Then, with a sudden savage certainty, he added: "I'd 'a' killed them if they had!"

## Value of Music

By W. Trub

MUSIC makes a greater appeal to the race than any other form of entertainment. It calls up on the finer emotions, it arouses the higher ideals of friendship, love and patriotism, and modern science is satisfied that music indirectly influences the body through the mind. Even to the allaying of bodily ills melody will do much, while the layman knows instances—many of them—where this refining medium has proven a balm to wounded spirits, a solace to those who mourn, a comfort to the lonely, and a real promoter of joy and happiness.

Such a display of merits is bound to affect the popular mind and as a result we today think of music as a necessity. And to give emphasis to this conclusion provision is made in the home for it. Children are slighted if their training does not include a course in music of some sort and it is rare to find a public organization, or institution, that fails to use this form of entertainment to keep alive the spirit of brotherhood and fraternity and to stimulate national loyalty and patriotism. If we could by some act of magic rob civilization of the capacity to produce and enjoy music we would leave very little that would make life worth the living.

In 1785 Thomas Jefferson wrote from Paris to his friend Bellin, the following, giving his appreciation of music: "It is an enjoyment, the deprivation of which, with us, cannot be calculated. I am almost ready to say, it is the only thing which from my heart I envy them (the French), and which, in spite of all the authority of the Dacalogue, I do covet."

We are living in a most fortunate age so far as the generous benefits of music are concerned, since modern inventions have made it possible for all to enjoy the very best musical efforts regardless of the fact of having a member of the family, or a friend who is accomplished. Never before was music so popular as today. The best work of the masters and artists may be found in the humblest cottage, there to ease the load of labor and responsibility, to give pleasure and joy and to arouse and develop the musical instinct in growing children.

High-class phonographs may now be secured at so low a cost that every

(Continued on page 340).



## DECIDING FOR FARM LIFE.

(Continued from First Page).

Michigan average about ninety-seven bushels per acre. Last year the potato club boys averaged 246 bushels per acre. The club organization for each state is in the hands of a state leader. This person co-operates with the rural schools, the granges, the farmers' institutes, the county Y. M. C. A., the banks and with every other agency which has rural welfare at heart. While this work is too new for a final judgment as to its merits it is not too early to begin applying a few tests.

The state leader in charge of club work for the state of Michigan conceived the idea of bringing a representative number of these club boys to the Agricultural College, not merely for a sightseeing trip but for the purpose of answering a few queries about this phase of the new rural education. He planned for these boys a ten days' school and camp which was intended to bring them into a new relationship with agriculture as a whole. He also wanted to determine whether or not the farmers of the state had reached the point where they were willing to allow their boys to get this sort of a vacation. And he wanted to know if club work was making an impression upon their lives.

Thirty-nine boys came. They represented twenty-one counties. Some of them were county prize-winners and

to rural school facilities. Each boy took notes and was urged to teach these new games in his home community. The regular college tank was used for swimming lessons and every boy learned to swim during his stay.

In this manner these farm boys were brought into direct contact with the fountain-head of progressive agriculture in their state. They talked and walked with college professors in the very shadow of the first building devoted to agricultural education in the United States. They observed modern practices in the college barns and on the college farm. And the examination which they wrote at the close of the camp indicated that many of them had gotten a new vision of agriculture and farm life.

Each evening about the camp fire these farm boys would open up their lives to their comrades and leaders. Real and vital problems were discussed in an intimate fashion. And then, one evening they talked about what they wanted to be when they grew up. It resembled in many ways an old-fashioned religious experience meeting with the exception that there was nothing of the emotional about it. Each boy told what he liked and what he did not like about farm life. That night, looking into the future through the flickerings of the camp fire, thirty-two of these farm boys made one of the most, if not the most, important decision which a man or a boy is call-



Much of the Monotony of Country Life would Disappear if the Boys and Girls Knew how to Play Organized Games.

some of them were unsuccessful contestants. They left their farms for a ten-day period which happened to come in the midst of the haying season. During their stay at the College the boys lived in tents which were erected on the banks of the small river which runs through the College farm. Each day they went through the following program:

- 6:00 a. m.—Rising time.
- 6:10 a. m.—Morning exercises.
- 6:30 a. m.—Breakfast.
- 7:30 a. m.—Camp duties.
- 8:00 a. m.—Nature study and agriculture.
- 12:00 a. m.—Dinner.
- 1:30 p. m.—Camp duties.
- 2:00 p. m.—Recreational talks.
- 3:00 p. m.—Games.
- 4:30 p. m.—Swimming.
- 6:00 p. m.—Supper.
- 7:30 p. m.—Camp fire.
- 9:00 p. m.—Taps.

Four hours each morning were given over to observation courses in nature study and agriculture. The following subjects were covered in this course: Birds, trees, weeds, bacteriology, poultry, farm crops, farm animals, farm practice and dairying. The camp was divided into two sections and each section was continuously in charge of a camp leader. The camp leaders were chosen because of their ability to work with boys and all of them were teachers of agriculture in various high schools about the state.

The afternoons were devoted entirely to games and recreation. Dr. Henry S. Curtis, the national authority on rural recreation, lectured to the school each afternoon. This was followed by actual play demonstrations. Emphasis was placed on such games as are adapted to the rural community and

ed upon to make. They decided upon the vocation which they would take up as their life work. Eight of them had decided to become engineers, bankers, teachers, business men or musicians, and twenty-four of them had decided to become farmers. In some manner this seventy-five per cent had been inspired with the future of agriculture and they made their decisions for farm life.

Could such a result have been expected ten or twenty years ago? Experience says no. For at that time farming had not yet made its challenge to the farm boy. The agricultural club with its challenge to the intellect as well as the muscles had not been born; and agriculture had not yet wedged itself into the rural school system. And the Department of Agriculture and the various colleges of agriculture had not extended their influence beyond the printed book or bulletin and the few students who sat in the halls of learning.

## A LITTLE WISDOM.

Today is the tomorrow you worried about yesterday.

A ray of sunshine has the right to penetrate anywhere.

An overcrowded mind—like an overcrowded workshop—kills the efficiency of the production.

As it is characteristic of great wits to say much in a few words, so it is of small wits to talk much and say nothing.

Every pound of wisdom requires sixteen ounces of some sort of study, either study of books or study of experience.

—T. G. Morris.



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I NEVER knew that ants lived in a city," said Billy Be By Bo Bum. "Where is it Tinker?"

"Deep under ground," replied Tinker Teedle Tee, "but you have often seen the gate that leads down to it, only you thought it was nothing but an 'ant hole.' Now how would you like to take a journey to Antland and see for yourself how the Little People live in their underground city."

"Oh, I would like it very much indeed," replied Billy. "But how in the world can a big boy like me get into an ant hole?"

"You just leave that to me," answered Tinker Teedle Tee. "An elf knows lots of secrets and ways of doing things that they don't teach you in school. But first we must hunt up my old friend Jack-in-the-Pulpit and get him to give us some fairy dust so I can work a little magic. Come on, Billy Boy, we'll go hunt up the old fellow and then I'll have you in Antland almost before you can say Jack Robinson," and the merry little elf spread his wings and darted into a clump of bushes.

I'm Tinker Teedle Tee  
And if you'll follow me,  
I'll show you lots of fun.  
We will go with the ants  
To their home underground  
And see how their city is run.  
sang the merry little elf as he scurried through the bushes in search of Jack-in-the-Pulpit.

"Here we are," shouted Tinker a few minutes later, and sure enough,

## Land O' Nod Stories.

By HOWARD T. KNAPP.

### Tinker Works Some Magic.

tucked away almost out of sight under a bush, Billy saw Jack-in-the-Pulpit nodding his head in welcome.

"Good morning Jack," said Tinker Teedle Tee, but the flower nodded its head harder than ever. So Tinker climbed up the stalk and, standing on the edge of the purple pulpit whispered something to the little yellow flower inside. Of course, Billy could not hear what Tinker said, but Jack must have understood, for he nodded his yellow heat at a great rate. In fact, he nodded so hard that a cloud of golden dust floated down from his head onto the edge of the pulpit.

"Thank you Jack, that is just what we wanted. I'll do you a good turn one of these fine days, see if I don't," said the elf as he dropped to his knees and carefully brushed up the golden dust and tied it up in his tiny handkerchief. Then he spread his wings and darted off through the bushes. Billy followed as fast as he could, and in two jerks of a lamb's tail they were back again under the old apple tree where the ants were still feasting on Billy's cookie.

"Now then, Billy Be By Bo Bum, I'll

show you a trick with a hole in it," said Tinker as he took off the weeny copper kettle he wore for a hat. "But first I must get some fairy water with which to mix my magic brew," and he ran to a big bluebell and shook the slender stalk so hard that several drops of dew rolled out of the flower's heart and splashed into the copper kettle. Tinker ran to another bluebell and did the same thing and kept it up until his hat was filled to the brim with clear, sparkling dew.

"Ho, little glow worms, lend me your fire," shouted Tinker as he hung the kettle up on a twig, and would you believe it, a dozen fat, shiny glow-worms crawled out of the grass and piled themselves under the kettle, where they glowed so brightly that it looked for all the world as though the pot was resting on a bed of hot coals, and in a jiffy the dew was boiling. Then Tinker dumped in the fairy dust he had got from Jack-in-the-Pulpit and stirred it up with a tiny black wand he pulled from the pocket of his coat.

"Thank you, kind glow-worms, that will do very nicely," said Tinker when the magic brew had boiled several

minutes, and the fire crawled away through the grass.

"Now, Billy Be By Bo Bum, drink this cup of fairy tea, and be sure you don't leave a single drop," said the elf.

So Billy picked up the kettle and drained it at one swallow, and it wasn't a very big swallow either, for the kettle didn't hold as much as his mother's thimble. And as he drained the last drop, a wonderful thing happened, and I'll tell you all about it next week.

#### THE VALUE OF MUSIC.

(Continued from page 338).

farm home in particular is, or will soon be, supplied with an abundance of music suited to the taste of the inmates. In the past farm folks have lacked to some degree its refining influence but today they are enjoying the same quality as the city people are privileged to listen to. There was a hungering and thirsting for good music and when the opportunity offered to satisfy those desires it was graciously and quickly taken advantage of.

The couplet from Wordsworth which runs:

"The music in my heart I bore  
Long after it was heard no more."

Indicates how the great writer felt the power of music within when the instrument had long been silenced. And Auerbach testifies that, "Music washes away from the soul the dust of everyday life."

JOHN G. was a truck farmer just outside a good sized town. He wished to earn some immediate cash for taxes during the last two weeks in February, before the spring plowing began. He decided to collect garbage. The civic improvement club had for years employed the city teams and drivers, mapped out the city, the daily papers warned everybody to put the garbage out on the sidewalk ready for the collectors. The junk sold from the city clean-up kept a good sized fund in the treasury for improvements but that was not until May or June.

When G. drove up with his big team and wagon and asked at the back door for garbage many women simply indicated where it was and told him to take it. He took from one to seven or eight boxes or sacks at each place, in each instance asking fifty cents for "the time and trouble." The first week from the fees and the sale of junk he made ninety dollars. The second week he made a hundred and twenty dollars.

This year increased taxes and a sick wife made him thank God for this chance to earn some more extra cash. He went over the same route. He earned four dollars in two desperate, discouraging weeks. He complained to me, "the women have the garbage but they won't let me have it—said the Civic Improvement Club collected it for nothing."

I replied that that was true. "The club pays \$4.00 per day for each team and driver. Last year you made, in the first week, nearly twice what it cost the club to clean up the entire city. I heard several women say you asked them fifty cents for 'your time and trouble.' For one you carried away two sacks of junk, for another a box of bottles, an old range, a heater, a sackful of tins, the winter's accumulation of rubbers, all of which, except the tins, you sold; for another, four sacks of stuff and she gave you a discarded wardrobe which you said your wife could use for her canned fruit. You asked in each case just as much again as any drayman in the town would have asked. You probably took rubbish from, say, twenty houses per day—that makes a wage of ten dollars, which few skilled workmen in the whole world make."

"Well," he argued, "not a woman of

## Why Pin-Money Schemes Fail

By GOLDIE ROBERTSON FUNK

'em objected when I said it would be fifty cents."

"No," I replied, "they're doing their objecting now. You don't often 'do' the same person twice."

An elderly woman who does beautiful hand work for herself told me since her husband's salary had been lowered she'd tried to think of some way she might make some pin money. I'd seen some of her buttonholed scallops and initials on towels. I asked her what she would do a dozen for me for? She thought a moment and named a price ten cents higher per towel than any of our church societies, to one of which she belongs, would have per yard for buttonholing and per inch asked. (They have a uniform price per yard for buttonholing and per inch for initials). I gave her a dozen to do at her price. Later I took her four dozen napkins to initial and six dozen towels to scallop and initial, work which I had asked my friends to give her, when to my surprise she turned the whole thing down because she felt she ought to have five cents more per initial "because she did such careful work!" The work was finally distributed among the church societies, every one of which does "such beautiful work," but for fifteen cents per towel less than the elderly lady, whose time was her only asset.

Mrs. L. solicited the children's sewing in a certain family where the mother always had a two-dollar-a-day dressmaker come to the house twice per year to make and mend. Mrs. L. was tried on several simple garments. The work was not satisfactory and Mrs. L. did not offer to correct it, and besides, she suggested a price for her work that would have made it come at the rate of three dollars per day. The mother of this family is convinced that an expert is cheaper than one not accustomed to measuring work for money, and Mrs. L. thinks sewing for others doesn't pay. The expert in this case has earned a house and lot and has for years taken care of herself and her parents with her scissors and needle.

Another woman went into the chicken business. Through a number of people I heard she never made a sale of

chicks or eggs or live dressed chickens, but that she complained of the market price, hinting that she ought to have a little more for hers than "what you could get at the stores" because hers were "so fresh." The markets were full of fresh eggs, healthy chicks and fat, well-cleaned poultry. She said she might better pack or eat her stuff than sell at the market prices. In the third year she closed out her business and could not now be convinced that there's money in the chicken business.

In striking contrast are the two sisters living in Tacoma, who a year ago went round the world on the proceeds from their always perfect angel food and sunshine cakes, whose reasonable prices changed only as the price of eggs changed. The woman who in two seasons built up a trade in canning string beans until this year she is already swamped with orders and divided with a neighbor. She guarantees and asks a reasonable price for her work. The other day she told me she had only to replace six cans last year out of seven hundred quarts which she put up to order.

Another farm woman took orders for canning home-grown tomatoes. She screened her entire house—fourteen full length windows, three doors, and front and back porches, with the proceeds from last year's work. This year she has doubled her orders from her old customers. She, too, guarantees her work.

I know a school girl who has by faithful work and a reasonable price kept for three years the same customers for family mending. A city girl who is artistic spends her leisure moments making original place-cards for special days. She keeps a supply ahead and about five weeks before the special day she calls up different society women till she has disposed of all and taken orders for other kinds. This is her sixth year and she has not lost a customer because she is determined to please her customers. She keeps her prices at a point that gives her just a reasonable profit.

A certain Connecticut woman buys pasteboard boxes today by the thousand for her doughnut trade. She

makes a delectable doughnut, a trifle larger than ordinary, wraps each in thin paraffin paper, puts twelve in a box and sells the whole for twenty cents. Three New York restaurants take her entire product, paying all shipping charges. This enormous trade resulted from one of the men, by chance, eating one of her doughnuts while on business in her town. I have seen the product of her hot-fat pots taken away by the wagon load. Her doughnuts have never ceased to be the same toothsome, home-made, overfull weight articles that first took the restaurant man's taste.

I might go on indefinitely, for I've watched this pin-money making from a shifting residence in nearly every state in the Union. I've conned pages of household journals giving careful records of tried schemes, and I've furnished accounts of dozens of them myself, and I've not begun to exhaust the ways and means I've seen tried successfully.

