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Improving Michigan's Wheat Crop

By JOSEPH F. COX

TWENTY-FIVE years ago Michigan wheat ranked with the best on the market. At that time Michigan Amber, a red winter wheat, constituted a separate grade and was famous for its excellence.

"Today wheat from Michigan grades lower than wheat from neighboring states. Comparatively little red wheat reaches the market from Michigan, nearly all of it being mixed, 'white and red,' or 'red and white.'"

"At the present time the white and mixed wheat brings from three to twelve cents per bushel less than red winter wheat."

"Tell the farmers of Michigan that in order to improve their wheat crop they should cease growing the white wheats and mixed wheats and return again to good red varieties."

The above statements were made to the writer while visiting the Toledo Grain Market, by Mr. E. H. Culver, Chief Inspector of the Grain Testing Laboratory. Since a large proportion of Michigan wheat arrives at the To-fairly representative of the condition led market, they may be taken as of Michigan wheat in general.

Mr. Culver went on to say that on that particular day, December 23rd, which was representative, 30 cars of Michigan wheat came on the Toledo market. Out of this number only two classed as red wheat, grading No. 2. The remaining 28 cars were mixed wheats classing as either "red and white" or "white and red," and grading No. 3 or lower. Carload lots of unmixed white wheat seldom come on the market, there being enough red mixed in to cause most of it to grade "white and red." The market price of that day for "red and white" was seven cents per bushel under the price of No. 2 red while the "white and red" wheat was twelve cents under No. 2 red. In other words, each carload of mixed wheat sold at from \$70 to \$120 less than a carload of red wheat. The state of Michigan lost over \$1,000,000 during the past season because of the fact that her farmers are growing white wheats and mixed wheats instead of good red varieties.

Twenty-five years ago, the acreage devoted to wheat in Michigan was more than double what it is today and at that time Michigan ranked high as a wheat state. In view of the fact that much of the area once given over to wheat is now occupied by other, and in many cases more profitable crops, it is doubtful whether the area should be increased, but that the quality of Michigan wheat has deteriorated and that the yield per acre remains so low are certainly facts to be deplored and remedied if possible.

A study of fair exhibits, where only the best of a community is brought in, shows strikingly the extent to which Michigan wheats have become mixed. In the majority of cases, the white wheats will show numerous red kernels and the red wheats are very often badly mixed with white kernels.

As stated before, the present demand

is stronger on the market for red wheats than for white or mixed wheats. All indications are that this condition will continue and that the spread in price between red and white wheats will increase. The red wheats, as a rule, are superior in quality to white wheats for bread-making purposes, since they are harder and contain a higher per centage of gluten. The white wheats make a better flour for pastry purposes but the demand is not strong enough to keep the price on a par with the good red wheats in

ticular, were high-yielding varieties. The red wheats in many sections had, through neglect, been allowed to "run out," or become badly mixed with a predominance of low-yielding strains, so that the white varieties readily replaced these inferior strains. Where several bushels more per acre can be secured by growing a white variety, the advantage gained by the higher price per bushel for red wheat may be more than offset. There are, however, many good strains of red wheats which will yield as well or better than the



Red Rock Wheat, a Pedigreed Variety Developed at Mich. Experiment Station.

view of the overproduction of white wheat.

One of the reasons advanced to explain why Michigan farmers substituted white wheats for red wheats is that in the early days of the breakfast food industry white wheats were very largely used and a premium of several cents per bushel was paid for white wheat, thus encouraging many farmers in growing wheat of this type. At the present time corn has very largely supplanted wheat in manufacturing breakfast foods and the premium is no longer paid.

Another reason is that the white wheats, Dawson's Golden Chaff in par-

best white varieties, and before choosing permanently to adhere to white wheat, these should be secured. Those strains which have been improved through selection, or "pedigreed strains," are particularly worthy of a thorough trial. In the variety tests conducted at the Michigan Experiment Station, Mr. F. A. Spragg, the plant breeder, finds the improved strains of red wheat to be better yielders than the best white wheats.

In bringing about the mixing of red and white wheats, the threshing machine and carelessness have been very largely responsible. With out present methods of threshing, the separator

passing from farm to farm, the wheat of the community is rapidly and effectively mixed unless care is taken to clean the ledges of the separator or to take wheat for seed after the separator has been running for some time. Suggestions for Improving Quality and Increasing Yield.

For the improvement of the quality and the increase of the yield of wheat in Michigan, the following suggestions are offered:

1. Widespread seeding of improved or high-yielding red varieties instead of white and mixed varieties. In choosing which variety of red wheat to grow it must be kept in mind that some are much superior to others. In the variety tests at the experiment station, the Red Rock wheat, a pedigreed variety, is one of the highest yielding strains. This wheat is also the best from a milling standpoint. Shepherd's Perfection is another variety that has given satisfaction to both farmer and miller.

Wheats of the Lancaster type, as well as being good yielders, as a rule are superior from a market standpoint in that they are not so easily damaged by heating in the bin or by weathering. On the other hand, wheats of the Clawson type are very easily damaged by adverse weather conditions and by sweating in the bin.

2. Avoid the mixing of varieties. This can best be accomplished by community co-operation in growing improved red wheats. Where both white and red wheats are grown in the same locality it is very hard to keep them from mixing. The individual can usually keep his wheat clean for seed purposes by seeing to it that the ledges of the separator are thoroughly cleaned and by taking out wheat for seed after the machine has been running for some time. By storing in the barn enough wheat in the sheaf for seed purposes, and threshing when the oats are threshed, unmixed seed wheat can be secured. Any admixture of oats will be killed out by the winter.

3. Treat seed wheat for smut. The great annual loss from smut in Michigan can be very largely controlled by the formalin treatment. The most convenient method is to spread the seed wheat out on the barn floor and thoroughly sprinkle with the formalin solution, shovelling the wheat over during the sprinkling process and after so as to hasten drying. One pint of 40 per cent formalin to 40 gallons of water is the advised proportion.

4. Grow wheat in a good rotation. Wheat does best in rotation with other crops, the yield falling off where wheat follows wheat continuously, due to soil depletion and the increase of wheat diseases and insects. Since clover can be seeded so conveniently with wheat as a companion crop the wheat crop is a useful one in Michigan rotations.

5. Fertilize with acid phosphate, or a fertilizer high in phosphate. Two hundred pounds of acid phosphate per acre in the Michigan Experiment Station fertilizer experiments with wheat (Continued on page 775).



A Wheat Variety Test at Michigan Station Including over Fifty Varieties.

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FINANCE AND INVESTMENT SECURITIES.

Realizing that quite a large number of our readers are accumulating some surplus capital and naturally are seeking some safe and remunerative investment, in accordance with our policy of progress we will inaugurate in our next week's issue a department under the above heading. It will be devoted exclusively to giving information on investment securities, and expert advice in answer to queries on this subject from our subscribers.

After much careful investigation we have engaged to conduct this new department Mr. John R. Milligan, who has a wide acquaintance with high-class securities. His articles will be worthy of being clipped and preserved by all who contemplate an investment. The department will be much more useful to all if our readers will ask questions about securities and investments in general. The plan is to furnish information on which the prospective investor may base his judgment.

CURRENT COMMENT.

Michigan Crop Conditions.

Notwithstanding the fact that weather conditions have been decidedly unfavorable for the rapid advancement of the spring work, the estimate of Michigan crop conditions by the correspondents of the U. S. Department of Agriculture shows a most encouraging prospect for a profitable season for Michigan farmers.

In a summary indicating the general crop conditions on June 1 in each state as compared with the ten-year average of all crops reported upon, Michigan is given a prospect of 103.5 per cent as compared with 97.7 for the whole country. This percentage is larger than that of any contiguous state, figures for which are as follows: Ohio 100.6; Indiana 96.2; Illinois 99; Wisconsin 97.6 per cent.

As prosperity for Michigan farmers depends quite as much upon the price levels as upon yield, a comparison of present price levels for a series of years will prove interesting. According to the government report, the level of prices paid producers for the principal crops increased 1.7 per cent during May, as compared with a normal increase of 2.6 per cent during May, consequently on June 1 the index figure of prices was about one per cent lower than a year ago, but five per cent higher than two years ago and four per cent higher than the average for the past eight years on June 1. In the live stock department of production however, prices have soared until the present index price for meat ani-

mals is 18.3 per cent higher than the average on like date for the past six years, and 17.4 per cent higher than a year ago.

While there is considerable fluctuation in the wheat market, depending not only upon weather reports, but as well upon reports of European operations, it is a fair conclusion that even though the European war should end at a comparatively early date, price levels for wheat and other staple farm products will continue on a comparatively high basis. Impending trouble in Mexico will have some bearing on the situation, and the fact that there has been very marked inflation of currency in all the belligerent countries of Europe will tend to stimulate a high level of prices for foodstuffs as well as of other articles of general consumption for some years to come, consequently good crop prospects mean prosperity for the general farmer as well as the specialist, and by way of comparison, Michigan's prospects are far better for this season than those of the country at large or of most of the important agricultural states.

Increased prosperity of American farmers, due in part to the foreign demand for foodstuffs, stimulated by the great European war, is not destined to be an unmixed blessing in the long run. So great is the sympathetic balance between values, that manufactured foodstuffs, and in fact all items of general consumption are bound to share a sympathetic increase in prices, even though no shortage be caused through the disturbance of trade resulting from the war.

In many lines, however, this disturbance has been so great as to materially affect the available supply of raw materials and thus cause abnormal advances. This is the case with steel and steel manufactures and is bound to be felt in an unavoidable advance in the cost to the consumer of farm equipment. Most manufacturers had considerable stocks of raw material in hand when this trade disturbance occurred, but with the exhaustion of such supplies and the necessity of purchasing them in the open market in competition with the demand for material for the manufacture of munitions, the increased price will necessarily be passed on to the consumer.

The advance in the primary raw material, pig iron, is estimated by one leading manufacturer to be 44% per cent, while the increase in the cost of small manufactured items, such as bolts, nails, rivets, etc., has approximated and in many cases exceeded 100 per cent. The advance in the cost of factory equipment and tools has been still greater, while in some cases, notably one large manufacturer of agricultural implements, the cost of labor has increased from 67 to 86 per cent in different factory departments from the low wage period when former sale prices were made. It therefore seems certain that prices for farm equipment of all kinds must necessarily advance and remain at a higher level than during recent years, at least until the material market again becomes normal after the re-establishment of world channels of trade on a peace basis.