The pin-money maker too often overcharges, that is, charges more than a professional, more than the market prices, or does not furnish a perfect result in exchange for the money he expects to receive. A pin-money scheme that works once will work again if the would-be maker gives value received.

#### BOOK NOTICES.

Audel's Automobile Guide, with questions, answers and illustrations for owners, operators and repair men, relating to the parts, operation, care, management, road driving, repair, etc., of the automobile, including chapters on electrical equipment and an appendix on self-starters and lighters, is a book of over 500 pages, four by six inches in size, with flexible leather covers. It is profusely illustrated and conveniently indexed, and is an invaluable book for automobile owners. It is written by Gideon Harris and associates and published by Theo. Audel & Co., 72 Fifth avenue, New York city. Price \$1.50. Order of Michigan Farmer.

"Beekeeping" is the title of a book on that subject by Everett Franklin Phillips, who is in charge of bee culture investigations for the U. S. Department of Agriculture. It takes up most thoroughly all of the phases of this most interesting industry and is of great value to those engaged in commercial production of honey as well as those interested in bees. It is published by The MacMillan Co., New York, contains 451 pages, is well illustrated, costs \$2, and can be ordered through the Michigan Farmer office.



## A Nutting Party

BY JANET THOMAS VAN OSDEL.

"There'll be nuts to crack  
And goodies to smack  
At Lou Cropley's shack  
On All Hallowe'en.  
Please come, for we mean  
To make our fun keen."

This was the invitation that Lou Cropley sent to her friends when she decided to have a Hallowe'en party without the ghosts and witches that had figured at every affair of the kind that she had ever given or attended.

On Hallowe'en night the rooms were decorated with brilliant autumn leaves and the lights glowed through shades made of leaves. A bright fire burned in the grate. As the guests entered each one was tagged with the name of a nut—"Hazel," "Almond," "Nigger Toe," "Hickory," and so on. Lou explained that they were thus christened for the evening. The boys who succeeded in calling the girls by their new names all through the evening would be rewarded at its close by a kiss from the girls themselves.

"Right before everybody?" asked Charley Reynolds, naively.

The girls were in the secret and readily agreed that they would do their part.

A doughnut contest was one of the first games of the evening. Strings run through ring doughnuts suspended them from a bar placed high up in the kitchen. The hands of the guests were tied behind them and thus each endeavored to eat his doughnut. The one who succeeded first received a prize of a box of candied nuts.

Then the party gathered around a table on which had been placed a pound of peanuts in the shell. A bottle of glue, pins, string, shears and toothpicks were brought and the guests were told to each make two animals from the peanuts. When all were finished they were arranged in a Noah's ark row and guesses were made as to what each animal was supposed to be.

Just before refreshments were served, the girls disappeared upstairs and the boys assembled in the hall below. Down upon their heads came an unexpected shower of nuts. Each, when he tried to pick up a nut, found that there was a string attached to it. Following up this clue, which led him a wild and merry chase, he at last came upon the girl who was destined to be his partner for supper.

The supper was simple, consisting of peanut butter sandwiches, cream cheese and pecan nut sandwiches, pineapple salad, doughnuts, nut layer cake, coffee and nut-filled bon-bons.

After supper the crowd went nut gathering in the attic. Chestnuts and English walnuts were hidden about in all sorts of out-of-the-way places. When everyone had found a goodly handful the company grouped themselves about the grate fire and Lou produced a toasting pan for the chestnuts. They were put in the pan by twos and named for a boy and a girl. When the two nuts separated it signified a quarrel between the lovers; if they approached one another after the separation, the quarrel was made up; if the nuts sizzled contentedly side by side, a quiet, happy married life was betokened. If one of the nuts burst, it prophesied a short life; if either one proved uneatable, it meant a worthless character; if unusually good to the taste, a good character was evidenced.

When somebody cracked an English walnut he discovered that it contained a written fortune instead of a nut meat. This led the others to quickly crack theirs and discover their fate.

As the evening drew to a close the boys teasingly reminded the girls what was due some of them. But the laugh was on the boys when each of the girls held out a handful of candy kisses and told them to help themselves.

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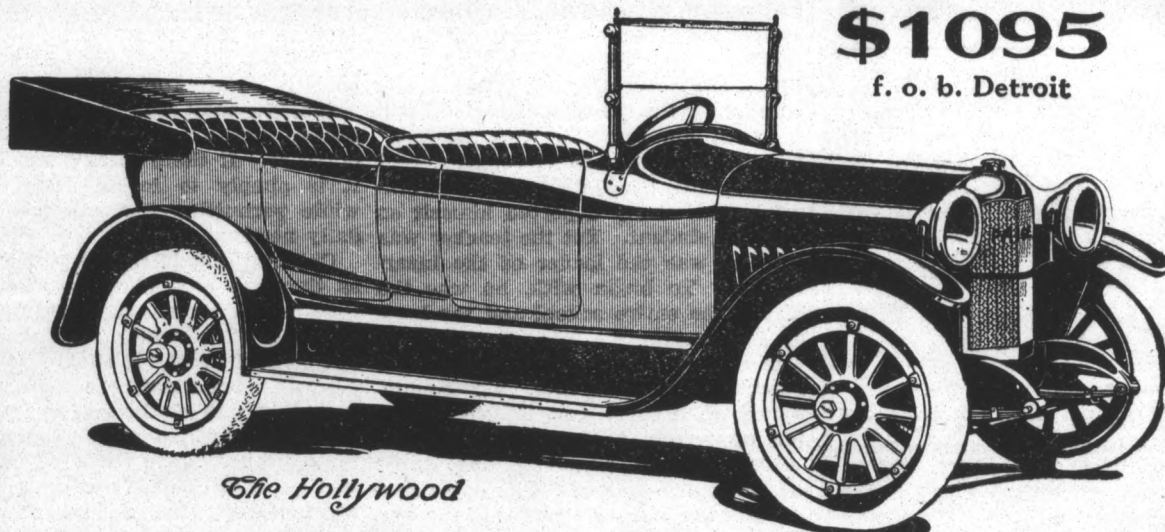
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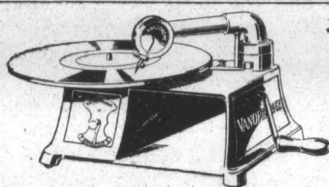
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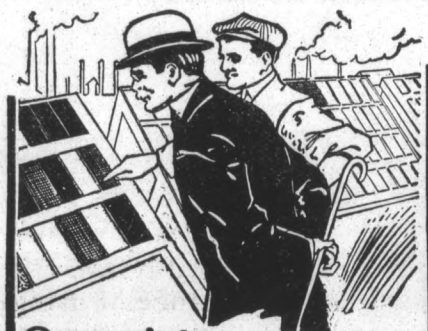
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Should Be Cleaned and Sterilized With  
20 Mule Team Borax.

The summer produces many enemies of baby's health. Flies, mosquitoes and insects. Keep the little fellow's bottle and nipple cleaned and sterilized by making a solution of Borax. A heaping tablespoonful of Borax to a quart of hot water is sufficient for the purpose. It not only cleanses thoroughly but removes germs and lessens the danger of disease. Borax will also be found valuable in cleansing baby's napkins, as it leaves them soft as well as thoroughly clean and fresh.

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## Trashy Books Produce Feeble Minds

THE school was in a state of near-insurrection. As yet there was no open rebellion, but Teacher and pupils were in a tense, strained attitude where all felt they were treading on a volcano. No one openly defied Teacher, but there was an air of tolerance about the pupils which seemed to say they did not break out simply because it was too much trouble, not at all because they respected the powers that ought to be. Paper wads whizzed about whenever the teacher's head was bent. Books were slammed noisily on desks, leaves flipped carelessly and with much rustling, boys and girls pushed each other in the aisles on the way to classes, and slouched indolently in their seats. The teacher was in despair. She felt discipline slipping away and made frantic efforts to catch it. Punishments and rewards alike had no effect. And as for putting the children on their honor, they apparently had never heard the word.

One boy only, outwardly showed any respect for the teacher. He alone still prefaced his remarks with "please," marched sedately to class, sat erect and intently eyed his books, and otherwise outwardly deputed himself as a model student. Yet the teacher was sure he was the leader of the insurrection. To begin with, he was the idol of the entire school and the leader in everything. Then his conduct was too near perfection, he was too innocent and lamblike, his countenance when some especially wretched bit of mischief was performed was altogether too angelic. And, most damning evidence of all, he could never look the teacher straight in the eye.

What could she do with him? There was never the slightest overt act for which she could punish him. He agreed readily with all her lectures on ethics and deportment, even suggested topics and pointed out crimes in others. He was simply perfect, the one saint in a fold of sinners, and it looked suspicious to teacher. Yet there seemed no way to reach him.

She ran over her own none too irreproachable childhood. What had most influenced her in that not very distant past when she was freckle-faced, giggling Mary Whitely, instead of Teacher? It wasn't the threat of staying after school or the promise of a prize. Staying in didn't hurt and the prizes were never anything you wanted anyway. What was it reached her and transformed her from the terror of the school into its model pupil? It was a story. Not a story where an impossible hero was unbelievably good and had a fortune left him to pay for it, but a story about a real bad boy who decided to be good just to see how it would feel to have folks say, "There goes the best boy in town," instead of, "There goes the worst boy." It was hard work for him, too, but he kept at it just because he felt better inside when he knew he'd done a good thing, and he didn't get any great reward for it either. His reward was the feeling of satisfaction he had because he was honest and square and reasonably kind.

Teacher tried the story. The Angel Boy begged for the book to read by himself. As Teacher read she watched him. He never took his eyes from her face. He was interested, enthralled. Here was a new idea, to be square just because it's the decent thing to do and you have some respect for

yourself. The Angel Boy got so he looked straight at teacher even when she wasn't reading. He became less obviously good. He quit frowning at the rest when they had lapses from grace. Better still, the whole atmosphere of the school changed. And the thing that accomplished the miracle was a story.

Parents often wonder why their children go contrary to all their preachments. They intend the boy for a doctor and he turns into a farmer. The girl is to be a teacher, and she insists on being a movie actress. They are brought up in sound orthodox churches, and they desert the faith as soon as they are old enough? Why? Largely because of what they have read. The printed word, especially if it is in story form, is far more powerful than the spoken. Because the spoken word is seldom forcefully delivered, never accompanied by a picture, as is the story.

And yet the average parent pays absolutely no attention to what the child reads. He may read anything or nothing, so far as most fathers and mothers care. If there is any supervision it is simply to forbid dime novels, while permitting the infinitely worse daily newspapers.

Children should be read to as soon as they are able to comprehend, and read for themselves as quickly as they are able. And their reading should not be haphazard. It should be selected with even more care than you select food and clothing, for the mind grows by what it feeds on as surely as does the body. The mind fed on trash will produce a sickly character, just as the body fed on slops will be delicate.

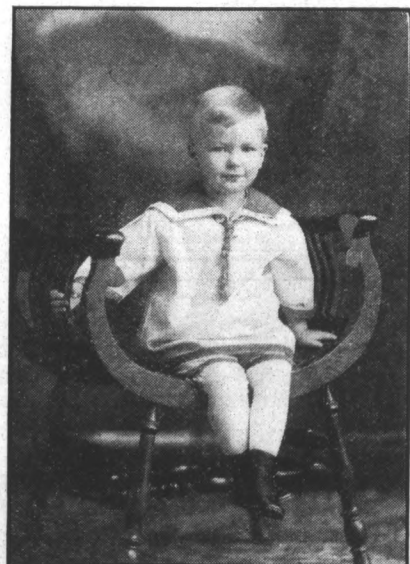
Give your children the best in literature, stories of real heroes, of travel, of caution, the best in poetry and in fiction and you need worry little about the characters they will form.

DEBORAH.

### BABY'S PICTURES.

BY L. M. THORNTON.

When you have my picture taken, remember that although I am just a baby now, by and by I shall grow up to be a man, shall marry probably and have little boys of my own perhaps.



Childhood Pictures Increase in Value.

Then in the family album we will want my picture as I looked when a baby, but the very fact that I have grown away from you will make the little likeness in my first pants the

more cherished and you will cling to it even though you may feel that it ought to be mine.

Now is the time to guard against heart aches for both of us in the future, and whenever you have my picture taken, before supplying aunts and cousins and a score of friends, and the neighbors who say, "How cute he is," and the milk man who brought me flowers in the summer and apples in the fall, and the dear gushing acquaintance who says, "Now you really must give me one to set on the piano," put away a picture for yourself and one for me.

If I have little brothers and sisters save one picture for every child in the group taken as well as your own. It may necessitate giving a larger order than you otherwise would, it may mean denying some friends who would be glad of the little gift, but it's the only fair and honorable thing to do, in the opinion of Baby.

### KEEPING FRUIT JUICES.

BY C. H. CHESLEY.

Many people have considerable trouble in keeping cider and fruit juices sweet and unfermented. It is not a difficult thing to do, however, and no chemicals are necessary. Here is a method that never fails to keep the products perfectly. The unfermented liquid is placed in an enameledware or earthenware kettle and the temperature then slowly raised almost to the boiling point. If a thermometer is available, note that the temperature should not be allowed to go above 200 degrees. This means stopping the process at the simmering stage. The liquid must not boil.

To get a clear product allow it to stand over night and then strain through flannel. This removes all the sediment which settles as soon as heated. Repeat the process the next day and put the liquid in bottles and cork tightly. Bottles having the patent spring top are best. If these are not available put the juice in any kind of jar or bottle and seal with paraffin.

Sweet cider, grape juice, and all kinds of fruit juices, may be kept from fermenting and souring by this process. Many of the impurities of new cider are removed by sterilizing and straining.

### PLANT TULIP AND NARCISSUS BULBS FOR NEXT SPRING.

If you would have rich beds of tulip or give the beds or the corners of your lawns a beautiful spring-like yellow or white glow of narcissus, daffodil and jonquil, you must begin to think of the early spring appearance of your garden in the fall, for the bulbs of these two flowers must be planted in the fall before the ground is frozen. In fact, this work should be undertaken as soon as, or before, an early frost has begun to make the annual flowers in the beds look weakened. In dealing with narcissus, which is the family to which the daffodil and jonquil belong, it might be well to think of trying to naturalize the narcissus to grow and blossom on the lawn much as do the wild flowers. How to plant and handle the bulbs as well as the best method of getting them to become spring residents of grassy corners, are described in the following directions issued by the bulb specialists of the United States Department of Agriculture:

These bulbs should be planted in the light, rich soil that has been dug to a



depth of at least ten inches. The tulip bulbs should be set five inches apart and four inches deep and the narcissus bulbs about ten inches apart and five inches deep. If they are to be grown in pots or window boxes, light, rich soil should be used. Place one to two inches of cinders or broken pots in the bottoms of the pots or boxes to insure good drainage. After planting, place the pots or boxes out of doors and cover them with about four inches of ashes or sand; or they may be placed in a dark, cool room or cellar for a few weeks until the bulbs have formed a quantity of roots. They may then be brought into the light and heat for flowering. Keep the soil well moistened from time of planting, but avoid overmoistening, for if kept too wet the bulbs will decay.

If planted in beds, the surface of the soil should be loosened after each rain and the bed kept free from all weeds. In the late fall or early winter months it is well to cover the beds with a light mulch of straw or leaves to prevent injury to the young roots from the alternate freezing and thawing of the soil. This mulch should be gradually removed in spring, as soon as growth appears above the ground. The bulbs are quite hardy and are not injured by severe cold if the soil is well drained.

Tulip and narcissus plants are perennial, and if given proper care and grown under suitable soil and climatic conditions will increase and multiply from year to year. The bulbs may remain in the ground two or three years or until the clumps begin to crowd. After blossoming in the spring, from six to eight weeks should elapse to allow the foliage to die partially down, when the bulbs may be lifted with a spade or fork. Shake the soil from the roots and store the bulbs in a cool, shady place where they will ripen and cure. When the old leaves and roots are thoroughly dry they may be easily rubbed off and the clusters of bulbs divided. The bulbs may then be planted in the same manner as the original bulbs. In this way the stock may be increased in a few years.

The narcissus often becomes naturalized when planted in the sod or partial shade, where it will continue to grow, blossom and multiply for many years without further attention. Simply make a small hole in the soil five or six inches deep, insert the bulb pointed end up, press the soil over the top, and nature will do the rest. For naturalizing, avoid planting in rows or rigid geometrical figures. A good plan is to scatter the bulbs like seed and plant where they fall. This method of planting is extensively followed in the home grounds and parks of England and other countries in Europe. In portions of North Carolina, on large estates along the James river in Virginia, and in old gardens in New England, narcissuses that were planted over half a century ago are still growing vigorously and every spring produce beautiful displays of blossoms.

#### HOME QUERIES.

Household Editor:—Kindly tell me how to remove mildew from colored goods without injuring colors. Also, are raw potatoes harmful to the human system and in what way?—V. L. L.

To remove mildew, wet the spots in strong soapsuds and cover with a paste made of soap and powdered chalk, or chalk and salt. Put in strong sunlight for hours. If the mildew stains are old they will not come out. It is better not to eat any starchy vegetables raw, as the starch is much more easily digested after cooking.

Household Editor:—Will someone give a recipe for rye bread, without the use of any corn meal?—Mrs. W. S.

One pint of scalded milk, two tablespoons of butter, one tablespoon of sugar, two teaspoons of salt, one-half cake of compressed yeast, three-fourths cup of luke-warm water, three cups of white flour, three cups of rye.

Put yeast cake in water to dissolve, and butter, sugar, salt and milk in mixing bowl. When the milk is luke-warm, add yeast cake and make a sponge with the white flour. Let rise, add rye and knead. Let rise again and knead into loaves. Let rise again and bake about an hour and 15 minutes in an oven not so hot as for white bread.

Household Editor:—I would like to ask if anybody can tell me what to do to destroy carpet bugs?—Mrs. G. H. S., Goodells.

Take the rug out doors and beat thoroughly, then spread on a clean floor in an empty room, saturate thoroughly with gasoline and leave in the room 24 hours, being sure the room is as near air-tight as possible. Meantime go over the floors and wood work of the infested room with hot water, and when dry saturate all the crevices in floor and woodwork with gasoline. Shut the room tightly and leave for 24 hours. Of course, you must have no fire or lights in either room. At the end of 24 hours, hang the carpet on a line outdoors to allow the gasoline fumes to evaporate, and open doors and windows in the room that was sprayed with gasoline. When the fumes have passed away, you may again lay the carpet.

When stewing pumpkins for pies try cutting them in small pieces and cooking without peeling. When the pumpkin is run through the sieve the peeling is separated from the rest. This is much easier than peeling before cooking. Your pies will brown and the flavor is not injured.—E. T.

A simple and easily home-made polish for the nails is the following: Pulverized starch,  $\frac{1}{4}$  oz; powdered boric acid,  $\frac{1}{4}$  oz; talcum powder,  $\frac{1}{4}$  oz.—S. B.

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Our latest Fashion Book, containing illustrations of over 400 designs of ladies', misses' and children's garments in current fashions, also newest embroidery designs, and a concise and comprehensive article on dressmaking which gives valuable hints to the home dressmaker, will be sent to any address upon receipt of ten cents.



No. 1195—Boys' Suit with Straight Trousers. Cut in 4 sizes, 3, 4, 5 and 6 years. It requires  $3\frac{1}{2}$  yds. of 44-inch material for a four-year size. Price 10 cents.

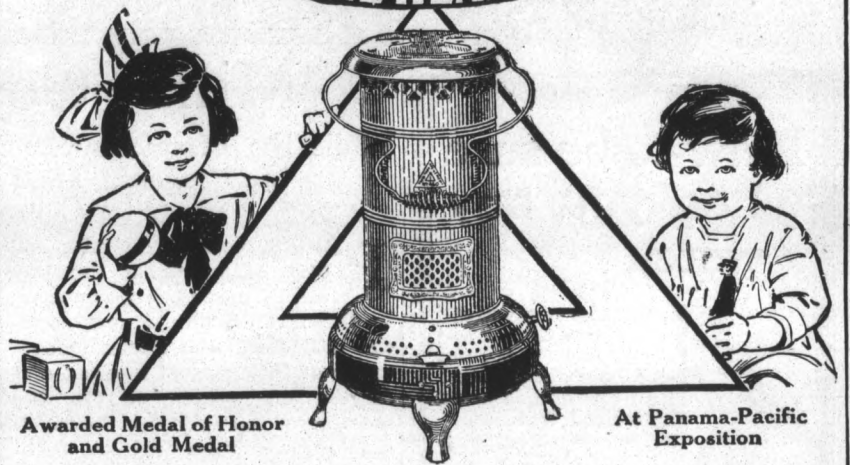
No. 1411—Ladies' Dressing Sack. Made in 6 sizes, 32, 34, 36, 38, 40 and 42 inches bust measure. It requires  $3\frac{1}{2}$  yds. of 36-inch material for a 36-inch size. Price 10c.

No. 1403—Ladies' House Dress. Cut in 6 sizes, 34, 36, 38, 40, 42 and 44 inches, bust measure. It requires  $6\frac{1}{4}$  yds. of 44-inch material for a 36-inch size. The skirt measures about three yards at the foot. Price 10c.

No. 1395—Cut in 3 sizes, small, medium and large. It requires  $3\frac{1}{2}$  yds. of 36-inch material for a medium size. Price 10c.

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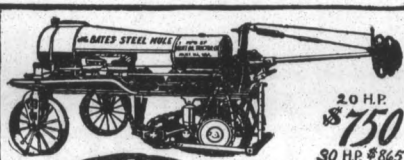
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# Farm Commerce.

## Milk—Cost and Prices

While the Production Has Been Heavy this Past Summer the Probable Yield this Fall and Winter Will be Comparatively Light.

PRICES received for milk and the cost of producing the product, are themes of deep concern alike to the farmer with a few cows and the dairyman who keeps many. Because of this general interest a report of the discussions of the October meeting of the Lenawee County Dairyman's Association will be worthy of space. Conditions there are very similar to those in every other dairy community of the state except perhaps that the business is carried on a little more intensively and has been conducted for a greater number of years than in most other counties.

### Prices this Past Summer.

Prices for milk during the past summer have been around \$1.20 per hundred weight. In a few instances this price has been exceeded. Usually where the milk is sold for city consumption more work is required to get the milk in condition and therefore higher values are required to induce the farmers to sell to this trade instead of to the condensaries and other milk consuming institutions. For October the prices have been advanced to \$1.45 by the condensary at Adrian, and other local buyers are meeting this advance. In another section of the county the September price was \$1.40 for milk testing 3.5 and 4.5 per cent of butter-fat and \$1.60 for October milk of the same grade. At Hudson it was reported that prices are ruling lower than a year ago.

### Heavy Production Responsible.

Low prices for July, August and September were due to the heavy production of milk. Pastures were as good during these months as in June, whereas usually they dry up and the cows shrink in their milk unless supplementary feeding is practiced. Besides this large output, cooler weather prevailed than in most years, so that it was possible to market practically every gallon of the milk without its becoming sour and spoiled for domestic use. In hot seasons much waste results by reason of the milk becoming too warm before reaching the consumer. This same cool weather is also responsible for cutting down the consumption of ice cream, an industry which requires a considerable portion of our best milk during these months. As a result the milk was diverted to other channels which tended to depress prices.

### Probably Shortage this Fall and Winter.

But the outlook for this winter is different; the cows have been producing a maximum flow of milk over a long period of time, much longer than usual. They are now exhausted and the yield has suddenly fallen off. Producers generally attest to this condition and buyers are already becoming anxious over the situation. The supply has dropped from a heavy surplus to below normal already, and the promise is that there will be a considerable shortage in the near future. The demand from our large cities for domestic use will make such inroads upon the supply that there is likely to be sharp competition for milk this fall and winter.

### European Agents Buying.

Besides the above bullish features of the situation, foreign agents were recently here buying dairy products. Among their purchases were orders for 400,000 cans of condensed milk, making 400 maximum cars of this product. Because these factories had

obtained a surplus during the season of heavy production of milk, they were glad at the time of the sale to have this outlet and made arrangements at "rock bottom" prices. Most of these concerns, however, are sorry over this deal, in that they are now obliged to fill their orders with milk purchased on a much higher price basis. Then, too, a year ago we were buying condensed milk from Europe; under normal conditions western European countries are able to produce this product and ship it here at a lower price than we can produce it ourselves. But the war has not only created an additional home demand for products of this character but also greatly restricted the output, so that instead of being exporters they are now importers and will likely remain so until the end of the great conflict.

Keeping in mind the above conditions, it would appear wise that farmers should not be hasty in contracting their output for the winter. Dealers will naturally be anxious to make arrangements in that their interests would undoubtedly be better looked after where early engagements of supplies are affected. Most concerns however, make a proviso that they will agree to pay any general advance over contract prices that the regular trade warrants.

### Favor Selling Cream.

Quite a number of the dairymen present were confident that better returns were secured from cream than for milk. It appears that during the period of heavy production of milk the wagon routes of those buying whole milk were shortened and the farmers cut off by this change were obliged to separate their milk on the farm and dispose of the cream. It has been discovered in a good many instances, that these farmers have refused to go back to the plan of selling whole milk because they were confident that they were getting more money out of the cream. Not only do they feel that prices for cream are comparatively better, but these prices fluctuate less than do quotations in the milk trade. Besides the attractive quotations these parties have the skim-milk at hand and in the best possible condition for feeding purposes. They contend that the value of this skim-milk far exceeds the additional trouble of separating the milk and caring for the separator.

### Cost of Production Basis for Selling Price.

Feeling that the best basis for determining what the dairymen should receive for milk is the cost of producing it, the association at its previous meeting nominated different members of the society to investigate and report at this meeting what it was costing different dairymen for the milk produced upon their farms.

As may be expected, the members of this committee acting independently arrived at different conclusions as to the cost of producing a hundred pounds of milk. The prices reported varied from \$1.12½ to \$1.50 per hundred weight. The average price of all the reports was \$1.30 per hundred weight. In calculating these results, feed, labor, depreciation, interest on investment, besides the income from the cow from milk, the sale of the calf and the value of manure produced were included. They do not take account, however, of overhead charges. Every milk dealer, condensary, cream-

ery, cheese factory and all other concerns having anything to do with the milk after it leaves the farm figure on their "overhead." It would seem perfectly just and proper for the farmer therefore, to add to the cost of producing milk a reasonable overhead charge. Of course, this is difficult for the farmer to determine, in that his living is so closely tied up with his business. Nevertheless, the managing ability of the farmer and the many general expenses incident to the dairy business should be charged, for which reason it would seem that the prices given at the meeting were very conservative. The work done along this line in Connecticut and New Hampshire were reviewed at the meeting. It was determined in those states that the cost of milk was higher than reported by the Lenawee farmers. At Storrs' Conn., work extending over five years showed the cost in 1907 to be \$2.49 per hundred weight; in 1908, \$2.00, and in 1909, \$1.98; in 1910, \$1.94, and in 1911, \$2.21.

### Why Cost of Production Varies.

Following the discussion of these figures, some of the factors entering into the cost of production were mentioned. The matter of greatest value is the question of individual cows and the importance of knowing exactly what each cow is producing was emphasized. As a general proposition, the animals producing large flows of milk are the most economical. Experimentation tests in general seem to uphold this conclusion. Nevertheless, it is not always true, and the owners should carefully figure the cost of feed in connection with the output of the animal to definitely determine the amount of net returns.

### Silo Reduces Cost.

The second consideration is the silo. Almost invariably dairymen find that they can cut down the cost of milk by feeding good ensilage. It enables them to supply succulent feed through the winter months, thus keeping the cows in good physical condition and able to produce a maximum flow. Besides this advantage, the farmers save materially in the amount of feed secured from a definite area of ground and are also able to secure this feed much cheaper than by the old method of dry storing.

A third factor influencing production is the addition of alfalfa to the crop list. This plant not only provides an excellent feed, but because of the large annual yield per acre is a cheap one to grow, and dairymen, especially, cannot afford not to grow a liberal acreage of the crop. In the important dairy sections the portion of the farms devoted to alfalfa is gradually increasing in size.

Another important practice is for the dairymen to suit the breed of cattle he keeps to his market, or vice versa. It does not pay to use cows adapted to the production of high-grade cream or butter when one is selling milk to a cheese factory. And, on the other hand, it is poor policy to have heavy milk producing cows for supplying a fancy butter trade.

### Users Like Milking Machines.

The use of the milking machine was considered at some length. Several of these machines have been installed in Lenawee county, and from the reports given they have been successful. Farmers who are using the machines are well satisfied with the service they are getting out of them. No one present, however, seemed to have any definite figures on the economical advantage resulting from the introduction of this equipment in their barns. Such figures as one would like to have are rather difficult to obtain; even the most careful experimentation is subject to possible question by reason of the fact that when you milk cows with the machine it is impossible to milk them at the same time by hand.

One farmer, however, conducted a rather unique test, to see if he could



determine the influence of power milking on the flow of milk. After he had been using his machine for some time he ceased milking with it for three days and milked by hand. Following this he used the machine again for three days and then milked by hand for another similar period. He then used the machine again for a full week, after which he milked by hand for a full week, and found that during the week when the machine was used his 30 cows gave 119 pounds more milk than during the week of hand milking. From this experiment and general observation he was convinced that the machine did not reduce, at least, the milk flow. Another party who operates a machine stated that occasionally their engine got out of order and they were obliged to milk by hand, and there appeared to be no difference in the amount of milk secured. The number of cows milked by the men having machines ranged from ten upward.

In preparing milk for market there appeared to be general agreement that cooling can be most effectually done by the use of the aerator. Notwithstanding this, city boards of health seem to object to their use. The reason for this position is that on dry dusty days considerable foreign matter escapes from the atmosphere into the milk during the process of cooling and this dust later develops an undesirable fermentation in the milk. Some of the farmers stated that they had less trouble, however, with the milk when it was cooled by an aerator than they did after dispensing with these machines and cooling by placing the milk can in a tank of water and stirring the contents.

#### Farmers Glad to Improve Quality of Milk.

It would appear from many press reports that producers of milk are about ready to take up arms against city boards of health because of the requirements for the delivery of milk for municipal use. Judging from the spirit shown at this meeting, nothing could be quite so far from the truth. These farmers seem to be just as interested in the welfare of the babies in the city and consumers generally as are the boards of health, and possibly even more so. They seemed anxious to learn how they can produce a high quality of milk and how to get it to the transportation lines in the best possible condition. The main protest made over the situation was that there ought to be a reasonable compensation for the additional demands made upon them as to the arranging of their barns, the use of more costly quarters, the installation of milk houses, etc. Farmers are already coming to recognize these factors as necessary in connection with milk production, and if a price is paid that will compensate them for this additional expense and trouble, and if the requirements are demanded of all farmers alike so that a premium will not be received for evading the restrictions, there need be little fear of a general uprising among producers.

## Crop and Market Notes.

### Michigan.

**Arenac Co., Oct. 4.**—Wheat yield is fair; oats 35 to 65 bushels per acre. Clover seed not good. Corn will be a small crop. The potato crop is ruined. Beans one-third of a crop. Some fall grains sown, but most ground too wet. There will not be much live stock wintered. Wheat 90c; potatoes 65c; apples 75c@\$.125 per bushel; beans \$2.75.