Following the now established custom which worked so advantageously in many communities last year, Governor Ferris has designated June 29-30 as road bee days in Michigan. Reviewing as it does, the progress made in permanent road improvement work in Michigan last year, the text of the governor's proclamation will be of interest to Michigan Farmer readers, for which reason it is reproduced in full as follows:

On June 4-5, 1914, and June 10-11, 1915, Road Bee Days were observed in Michigan. Much good to the rural highways was accomplished on these days, the amount of good depending entirely upon the efforts put forth in the var-

ious communities. Bad weather interfered seriously with work the first year and many complaints were received that the dates set were too early. In many neighborhoods Road Bee Days were observed later. This being a proverbially "late season," the time has been set "after planting" and "before harvest" in the hope that good weather may prevail and the opportune time selected.

During the past year road building sentiment in Michigan has grown rapidly. The Legislature of 1915 passed some of the most progressive highway laws ever enacted in Michigan. These were followed by the largest cash appropriations ever made for state road purposes—the appropriations for two years, including the state's portion of the automobile taxes, aggregating three millions of dollars. Already under the Assessment District Road Act, petitions have been filed with the various county road commissioners and the state highway commissioner, for more than one thousand miles of road which will cost more than five millions of dollars to build.

In the aggregate the road taxes assessed last fall by the state, counties and townships, amounted to \$9,164,609. Many personal donations were made which would make a grand total expended on the highways of the state last year, approximately \$10,000,000.

The mileage of state reward roads completed was the greatest on record. If connected they would make more than three continuous lines across the state from the Ohio line to the Straits of Mackinaw.

But notwithstanding this apparently satisfactory progress in substantial road building, there are thousands of miles of neighborhood roads which need attention, not alone annually but almost constantly throughout the season. Good churches and good rural schools are impossible without good roads, and all call for a live community interest and a well organized system of maintenance.

Knowing that well kept public wagon roads are vital to the moral and physical well-being of every community, and that the people of Michigan are anxious to extend the work of road improvement so as to include all of our road mileage, and believing that specially appointed road days are a great stimulus to the work, I, Woodbridge N. Ferris, Governor of Michigan, do ask that the people of the State of Michigan set apart Thursday and Friday, June 29-30, 1916, as "Road Bee Days," and so far as possible turn out and work under such competent supervision as may be available on the highways of the state in such manner as shall be most conducive to their betterment.

HAPPENINGS OF THE WEEK.

National.

At the national democratic convention held in St. Louis last week, President Woodrow Wilson, of New Jersey, and Vice-president Thomas R. Marshall, of Indiana, were re-nominated as candidates for the offices of President and Vice-president respectively, on first ballot. The only issue that was debated on the floor of the convention was the question of woman suffrage which was finally left as a matter for the states to dispose of rather than for the federal government. The other planks of the platform were adopted without contest or compromise. A peculiar coincidence is brought about by the selection of Vice-president Marshall in that the two men contesting for his office on the tickets of the two great parties are both from the same state and city, Indianapolis, Ind.

Gov. McCall, of Massachusetts, has signed the state income tax law recently passed by the legislature of that commonwealth. This measure is considered one of the most far reaching pieces of tax legislation enacted in years. It provides for a six per cent tax on incomes from intangible personal properties and one and a half per cent on the income from trades, professions and business in excess of \$2,000. It also provides for a two per cent tax on the income of profits from stock speculation and carries a compulsory return provision with a heavy penalty for violation. The importance of the measure may be better understood by the fact that \$5,000,000,000 of intangible personal property escapes taxation every year according to the tax commissioners of that state.

In reply to the request that the barracks at Fort Wayne, Detroit, be turned over to the city for use in relieving the housing situation, the war department at Washington announces its

intention of using the grounds for military purposes again, making it impossible to grant the request.

The Board of Supervisors of Saginaw county has petitioned the circuit court to grant a permanent injunction restraining the drain commissioners of Lapeer, Tuscola and Sanilac counties from proceeding with the dredging of the lower 24 miles of the north branch of the Flint river. This action is taken to prevent a deluge of spring water from covering the lowlands of Saginaw county. It is also hoped that it will gain the co-operation of these counties with Saginaw county in providing a sufficient outlet for the immense quantities of water that flow down the Saginaw river during the spring months.

William Merritt Osband, widely known over this state as an educator and journalist, died of apoplexy at the University of Michigan hospital at Ann Arbor, Sunday. He was 79 years old, and had lived in Ypsilanti since 1887.

The National Convention of the Mystic Order Veiled Prophets Enchanted Realm is in session in Detroit this week with around 10,000 delegates present.

During the past ten years the cost of education in the leading universities of the country has increased about 20 per cent, according to investigations by Carnegie Foundation statisticians.

Foreign.

Mexican Affairs.—An ultimatum has been received at Washington from First Chief Carranza of Mexico, advising that if American troops are not removed from Mexico within seven days, a state of war would be considered as existing between two countries, and that armed Americans in Mexico would be considered as invaders. Immediately upon receipt of this ultimatum President Wilson issued a call to the National Guard organizations of every state in the Union for service on the Mexican border. The purpose set forth in the call is for the protection of the American frontier from invasion. There is a general belief that this action marks the first step of intervention in Mexico.—The Mexican raiders who attacked several ranches and a detachment of the twenty-sixth infantry in Texas last week, have been dispersed by the fourth punitive column sent into Mexico by the American government. Having accomplished this object, the American force has now withdrawn to the north of the boundary line.—The National Guard consists of 132,208 commissioned and enlisted men. Of this number Michigan has 2,620. Governor Ferris is ordering out the Michigan guard in accordance with the Washington order.—The Pacific fleet has received instructions to leave at once for Mexican waters. In addition, four warships and three destroyers will be rushed to Mexican ports on the Atlantic, while the battleship fleet will be held in readiness.

The European War.—The Austrian headquarters admit that the Russian forces have recaptured Czernowitz in southern Galicia. This important railroad center was one of the objectives of the great Russian drive which has been attracting attention on the eastern front during the past fortnight. German reinforcements have already been brought from the French front to the assistance of the hard pressed Austrians. In less than two weeks the Russians have captured besides an enormous quantity of war munitions, 70,000 men, 1,309 officers and ten surgeons. Covel and Lemberg appear now to be objective points of the Russian forces.—On the western front the Germans have been repulsed by the French in the vicinity of Dead Man Hill, enabling the French to maintain their recent gains in that district. The French were also successful in repulsing attacks in the Thiaumont sector to the east of the Meuse river.

General Von Moltke, chief of the supplementary general staff of the German army, and one of her foremost soldiers, died of apoplexy Sunday afternoon during a service of mourning in the Reichstag for the late Field-Marshal von der Goltz.

HISTORIC MACKINAC ISLAND.

Bulletin No. 5 just issued by the State Historical Commission, is a little volume of rare value, breathing the spirit and romance of Mackinac Island and the Mackinac country, the Indians the fur traders and the missionaries in the days when Michigan was young. It contains the newest map of Mackinac, with descriptive and explanatory notes of over 200 places of natural and historical interest on the island. The volume is issued free for the pleasure and profit of the people, who may by its aid learn more about their beautiful northern park, Mackinac Island. Anyone may obtain a copy without cost by addressing a post card to the Michigan Historical Commission, Lansing, Mich.

IMPROVING MICHIGAN'S WHEAT CROP.

(Continued from first page).

usually gives a return of about six bushels per acre, according to Prof. V. M. Shoesmith, or a return of over 400 per cent on the money invested in fertilizer. When used as a reinforcement of manure the returns are even greater. The fact that Michigan soils as a rule are deficient in phosphorous and that the wheat crop makes a heavy draft on this element are additional reasons for the use of fertilizers high in phosphorous. Three hundred pounds per acre used once in the rotation on the wheat crop will probably give the most profitable results.

6. Apply lime or marl to soils deficient in calcium carbonate, and land that has been cultivated for a generation or more without the addition of lime is usually benefited by its application. A successful crop of clover cannot be secured after wheat on an acid soil and since the clover crop is the king pin in a rotation including wheat, it is of the greatest importance that a good catch be secured. Acid phosphate is fully utilized only on a soil well supplied with lime. Two tons of ground limestone, or one to one and a half tons of hydrated lime is usually sufficient to correct the acidity of acid soils for a period of several years or more. If marl can be conveniently secured, it may be used with as much assurance of success as lime or limestone.

7. Fan out seed wheat with a good fanning mill and the yield may be increased to a certain, though limited, extent, making the use of the fanning mill well worth while.

8. Prepare a firm seed bed. Ground on which wheat is to be seeded should be plowed early, harrowed or disked thoroughly, and given ample time to settle so that the seed bed will be firm and in good condition at planting time. Wheat kernels sprout and the plants develop and start best on a firm soil. The roller is often a useful implement to use in preparing a good seed bed.

9. Seed late enough to avoid the Hessian fly. Seeding from ten days to two weeks later than the average seeding time will usually control the fly. No definite date of seeding can be given for Michigan on account of her varied climatic and soil conditions. A good general rule is to seed just late enough to avoid the fly and early enough so as to give time for sufficient growth to withstand the winter.

A close study of the methods of successful wheat growers will bring out the fact that some or all of the above operations characterize their methods and differentiate them from those of the average farmer. The average farmer receives the average yield, which returns but little above the cost of production. It is in the return above the cost that the profit lies, and hence the urgent necessity of giving any method which will tend to increase the yield and quality with no great increase in cost of production, a thorough trial. In a broad way, the methods of the superior farmer and the average farmer, are much alike—each plows and cultivates his land and sows and reaps his crop in much the same way. The difference lies chiefly in attention to small details. The superior natural conditions may account for many high yields, under average soil and climatic conditions it is attention to the above mentioned details which rewards the skillful farmer with the successful crop.

EXTERMINATING QUACK GRASS.

I have been a reader of the Michigan Farmer for a good many years, and thought perhaps some of its subscribers might be interested in my experience in exterminating quack grass. About four years ago I bought a village lot in Camden, Mich., where I now

reside. On the back end of the lot was a patch of quack grass about 10 or 20 feet across each way. It was thoroughly rooted and a very rank growth. I had the ground plowed and harrowed and planted it to strawberries. I hoed the ground thoroughly through the summer, but the quack grass kept on growing. The next year it got the best of the strawberries, and took full sway.

Last year, about May 1, I spaded up this ground, hoed it over and planted it to a large kind of sunflower in hills two and one-half feet apart each way. When the sunflowers were about five inches high I thinned them down to two stalks in the hill. The quack grass was also about four inches high. I cut it off with a hoe and that was the last work done on the patch until the sunflowers were ready to harvest; then I gathered them. At this time I discovered the quack grass was all dead, and this spring I set the ground out to strawberries again and at this time no quack grass is to be seen. I think the sunflowers shaded the ground and killed it.

Hillsdale Co.

J. A. PALMER.

CROP AND FERTILIZER QUESTIONS.

When to Cut First Crop of Clover to Get Seed Crop.

When, or at what stage in its growth should clover be cut in order to get a good crop of clover seed from the second growth? I have two or three tons of spoiled silage. If this is mixed with stable manure and spread on the land will it sour the soil or spoil it in any way?

Sanilac Co.

B. C. K.

Probably the best time is when the first crop is just beginning to head or a little before. But if it is left until the first crop begins to blossom it will do very well in ordinary years. It must not be delayed too long. Don't wait until in full bloom and some of the heads turning brown. If you do you take chances for a crop of seed.

You may think you can not cure the first crop for hay if cut so early, let it you can. We do alfalfa. Cut it, let it dry a little and cock it up and let it cure in the cock. It will be the best hay. Don't let it get too dry before cocking or you will lose lots of the leaves, and besides it will not cock up well.

No, your spoiled silage will not injure the land. This is the best use to make of it, in fact it is the only use.

Will it Pay to Tile Drain Wet Land?

Could a man, say half in debt, on 100 acres of land worth from \$80 to \$90 an acre profitably invest \$500 in tile drainage? Would it add that much value to the farm, and would it be safe to hire the money and pay interest at six per cent on investment? Would it be safe financing to do this? This farm produces good to fair crops now, but I believe it could be made to produce a great deal more than now. Surface water will drain off how to fair advantage, but some of the farm is quite level and some places there are small pockets which hold the water and it has to practically dry out by sun and wind.

Clinton Co.

R. H. S.

My views on this subject of tile drainage must be pretty well understood by readers of the Michigan Farmer. I have advocated it constantly at every opportunity, and I have practiced what I preach. Any heavy soil will bear the expense of tiling. Dr. Beal told us at M. A. C. one time that to tell when land needed tiling, to dig a post hole and let it stand open. If at any time during the year water stood in this hole for a considerable time that land needed tiling.

Now, if it pays to run in debt for the land in the first place, it will pay to go in debt to tile drain. The land will produce enough more to many times pay the cost of tiling in a period of five years. Tile draining is an investment just as well as the land itself. No business man on a farm should hesitate one moment about the cost of tiling if he can borrow the money. It will be the best investment he ever made. Anybody who has tiled will tell

you this. Get at the job as soon as possible. When it is done you will wish many times you had done it long ago.

COLON C. LILLIE.

THE FARMER'S SCRAPBOOK.

Mr. De La Mater's comment on the farmer's scrapbook in the May 20 issue of the Michigan Farmer has been noted. I am in accord with the writer in that many of the articles in the farm paper are suited more or less to a particular locality and I believe that it is a good thing to have a scrapbook in which these articles may be pasted for future reference. I would, however, not wish to throw any cold water on the idea of Mr. Evans that each farmer should have a technical library. This library would consist of bulletins and books many of which cost nothing, and so arranged that they may be easily at hand. I have both the reference library and the scrapbooks and know that both of them are great help.

It may be interesting to know just what these scrapbooks are. I tried several schemes, among them the taking of old catalogues and cutting out every other page, and taking well-bound books and pasting the clippings into these books. Neither of these schemes were exactly suitable because the columns of the farm papers are longer than the average book or catalogue and this necessitated cutting the columns into two strips. After a while my mother conceived the idea that it would be a good scheme to take old sample books containing tailor's samples, tear out the samples and paste the clippings onto these pages. This I have done and find the idea a very good one. For convenience I have divided the various clippings into: First, farm crops and soils; second, animals; third, farm buildings, and fourth humorous and educational articles. These disused sample books are usually well-bound, in fact three of mine are three-fourths leather bound and each sheet is bound in cloth. It makes a very durable scrapbook of pages long enough to take the average thirteen-and-one-half-inch column, the only objection being that these books are a little cumbersome to handle. However, it is the best plan I have found.

I presume there are many farm homes to which bulletins from the state experiment station come and many of these bulletins are thrown into the fire because there is no suitable place for keeping them. A way that I make these bulletins handy is to take all along one subject, for instance dairying, and fasten them together by means of shoe laces threaded through holes that may be made with the harness punch. This manner of keeping these bulletins is not ideal, and I am looking for a better way that does not incur too great an expense, yet the way I have outlined is effective in keeping this matter where it may be available when wanted.

Illinois.

I. J. MATHEWS.

FARM NOTES.

The Second Seeding of Alfalfa.

I have plowed up some alfalfa that was run out by June grass. I have manured it and planted it to potatoes. I am going to try and kill the June grass this summer and seed it to alfalfa next spring. Would it be all right to sow the seed without inoculation? Red clover grows good here.

Delta Co.

I. C.

If the alfalfa plants remaining in the old seeding had nodules on their roots, there will be no necessity of inoculation for the second seeding. If this stand of alfalfa had been productive and some of the plants had endured for a number of years, there is little doubt that inoculation was present. If the plants were of a dark green color and made a vigorous growth, this was certainly the case. An examination of the roots to determine the presence of nodules will give the required evidence.

GET THE GRAIN IN THE SACK

That's Why You Thresh



Some makers of threshing machinery get so interested in getting the straw out after it gets into their separator that they forget where the grain belongs and run it right along with the straw. Their stackers work fine, but their cash register gets terribly out of kilter and generally rings up, "Paid Out."

The Red River Special

ALWAYS LOOKS OUT FOR THE CASH

It makes money for owner or user because its builders are interested in getting all of the grain there is in the crop. They don't forget that the cash register attachment is connected at the sacker, not the stacker.

You'll find it right there where they put it if you buy or hire a Nichols-Shepard machine this season.

Why not Get the Big Run?

If you are influenced by good neighborly opinion, you'll find a lot of it concerning Red River Special methods in the Home Edition of a lively little paper that tells considerable about profitable threshing. We'd be glad to send you the latest number. Don't forget to request a Big Catalog when you write for the paper.

NICHOLS & SHEPARD CO.

(In Continuous Business Since 1848)

BUILDERS EXCLUSIVELY OF

THRESHING MACHINERY

Red River Special Threshers, Feeders, Wind Stackers

Steam and Oil-Gas Traction Engines

(16) BATTLE CREEK, - MICHIGAN

COULD I MAKE IT STRONGER?

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THE time is not far distant when the demand for game birds in this country will be far more universal than it is today. And today the demand is much greater than the supply. A short time ago we received a letter which said, "Had we them to sell we could have disposed of over 5,000 pheasant eggs last spring". This is only one of many similar instances that could be cited.

When you consider that pheasant eggs sell at from \$20 to \$25 a hundred you will realize that raising of game birds is by no means a mere labor of love. There is profit in it as well as pleasure.

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In our booklet, "Game Farming for Profit and Pleasure", you will find much interesting and valuable information on the entire subject of game breeding. It is sent free to those who ask for it. Write for your copy today. Please use the coupon below.

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Orchard Observations

Peach Diseases

DURING the last season, because of unfavorable weather, peach trees in some localities suffered severely from leaf diseases and borer injury. The fruit was not always free from disease and much of it displayed in the market was spotted and checked from scab.

The results of such a season are sure to be far reaching, and one may expect that the next year will bring a continuation if the conditions are favorable. Trees that are badly diseased, the leaves of which were diseased, may carry over the disorders and trouble will begin again.

Most growers are familiar with the disease known as peach scab. The fungus which causes the disease is found in every section in Michigan where peaches are grown. It forms numerous small sooty spots on the fruit. The spots may be very small, at first no larger than a pin head. Later the spots may increase in size and merge. Due to the injury caused by the fungus on fruit, checking and severe cracking may result. As a rule the scab is found mostly at the stem end of the fruit, and on top. But it is not necessarily confined to this area alone; it may be scattered over the entire surface, more or less.

The Peach Scab.

The spots are confined only to the epidermis, the fungus not penetrating into the fleshy portion of the fruit.

It is sometimes said that this fungus causes spots on the leaf to form. This is perhaps not true as the spotting and shot hole effect is due to another cause. Generally on the lower side of the leaf small purple spots are noticeable. This area of the leaf does not die and drop out, however, and the fungus which causes this purple area is the one causing the spot on the fruit, the scab.

The twigs may also become affected. The fungus forms brown purplish spots which are never deep, seldom extending into the cambium, generally only to the cambium. These areas winter over the disease and from them the fruit may again be infected. They may dry and drop out.

It is only on the young twigs that the fungus will grow. The spots may be found near and around the buds and also between the nodes. As a rule the spots can rarely be found; they are not large, perhaps one-eighth to one-fourth of an inch in diameter.

Prune Out Affected Limbs.

When trimming it is wise to cut out the badly diseased branches, and to leave the healthier ones, if possible. Even with the most thorough spraying some of the fungus may not be destroyed.

Last summer there was a great amount of twig infection and orchardists should examine the trees carefully. Some of the orchards that had been sprayed as well as in years previous produced an inferior grade of fruit. It was not the fault of the grower or the spraying material in this case, but the abnormal condition for which the grower's experience had not prepared him.

There are two other diseases of peaches, bacteriosis and peach blight, which may be confused with scab. Fortunately one of them, peach blight, has not been found in Michigan. Peach blight attacks the twigs and causes the buds to die. It attacks the body of the fruiting wood. Spots of varying size are produced on the green wood and the fungus grows into the cambium and wood and may girdle the young twigs, causing death. Bacteriosis and other diseases cause spotting of the fruit and is found in Michigan. The spots are more brownish, often sunken, irregular and scaly or scurfy. On the wood sunken rough cankers are produced and penetrate beyond the cambium. A halo may be around the spots. On the leaf the spot is reddish brown

and the infected area dries and may later drop out. The spots on the leaf often have this halo effect. Most of the shot hole is produced by bacteriosis. This disease has not been reported extensively in Michigan.