**Berrien Co., Oct. 6.**—The wheat yield ranged from 12 to 35 bushels; oats 30 to 70 bushels. About the usual acreage of wheat will be sown. Corn maturing slowly, needs two weeks of favorable weather. Potatoes all blighted. Beans badly damaged. Live stock healthy, but not much feeding will be done.

**Branch Co., Oct. 2.**—Corn cutting begun and the crop is good; silo filling is in progress. Yield of wheat and oats very good. Clover seed light. Potatoes affected with blight, also rotting badly. A good acreage of fall grains sown. Beans a fair crop; pastures abundant, and a large amount of feeding stock on hand. Apples are a good crop in well cared for orchards. Wheat \$1; corn 75c; oats 30c; potatoes 30c; butter 25c; eggs 24c.

**Livingston Co., Oct. 5.**—Corn was injured by frost. Beans are a poor crop. Wheat and oats are yielding well, though there is a large amount of inferior wheat. Not much seeding done. Farmers are busy filling silos. A large amount of second growth hay is being harvested.

**Hillsdale Co., Oct. 5.**—Potatoes are poor, both in yield and quality. Not much wheat sown, but the acreage will probably be larger than usual. No corn cut, but with no frost for a few weeks the crop may yet be good. Much threshing to be done, and both wheat and oats are yielding bumper crops. Buckwheat is a big crop. Apples apparently of better quality than usual. Wheat \$1; rye 82c; oats 28c; eggs 23c; fowls 11@14c.

**Shiawassee Co., Oct. 4.**—Excessively wet; very little wheat sown and a large amount of plowing yet to be done. Wheat yields from 30 to 48 bushels; oats 40 to 80 bushels per acre. Corn backward and many fields cut with the frost. Clover seed filling fairly well. Potatoes badly injured, some fields not worth digging. Beans are also badly hurt. A few cars of lambs coming in for feeding purposes. Apple crop very poor. Wheat 95@98c; potatoes 60c; apples 50@80c; eggs 22c; butter 20c.

### New York.

**Niagara Co., Oct. 5.**—Wheat averaged 30 bushels to the acre; oats 50 bushels; corn fine and mostly harvested. Acreage of wheat sown is large. Not much feeding stock on hand. The yield of apples and pears is light, but the quality is good. Wheat \$1; potatoes 60@75c; apples \$2.25@4 per bbl; peaches 50c per bushel.

### Pennsylvania.

**Lancaster Co., Oct. 5.**—Wheat yielded 25 to 30 bushels per acre. Oats scarce; no clover seed. Corn about half a crop; potatoes scarce; wheat seeding about half done. Not enough feed on hand for home use. Apples and pears about half a crop. Wheat \$1.05; potatoes 50c; apples \$1 per bushel; eggs 35c; butter 35c.

### Ohio.

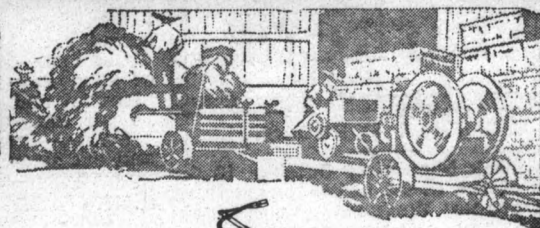
**Medina Co., Oct. 5.**—Wheat yield is from 25 to 40 bushels; oats 60 to 80 bushels per acre. Corn is being cut but has not eared well. Many silos are being filled. Potatoes are blighted and rotting badly. The usual amount of ground has been plowed for wheat, but rains have delayed seeding. A large number of hogs being fed. Apple and peach crop very heavy. Wheat \$1.02; oats 30c; hay \$14; potatoes (Continued on page 346)

### NATIONAL CROP REPORT.

| The Crop Reporting Board of the Bureau of Crop Estimates makes the following estimates from reports of its correspondents and agents for Oct. 1. |                            |                       |                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------|----------------------|
| Crop.                                                                                                                                            | Indications, Oct. 1, 1915. | Chance since Sept. 1. | Final Estimate 1914. |
| Winter wheat, bu.....                                                                                                                            | *656,866,000               | † 22,700,000          | 684,990,000          |
| Spring wheat, bu.....                                                                                                                            | *345,163,000               | † 22,700,000          | 206,027,000          |
| All wheat, bu.....                                                                                                                               | *1,002,029,000             | † 41,164,000          | 891,017,000          |
| Corn, bu.....                                                                                                                                    | 3,026,159,000              | †109,808,000          | 2,672,804,000        |
| Oats, bu.....                                                                                                                                    | *1,517,478,000             | † 13,746,000          | 1,141,060,000        |
| Barley, bu.....                                                                                                                                  | *236,682,000               | † 44,179,000          | 194,953,000          |
| Rye, bu.....                                                                                                                                     | * 44,179,000               | † 818,000             | 42,779,000           |
| Buckwheat, bu.....                                                                                                                               | 16,738,000                 | † 37,758,000          | 16,881,000           |
| White potatoes, bu.....                                                                                                                          | 368,151,000                | † 474,000             | 405,921,000          |
| Sweet potatoes, bu.....                                                                                                                          | 64,800,000                 | † 516,000             | 56,574,000           |
| Flax, bu.....                                                                                                                                    | 17,655,000                 | † 10,000              | 15,559,000           |
| Rice, bu.....                                                                                                                                    | 26,251,000                 | † 21,345,000          | 23,649,000           |
| Tobacco, lbs.....                                                                                                                                | 1,093,804,000              | † 869,000             | 1,034,679,000        |
| Cotton, bales.....                                                                                                                               | 10,950,000                 | † 54,109,000          | 16,135,000           |
| Peaches, bu.....                                                                                                                                 | * 64,218,000               | † 123,000             | 54,109,000           |
| Pears, bu.....                                                                                                                                   | 11,131,000                 | † 433,000             | 12,086,000           |
| Apples, bbls.....                                                                                                                                | 71,632,000                 | † 70,071,000          | 84,400,000           |
| Hay (tame) tons.....                                                                                                                             | * 80,983,000               | † 18,615,000          | 70,071,000           |
| Hay (wild) tons.....                                                                                                                             | * 20,293,000               | † 60,000              | 18,615,000           |
| Sugar beets, tons.....                                                                                                                           | 6,158,000                  | † 5,288,000           | 5,288,000            |

\*Final estimate; †increase since Sept. 1; ‡decrease since Sept. 1.

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# Markets.

## WEATHER FORECAST.

For week beginning October 13 for region of the Great Lakes. Local rains are probable Wednesday and again about Friday in the upper lake region. Otherwise generally fair weather will prevail. It will be somewhat colder Wednesday in upper lake region but on the whole temperature will be mod-

## GRAINS AND SEEDS.

October 12, 1915.

**Wheat.**—Wheat values have fluctuated considerably the past week. The situation is without precedent. This country has an enormous crop; there is a small movement from the farms and the world's stocks are the lightest they have been during the past 15 years. These conditions together with the political complications about the Dardanelles, a short crop in Italy and a larger demand from western European countries than was earlier anticipated, all give a hopeful view of the market from the standpoint of the producers. The conservative marketing by farmers will enable them to secure their part of the better prices by discouraging speculation. One year ago No. 2 red wheat was quoted locally at \$1.08½ per bushel. Quotations for the past week are:

|           | No. 2 | No. 1 | Dec.  |
|-----------|-------|-------|-------|
| Wednesday | 1.13  | 1.10  | 1.15  |
| Thursday  | 1.12½ | 1.09½ | 1.16  |
| Friday    | 1.10½ | 1.07½ | 1.13  |
| Saturday  | 1.10½ | 1.07½ | 1.13½ |
| Monday    | 1.12½ | 1.09½ | 1.16  |
| Tuesday   |       |       |       |

Chicago.—No. 2 red wheat \$1.12½@1.13½; December \$1.04½; May \$1.06.

**Corn.**—Slight reactions have occurred in the corn market during the week. Complaints of serious crop damage are increasing and predictions of unsettled colder weather and a bulge in wheat prices are giving traders more confidence in the grain. One year ago No. 3 corn was quoted at 72½¢ per bushel. Quotations for the week are:

|           | No. 3  | No. 3   |
|-----------|--------|---------|
|           | Mixed. | Yellow. |
| Wednesday | 65½    | 66½     |
| Thursday  | 65½    | 66½     |
| Friday    | 65½    | 66½     |
| Saturday  | 65½    | 66½     |
| Monday    | 65½    | 66½     |
| Tuesday   |        |         |

Chicago.—No. 2 yellow corn 63½@63¾¢; December 57¾¢; May 59¼¢.

**Oats.**—There has been little activity in this market and values are ruling about steady with a week ago. Farmers are delivering very meagre quantities of the grain. One year ago standard oats were quoted at 47½¢ per bushel. Quotations are as follows:

|           | Standard. | No. 3  |
|-----------|-----------|--------|
|           |           | White. |
| Wednesday | 39        | 37½    |
| Thursday  | 39        | 38     |
| Friday    | 39        | 38     |
| Saturday  | 39        | 38     |
| Monday    | 39        | 38     |
| Tuesday   |           |        |

Chicago.—Standard oats 37½@38½¢; December 37¾¢; May 39¼¢.

**Rye.**—An advance of 1½¢ is noted for No. 2 rye which is now quoted at 96½¢ per bushel. There is a good demand for the cereal at present.

**Barley.**—At Milwaukee malting barley has advanced from 55 to 63¢ per bushel and at Chicago the price is 52@60¢.

**Peas.**—Field peas are firm at \$2.15 @2.25 per bushel for new, sacks included.

**Beans.**—Cash beans have advanced 15¢ more to \$3.40 per bushel for immediate and prompt shipment. October delivery is \$3.25 per bushel, an advance of 25¢. At Chicago the market is firm with pea beans hand-picked, good to choice \$3.25@3.35; do. common to fair \$2.75@3; red kidneys \$3.50@3.75 per bushel. At Greenville the farmers are offered \$2.70.

**Clover Seed.**—Market about steady; prime spot \$11.75; October \$12.50; prime alsike \$10.25. At Toledo prime cash \$12.60; October \$12.40; prime alsike \$10.25.

**Timothy Seed.**—Lower at \$3.50 per bushel for prime spot.

## FLOUR AND FEEDS.

**Flour.**—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$5.90; seconds \$5.60; straight \$5.20; spring patent \$6.60; rye flour \$6.20.

**Feed.**—In 100-lb. sacks, jobbing lots are: Bran \$26; standard middlings \$29; fine middlings \$32; cracked corn \$24.50; corn and oat crop \$31.60 per ton.

**New Hay.**—No. 1 timothy \$17@18; standard timothy \$16@17; light mixed \$16@17; No. 2 timothy \$14@15; No. 2 mixed \$12@13; No. 1 clover \$10@11.

Chicago.—Market firm and supply of good hay is light. Inferior grades plentiful and dull. New timothy \$8@18 per ton.

**Straw.**—Rye straw \$7.50@8; wheat and oat straw \$6.50@7 per ton.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—At Detroit creamery butter has advanced 2¢ during the week. Demand is active and offerings limited. Extra creamery 28¢; do. firsts 27¢; dairy 21¢; packing 19¢.

Elgin.—Offerings and sales were light, with higher prices indicated. The price based on sales is 28¢.

Chicago.—Higher. Extra creamery 27½¢; firsts 24@26½¢; extra dairies 26¢; packing stock 19@20¢.

**Eggs.**—Market higher and demand good. Canned firsts 27¢; current receipts 25¢.

Chicago.—Receipts are small and demand good. Firsts 25@25½¢; ordinary firsts 24@24½¢; at mark 20@25¢, cases included.

**Poultry.**—Fowls are higher, spring chickens lower and other kinds unchanged. Turkeys 10@14¢; spring turkeys 20¢; fowls 10@14¢; spring chickens, general run 13½¢; ducks 12@13¢; geese 10@12¢.

**Veal.**—Quoted steady at 14½@15¢ for fancy, and 13@13½¢ for common.

## FRUITS AND VEGETABLES.

**Apples.**—Market higher with the demand good. Fancy \$2.75@3 per bbl; common \$1.25@1.50. At Chicago the demand is good for barrel and bulk stock. Western boxes easier. No. 1 Wealthys, Wolf River and Alexander \$2.50@3; Jonathans No. 1 \$3@3.50; Snows and Spies \$2.75@3.25.

**Potatoes.**—Market is steady with Minnesota offerings at 70@75¢ and Michigan 60@65¢ per bushel. At Chicago market rules strong with fancy stock advancing rapidly. Prices range from 62@70¢ per bushel. At Greenville the price has advanced to 62¢ per bushel and farmers are delivering quite freely.

## DETROIT EASTERN MARKET.

The eastern market is doing far less business than a year ago, largely because of the shortage in the local potato and apple crops. Much better prices are prevailing now than then. Potatoes are selling from 90¢@1 per bu; apples 50¢@1.25; peaches 50¢@1.25; carrots 60¢; grapes \$1; cabbage 40¢; onions \$1; pears \$1; celery 20@25¢ per bunch; eggs 38¢; honey 15¢ per section; loose hay is coming in slowly and demand is good with the price at \$18@22 per ton.

## GRAND RAPIDS.

The potato market shows steady advances, with buyers at Greenville and some other outside points quoting at 55¢ early this week. The crop is still for the most part in the ground and it is not known just what the yield will be. The bean market is also higher, with quotations to farmers now around \$2.75 and few sales at this figure. Severe cold in this section on October 9 did much damage to grapes, tomatoes and other late crops. Apples are the principal fruit now, with Spies quoted at 75¢@1; Baldwins 65¢; Greenings 75¢. The egg market is firm, with price at 26¢ for fresh laid. Dairy butter is quoted at 22@23¢. Grain prices are about the same, with No. 2 red wheat at \$1.02; white oats 35¢; corn 75¢; rye 80¢.

## LIVE STOCK MARKETS.

### Buffalo.

October 11, 1915.

(Special Report of Dunning and Stevens, New York Central Stock Yards, Buffalo, N. Y.)

Receipts of stock here today as follows: 217 cars of cattle; 85 d. d. of hogs; 50 d. d. sheep and lambs; 1200 calves.

With 217 cars of cattle on our market here today, the best cattle sold from 15@25¢ per cwt. higher, the medium cattle about steady, light butcher cattle 10@15¢ higher, fat cows a shade stronger, and common cows and canners about steady. The good stockers sold steady and the lighter grades a little lower. Milch cows and springers sold about steady with last week. With these heavy runs in the west, we cannot stand very heavy runs for next week, but we look for steady market.

We had a moderate supply of hogs here today, demand good for all classes and market higher all around, bulk selling at \$8.90@9, with a few selected lots carrying some weight up to \$9.10; ordinary grades of yorkers \$8.50@8.75, and the general run of pigs \$8.25; the skippy kinds down to \$6.50; roughs

\$7.75@8; stags \$5.50@6.50. Everything sold at the close and late trade was strong.

Lamb market was active today, the prices being steady with close of last week. All sold and we look for about steady prices balance of the week.

We quote: Lambs \$9.15@9.25; cull to fair \$8@9; yearlings \$6.75@7.50; bucks \$4@5; handy ewes \$5.75@6; heavy ewes \$5.25@5.50; wethers \$6.50@6.75; cull sheep \$3.50@4.75; calves, good to choice \$11.75@12; common to fair \$8.50@11; heavy calves \$6@9.

## Chicago.

October 11, 1915.

Cattle. Hogs. Sheep.  
Receipts today..25,000 18,000 20,000  
Same day 1915..22,562 22,470 44,369  
Last week.....44,927 81,533 86,591  
Same wk 1915..47,685 104,057 161,637

Shipments from here last week aggregated, 1,104 cattle, 1,813 hogs and no sheep, comparing with 3,381 cattle, 21,698 hogs and 5,054 sheep a week earlier, and 16,635 cattle, 22,112 hogs and 76,214 sheep a year ago.

The opening of the cattle trade today was delayed a good deal, buyers holding off, and indications were that sales would show declines of 15@25¢ except for the choicest lots. Receipts were large, an included 5,500 western range cattle. Hogs advanced 10@15¢, and sold at \$7.80@8.90. Hogs marketed last week averaged but 214 lbs., or 13 lbs. less than a week earlier. Sheep and lambs were stronger today, with a good demand for lambs.

Good cattle sold better last week than a week earlier, because of the moderate offerings, with values showing substantial advances, despite the insignificant shipments from here that resulted from the quarantining by most eastern states. The larger part of the steers crossed the scales at \$7.50@10, with prime beefs at \$10.10@10.35, the top being paid for prime heavy steers. Fancy little yearling steers and heifers topped the market at \$10.50, a sale being made of 43 head that averaged 969 lbs. at that price, with the next best sales at \$10.35. Inferior little, thin grass-fed steers sold to a limited extent at \$4.50@5.50, while better light grass steers brought \$5.60@6.50, with sales of common to medium warmed-up steers at \$6.60@7.80, medium to good handy short-feds at \$7.85@8.50, good to choice corn-feds at \$8.60@9.45 and choice to fancy steers of good to heavy weights at \$9.50@10.35. Good to fancy yearlings were salable at \$9@10.50, with sales made all the way down to \$7.25@8.50 for common to fair yearlings. Butchering cows and heifers were in active demand on the basis of \$4.70@9 for ordinary to prime offerings, with better cows bringing \$7@7.50 and the best yearling heifers going at \$7.50@9. Cutters sold at \$4.15@4.65, canners at \$3@4.10 and bulls at \$4.35@7.15. The best calves were active sellers at \$11.50@12 per cwt, with sales down to \$4@9 for ordinary to good heavy weights. Western range cattle were marketed in fair volume and met with a good demand on the basis of \$7.15@8.75 for steers and \$4@7.50 for cows and heifers. While present quarantine conditions exist stock feeders should cut down market supplies to the smallest possible numbers in order to prevent bad breaks in prices. Steers advanced 25@50¢ during the week, undesirable ones excepted.

Hogs sold wonderfully well last week, because of the light receipts, and, despite the insignificant eastern shipping demand, prices reached the highest figures recorded since October, 1914. Most of the time supplies barely sufficed for local needs, and prime lots sold especially well. Average weights have declined to 227 lbs., comparing with 231 lbs. a week earlier, 244 lbs. a month earlier, 235 lbs. a year ago, and 213 lbs. two years ago, when hog cholera was forcing big numbers of pigs and underweights on the market. Stocks of provisions are decreasing unusually rapidly, the decrease in the five leading western markets during September amounting to 81,178,340 lbs., comparing with a decrease of 20,840,607 lbs. for September last year and a decrease of 51,289,100 lbs. for September, 1913. Provisions are in active domestic and export demand, and prices have advanced with those for hogs, although on the first day of October the five leading western packing points held a total of 203,531,462 lbs., comparing with 284,709,802 lbs. a month ago and only 150,415,496 lbs. a year ago. Closing week prices were the highest yet reached, with sales at \$7.70@8.30 for heavy packing hogs, \$8.35@8.65 for heavy shipping lots and \$8.45@8.75 for selected butchers. Pigs brought \$5@7.55. A week earlier the best hogs brought \$8.25.

Lambs and sheep suffered several declines early last week, with no demand from shippers, the market being left to the mercy of local packers and smaller city butchers, but later rallies

in values took place, receipts falling off in volume. The range offerings included supplies from Montana, Wyoming, Idaho and Oregon. Receipts look meager when compared with those for other years. After prime range lambs soared to \$9.25 a general decline took place, leaving lambs at \$7@9, the best natives going at \$8.60. Yearlings closed at \$6@7.65, wethers at \$5.75@6.75, ewes at \$3@6 and bucks at \$4.25@5.

Horses met with an active general demand at unchanged prices, with the principal trading in army horses. Horses rejected by the British and French inspectors sold around \$65@130, while limited numbers of heavy drafters brought \$245@280, and commercial chunks went at \$175@240. Farm mares brought \$140@175.

## CROP AND MARKET NOTES.

(Continued from page 345)

65¢; apples 50¢; peaches 40¢@1 per bushel; pork \$8.

**Columbiana Co., Oct. 4.**—Threshing is about done; yield of wheat fair and oats a big crop. No clover seed has been threshed yet. Corn good and silos are being filled. Potatoes about half a crop. A good acreage of wheat sown, but very little rye. Quite a lot of feeding stock on hand, as there is more feed than usual. A big yield of apples and pears. Wheat \$1; potatoes 65¢; apples 50¢; butter-fat 30¢; eggs 28¢; calves \$10.

## Indiana.

**Elkhart Co., Oct. 5.**—Threshing is about done and wheat and oats are yielding well. Corn is backward and there will be much soft corn. Potatoes not as good as usual on account of blight and rot. The usual acreage of fall grains sown, and the usual amount of live stock kept. Apples are a good crop. Wheat \$1; potatoes 40¢; apples 50@75¢.

## Minnesota.

**Lyon Co., Oct. 4.**—A great deal of the corn is reaching maturity. Many silos erected here this fall. Ground is wet for potato digging, but the crop is yielding well; beans a good crop. Wheat averaged 20 bushels; oats 50 bushels. Fruit is scarce. Wheat 88¢; oats 27¢; potatoes 40¢.



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100 head Heifers in good grass condition. Will weigh about seven hundred. Good colors, mostly red. Address Richardson Lumber Co., Alpena, Mich., or see the cattle at our headquarters, 14 miles east of Wolverine, Mich., which is on M. C. R. R. in Cheboygan Co. There has never been any hoof and mouth disease within over a hundred miles from where these cattle are located.



## THIS IS THE FIRST EDITION.

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

## DETROIT LIVE STOCK MARKETS.

## Thursday's Market.

October 7, 1915.

## Cattle.

Receipts 1954. The yards opened in the free area on Monday and now every kind of live stock may be handled here for any purpose. Stockers and feeders may be shipped to any part of the state from here, the only restriction being that they must be in clean and disinfected cars. Nothing as yet can enter Michigan from Chicago and it looks as though the embargo would stay on until Illinois is in the free area.

The run of cattle was large and the market about steady with that of two weeks ago. A large portion of the receipts were medium butchers that bring from \$6.25@6.50, the demand for stockers and feeders was hardly as brisk as it was expected it might be, the farmers not being aware of the fact as yet, that they could be shipped back to the farm. Milch cows sold well but were not very plentiful. The close was steady as follows: Best heavy steers \$7.50@8; best handy weight butcher steers \$7@7.25; mixed steers and heifers \$6.50@7; handy light butchers \$6@6.50; light butchers \$5.50@6; best cows \$6@6.50; butcher cows \$5@5.50; common cows \$4.50@5; canners \$3@4; best heavy bulls \$6@6.25; bologna bulls \$5.50@5.75; stock bulls \$5@5.25; feeders \$6.50@7; stockers \$5.50@6.25; milkers and springers \$5@9.00.

Haley & M. sold Newton B. Co. 4 cows av 1025 at \$6.25, 1 do wgh 1080 at \$5.50, 10 butchers av 767 at \$6.50, 3 do av 553 at \$5.50, 14 do av 850 at \$6.50, 2 steers av 850 at \$6; to Sullivan P. Co. 2 cows av 975 at \$5.25, 2 heifers av 560 at \$5.75, 10 cows av 920 at \$5.65; to Newton B. Co. 1 steer wgh 900 at \$7, 4 do av 1150 at \$7.35, 8 cows av 1065 at \$6.15, 2 steers av 840 at \$6.25, 1 bull wgh 1150 at \$5.75, 2 steers av 1145 at \$6.75, 1 cow wgh 980 at \$4.50, 1 bull wgh 1140 at \$5.75; to Kull 1 bull wgh 1370 at \$6.25; to Cooke 5 steers av 850 at \$7.15; to Hammond, S. & Co. 20 steers av 1031 at \$7.50, 3 do av 933 at \$6.50, 16 butchers av 625 at \$5.85; to Kirschbaum 10 do av 812 at \$6.00; to Rattkowsky 3 cows av 1040 at \$6.

Reason & S. sold Applebaum 2 heifers av 780 at \$5.20; to Sullivan P. Co. 12 butchers av 670 at \$5.85; to Parker, W. & Co. 2 cows av 945 at \$4; to Costello 6 butchers av 576 at \$5.40.

## Veal Calves.

Receipts 531. The veal calf trade was active and the general price for best grades was \$12; a few extra fancy brought \$12.25@12.50 and common and mediums from \$8@10.50.

Sandel, S. B. & G. sold Sullivan P. Co. 1 wgh 200 at \$12, 3 av 155 at \$12, 2 av 210 at \$8, 1 wgh 160 at \$12, 1 wgh 150 at \$10.50; to Hammond, S. & Co. 13 av 165 at \$11.50.

Bishop, B. & H. sold Sullivan P. Co. 5 av 165 at \$12; to Parker, W. & Co. 15 av 175 at \$12, 14 av 160 at \$11.50, 6 av 150 at \$11.50, 13 av 165 at \$12; to Hammond, S. & Co. 12 av 160 at \$12, 4 av 150 at \$11.75, 4 av 250 at \$9, 9 av 160 at \$12, 2 av 160 at \$11.75, 2 av 165 at \$11.50, 9 av 160 at \$12.

## Sheep and Lambs.

Receipts 5757. The sheep and lamb trade was active and good lambs seem to be badly wanted. Quite a few feeders went back to the country and everything was cleaned up early. Swift & Co. bought five or six doubles for New York and Nagle also bought freely. Best lambs \$8.50@8.75; fair do. \$7.50@8.25; light to common lambs \$6@7.25; fair to good sheep \$4.50@5.25; culls and common \$3@4.

Roe Com. Co. sold Sullivan P. Co. 6 sheep av 110 at \$5, 55 lambs av 75 at \$8.50, 12 do av 165 at \$8, 34 do av 70 at \$8.35, 6 sheep av 120 at \$5, 13 do av 80 at \$4.50.

Reason & S. sold Costello 30 lambs av 48 at \$7; to Newton B. Co. 156 do av 65 at \$8.45, 5 sheep av 105 at \$4.50.

Sandel, S. B. & G. sold Mich. B. Co. 9 sheep av 115 at \$4.75, 51 lambs av 75 at \$7.50; to Sullivan P. Co. 39 do av 70 at \$8, 70 do av 68 at \$8, 9 sheep av 100 at \$5, 7 do av 115 at \$4.50, 5 do av 125 at \$5, 3 lambs av 77 at \$8.50, 5 do av 60 at \$7, 38 do av 80 at \$8.50, 26 do av 80 at \$8.65, 5 do av 70 at \$7, 4 sheep av 115 at \$4.50, 83 lambs av 78 at \$8.35.

## Hogs.

Receipts 6439. In the hog department the quality was the worst of the season and the trade was dull on this account as follows: Pigs \$7@7.25; mixed \$8.25@8.35.

## LIVE STOCK NEWS.

With the Chicago market eliminated as a source of supply of range feeding lambs and sheep this year, because of the quarantine against the hoof-and-mouth disease, this important business is necessarily removed to other markets. Most of the trade is now being carried on in the Missouri River markets, and Omaha is getting by far the larger share, having shipped out in a recent week nearly 100,000 head of range feeding lambs and sheep, about half of them going to Iowa, where farmers are utilizing the abundance of feed in this way. There is an unprecedented inquiry this autumn from various parts of the country for range feeder lambs to fatten for the future market, but the shortage is so great that it is impossible to meet anywhere near the wants of intending buyers. Naturally, high prices are paid for desirable feeders, and at the same time fat lambs are bringing extremely high prices most of the time. In the Chicago market the receipts are running mainly to lambs, with a slim display pretty much all the time of yearlings and sheep, including both wethers and ewes. Most of the lambs are shipped from the ranges of Idaho, Montana, Wyoming, Nevada, Utah, Washington and other states, with occasional big shipments from California, and these lambs average extremely high in quality, selling far higher than native lambs. Within a short time the best range lambs have sold for \$9.25 per 100 lbs., while top for native lambs stood at \$8.90.

Arthur Meeder, of the firm of Armour & Co., says: "We are doing business with all the allies every day to the full extent that orders are allotted to us, and we have every confidence that when our case is adjudicated by England, we will be accorded fair treatment and be paid in full."

The recent quarantining of Illinois live stock by New York and several other states is largely the cause of the late extremely small shipments of cattle, hogs and sheep to the Chicago market, which is the greatest market in the world. While the shipping demand in that market has undergone a marked falling off, the meager offerings have vastly assisted sellers in maintaining prices, particularly for fat consignments. Cattle offerings have been very limited, and in point of quality there has been distinct deterioration, with fast diminishing offerings of choice corn-fed weighty and light yearling cattle. This has tended to strengthen values for cattle of the better class, including heifers, as well as steers. While there is a larger call for fat little yearlings than for the heavier class of corn-feds, the meager offerings of the latter class are making higher prices for these than usual at this season. It is extremely unfortunate that at a time of great abundance of feed and unsurpassed pasturage everywhere, there should be such persistence in shipping in thin cattle on the stocker and feeder order, as the inability to ship such stock to feeding districts enables the killers to purchase them on their own terms. Obviously, the thing for owners of well-bred cattle to do at this time is to finish them off in decent shape before shipping to market, as there is known to be a serious shortage of the best class of beeves in the country.

With the corn-belt states reported full of pigs, good marketings are generally looked for before long, with quarantines the only obstacle. But it is possible that falling prices of corn will result in stockmen feeding it freely to the pigs instead of marketing underweights. Within a short time prices for the most desirable barrows have risen to the highest figures seen at any time this year, with an extremely wide spread between prices for prime light and medium weight shipping hogs and the numerous coarse, heavy packing hogs. As is customary at around this season of the year, there has been a marked falling off in the average weight of the swine marketed in recent weeks, however, and this is likely to be continued in the near future. States lying east of Chicago are reported as having a great many young hogs about ready to ship to market, and this will tend to check the eastern shipping demand in the Chicago stock yards. Provisions have shared in the advances in hog prices, as has fresh pork, with late sales of that article for 19 cents per pound. As lard and coarse meats are in poor demand, stockmen owning thrifty, healthy young hogs should not make them weigh more than 250 lbs. when shipped to market. Hogs that weigh more than this do not furnish popular weights of loins.

The ranges have marketed the greater part of their fat lambs, and receipts at Missouri river markets are now largely feeders.

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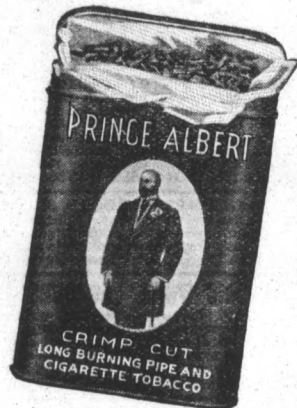
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## Farm Fattening of Poultry Profitable

**W**HEN a farmer thinks of selling a cow, steer, hog or any other kind of live stock, the first thing he thinks of is how to fatten it. Very few would consider selling any of their live stock without fattening it. But, what do they do when it comes to the annual fall selling of their surplus young stock and old hens? Don't they, some evening, make up their mind to sell them the next day because they happen to go to town with the big wagon? Orders are given the boys to drive as many of the chickens and hens into some coop, and see to it that it is properly closed. The next morning they are hastily cooped up and taken to town, because the big wagon happened to go to town. When they are told that the spring chickens and hens are in poor condition they act surprised; but the local buyer is thoroughly acquainted with this characteristic behavior and with a few remarks as to the poor condition of the fowls, buys them all about four or five cents below the market quotations.