The Leaf Spot.

Control measures have been worked out for these diseases and seem to control them well. The Ohio Experiment Station reports good results with modified Bordeaux and later experiments with self boiled lime-sulphur have also been successful. In New Jersey fairly good results were obtained with self-boiled lime-sulphur, 10 pounds of lime and 10 pounds of sulphur to 50 gallons.

If the attack has been severe it may be well to spray the orchard with Bordeaux, 4:4:50 in November and before the buds open apply the commercial lime-sulphur at the usual strength, which is one gallon of commercial lime sulphur at 33 degrees Baume, to eight and one-fourth gallons of water.

It may not be necessary to make the spray, which is applied when the blossoms begin to fall, fungicidal but if only one winter spraying has taken place and conditions are bad it may pay, as some growers have determined experimentally. The second spraying should come when the fruit is about the size of a small hazel nut, that is, when the calyx is shed. This spray and the former, if fungicidal, is made by slaking 10 pounds of lime in about one and a half gallons of water and allowing it to get well started in its action and then adding 10 pounds of finely powdered flower of sulphur. Stir the mixture to get out the lumps and to distribute the sulphur. Add water until the mass has the consistency of paste. In about ten minutes the boiling will subside. Then add more water to prevent further action. Care should be exercised in seeing that no red liquid is formed as this would indicate a compound similar to the winter spray and harmful to the foliage.

An Important Spray.

The last spraying should be applied about four weeks before the fruit matures. This is an important spray, and it is the neglect of this spray that Selby, at the Ohio Experiment Station, finds is the cause of most of the late spotting. If warm moist weather arrives as the crop is maturing it is unwise to allow the one spraying to suffice. The lack of the last spraying may jeopardize the whole crop. When prices are good, taking risks does not pay for weather is a fickle, uncertain element. Man plays as shrewdly as he may, but not an error he makes is overlooked, nor does the penalty he must pay fail to be exacted.

Growers in Michigan who spray when the blossoms fall may perhaps not find it necessary to make their spray fungicidal. The New Jersey bulletin recommends three sprayings, one when the calyx is shed, another two or three weeks later, and the last about a month before the fruit matures. Scab first appears in the early part of June, or even later, some reasons and during this time if the weather is favorable it makes tremendous headway.

Results so far seem to indicate that commercial lime-sulphur diluted is not a good spray to use for peach trees. The poison should not be omitted from the first spraying, at least as insects aid in carrying diseases and in infecting the fruit.

Peach scab may injure the epidermis to such an extent that brown rot may attack the fruit and losses from rotting will be great. In case the disease has been severe it may be well to follow the spraying given when the calyx falls, by a similar spraying two or three weeks later, and another one about a month before the fruit matures.

C. N. FREY.

The Lamb Crop

The lambing season is now over and our lambs are out on green pasture with the balance of the flock, but their care is not over with. In fact, it is just beginning. We should aim to give them every chance possible to develop into good mutton at the earliest possible moment. Prices are high and the lambs are sure to be a source of revenue to almost any farm where sheep raising can be carried on even in a small way.

We feed our lambs a ration consisting of cracked corn, oats, a little buckwheat and barley. We have a feeding place for the lambs where the rest of the flock cannot bother them. In this yard we have troughs and fill them with the above mixture, together with some wheat bran. It is really surprising how much a small lamb will eat when thrifty and in good condition.

One very important thing in sheep raising that we should not lose sight of is making special preparation for some shade during the summer and while hot weather lasts. Sheep will not feed during the heated part of the day and they should have a dark shed in which to lie, or be put into fields where there are plenty of shade trees to protect them. Sheep are greatly annoyed and lose flesh also by the gadfly which deposits its eggs in their nostrils and sometimes causes grub in the head. If they have plenty of shade this will be prevented to a large extent. During the extreme hot weather our sheep almost invariably come a little after sunrise in the morning and stay around in the shade until about sundown, when they go out to pasture again.

It is commonly said a change in pasture will make a fat calf. This is true no doubt, and the same can be said of lambs also. A change from one place to another seems to do them good. Our sheep are changed around as often as possible onto new pasture. It is a fine thing to have a patch of oats out so we can let them have free access to them. In case of an extremely dry summer, a patch of rape will be a good thing to plant for forage. Sometimes we plant a patch of rape and oats mixed. This makes an excellent forage for sheep. We sow two pounds of rape with the oats and this usually gives us a fair stand. There are other combinations that can be sown profitably as a forage crop for both hogs and sheep, as well as for the cattle. Some forage crop should be grown for hogs and sheep each summer.

Our lambs are weaned at between four and five months of age and put on fresh feed. This gives the ewes plenty of time to rest up and get in good condition again before breeding time comes around. If they are very thin they are given a little grain, wheat, barn, and oats. Sometimes we feed a small amount of corn for a change in the ration. In order to get good strong lambs, the ewes must be in first-class condition. I never look for good, thrifty lambs from poor, weak ewes. Considering the high prices prevailing for all kinds of live stock, I think the outlook for sheep raising never was better, especially with the mutton breeds. Sheep raising is not a hard task. Getting started, or perhaps making a start along this line, is all that is necessary and the investment will be a good one.

Penn.

H. W. SWOPE.

MICHIGAN LIVE STOCK NOTES.

The Tri-State Meat Growers' Association, organized last fall by cattle breeders of Michigan, Ohio and Indiana, held its first annual meeting in Jackson on June 8-9, and elected L. Whitney Watkins, of Manchester, Mich., as president, and George B. Smith, of Addison, Mich., as secretary. The meeting next year will be held in Bryan, Ohio. Delegates were present from market.

the three states and steps were taken between farmers and the banks to secure co-operation that the cattle industry may be financed. "Fifty-cent beef" is being talked of now, in fact, best cuts of meat have almost reached this figure in a retail way, and it is believed a big future for beef cattle now confronts farmers. Banks have plenty of money and can make long-time loans. Bankers are interested and Jackson bankers will meet with the farmers of that section at the Otsego Hotel, Jackson, June 29, to discuss plans.

The Tri-State Live Stock Dealers' Association met at Hillsdale and chose officers as follows: President, F. E. McConnell, Allen; vice-president, David Cortright, Homer; secretary, Bert Rowe, Camden; treasurer, John Bowditch, Pittsford. The matter of freight rates was left with the legislative committee. It was voted to hold the semi-annual meeting at Fort Wayne, Indiana, November 14.

Cattlemen of Gratiot, Montcalm and adjoining counties met at Carson City and discussed merits of various breeds, with Prof. Anderson of M. A. C., C. W. Crum, of McBride, secretary of the Central Michigan Shorthorn Breeders' Association, and other speakers. Sentiment seemed to be divided between Holsteins and Shorthorns and it was voted to form two associations. The Holstein farmers organized, in affiliation with the national body, with the following officers: President, Delbert Mayes; vice-president, Albert Van Sickle; secretary-treasurer, Frank Dailley. The Shorthorn men will organize later.

Thirty dairy farmers of Kalamazoo county have formed a co-operative cow testing association, with officers as follows: President, Chas. E. Powers, of Pavilion; vice-president, O. G. Skinner; secretary-treasurer, Carl Buckham; directors, the officers, D. Lacey and R. C. Balch. This is the ninth organization of the kind in Michigan and there are 240 cow-testing associations in the United States.

The Menominee County Dairy and Stock Association has bought its first carload of high-grade stock, the registered Holsteins coming from southern Wisconsin, and will be placed on farms near Powers, Nadeau, Stephenson and Daggett. Business men and farmers are co-operating for improved dairy stock on farms of the county.

Kent Co. ALMOND GRIFFEN.

SOME RECENT PUBLIC SALES OF SHORTHORNS.

As secretary of the Michigan Shorthorn Breeders' Association, I wish to report the following public sales of Shorthorn cattle:

At Manilla, Iowa, on June 1, C. A. Saunders & Sons sold 49 head at an average of \$1,068.

At Altoona, Ill., on June 6, C. J. McMaster sold 32 head at an average of \$601.

At Wheaton, Ill., on June 7, Thos. Stanton sold 30 head at an average of \$1,236.

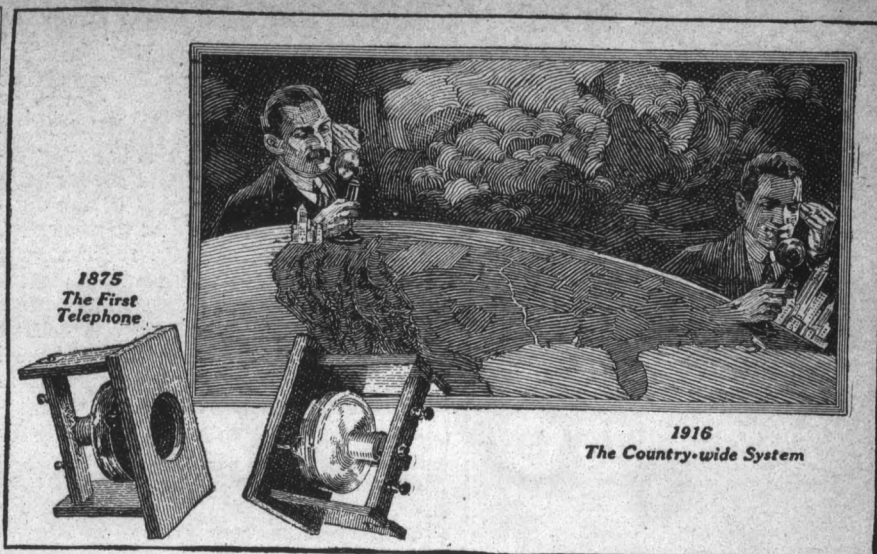
At Mansfield, Ohio, June 8, Messrs. Carpenter & Ross sold 58 head at an average of \$1,110.

At Tiffin, Ohio, on June 9, F. R. Edwards sold 38 head at an average of \$651.

The offerings in these five sales made an average of \$933.

Livingston Co. W. W. KNAPP.