### Farm Poultry Market in Poor Condition.

Is the ordinary farm poultry in good or poor condition? Just the other day I asked this same question of one of the leading poultry dealers in town, and he replied, "all farm poultry comes in unfattened, and in very poor condition. Some," he said, "were in such poor condition that they have to stand up against a fence to cackle."

Very often the question is asked, "how much does it cost per pound

at the beginning of the second week they are getting all they will eat up clean twice a day.

The following ration is a good one for fattening: Corn meal 2 lbs; shorts 1 lb; ground oats 1 lb; beef scrap 1 lb; buttermilk 10 lbs. Turkeys will fatten readily on the following: Corn meal 5 lbs; shorts (wheat middlings) 2 lbs; meat scrap 1 lb; buttermilk 14 pounds.

Turkeys will not fatten in confinement, hence it is better to allow them some exercise. Some turkey raisers merely increase the amount of corn in their regular ration when they desire to fatten them.

For fattening ducks this is a good ration. Equal parts of wheat bran, middlings, corn meal and 10 per cent of beef scrap, three per cent of sharp sand and five per cent of green food. This is moistened with milk or water and fed three times a day all they will eat up clean, but no more.

A good fattening ration for geese is one part low grade flour, four parts corn meal, one part sifted barley meal, one part ground oats (hulls removed). This is moistened with buttermilk or sour milk to a crumbly consistency.

Texas.

F. W. KAZMEIER.

### THE IMPORTANCE OF PROPER FEEDING.

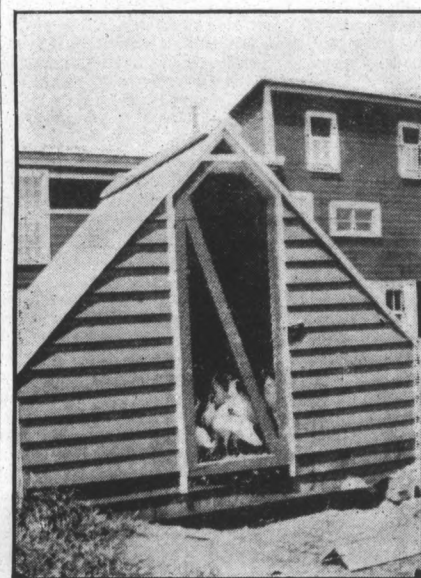
There is no phase of poultry raising which has more to do with profit and loss in the poultry business, than that of feeding. With practically no more expense and with no increase in the number of hens, the egg production of the country could undoubtedly be nearly doubled if the proper feed was used. Balanced rations have been given wide attention in the feeding of cattle and other stock but for some reason the hen has generally been allowed to run about and pick up what she could, and in winter when she could not balance her own ration she is fed in a haphazard way, usually with what is handiest.

When we consider that the hen lays several times her weight in concentrated food matter we realize that she must be fed something out of which to make these eggs. Therefore to get results which will fill the egg basket the balanced ration is necessary.

Haphazard feeding is expensive, whether the feed given is high-priced or not, because it gives practically no results outside of keeping the bird alive. Feeding the proper foods, even though they may cost considerably more than what is ordinarily fed, will assure one a profit if he uses common sense in the management of the poultry.

Scientific feeding or feeding the hen according to her requirements, is a matter which often takes considerable study and trial. Many do not have the inclination or feel that they have the time to give the subject the attention it needs. For those and others who have not had the success that they feel they ought to, the prepared poultry feeds offer a convenient solution of the feeding problem. These feeds are scientifically balanced according to the needs to which they are to be put. Furthermore they are sweet and clean, and cleanliness in poultry feeding is highly essential if one wants to keep the poultry healthy.

Winter is the time when eggs are high, because the hen cannot pick out her own feed. There is no reason why she will not lay in winter if properly fed, so proper feeding in the winter will insure the greatest profits. It is not extravagant to buy, if necessary, feeds essential to high egg production but, instead it is an indication of good business judgment because it will be a profitable investment. By all means, if better profits from poultry are wanted, give attention to the feeding problem.



A Good Coop for Fattening Purposes.

gain in fattening fowls?" This, of course, depends to some extent on the cost of feed. At the Iowa State College, 44,000 birds were fattened under packing house conditions. The stock was ordinary farm poultry. The first week the average gain was one pound per bird. The second week the average gain was but eight-tenths of a pound. The average cost per pound gain was four and one-half cents. The United States Bureau of Animal Industry, in experiments, produced a pound of gain at six and one-half cents per pound. Present high prices of feed no doubt will bring the cost of producing a pound of gain between six and one-half and seven cents.

In fattening poultry first see to it that the birds are free from lice. Birds picked from the range, with large frames and in a vigorous condition, will produce the most gain at the least possible cost. Average farm stock can be fattened very profitably.

On the farm pen fattening will no doubt be most profitable. Crate fattening, however, produces the best results for the producer supplying a selected trade. Milk fattened poultry demands a premium in most markets.

### Length of Fattening Period.

As a rule it does not pay to fatten poultry for longer than two weeks. The first few days feed very sparingly, gradually increasing the amount until

## COLD WEATHER WILL SOON BE HERE!

Have you a FUR COAT or ROBE that needs a NEW LINING, FASTENERS, or the FUR repaired? **THE BLISSFIELD ROBE & TANNING CO.**, will gladly pay the CHARGES if sent to them, and by return mail will give you a low estimate on putting your FUR GOODS in condition as good as new. If the price is not satisfactory, goods are returned FREE OF CHARGE.

**THE BLISSFIELD ROBE & TANNING COMPANY,**  
Lock Box M, F., Blissfield, Michigan



## Farmers' Clubs

Address all communications relative to the organization of new Clubs to Mrs. J. S. Brown, Howell, Mich.

### Associational Motto:

"The skillful hand with cultured mind is the farmer's most valuable asset."

### Associational Sentiment:

"The Farmer: He garners from the soil the primal wealth of nations."

### MINNESOTA FOLLOWS MICHIGAN'S LEAD.

#### Will Organize a State Association of Farmers' Clubs.

With the approach of the annual meeting of the Michigan State Association of Farmers' Clubs, Michigan Club workers will be particularly interested in learning that steps have been taken toward the organization of a similar federation of local Farmers' Clubs in Minnesota. A large number of local clubs exist in Minnesota, the movement there having been promoted through the activities of the Extension Division of the College of Agriculture of the state university, but up to the present time no central organization has been formed. A meeting of members of local clubs interested in the organization of such a federation was called to meet at the Minnesota State Fair, and it is now planned to have another meeting for the actual work of organization which will be held early in January. As a preliminary toward this action, the director of the extension division who is promoting the movement asked for data relating to the Michigan State Association of Farmers' Clubs and was forwarded copies of the constitution and by-laws and the report of the last annual meeting containing club statistics for this state.

In connection with the suggestion which was recently made in this column that the practical work of the local clubs be broadened, a few brief items indicating the nature of the local work which is being carried on by a few of the Farmers' Clubs in Minnesota will perhaps be appreciated. The following items of this nature were gleaned from a recent publication of the extension division:

The Farmers' Clubs in the Bear River Valley in Itasca and St. Louis counties, are making an agricultural survey in an effort to secure a branch railway for the valley.

The Farmers' Corn Club of Morrison county is going to build five miles of good roads.

The Carmel Farmers' Club of Beltrami county is making a study of farm equipment. At a recent meeting models of practical farm gates were exhibited. At the succeeding meeting home-made wagon jacks were on display.

The members of the Do-good Farmers' Club of Waseca county, are joining with other farmers to raise a \$500 fund to be used this summer in keeping on hand a supply of hog cholera serum.

At the last meeting of the Hawley Farmers' Club of Clay county, each member responded to the roll call by naming his farm's worst weed enemy and gave his method of eradication.

The Farmers' Clubs around McIntosh in Polk county have organized a live stock shipping association.

The Silver Dale Farmers' Club of Koochiching county raised \$67.17 at a basket social recently as a nest egg for a fund to be used in erecting a club hall. Other clubs working on club hall plans are: Lake Johanna, Ramsey county; Forbes, St. Louis county; Columbia, Polk county; Pelican, Crow Wing county; Perch Lake, Carlton county.

## Grange.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

### COMING EVENTS.

Ionia County Pomona will meet at Danby, October 20. A good program, which includes two addresses by State Master J. C. Ketcham, a talk on the benefits of the Wolverine paved way, by Chas. Lundquist, and a discussion of the work of the subordinate Grange secretary, will be given.

### AMONG THE LIVE GRANGES.

Grange Participates in "Prosperity Week."—The Grange at Galesburg had a booth in which products of the farm and the home were exhibited. The booth was a square one with a roof covered with dogwood branches of green leaves and red berries. The corner posts were of cornstalks on which were hung wreaths of farm grains. The back of the booth was of white latticework entwined with ivy vines. Shelves containing flowers, fresh fruit and canned fruit, etc., were also at the rear. At the ends were displayed all kinds of fancy work. In the center was a show case containing baked goods. At each side was a mound of fruits and vegetables of all kinds. Every inch of space was filled with flowers and autumn leaves. Mesdames Chas. Delong, J. J. Campbell, Bert Hayes and Minnie Simmons, with John Vosburg and L. L. Joy deserve credit for the work done on the booth. J. R. Blake had a fine apple display in one corner of the building, with the words, "Hilltop Orchard," made from red apples, with green ones for a background. Roscoe Rice also had a very pretty exhibit of apples. His were displayed in pyramids with the words, "Grown for you in Kalamazoo." R. Rice was printed on the apples of each pyramid. The letters were formed on the apples while they were ripening, by means of strips of transparent tissue paper with black letters on them. This shut off the sunlight from the apple underneath the letters and as a result the red apples had letters on them that were very nearly white.

The County Fair and the Farmer was discussed at Olivet Grange meeting September 29. Many ways were suggested in which the farmer can get help from the county fair. One member said that it was an excellent place for a farmer to exhibit his stock that he wished to sell, while the man who wants to buy can usually find the stock to suit him at the fair. It was also suggested that the annual fair could be used to get boys interested in staying on the farm by having them exhibit grain, vegetables or stock which they raise. Their interest in the work for the sake of the premiums will later grow into an interest in the work itself. The women, too, found that the county fair could be of benefit to them in a great many ways. During the evening readings were given by Mrs. Kate VanAuken and Mrs. Chaney Osborn. Mrs. W. J. Hickock acted as lecturer in the absence of Mrs. N. D. Lamphear.

Emma Grange met September 29 with less than the usual number in attendance owing to the extremely busy time. Some were threshing until a late hour, while others were working at their beans until late, while still others were detained by illness. Nevertheless the usual interest was manifested and the following delegates were appointed for the county convention: Mr. and Mrs. Horton Bryan, and Mr. and Mrs. Carter Johnson. After an excellent musical and literary program, meeting adjourned.

### GRANGES ORGANIZED AND RE-ORGANIZED.

The number of Granges organized and reorganized from October 1, 1914, to September 30, 1915, both inclusive, is as follows:

#### Organized.

California 3; Colorado 30; Connecticut 3; Delaware 2; Idaho 3; Illinois 13; Indiana 11; Iowa 13; Kansas 90; Kentucky 1; Maine 5; Maryland 11; Massachusetts 8; Michigan 26; Minnesota 4; Missouri 2; Montana 7; Nebraska 39; New Hampshire 1; New York 33; North Dakota 6; Ohio 83; Oklahoma 6; Oregon 25; Pennsylvania 38; South Dakota 21; Washington 18; West Virginia 17; Wisconsin 10; Wyoming 13. Total 542.

#### Re-organized.

Colorado 1; Kansas 1; Michigan 3; Ohio 2; Oregon 3; Pennsylvania 3; Washington 6; West Virginia 1. Total 20.

## See the Great Pacific Northwest on Your California Exposition Trip

Every farmer East of the Rockies ought to know how men make money on the new lands of the Great Pacific Northwest—and this Fall is the best time there ever has been to get that information. You can get it by inspection of the lands themselves on your way to California or by attending one or more of these shows:

Northwest Live Stock Show, Lewiston, Idaho, Nov. 29 to Dec. 4.

O. W. R. & N. Corn Show, Walla Walla, Wash., Dec. 2-4.

National Apple Show, Spokane, Wash., Nov. 15-20.

Manufacturers and Land Products Show, Portland, Ore., Oct. 25 to Nov. 13.

Pacific International Live Stock Exposition, Portland, Ore., Dec. 6-11.

You are going to take a western trip sometime—take it now when you can get the benefit of our low rates made for the great fairs at San Francisco and San Diego. Moreover, you can see these two expositions, which have never been equaled and which will not be duplicated during your lifetime.

Remember—the low rate ends Nov. 30 and the return limit is Dec. 31. The Exposition at San Francisco closes Dec. 4. See the great citrus groves of California at the beginning of the navel orange season.

Write for full information about the

## UNION PACIFIC CIRCUIT TOUR

which takes in the whole of the West at the least expense.

W. R. Alexander, G. A.  
11 Fort St., West  
Detroit, Mich.

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LUMBER and building material of all kinds shipped direct to you at manufacturers' wholesale prices. An unusual opportunity to every buyer to realize a wonderful saving. Only the best of material shipped and our guarantee goes with every item in the shipment.

If you are needing lumber or building material in large or small quantities we can supply your wants. We carry in stock 25 million feet of dry bright lumber ready for shipment and no delay. Framing, Sheathing, Flooring, Ship Lap, Drop Siding, Novelty Siding, Barn Siding, Finishing, and everything in building lumber. If you want Red Cedar Shingles, write today—at once—for our record breaking prices.

### High Grade Millwork

Lowest factory wholesale prices. Doors, Windows, Storm Sash, Storm Doors, Stairwork, Porchwork, Interior Trim, Door and Window Frames, Hardwood Flooring, etc.

### Catalog Sent FREE!

Send for our Special No. 3 Millwork catalog. The only one that gives the exact cost of millwork laid down to your station. Also our up-to-date Lumber catalog. Don't delay.

Write Today A postal card with your name and address will bring catalogs and all particulars. Big cut in prices on high-grade Asphalt Roofing and Asphalt Slate Coated Shingles. Write today.

Home Lumber & Supply Co.  
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### All Drain Tile Is Not Alike

From a time and service standpoint "American" Vitrified, Salt Glazed, Frost Proof Drain Tile is as superior to ordinary kiln product as the Motor Car is to the Ox Cart. No other tile made so good—so lasting. Insures best, longest and cheapest service. Sizes 3 to 27 in. Ask for prices on carloads.

AMERICAN SEWER PIPE CO.  
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## \$10,000.00

BACKS THIS SAW. IT IS THE BEST AND CHEAPEST SAW MADE.

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Portable SAW

is easy to operate. Only \$10 saw made to which ripping table can be added. Guaranteed 1 year. Money refunded if not satisfactory. Send for catalog. Hertzler & Zook Co. Box 23 Belleville, Pa.

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### AGENTS WANTED.

to represent a reliable concern canvassing among farmers in your own neighborhood or elsewhere. No experience necessary. Liberal pay, and supplies furnished free to right parties. Reference required. Address, MICHIGAN FARMER, Detroit, Mich.

## MEN WANTED

LEARN TO DRIVE AND REPAIR AUTOMOBILES AND TRACTORS Big demand for trained men. Earn from \$75 to \$150 per month. Learn in 6 weeks by the

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## ABERDEEN ANGUS

If you are in need of an extra good bull or a few choice young cows or heifers, we have them for sale. Our herd is headed by the Grand Champion Black Monarch 3rd. We invite you to come to our Farm and see them. They are bred right and priced right. U. L. Clark, Hunters Creek, Mich. Sidney Smith, Mgr.

## ABERDEEN-ANGUS

HERD ESTABLISHED IN 1900. TROJAN-ERICAS and BLACKBIRDS only. Also breeders of Percheron, Hackney and Saddle Horses. Young bulls and Percheron stallions for sale. WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES—One of the foremost dairy breeds. The most economical milk producers. Calves for sale. White Leghorn cockerels; Duroc Jersey swine. Michigan School for the Deaf, Flint, Michigan.

THE VILLAGE FARM,  
Grass Lake, Michigan,  
GUERNSEY CATTLE.

MILO D. CAMPBELL CHAS. J. ANGEVINE

BEACH FARM  
GUERNSEYS

The buyer of breeding stock should know that the herd from which he buys is healthy. We believe the Beach Farm Herd is as near perfect health as is possible. The tuberculin test does not show the least sign of reaction. We never had a case of contagious abortion. Have sent a whole year without calling a Veterinary or giving a dose of Medicine.

WE OFFER FOR SALE

Registered Guernsey Bulls

Very High Bred Grade Guernsey Cows

Bred Heifers, Open Heifers and Heifer Calves.

CAMPBELL &amp; ANGEVINE, Coldwater, Mich.

## GUERNSEYS—REGISTERED

BULL CALVES

Containing blood of world champions.

HICKS' GUERNSEY FARM, Saginaw, W. S., Mich.

GUERNSEY BULLS FOR SALE, ready for service from A. R. Dams. If you want the right kind write for price and breeding. BYERS & BARNES BROS., Coldwater, Michigan.

REGISTERED Young Guernsey Bulls, great grandsons of Gov. Chene, Serviceable age, nicely marked, exceptional breeding. Avondale Stock Farm, Wayne, Mich.

FOR SALE A choice lot of Registered Guernsey cows, heifers and bulls of May Rose breeding. H. W. WIGMAN, Lansing, Michigan.

GUERNSEYS—20 High Grade Bred heifers at reasonable prices. E. D. JESSOP, Lansing, Mich.

For Sale: 2 Registered Guernsey Bulls. Calves 7 months old. JOHN C. CHALMERS, ANN ARBOR, MICH. R. F. D. 8.

REGISTERED Holsteins—Herd headed by Albina Bontie Butter Boy. His dam has A.R.O. records as follows: at 2 yrs. milk 430, but or 18.85; 4 yrs. milk 604.8, butter 27.03; at 6 yrs. milk 620, butter 28.55 lbs. W. B. READER, Howell, Mich.

Do You Want A Bull?

Ready For Service.

From a grand daughter of The King of the Pontiacs. Sired by a bull that is more than a half brother to the Champion Holstein Cow of the World, and whose dam is a 30 lb. 6 1/2 % fat daughter of Pontiac Aggie Korndyke who has more 30 lb. daughters than any other living bull. If you do write for pedigree.

EDWIN S. LEWIS, Marshall, Mich.

I don't want to sell anything but

HOLSTEIN BULLS

and I have some bull bargains. Don't buy a bull until you know I have not got what you want. Come and see bulls.

L. E. CONNELL, Fayette, Ohio.

HATCH HERD

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Registered Holstein-Friesian sires, grandson's of World's greatest dairy sire, out of choice A. R. O. dams and King Pontiac Jewel Korndyke; Brother of K. P. Pontiac Lass 44.15; average record of 50 dams in his pedigree 31.25 in 7 days; average per cent of fat three nearest dams 4.37; of his own dam 4.93. Sires in first three generations already have over 600 A. R. O. daughters. A few females bred to "King". Prices reasonable.

The Two Greatest Bulls

KING OF THE PONTIACS

DE KOL 2d's BUTTER BOY 3rd

I have young bulls from cows having high official records and Granddaughters of above bulls. Stock extra good. Prices reasonable.

BIGELOW'S HOLSTEIN FARMS,

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Offers for sale, registered Holstein Cows bred to the great bull Pledge Spafford Calamity Paul. If you need a bull, write for prices and pedigrees of our bull calves.

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High Class HOLSTEINS

My herd is headed by Smithdale Alcartra Pontiac, whose dam is the famous Alcartra Polkadot. Have few young bulls and females for sale at reasonable prices. Will buy a few heifers about 15 months, not bred. Farm 1/2 mile from court house. SETH E. RUBERT, Howell, Mich.

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100 Head of Pure Bred Registered Holstein Cattle.

Fair Grounds Adrian, Michigan. October 22, 1915.

This offering is characterized by,—Splendid Individuality, Popular and World Record Breeding, Young and of Vigorous growth, large percentage of A. R. O. cows and offsprings. Cows bred to bulls out of world record dams. Sons and Daughters of Prize winners at National Dairy Show.

Note the quality of Herd bulls to which Offering is bred,—

6 to—King Pontiac Jewel Korndyke, Sired by King of the Pontiacs, dam Jewel Korndyke 2nd and a daughter of DeKol 2nds Butter Boy 3rd.

10 to—"King Lunde Pontiac Korndyke 15," a son of King of the Pontiacs and Pontiac Korndyke.

3 to—Sir Johanna Pontiac Pet, a grandson of Colantha Johanna Lad, Rag Apple Korndyke and Pontiac Pet.

3 to—Duke Ormsby Pietertje DeKol 3rd.

5 to—Risinghurst Johanna Ormsby Hope, Sons of the Great Worlds Year Record cow Lindenwood Hope.

20 or more to—Prince Bawn Maxie DeKol, son of Crown Princess Maxie De Kol, 2nd world record Senior four year old 30 day division. Others bred to sires of similar breeding.

All animals tuberculin tested by state-approved veterinary. Remember—Place Adrian, Mich.—Time October 22, 1915. Follows sale at Howell, Mich. Breeders from a distance can attend both sales and select from over 200 head. Catalogs ready October 15th. Write early for catalog.

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Consignors:—Kennedy Holstein Farm Co., Adrian, Mich. Hatch Herd, Ypsilanti, Mich. Geo. W. Rising, Fayette, Ohio. L. E. Connell, Fayette, Ohio. Lenawee Stock Farm, Adrian, Mich. Rogers Bros., Onsted, Mich. R. P. Clement, Adrian, Mich. Dr. B. W. Anthony, Adrian, Mich. Elwin Clark, Adrian, Mich.

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With thirty common cows, each giving 3,000 pounds of milk per year, introduce a purebred registered Holstein bull. In two years you will be milking grade Holsteins yielding with first calf 4,000 to 5,000 pounds. In three years you'll have 6,000 pounds of milk. In seven years, you'll have the same amount of milk. In ten years, you'll have 8,000 to 10,000 pounds of milk and a ten-cow herd will produce as much milk as your thirty cows do now. Quite a saving in labor, feed and equipment to say nothing of the increased value of your cows and calves. Investigate the big "Black-and-Whites."

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Before buying your bull look ahead and think of the fine herd you hope to own in a few years. Fifty per cent, or over, of its value depends on your bull. Therefore, get a good bull. And don't be too particular about the price if you can be sure of the quality. McP. Farms Co. sells bulls of strictly high quality. There is insurance a successful, profitable herd. Write your wishes to McPherson Farms Co., Howell, Mich.

YEARLING registered Holstein heifer. Sire is son of former state champion cow, 32.94 lbs. of butter in 7 days. Very nice every way. \$125 brings her right to your station. Safe arrival guaranteed. Write for pedigree. Hobart W. Fay, Mason, Mich.

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From heavy producing dams. Bargain prices. DEWEY C. PIERSON, Hadley, Michigan.

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Our Holsteins combine the blood of Belle Korndyke and DeKol 2nd. Our Guernseys are strong in Lady Gempsey, Glenwood Boy of Haddon, and Stroud's Glenwood of Pinehurst blood. Some fine bull calves of both breeds for sale. Boardman Farm, Jackson, Mich.

REGISTERED HOLSTEIN BULL, calved Jan. 2, 1914.

Send for description. W. C. TAYLOR, Milan, Mich.

HOLSTEIN CATTLE and Duroc Jersey Swine

Choice pigs of both sexes now ready to ship. Prices reasonable. E. R. CORNELL, Howell, Michigan.

Only \$40.00 Delivered. Magnificent Hol-

stein bull calf, by 24 lb. butter bull. Ten weeks old. 250 lbs. A beauty. 1/2 white. ROUGEMONT FARMS, Detroit, Mich.

REGISTERED HOLSTEIN FEMALES. Choice

yearlings—Two year olds and matured cows. Haven't the room for them, must sell before winter. If interested come and see them, they are good stuff, in nice condition. J. M. WILLIAMS, No. Adams, Michigan.

We will take your note for one year at 5%—

then why not buy a

Holstein Bull

at once, and get pick of 12 from best Breeding in Michigan. Send for prices and pedigrees.

LONG BEACH FARM, AUGUSTA, MICH.

Purebred Holsteins Young bulls of best individuality

and breeding at reasonable prices. Write us. G. L. SPILLANE & SON, R. D. 7, Flint, Mich.

Guernseys registered, for sale at Watervliet, Mich.

May Rose breeding. Seven A. R. O. cows in herd. Address J. K. Blatchford, Auditorium Tower, Chicago, Ill.

Maple Lane Register of Merit Jersey Herd. Tuberc-

culin tested by U. S. Government. For sale bull calves and heifer calves from R. of M. dams and grand dams, and Hood Farm Sire.

IRVIN FOX, Allegan, Michigan.

LAST BULL Sold to Mr. A. Fleming of Weid-

der 90717. Just one bull left, age 30 mo. He's a bargain at \$200, breeding conformation considered. Brother to former world's record 3 1/4 yr. old Holstein. M. L. McLaughlin, Redford, Mich.

Lillie Farmstead Jersey Cattle. Bull calves from R.

L. of M. Cows, also heifer calves and several bred heifers for sale. Colon C. Lillie, Coopersville, Mich.

THE WILDWOOD Jersey Herd. Registered Jersey

Cattle of Quality. Herd headed by Majesty's Wonder 90717, one of the best sons of Royal Majesty. The daughters of Majesty's Wonder are mated to a son of Majesty's Oxford King. Herd tuberculin tested. We have for sale a few choice young bulls for fall service from high producing cows. Alvin Balden, Capac, Mich.

Jerseys. Bulls ready for service, extra quality sired by Jacoba's Fairy Emanon, No. 10711, from high producing dams. SMITH & PARKER, Howell, Mich.

FOR SALE—High class Jersey Bull

of Merit ancestry. WATERMAN & WATERMAN, Meadowland Farm, Ann Arbor, Mich.

Jersey Bulls for Sale from high-producing dams, with

semi-official test. O. B. Wehner, R. 6, Allegan, Mich.

HILLSIDE Farm Jerseys, yearling bulls, solid

color, half brothers to ex-world's-record senior 2 yr old and from R. of M. dams, with records from 400 lbs. to 800 lbs. C. and O. DEAKE, Ypsilanti, Michigan.

Must Be Sold at Once. 2 yr. old Jersey bull, grand

son of Champion Flying Fox. Dam made 405 lb. butter in 6 mos. Guaranteed in every respect. Price is right. Write for particulars. E. D. DeGraw, Lamb, Michigan.

Milking Shorthorns 1 bull 8 months

old \$125, 2 cows, DAVIDSON & HALL, Tecumseh, Michigan.

BIDWELL SHORTHORNS

For "Beef and Milk"

Registered Bulls, Cows and heifers, Scotch-

topped roans, and reds for sale. Farm at N. Y. Central Depot, also D. T. & I. R'y.

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Shorthorn Cattle of both Sex for Sale

W. W. KNAPP, Howell, Michigan.

Shorthorns For Sale 8 young bulls also female, farm

1/2 mile east of Davis crossing on A. A. R. R. W. B. McQUILLAN, How., Mich.

Shorthorns—Dairy or beef bred. Breeding stock all

ages for sale at farmers prices. C. W. Crum, Secy. Cent. Mich. Shorthorn Breeders' Assn. McBride, Mich.

Dairy Bred Shorthorns of best Bates Strains. Young

Price \$100 each. J. B. HUMMEL, Mason, Mich.

For Sale: Shorthorn bull, 2 yr. old, dark roan. Grand-

son of Avondale. Also, cows and heifers. E. J. FRANK, Montgomery, Michigan. R. F. D. 3.

HOGS.

Durocs & Victorias—Grand bunch of Gilts

due March and April. Comprising the blood of Superba, Defender, Much Col. Orions and others. A few young hogs. M. T. STORY, Lowell, Mich.

FOR SALE—Berkshire hogs, both sexes and different ages.

Bred gilts for fall farrowing. Poll Angus Bull calf, not registered. Price right. Chase's Stock Farm, R. 1, Marlette, Mich.

Berkshires. Two fall gilts bred for Aug. & Sept.

farrowing and a choice lot of April gilts for sale. A. A. PATTULLO, Deckerville, Mich.

Royalton Bred Berkshires—April boar well marked.

Royalton Emperor. Both registered with papers at fair price. Write to D. F. Valentine, Supt., Temperance, Mich.

Registered Berkshires sold by the pound and shipped

on approval. Boars \$c, and sows 10c per pound. B. B. REAVEY, Akron, Mich.

BERKSHIRES Choice spring boars and gilts

priced to move quick. Farmers stock. ELMHURST STOCK FARM, Almont, Mich.

DUROC JERSEYS—A few choice

ready to ship. Carey U. Edmonds, Hastings, Mich.

Duroc Jersey—March pigs either sex, also am book-

ing orders for fall pigs for Nov. shipment. Inspection invited. E. D. Heydenberk, Wayland, Mich.

HAMPSHIRE Swine—Breeding stock of all ages

from most popular strains. Write for breeding. Inspection invited. Floyd Myers, R. 2, Decatur, Ind.

Big Type, O.I.C.'s and Chester White Swine.

400 fall pigs either sex, special prices for the next

30 days, also bred gilts and service males and we are booking orders for spring pig, all our stock is good enough that I will ship O. I. C. D. and reg. free in the O. I. C. or Chester White Assn. We won, more prize than all other breeders put together, at Ill., and Wis. State Fairs. Write for Show record.

ROLLING VIEW STOCK FARM

Cass City, Michigan.

Chester Whites—Special prices on March boars for

next 30 days. Fall Pigs. F. W. ALEXANDER, Vassar, Michigan.

O. I. C. SWINE—Are you on the

market for a choice bred sow to farrow the last of Aug. or fore part of Sept.? If you are, write me. I have them. A. J. GORDEN, R. No. 2, Dorrr, Michigan.

O. I. C. Choice Gilts bred for Sept. farrow.

Serviceable hogs. Soring pigs not akin. ALVIN V. HATT, Grass Lake, Michigan.

O. I. C. GILT BRED SPRING PIGS

ready to ship. H. J. FERLEY, Holt, Michigan.

THIS  
**O.I.C.**  
SOW WEIGHED 932 LBS.  
AT 23 MONTHS OLD  
**IONIA GIRL**

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U.S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." C. S. BENJAMIN, R. No. 10 Portland, Mich.

O. I. C's—Bred sows, bred gilts, spring pigs both sex. Service Boars. Price low. A. R. GRAHAM, Flint, Michigan.

REGISTERED O. I. C. BOARS & GILTS

High class fall pigs at reasonable prices. J. CARL JEWETT, Mason, Mich.

O. I. C. SPRING BOARS of good type and

Red Polled bull calves. John Berner and Son, Grand Ledge, Mich.

O. I. C. SERVICEABLE BOARS. Priced to

sell, and recorded in buyer's name. H. W. MANN, Danville, Michigan.

O. I. C.'s STRICTLY BIG TYPE.

March, April and May pigs Sired by Lengthy Prince, White Monarch and Frost's Choice, all big type boars and sows weighing from 500 to 700 lbs. with quality second to none. Can furnish in pairs not akin. Prices reasonable.

Newman's Stock Farm, Marlette, Mich. R. 1.