Recently increased Chicago marketings of live muttons have caused some big breaks in prices, and on a late Monday there were breaks of from 50¢ to 75¢ per 100 lbs. for lambs and about 50¢ for sheep, almost everything coming shorn. The southern lamb crop is now being marketed, and a late Monday saw something like 8,000 lambs from Louisville coming consigned to the Chicago packers, lowering materially the local demand on the open market.



Forty-one Years of Telephone Progress

The faint musical sound of a plucked spring was electrically carried from one room to another and recognized on June 2, 1875. That sound was the birth-cry of the telephone.

The original instrument—the very first telephone in the world—is shown in the picture above.

From this now-historic instrument has been developed an art of profound importance in the world's civilization.

At this anniversary time, the Bell System looks back on forty-one years of scientific achievement and economic progress, and gives this account of its stewardship:

It has provided a system of communication adequate to public needs and sufficiently in advance of existing conditions to meet all private demands or national emergencies.

It has made the telephone the most economical servant of the people for social and commercial intercourse.

It has organized an operating staff loyal to public interests and ideals; and by its policy of service it has won the appreciation and good will of the people.

With these things in mind, the Bell System looks forward with confidence to a future of greater opportunity and greater achievement.



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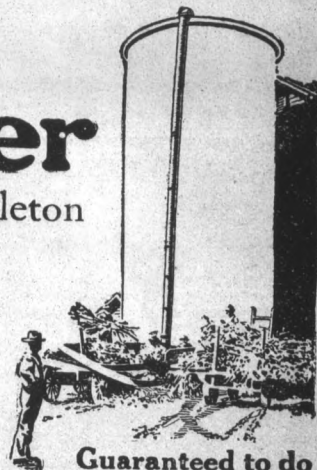
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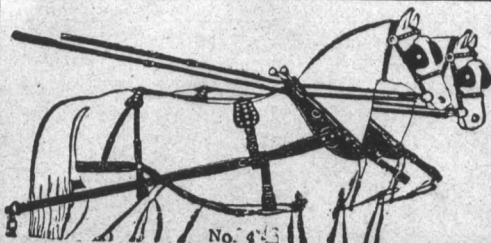
Actual records prove that Appleton Silo Fillers cost the least

per ton of silage put up or per year of life. Tremendously strong construction makes an Appleton practically proof against breakdown. Solid oak and steel frame, mortised, braced and bolted; impossible to pull out of line. Many exclusive power and labor saving features, such as independent belt driven blower allowing speed to be adjusted for minimum use of power for any height silo; frictionless feed table running on chilled iron rollers; knives spiraled to give clean shearing cut, requiring least use of power. (10 lengths of cut, 5-16 to 2½ inches.) Lowdown cut-under frame, easy to handle. Both feed rolls and table controlled by single lever. Positive self-working safety device.

Two Books Free: One on silo building and silage crops; the other a complete catalog of Appleton Silo Fillers in four sizes for 4 h. p. gasoline engines and up. Write Appleton Mfg. Co., 420 Fargo Street, Batavia, Ill.



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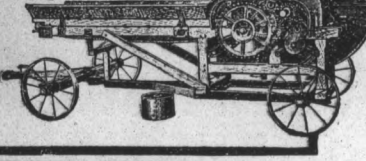
If you are feeding dairy cows or fat stock, by all means get our booklet on Silverized Silage. Know the money-making reasons why corn cut in Silver's "Ohio" makes better silage—packs air-tight in the silo—properly ferments—contains greater food value for stock. Write us today for book telling all about it and the unbeatable construction of

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Successful in Europe since 1885. Received Grand Prizes at 4 different World's Expositions. Marvel of simplicity. Above all in quality, efficiency, durability and appearance; yet low in price. Easiest cleaned and assembled—no complicated parts. Fewer discs; all alike; interchangeable; no numbers. Self-balancing bowl. Enclosed gears.

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Recent test of New York State School of Agriculture showed loss of but one pound of butter fat in 5 TONS of skim milk!

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National Holstein Breeders' Meeting

The treasurer's report shows that the association has over \$300,000 in money and property. Such a large reserve is a visible sign of the prosperity of the association, and assured the permanency and progress of the Holstein-Friesian interests of the country. The total disbursements for the year were \$172,992.26, while the total receipts amounted to \$338,333.14.

In making his report, Superintendent of Advanced Registry Malcolm H. Gardner, said that the whole fabric of the dairy industry rested on the productivity of the dairy cow. Of the various kinds of dairy cows there were over twenty million in the United States. Of these the good ones returned more or less profit to their owners. The indifferent cows return a profit or loss according to the conditions of their environment, while the poor cows show more or less of loss. If the care and feeding expenses of five million unprofitable cows could be eliminated, there would be a saving to the dairy industry of at least \$100,000,000 a year, and if it were possible to add 600 pounds of milk to the production of each remaining 15,000,000 cows, the value of the dairy products would increase \$135,000,000. Such an immediate saving and gain is of course impossible, as improvement takes time, but it is not only a possible accomplishment for the future, but may be far surpassed. Only one of twenty pure-bred dairy bulls born in the herds of the country is needed for use in his breed, leaving the remaining nineteen available for use in improvement of grade and common herds. What is needed is the bringing together of the one who needs and the one who breeds the surplus bull. The mission of the Advanced Registry is to furnish means for improvement within the breed, and a source of supply for pure-bred males to increase the average milk production of the dairy herds in the country. The man who gets two quarts of milk from the improved cow where he got before but one quart from a scrub, is a public benefactor, but if he supinely permits the dealer to cut the price paid for his milk while keeping up the price to the consumer, he not only fails as a public benefactor and in his duty to himself, but becomes a candidate for an asylum for the feeble-minded.

Co-operation the Greatest Need.

Organization and co-operation are the greatest needs of the dairy industry.

The Big Auction Sale a Great Success

THE sale of 140 head of Holstein cattle by the National Holstein-Friesian Sale Company of Michigan, in connection with the recent annual meeting of the National Holstein Breeders' Association at Detroit, June 7-9, proved to be an epoch-making event in the history of this breed in America. The average price received for the animals established a new record for auction sales of dairy cattle.

The 140 animals sold for the aggregate amount of \$152,365, making an average price of \$1,088.32 per head. Of this number there were 18 males which brought their owners a total of \$55,525 or an average of \$3,084.72 each. The average price received for the 122 females was \$793.77.

Among the individual animals, King Champion Rag Apple (179305), an eight months' old male calf consigned by Oliver Cabana, Jr., Elma Center, N. Y., enjoyed the distinction of selling for the highest price paid at the sale. A. W. Green, of Middlefield, Ohio, paid \$20,000 for this animal. First place among the females must be given to Jessie Forbes Bessie Homestead (100-742) a nine-year-old cow with a seven days' butter record of 34.96 pounds consigned by the Munroe Company, of Spokane, Wash. She was sold to the

try. Along this line two events of the past year stand out prominently, these were the organization of the National Dairy Council and the strike of the Chicago milk producers for a fair price for their milk. The Dairy Council will be the greatest factor in informing the general public as to the value of dairy products, while the success of the Chicago milk producers will add \$1,500,000 to their income while at the same time increase the measure of their self-respect and self confidence.

Secretary F. L. Houghton's report showed that by comparison with other dairy breed associations, the Holstein-Friesian is the leader over all. It contains in number over seven thousand more members than all of the dairy cattle associations together. In growth by states New York led with 2,433 new members, Wisconsin second with 1,289, Ohio third with 838, and Michigan and Pennsylvania following in line with 618 and 601 respectively.

The Progress of the Breed.

The literary committee which is established for the purpose of carrying on the literary work of the association by preparing and disseminating articles and information respecting the superiority of the Holstein-Friesian as dairy animals, showed in its report that the registrations and transfers have increased from 42,271 in 1908 to 141,431 in 1915. The application for membership in 1908 were only 466, but during the past seven years the average has been 908. The average auction price of the Holstein has increased from \$156 in 1908 to \$202 in 1915. The high yield in the seven-day class in 1908 was 28.176 pounds, while at present the record is 35.54 pounds of butter-fat, which is held by Ormsby Jane Segis Aaggie. Of its \$25,000 appropriation the literary committee spent for advertising in farm papers \$9,412.38, in medical journals \$2,520.85, and in general magazines \$7,109.83.

The proposition presented by John B. Irwin, of Minneapolis, to provide in the Advanced Registry classification for a 305-day test the same regulations as those now governing the 365-day test was passed without a dissenting vote, the proposal by N. A. Cole and Prof. A. C. Anderson and Alton B. Roberts for a 270-day test under the same conditions having been withdrawn in favor of the 305-day test.

The president's address, election of officers and the meeting place for next year were given in last week's issue.

Cass Farms Company, of Sumner, Ia., for \$4,600.

All the animals included in the sale were of especially high class; they were all selected under the personal supervision of H. A. Moyer, of New York, who also acted as sale director at the auction. S. T. Wood, of New York, was in the box during the sale, while B. V. Kelley, also of New York, R. E. Haeger, of Illinois, J. E. Mack, of Wisconsin, and D. L. Perry, of Ohio, did the auctioning.

Following is a list of the animals sold, the consignors, the purchasers and the price paid:

Consigned by Oliver Cabana, Jr., Elma Center, N. Y.

Females. Manor Rosalind Colantha Copia (190576) to Fred S. Hall, Detroit, \$600; Luzette Pietertje Netherland 5th (167807) to Rising & Bensen, Fayette, Ohio, \$1,700; Superba Rag Apple Luzette (320297) to Flanders Farms, Orchard Lake, Mich., \$1,300; Inka Waldorf 2d (119708) to H. C. Langan, Centerville, S. Dak., \$575; Princess Mutual Pontiac (260955) to Flanders Farms, \$1,675; Manley Farm Odina (191604) to J. W. Bigelow, Easton, Md., \$1,000; Pontus Aaggie Cornucopia (123289) to D. W. Field, Field Farms, Montello, Mass., \$1,125; Lucile Inka Segis (166127) to Barber & Jenkins, Haslett, Mich., \$1,225.