O. I. C's two yearling boars and a lot of last Spring pigs

not akin. Also a lot of this fall pigs at \$10 each at 8 to 10 weeks old. Good stock, 1/2 mile west of depot. Otto B. Schulze, Nashville, Mich. Citizens phone 124.

O. I. C. Choice eighteen mos. old boar.

State Fair 1915 and Mar. and Apr. gilts, also fall pigs. A. J. BARKER, BELMONT, MICH. R. No. 16.

O. I. C's. Spring Boars ready for fall

service. Write JULIAN P. CLAXTON, Flint, Michigan, R. 8.

Way Brothers Stock Farm. The home of the big

bone O.I.C. Hogs. Stock for sale. Registered free. J. R. Way, Pompei, Mich.

Brookwater Farm

This herd won fourteen first prizes, besides several lesser ones, also Grand Champion Boar and Grand Champion Sow at Michigan

State Fair. Every entry was bred at Brook-

water with three exceptions and they were far-

rowed there. The Grand Champion Boar

Hoosier is for sale also a choice lot of spring

pigs and yearling boars. If you wish something

considerably better write or visit—

BROOKWATER FARM, R. 7., Ann Arbor, Mich.

Capitol Herd Duroc Jersey Swine. Established 1888.

Spring pigs for sale, satisfaction guaranteed. Ex-

press prepaid. J. H. Banghart, East Lansing, Mich.

DUROC JERSEYS—Spring pigs either sex. Gilts bred for

Sept. farrow to a son of Volunteer Grand Champion at Intern'l Stock Show Chicago. F. J. Drott, R. 1, Monroe, Mich.

Durocs of the best of breeding. April farrow either

sex or pairs for next 30 days \$20 each. Two fall

boars. Oct. farrow \$30 each. Also Holstein bull one year Oct. 6. H. G. KEESLER, Cassopolis, Mich.

DUROC JERSEYS—Fall and

spring pigs either sex, from choice strains. S. C. STAHLMAN, CHERRY LAWN FARM, Shepherd, Michigan.

DUROC JERSEY BOARS A choice lot of spring boars,

not akin. W. C. TAYLOR, Milan, Michigan.



## MAKING FALL PIGS PROFITABLE.

(Continued from page 333).

After the pigs have learned to eat they can be fed regularly at least twice per day, once in the forenoon and once in the afternoon. They should be given only as much as they can eat up clean in a short time. Remember that at this time they are depending a good deal on the mother for food. What is given in the trough is extra, and serves two purposes; it helps to furnish food which they need, and it helps to expand the stomach, which will enable them to eat more feed as they go along a little later, and make greater gains at less cost.

After the pigs have been fed the dainty feed in the trough a week, one can feed a variety of feeds, a little coarser in quality and cheaper in price. Ground oats with the hulls sifted out make a good addition to the middlings. This year the oats are as cheap as any feed we have and can be used liberally with profit. A little wheat bran can be added to keep the bowels in a healthy condition. Sour milk can be used instead of the sweet milk. Allowing them to run at grass, at will, will benefit them as they will eat some green feeds which help expand the stomach, separate the particles of grain consumed, and make digestion of the feed more perfect. The exercise necessary to gather the green feeds, promotes a healthy condition which insures a constant growth.

From the time the pigs are two weeks old the sow should be fed liberally on feed that will enable her to yield a heavy flow of milk, which will do much toward promoting growth and development while the pigs are yet young, establish a thrifty habit with the pigs, which is a point well worth striving for if one is endeavoring to secure large gains in weight for the feed consumed.

If the pigs are crowded along as rapidly as possible, it is not a difficult matter to get them to weigh 50 pounds each when the mother is taken from them at the end of the eighth week, and they will be so accustomed to eating other feeds than the mother's milk that there need not be any check in growth at this time. The pigs will be strong and healthy, anxious to consume feed enough, if properly and regularly fed, to weigh 80 to 90 pounds each when three months old.

Now at the end of three months you have thrifty young hogs to feed instead of little pigs. Treat them in a reasonable manner by giving a variety of feeds regularly and in such quantities as the appetite demands. Never give more at a time than they will eat up clean. Feed both sloppy and dry feeds through the winter, and if the sloppy feed can be given warm, all the better. Give some forage feed regularly, such as June clover, alfalfa or corn ensilage. Be sure that they have a dry, comfortable place in which to sleep. Do not subject them to cold draughts of air at night, a damp, filthy nest, or leave more than three feet of air space above them while sleeping in the nest. Cold air coming from above, or at the sides will retard growth.

It is while the pigs are young that rapid growth can be promoted and profits on the feed secured. If feeds rich in protein, such as wheat middlings, oats, grass and palatable forage feeds, with some corn are given, growth will be rapid and the quality of the meat just what the market demands. Muscle or lean meat is made while the pigs are growing. Muscles can be grown cheaper than fat can be made later in the life of the pig, thereby yielding a liberal profit on the pigs, and at the same time securing quick returns for the feed and labor bestowed. If kept constantly growing the pigs are ready for market at any time it may seem desirable to sell them.

Wayne Co. N. A. CLAPP.

## Veterinary.

CONDUCTED BY W. C. FAIR, V. S.

**Umbilical Hernia.**—I have two fillies four and one-half months old that, on account of fast running have developed navel ruptures. At first these bunches were the size of a hickory nut and are now about as large as a goose egg. One Vet. wants to cut a slit in outer hide, then lacerate and sew up inner membrane, also place a bandage over the colt's body over the breach. The other Vet. said he can fix the breaches by gathering up the surplus skin after pushing intestines up where they belong, then tie a stout cord or place a clamp on the surplus skin, then with a needle insert some fluid inside where breach developed, to start an inflammation so as to heal inner membrane. I understand that this latter method is not always successful. In case it did not prove successful, could a person resort to the other method? Which method would you advise and what is the best age to operate at? P. C., Coopersville, Mich.—The writer has performed both operations hundreds of times and on an animal that age, either of the methods should prove satisfactory. The latter method is the simpler one of the two, therefore, I would advise you to use it. A second operation is sometimes necessary, but it should not be in your case. Now or a little later is the proper time to operate.

**Chronic Lymphangitis.**—Two years ago my horse had an attack of lymphangitis, was not treated properly and the result was thick leg. Occasionally the leg inflames and swells. I have applied kerosene and lard which appears to make him worse. H. G. A., Charlotte, Mich.—Give your horse 2 drs. of acetate of potash and 1 dr. of potassium iodide at a dose in soft feed three times a day. Dissolve ¼ lb. of acetate of lead in a gallon of water and wet leg two or three times a day.

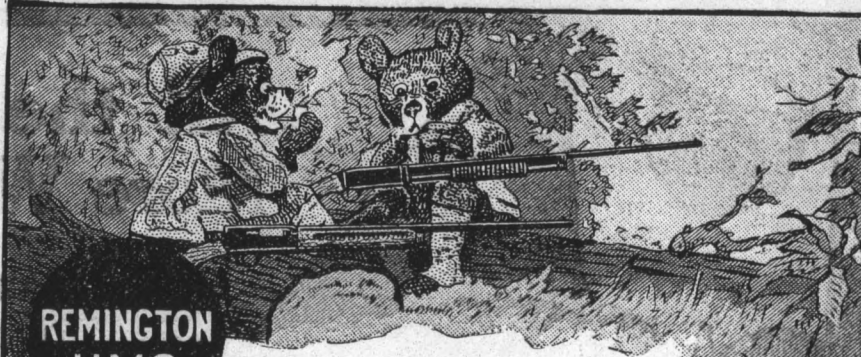
**Weak Heart.**—I have a lamb six months old apparently in a healthy condition, but when driven faster than a walk it pants and opens mouth. D. E. M., Big Rapids, Mich.—Give your lamb one drop of tincture nux vomica and 3 grs. potassium iodide at a dose three times a day. I am not sure but what your lamb should be marketed if fleshy enough for food.

**Heaves.**—I have a young horse that is bothered with heaves and I would like to know what to do for him. R. F. H., Milan, Mich.—Give 1 dr. of powdered lobelia, 1 dr. of fluid extract gelsemium and 1 dr. of fresh chloral hydrate in a pint of water two or three times a day. Feed no clover or musty, dusty, badly-cured fodder, and exercise her daily.

**Weakness.**—Pigs six months old have been doing well until lately; now they are weak and this weakness affects the hind quarters most. Their food supply has been mostly middlings, bran slop and oats. J. Z., So. Lyon, Mich.—Your hogs should be kept in a dry, clean, comfortable place, fed some lime water and powdered sulphate of iron in their feed. They should be fed mostly oats, skim-milk and grass. Apply equal parts of turpentine, aqua ammonia and raw linseed oil to their back three or four times a week. Ailments of this kind are usually the result of feeding an unbalanced ration, or keeping pigs in damp basement barns that are filthy and badly ventilated.

**Cow-pox.**—I have four milch cows with sore udders. These sores commenced coming about four weeks ago and appear like blisters which later on form a hard scab and some of them fester. We have applied carbolic acid and vaseline, also peroxide of hydrogen. One other cow had these sores but got well. The other two cows had some fever when the sores first appeared and have not given much milk since they became diseased. J. H., Breckenridge, Mich.—Apply one part oxide of zinc and three parts vaseline or wool fat to sores on udder twice a day. Give 1 oz. of sulphate of soda and 2 drs. of acetate of potash at a dose three times a day.

**Exostosis.**—We have a cow that had a lump on her lower jaw for two years. When we first noticed it, it was about the size of a hickory nut and at the end of the first year it was about the size of a man's fist and has not increased in size any since. This bunch is as hard as bone and appears to be firmly attached to jaw bone. The cow is in good condition and I would like to know if this is a case of lump jaw. And will it have any bad effect on her milk? L. B. W., Wayne Co., Mich.—Her milk is fit for use and my advice is for you to leave her alone.



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**Shall It Be an Autoloading or Pump Gun?**

**T**HERE are many kinds of Autoloading and Pump guns—some to be had at very low prices.

But it is typical of sportsmen that the great majority prefer Remington-UMC Pump and Autoloading guns in the hands of the average man.

If you shoot at traps or in the field, go to the Remington-UMC Dealer in your community and let him show you these guns. You will know him by his display of the *Red Bull Mark of Remington-UMC*—Sportsmen's Headquarters—and he knows the difference in guns.

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## THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's  
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IT HAS NO EQUAL

**For the Human Body**

It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

**Perfectly Safe and Reliable Remedy for**

**Sore Throat**  
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**Strains**  
**Lumbago**  
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**Sore Lungs**  
**Rheumatism**  
**and all Stiff Joints**

**REMOVES THE SORENESS—STRENGTHENS MUSCLES**

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."  
OTTO A. BEYER.  
Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.  
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

## SHEEP.



**IT PAYS TO BUY PURE BRED SHEEP OF PARSONS**

"The Sheepman of the East" I sell and ship everywhere and pay express charges. I will start one man in each town. Write for club offer and descriptive price list. Oxford, Shropshire, Ram-bouillet and Polled-Delaines.

**PARSONS, Grand Ledge, Michigan R 1**

**Black Top Delaine Sheep.** Yearling rams for sale. Fred E. Ketchert, Elm Ridge Farm, Ann Arbor, Mich.

**Oxford Down Sheep.** Good Yearling Field Rams and ewes of all ages for sale. M. F. GANSSLEY, Lennon, Michigan.

**Oxford Down Sheep and Polled Durham Cattle** For Sale. J. A. DeGarmo, R. No. 25, Muir, Mich.

**Registered Oxford Down Sheep.** Ram, Lamb, Yearling Ewes. L. N. OLMSTED, J. SPAANS, MUIR, MICH.

**OXFORDS**—any age. Priced right. I bought the entire B. F. Miller flock of prize winners. O. M. YORK, MILLINGTON, MICHIGAN.

**OXFORD RAMS**—42 registered Rams for Sale. Lambos, yearlings and 2 yr. olds. W. H. McCARTY & SONS, Bad Axe, Mich.

**FOR SALE**—Rambouillet Rams \$12.00 per head also good ewes from one of the best flocks in Michigan. J. W. GRAHAM, Davidsburg, Michigan.

**SHROPSHIRE RAMS**  
Good big fellows with quality. Special prices on them this month. See our exhibit at Columbus and Detroit. KOPE KON FARM, Kinderhook, Michigan.

**FOR SALE SHROPSHIRE RAMS** that have wool from toes. M. A. BRAY, Okemos, Ingham Co., Mich.

**Shropshires Ewes and Ram Lambs for Sale.** DAN BOOHER, Marlon, Michigan.

**Big Robust Wool-Mutton Shropshire Rams**  
Priced right and satisfaction guaranteed or money back. Write today for Special Price List 24. A. H. FOSTER, Allegan, Michigan.

**Shropshire** 3 year-old stock ram, 2-year-old yearlings and lamb rams. Wool-mutton type. G. P. ANDREWS, Danville, Michigan.

**SHROPSHIRE.** Am offering 4 yearling rams, 8 ram lambs and 6 young ewes at reasonable prices. C. J. Thompson, Rockford, Mich.

**Shropshire Rams and RAM LAMBS.** Registered, large and well woolled. Write your wants. A. E. BACON & SON, Sheridan, Mich.

**Merinos and Delaines**—Large, choicely bred, long staple, oily, heavy shearers. Delivered, priced to sell. S. H. Sanders, Ashtabula, Ohio.

**Ten pure bred Hampshire Ewe Lambs.** Will register. Wm. C. Smith, Rochester, Mich. Phone 31-F2L.

## HOLSTEIN-FRIESIANS

Maplecrest Korndyke Hengerveld at the head of the herd. The only sire of the breed in service whose dam and grand dam each made over 1200-lbs. of butter in a year, and whose dam, grand dam and great grand dam each made more than 30-lbs. of butter in 7 days.

Bull calves from this great sire for sale, from cows up to better than 30-lbs. of butter in 7 days.

A few very fine heifers and young cows in calf to this bull for sale, at reasonable prices.

**D. D. AITKEN,**  
FLINT, MICHIGAN.



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Man—now listen. When you buy a pair of rubber boots or shoes, you naturally expect long wear and water-tightness, and you'd welcome the addition of comfort at the toes and heel, wouldn't you? Of course, you would; but it's hard, mighty hard, to find a boot that combines *all* these good qualities.

But there is *one* line of rubber boots and shoes that you can buy and be assured of heaping value for your money. This brand is sold by reputable dealers everywhere, under the trademark name of

**"Lamco," Short Boot**  
Made of pure, thick rubber with seven heavy rubber ribs. Won't crack or wrinkle. A boot that will stand up under severe usage. Red soles and heels.

**"Lamco," Four Buckle Arctic**  
Pure rubber throughout. Heavy ribs that add strength and sturdiness. Four steel buckles. Made in all-rubber and cloth top. Red soles and heels.

# LAMBERTVILLE RUBBER FOOTWEAR

Illustrated on this page are the "Lamco" and "Snag-Proof" brands of boots and shoes, taken from the extensive Lambertville Line. *Study* them. Note the extra heavy soles; the strong reinforcements at points of greatest wear. The only thing that we can't illustrate about these boots is the *quality* of the rubber used in making them. But the *quality* is there, and it's ace high.

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Representative merchants in 'most every locality sell Lambertville Rubber Footwear. If your merchant does not carry this famous line, write us, giving his name, and we'll quickly make it possible for you to obtain these goods at regular prices.

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**"Snag-Proof Perfection"**  
Combination Shoe and Felt  
This combination means wear, warmth and comfort. Extra heavy felts or knit socks. Shoes are of all-duck covered with seven thicknesses of pure rubber. Heavy soles and heels.

**"Snag-Proof" Short Boot**  
Built to stand the test of time and service. Heavy sail duck with seven thicknesses of pure rubber. Extra quality Para rubber soles give extreme wear.