Males.—King Superba (176125) to David Roberts, W. J. Mann, Baird Bros., W. J. Wright, Waukesha, Wis.,

Sturges Milk Cans

Guaranteed Capacity



Easy to Keep Clean

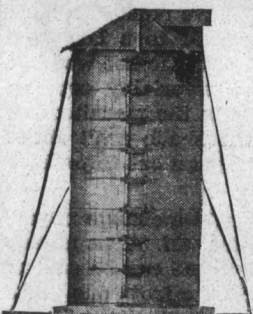
MADE of highest grade steel plate—tinned and retinned after rivet holes are punched. Pure solder sweated into all inside seams, making surface smooth as glass. Sanitary to the finest degree. Guaranteed capacity—each Sturges Can is built to measure. Saves work in shipping—insures accuracy. Sturges Cans are built with the experience of 50 years in making milk cans. Ask your dealer for them. Write for catalog No. 46.

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Make new friends every day—scores of them—in every community. Twenty years experience behind every one insures the best design, workmanship and material producible. No guess work when you buy a Kalamazoo—freight paid to your station—GUARANTEED.

Glazed Tile Silo "Permanent Farm Profit Producer"

The double wall vitrified tile block, glazed both sides, is far superior to the common tile or cement block. Moisture fully retained, with frost barred out, means perfect silage with minimum loss. Ample reinforcement. Securely anchored by its own weight.

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Your choice of four most lasting woods. The Kalamazoo is the only factory where this outfit is manufactured complete from the raw material to the finished product. Service and satisfaction.

A success secret of Kalamazoo Silos is the all steel, hot galvanized, continuous opening door frame, fitted with a series of everlasting Redwood doors, and either the tile or wood is easily erected by home labor. Let us prove to you the Kalamazoo quality. Tell us the size and kind of silo you want and we'll save you money by our co-operative sales plan. Write today.

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THE PERMANENT SILO can't blow down, buckle, twist or collapse. Stands rigid even when empty. Fireproof, storm-proof. Capacity increased any time by adding to height. Guaranteed against silage acids. We also make the Ross Wood Silo. Write for free catalog.

AGENTS WANTED.
THE E. W. ROSS CO.
Box 314 Springfield, Ohio.

\$2,025; King Champion Rag Apple (179305) to A. W. Greene, Middlefield, O., \$20,000.

Consigned by Lawson Holding Co., Inc., La Grangeville, N. Y.

Females.—Hattie Walker De Kol 2d (91844) to A. A. Hartshorn, Hamilton, N. Y., \$1,000; Pietertje Hengerveld Creamelle (132729) to Hollywood Farms, Hollywood, Wash., \$3,200; Tidy Abbecker Princess Annetje (105667) to E. N. Stanton, Fayetteville, N. Y., \$1,525; Eli Chornita Wayne (185966) to John Arfmann, Middletown, N. Y., \$925.

Male.—King of the Pontiacs Segis (169124) to Flanders Farms, \$6,000.

Consigned by Peter Small, Chesterland, Ohio.

Females.—Belle Pontiac Lincoln (156045) to Stevenson Bros. Co., Liverpool, N. Y., \$605; Meadow Holm Ona Cornucopia (142038) to Mr. Aiken, \$2,000; Aroc Edna Pietertje (112769) to Kossir Bros., Marshallville, Ohio, \$925; Maplecrest Pontiac De Kol Champion (123363) to Babbler & Pierce Bros., Monticello, Wis., \$1,350.

Consigned by Munro Co., Spokane, Wash.

Females.—Bessie Segis Lady Oak (240526) to L. E. Connell, Fayette, O., \$400; Bessie Forbes Sunnyside Fayne (306247) to Fishkill Farms, Hopewell, N. Y., \$610; Bessie Blanche Tritomia (294781) to Fishkill Farms, \$505; Hendrika Pietertje Fayne to J. N. Hackney, St. Paul, Minn., \$300; Bessie Piebe Homestead 3d (129516) to B. Meyer, Finnerne, N. J., \$1,150; Stella Canary Tritomia (202029) to F. P. Knowles, Auburn, Mass., \$460; Bessie Pride Polkadot Fayne (306245) to Fishkill Farms, \$400; Johanna Pietertje Fayne (287356) to B. Meyer, \$800; Jessie Fobes Bessie Homestead (100742) to Cass Farms Co., Sumner, Ia., \$4,600; Bessie Fobes Pietertje Fayne (287360) to Lawson Holding Co., \$2,000; Bessie Lilly Pietertje Fayne to Ohio Board of Administration, Columbus, O., \$415.

Males.—Finnerne Pietertje Fayne (98104) to H. C. Davis, Granger, Wash., \$3,000; Fobes Pietertje Fayne, to Fred More, St. Jacobs, Ill., \$300.

Consigned by Stevens Bros.' Co., Liverpool, N. Y.

Females.—K P Reina (261348) to J. A. Hughson, East Aurora, N. Y., \$1,325; K P Veeman Mona (293476) to Mr. Bray, Bridgeport, Pa., \$1,075; K P Mona Veeman (293477) to Mr. Bray, \$1,075; K P Lady Ruth (322114) to Oliver Cabana, Jr., \$1,275; K P Segis Jewel (293468) to Vandercamp Farms, Syracuse, N. Y., \$1,200; Hattie Walker De Kol 2d (284778) to Francis Jones, Clinton, N. Y., \$800; Dora Woodcrest Rag Apple 2d (283498) to E. Le Roy Pelletier, Pontiac, Mich., \$800; K S P Frindaella (215545) to Hollywood Farms, \$550.

Male.—King Pontiac Segis Jane, to Mr. Pless, Brighton, \$1,050.

Consigned by Bernhard Meyer, Finnerne, N. Y.

Females.—Woodcrest De Kol Princess (131269) to B. B. Davis, Omaha, Neb., \$525; Finnerne Lady Fayne (160393) to A. A. Cortelyou, Somerville, N. J., \$2,500; Finnerne Lady Pell Fayne (183213) to Barber & Jenkins, \$300; Finnerne Adelina Fayne Korndyke (239348) \$270; Judge Hengerveld De Kol Valdora (211833) to Paul T. Keisling, Kokomo, Ill., \$500; Mercedes Hengerveld Maia (199170) to D. H. Hoover, Howell, Mich., \$400; Valdessa Ormsby De Kol (140444) to Oliver Cabana, Jr., \$3,000; Finnerne Valdessa Segis Korndyke (291469) to Rachanway Farms, New Hackensack, N. Y., \$450; Pontus Aaggie Cornucopia 3d (211829) to A. A. Cortelyou, \$325.

Males.—Finnerne Alexis Segis Korndyke (174998) to P. T. Butth, Grand Rapids, Mich., \$3,100; Finnerne Holingen Fayne Korndyke (164269) to A. G. Danks, Allamuchy, N. J., \$2,000.

Consigned by Francis M. Jones, Clinton, N. J.

Females.—Orpha Pontiac (100049) to W. D. Robens, Poland, N. Y., \$975; Spring Farms Cornucopia Pauline, to W. D. Robens, \$450; Spring Farm Cornucopia Ormsby, to John M. Tobin, Allegan, Mich., \$500; Spring Farm Cornucopia Lady, to Stearns Bros. Co., Liverpool, N. Y., \$1,600; Spring Farm Cornucopia Johanna, to Ohio Board of Administration, \$370.

Male.—Spring Farm Pontiac Cornucopia 16th, to Hollywood Farms, \$950. Consigned by John Arfmann, Middletown, N. Y.

Females.—Aaggie Cornucopia Pauline Girl (156188) to D. W. Field, \$1,125; Zozo Pontiac Hengerveld, to L. C. Lovell, Bellows Falls, Vt., \$550; Janie Rue De Kol (139887) to C. W. Bray, Bridgeport, Pa., \$825; calf to Winterthur Farms, Winterthur, Del., \$560; Fairmont Alcartra Tehee, to Flanders Farms, \$1,275; Fairmont Alcartra Tehee, to Flanders Farms, \$1,275; Daisy Cornucopia Pauline 2d (157739) to John A. Rinke, Warren, Mich., \$775; Fairmont Artis Alcartra, to Eugene B. Bennett, Easton, Pa., \$1,225; Fairmont Alcartra Countess (287861) to Winter-

thur Farms, \$1,500; Fairmont Pietje Alcartra (287862) to Flanders Farms, \$1,700; Fairmont Mercedes Alcartra (287854) to Flanders Farms, \$1,125; Uneeda Korndyke Beryl 2d, Winterthur Farms, \$1,100; Fairmont Lillie Alcartra to Winterthur Farms, \$675; Fairmont Alcartra Charlotte, to G. G. Burlingame, Cazenovia, N. Y., \$1,500.

Males.—Calf to Chas. E. Caulkins, West Unitey, Ohio, \$525; Alcartra Hengerveld De Kol, to B. B. Davis, \$2,000; Pietje Alcartra Pontiac, to Tranquil Farms, Allamuchy, N. J., \$4,900.

Consigned by C. L. Amos, Syracuse, New York.

Females.—Oakhurst Hengerveld Genieve (286926) to N. C. Graham, of Rochester, Minn., \$400; Fair Acres Cornucopia Maud (274723) to Mr. Godfrey, Liverpool, N. Y., \$250; Union Valley Netherland Beets (291078) to Edw. Clinton, Redford, Mich., \$330; Neta Beets Segis (269649) to E. K. Munro, Camillus, N. Y., \$430.

Consigned by Fred F. Field Holstein Co., Brockton, Mass.

Females.—Dutchland Colantha Clothilde (288825) to W. E. Stillwell, Montello, Mass., \$575; Dutchland Colantha Kuperus (293042) to Christopher Grahm, Rochester, Mich., \$900.

Male.—Dutchland Creamelle Sir Colantha, to L. L. Lawson, La Grangeville, N. Y., \$3,000.

Consigned by F. C. Soule & Sons, Syracuse, N. Y.

Females.—Maple Grove Annie De Kol (140508) to Stevens Bros., \$350; Brookdale Pietje Pauline (138643) to J. M. Hackney, \$450; Brookdale Pietje Teresa (138644) to Dudley E. Waters, Grand Rapids, Mich., \$500; Brookdale Pietje Ormsby (138645) to Houselett & McNutt, Oxford, Wis., \$580; Brookdale Pietje Belle (138646) to Stevens Bros., \$650.

Consigned by Edwin K. Munro, Camillus, N. Y.

Females.—Pioneer Gordon Girl (261349) to Ohio Board of Administration, \$225; Pioneer Nellie Segis (288416) to Vandercamp Farms, \$550; Pioneer Lullula Lass (261347) to Hollywood Farms, \$410.

Consigned by D. H. Hoover, Howell, Mich.

Female.—Two-year-old to Flanders Farms, \$405.

Consigned by P. Butth, Grand Rapids, Mich.

Females.—Jewel De Kol Hartog (213271) to Ohio Board of Administration, \$465; Uno Fearless Fannie De Kol (133577) to Dudley E. Waters, \$850; Creston Pontiac Segis Fannie, to R. & H. Van Dyk, Holland, Mich., \$550; Creston Fairview Korndyke (288612) to A. W. Brown, West Winfield, N. Y., \$360.

Consigned by A. A. Cortelyou, Somerville, N. J.

Females.—Coverly Mercedes Johanna 3d (200064) to Reed & Knowles, Howell, Mich., \$325; Johanna Mercedes Clothilde Rue (217609) to Flanders Farms \$510; Agnes Clothilde De Kol 2d (261857), \$315; K P Clothilde Pietertje (304817) to Hollywood Farms, \$925; Carlotta Fayne Johanna (259130) to Lawson Holding Co., \$1,350; Quoque Boon 2d King Beryl (124470) to B. Meyer, \$1,175; Quoque Boon Abbecker (272183) to Fred S. Hall, \$850; Quoque Boon Pride Fayne (319656) to B. Meyer, \$700; Heeringa Segis (200067) to John C. Butth, \$365.

Consigned by W. J. Prentiss & Son, Alstead, N. H.

Females.—Maplemont Pontiac Rag Apple (240971) to McPherson Farms Co., Howell, Mich., \$880; Maplemont Nettie Mahomet (208866) to G. A. Hosmer, \$700; Nettie Blanche Mahomet (89352) to Houselett & McNutt, \$350.

Consigned by D. D. Aitken, Flint, Mich.

Females.—Flint Ferndale Aaggie (145161) to F. J. & C. B. Sarmiento, Detroit, Mich., \$1,300; Flint Hengerveld Crescent (161888) to Lakewood Farms, \$525.

Consigned by C. F. Hunt, Oran, N. Y.

Females.—Elma Clyde Veeman (268974) to George Homegardner, Sandusky, Ohio, \$200; Rest Easy Pontiac Burke (301232) to Paul T. Kiesling, \$300; Aaggie of Lynfield Ormsby 2d, to Ohio Board of Administration, \$226; Countess Pontiac Abbecker to Ohio Board of Administration, \$295; Segis Pontiac Detroit, to Racmanway Farms, \$235.

Male.—Walker Lyons (174771) to F. J. McRae, Mt. Pleasant, and E. L. Salisbury, Shepherd, Mich., \$500.

Consigned by A. W. Brown & Sons, West Windfield, N. Y.

Females.—Valley View Nellie Pontiac (218877) to F. P. Knowles, \$260; two-year-old to Francis M. Jones, \$500.

Male.—King Pontiac Boon Lilith 2d (159883) to Lawrence Paumier, Louisville, Ohio, \$1,400.

Consigned by W. D. Robens, Poland, N. Y.

Females.—S V H Soldene (285361) Fishkill Farms, \$410; two-year-old to Racmanway Farm, \$425; Jennie Vale (Continued on page 780).

A SPLENDID OPPORTUNITY FOR YOUNG MEN

Study Veterinary Medicine.

Have a profession of your own, be independent.

It is one profession that is not crowded.

Its future looks brighter than ever before.

No one doubts the future of our great Livestock Industry.

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In addition to light running, you will find the Blizzard has unlimited elevating ability; is simple, safe and dependable; a glutton for feed; makes even-cut silage; costs very little for repairs; stays in the harness for years. WRITE for catalog and full information.

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"My 4 H. P. gasoline engine furnished sufficient power to run the No. 9 Blizzard to perfection." E. J. MONROE, Burlington Flats, N. Y.

"The Blizzard No. 11 filled our 12 x 36 ft. silo with ease, using 6 H. P. gasoline engine. We were told before starting that we did not have power enough, but actual work demonstrated that we had a great plenty." J. C. MILHAM, Waukesha, Wis.



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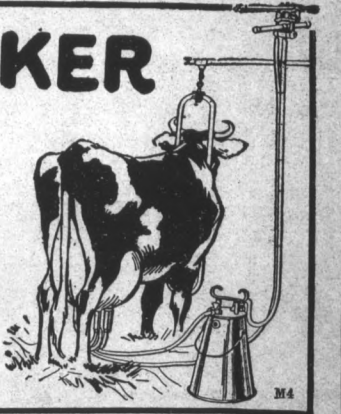
The quality milking machine. Now used on more than 300,000 cows. A milker has to be used twice-a-day for 365 days in the year. It pays to buy the best. All exposed metal parts are non-rusting German Silver and rubber parts are strong and made of pure rubber. Write today for Milker Catalog.

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Oleomargarine and Butter

By FLOYD W. ROBISON.

THERE has been a great deal of rivalry in commerce between the butter interests and the oleomargarine interests, and in each case the respective advocates usually say a great many things that are not so. Most of the controversies which come up are prolonged because of this very condition. Partisanship prevents any clearness of understanding.

Oleomargarine a Butter Substitute.

When oleomargarine was first manufactured it filled a very desirable place in commerce. It was used as a substitute for butter at a time when it was impossible to get butter or at least impossible to get it without the expenditure of a great sum of money. It has been manufactured from the very start with the idea of stimulating dairy and creamery butter. Practically the whole controversy which has grown up around these two products has arisen because the oleomargarine interests in the first instance were not perfectly fair in the marketing of their product. They have not been satisfied to give it a coined and distinctive name. Every effort possible has been made to make it sell in the butter market, in fact in the place of butter. With the exception of a few concerns there has been no great attempt by the manufacturers of oleomargarine to put their product upon the market in such a way that it becomes easy for the consumer to recognize the true character of the product. It is not strange that the dairy interests should resent this condition. We know of no other interest which will stand idly by and permit their especial trade mark to be taken from them or their article to be imitated in any way without a vigorous protest.

Butter Industry is Fundamental.

When you take into consideration further that the butter interest of the country, being an agricultural interest, is in a great sense fundamental to the prosperity of the country, one is prepared further to understand why there has arisen such bitter antagonism toward the oleomargarine interests. As far as we are acquainted with the laws of the various states relating to butter and oleomargarine there is only one injunction against the perfect freedom of sale of oleomargarine. This injunction is that it shall not be colored in imitation of yellow butter. We do not understand that the dairy interests have any quarrel with oleomargarine as such, except where it enters into what may justly be called the legitimate market of butter. But the whole history of the manufacture of, and sale of, oleomargarine has been an attempt not only to usurp the market for butter through an effective advertising campaign, but to build their product in such a way that it will look as much like butter as it is possible for it to do and pass in the market for butter.

The first operation to make this condition possible was the method of manufacture whereby the oils and animal fats which form the base of oleomargarine are actually churned with skim-milk, milk or cream, to impart to the oleomargarine a milk or cream, or butter flavor. This product made in this way does have an odor somewhat akin to butter, but as usually manufactured is altogether too white to be easily passed for butter. Consequently the next step was the introduction of artificial color to make the product look like butter, not to give it a distinctive trade mark but to give it the mark of butter to make it difficult for the consumer to judge as to its true character. The only reason which we have ever seen advanced for the use of color in oleomargarine has been because the dairy interests are permitted to color their product. The practice has been supported also under the cry that the legislation against the coloring of oleo-

margarine while at the same time permitting the coloring of butter, is class legislation. It is this argument which has been the one most difficult to meet in the consumer's mind, for at first instance one naturally argues that if oleomargarine shall not be colored, then butter shall not be colored.

The Second Infringement.

We do not believe there is any basis in logic or in law for any such contention, but we are in sympathy with the efforts of any man who will bring about, or would tend to bring about, the decrease and final prohibition of the use of coloring matter in butter.

The Third Infringement.

The two points wherein the product oleomargarine has been made to imitate butter, that is, first the churning with skim-milk, milk or cream, and second, the introduction of an added artificial yellow coloring matter, have been followed later by a still third means. This third means has been the one which removes absolutely every fundamental argument against butter which the oleomargarine interests have made, that is, the actual introduction of butter itself into the composition of oleomargarine. It will be found upon chemical analysis at the present time that much of the so-called high-grade oleomargarine which is upon the market contains all the way from five to 50 per cent of butter in its composition. What ground is there, therefore, for the argument against the use of butter from the standpoint of sanitation, which is the argument which is used most vigorously by the oleomargarine interests, when they are at the same time using butter itself as a constituent part of their own product.

(Continued next week)

THE BIG AUCTION SALE A GREAT SUCCESS.

(Continued from page 779).

Ormsby (275072) to C. L. Amos, Syracuse, N. Y., \$410; K K S V Dora (319-431) to Fred F. Field Farms Co., \$900. Male.—King Sadie Veeman Hengerfeld (173243) to Ohio Board of Administration, \$1,425.

Consigned by J. A. Fuggle, Cazenovia, N. Y.

Females.—Inkspers Lady Do Hann (125062) to Flanders Farms, \$1,000; Inkspers Lady de Hann 2d (218774), \$285; Inkspers Lady de Hann Pontiac (307610) to J. M. Hackney, \$530.

Consigned by Hobart W. Fay, Mason, Mich.

Females.—Canary Mercedes Butter Girl (114099) to J. M. Hackney, \$520; Princess of Oakdale 2d (115482) to D. W. Field Farms Co., \$1,525; Princess Korndyke Oakdale (321523) to Lawson Holding Co., \$1,000; Anna Dean Princess Korndyke (253974) to Lawson Holding Co., \$1,400; Bonny Dean Princess Korndyke (217845) to Lawson Holding Co., \$1,500; Honny Hartog Korndyke (321525) to Lawson Holding Co., \$330; Bonny Concordia Korndyke (321525) to Lawson Holding Co., \$330.

Consigned by C. H. Thomas, West Rindge, N. H.

Female.—Maid Paul Colantha (173-604) to D. L. Baker, Liketon, Mo., \$255.

Consigned by John M. Tobin, Allegan, Mich.

Females.—Allegan Maplecrest Spotted Aaggie (272884) to Vandercamp Farms, \$250; Tentie Colanthus McKinley (245975) to Lawson Holding Co., \$360.

Consigned by R. Bruce McPherson, Howell, Mich.

Female.—Grant Friend Sunlight De Kol (147409) to Dudley E. Waters, \$360.

Consigned by Percy A. Nye, Pontiac, Mich.

Female.—Agnes De Kol of Evergreen Lawn (197805) to Ernest Cooley, Hudson, Mich., \$280.

Consigned by Guy Wakefield, Fowlerville, Mich.

Female.—Princess Vale De Kol Mercedes 2d (181065) to Flanders Farm, \$1,100.

Consigned by Thomas B. Buell & Son, Union City, Mich.

Female.—Pontiac Maid (89272) to Houselett & McNutt, \$400.

The Man

—who created the Ingersoll Watch—Robt. H. Ingersoll—was reared on a farm in Michigan.

He knows what kind of watch a farmer needs. Ingersolls are that kind of watches—watches that the farmer can depend upon—simple, sturdy, good-looking watches that are guaranteed to tell correct time.

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A brand-new Ingersoll just out this year. A low-priced watch with high-priced watch refinements; antique bow and crown; graceful, easy-to-read, compressed figures on the dial. Recommended to all, but especially to out-door and other workers who demand plenty of endurance along with good looks. In all there are thirteen different kinds and sizes of Ingersoll watches from \$1 to \$3. Write for interesting catalog to Robt. H. Ingersoll & Bro., 315 Fourth Ave., New York

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Money back for every ball that fails to give satisfaction. 500 ft. to pound, 80 lbs. tensile strength. Insect proof. \$9.75 per cwt. I ship quick same day order is received. Valuable Money Saving price list free. A. H. FOSTER, Allegan, Michigan

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Magazine Section

LITERATURE
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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

CONSTRUCTION foremen are usually careful of the lives of the men under them. Quality of material is watched, scaffolding is closely inspected, and competency of men in responsible places, are demanded by most of them. Perhaps this last reason was the one that caused Foreman Davis, of the Baker Construction Company, to hesitate in giving Bruce Russell a place in his gang.

The latter had applied for a place as

The Scratch on the Wall

By EARL ROBERT RICE.

assistant engineer when the Baker foundation first and afterward putting Company began work on the Butler in place the heavy steel of the super-structure. He was only nineteen, and the work in question was one calling for cool judgment and, sometimes, a very quick decision, i. e., the handling of the giant crane used in laying the

"Yes, I need a man," said Davis, when Bruce approached him. "But I am afraid, my lad, that you would hardly do."

"Why, sometimes," he continued, "when some of this stuff is going in, I hold my breath for fear Tompkins will miscalculate his distances, and Tompkins is the best man I ever had. I just let the other assistant go because I saw him grab the wrong lever when he was placing a five-ton load."

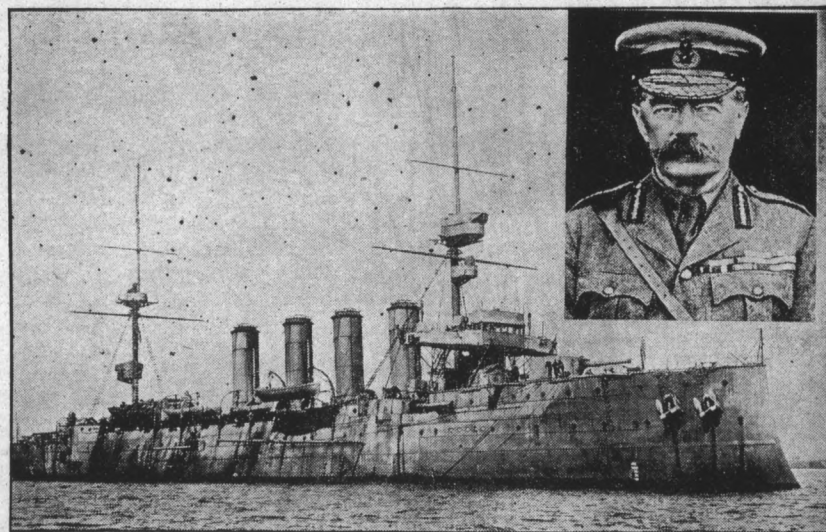
"I should expect to be watched," said Bruce, "and I should expect to watch myself. I'll do my best, sir."

Still Davis hesitated. He liked the

WORLD EVENTS IN PICTURES



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Lord Kitchener and Cruiser Hampshire in which he and his Staff were Lost.



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33 by 4	11.35	12.65	3.30
34 by 4	12.10	13.95	3.40
35 by 4	12.25	14.25	3.50
36 by 4	12.75	14.75	3.60
35 by 4 1/2	16.90	18.55	4.25
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young fellow's looks, and—he needed a man.

"Well, go to it," he said, "but mind, you'll likely be fired if you make one slip."

"What does he think I am," thought Bruce, during the day's work. "I'll show him."

The work on the Butler building was a familiar kind in that city. An old-style five-story structure on a corner had been torn down to make room for a more modern affair. This old building was one in a solid block fronting a busy street, and the wall of its next neighbor, an unoccupied four-story, loomed above the workmen the morning Bruce came on the job.

The excavation for the new building was broad and deep, deeper, in fact, than that under the adjoining one. Bruce's first duty was in connection with the going in of the heavy stuff for the new foundation.

The work was fascinating, as construction work always is. To Bruce it was doubly so. He had often watched similar scenes, but this was his first real connection with the actual work done. The great arm of the crane seemed lifelike as it picked up its load, swung it out and with a toss as gentle as a girl's, laid it at the feet of waiting men, or held it while being fitted into place. To see Tompkins operate that fifty foot stick with its running cables and powerful swing fired in the heart of the new assistant a desire to become as competent as he.

As the work of the foundation progressed Bruce had much practice in handling the swinging crane. Tompkins took an interest in him and at noon, and sometimes later in the day, showed him how to operate it with skill and precision. With proficiency gained the young assistant rose in the estimation of the foreman, who, according to his promise had kept a sharp watch upon him.

"You're doing fine, young fellow," Davis said one day as he watched Bruce handle the levers. "You lifted that one as well as Tompkins, himself, could have done. You'll be an engineer yet."

And Bruce's skill stood him in good stead when the great call came.

But there was one thing that troubled him. It will be remembered that the excavation in which the work was being done was at the foot of the wall of the neighboring building. Bruce often looked up at this rough side of bricks and then down at the men in the cut below.

Of course, it was no part of his work to watch the wall. He supposed, in fact, that Davis had taken the necessary care in the beginning of the job to insure the safety of all concerned. But Bruce could not help but realize the terrible menace of that towering pile. If it should fall with the cut full of men—well, he had read of such things.

The cut in which they were working was easily forty feet wide, and the great crane was exactly opposite the wall in question, firmly anchored on the solid ground. Its great sweep reached to both ends of the cut. Sometimes as it swung low to a point opposite, its outer end grazed the bricks beyond. There was a sidelong scratch, a good twenty feet up the side, where the end had scraped in its passage. In the early part of the work Bruce had noted that always the crane hit the wall at the same height.

On the tenth day of his work Bruce was left for a few minutes in charge of the situation. Tompkins was called to the farther end of the cut to examine a new set of hooks and cables that had been sent in. While he was gone the foreman called for the lift, and the young assistant swung it over with steady hand.

In swinging back Bruce allowed but a foot of the crane to clear the opposite wall. But as it swung he felt a slight jar. This he thought might have come from the jerk of the drums,

or it might have been caused by a slight slip in the foundation of the crane itself.

But whatever its source, when the crane came to rest there was a slight scratch on the bricks a few inches higher than the original one.

The danger of a collapse from that side of the cut once more occurred to him. He resolved to speak to Tompkins, and presently did so as the engineer returned.

Tompkins glanced up to the place indicated.

"Never mind," he said. "That's all right or Davis would have seen it before we even thought of it."

Bruce, however, was not satisfied. He sensed a real danger. But like any other young fellow of his age he feared the laughter of the older men. Should he speak to the foreman, and perhaps be told to look after his own work and leave others to do the same? It must be confessed that there was some danger of just such a result.

He resolved to call the attention of Davis, in a laughing way, to the new mark on the wall and let him draw his own conclusion. This he started to do at the close of the day's work. He crossed the cut for this purpose but Davis had left for another errand and he did not find him.

The opportunity passed, but the impression stayed with the young assistant. He went down early the next morning and getting in as close to the wall as possible looked for signs of weakness. He was relieved to find none, and reassured, went to work without looking up the foreman. The work went merrily on during the morning, Tompkins handling the levers.

At noon that day Bruce asked permission to practice a little in operating the crane. When Tompkins was not looking he swung the outer end as low as he could, and scraped it along the wall, trying to reach as low as the original mark. But try as he would, the higher mark of the day before was as low as the end would reach. It was a matter of relief to him that no one else seemingly paid any attention to the wall, and he began the afternoon's work with the simple determination to watch developments and report his fears later, if at all.

That was a warm afternoon in the middle of June. The air was still and close, and Bruce noticed that the men were working stripped as close as possible. The construction work was as far along now as the laying of the temporary floor, though men were still down in the cut, a dozen in number. In

the center of the floor above them a tool house, ten by twenty feet had been erected, and standing near it, Davis was pushing the day's effort, the immediate task being the swinging into shape of the first set of heavy steel.

At two o'clock a haze was in the air, and a half hour later low rumbles in the west indicated the coming of a thunder storm. At three a storm of unusual violence broke over the city. The thunder crashed incessantly and the rain poured in sheets. But up to the very moment of the breaking of the storm the work went on. The big crane swung back and forth, and when the rain began to fall a great piece of steel was attached ready for lifting.

The work came to a sudden stop as the rain came down. Bruce and Tompkins were under the shelter of a temporary cover for the engine. The workmen swarmed up from the cut and, with the foreman, took refuge in the tool-house.

"Look after things awhile," said Tompkins, after a few moments, "I think I'll run over where the boss is."

Left to himself Bruce huddled close, with an oilcloth over his shoulders, but eyes attentive. The shock of the thunder and the roar of the rain shut out every other sound, and a glance showed him that the street had been deserted at the coming of the storm.

Then suddenly, as a great crash of thunder sounded near, Bruce's mind went back to what had been troubling him in the morning.

"What if the storm should loosen that wall, and it should tumble?" was the question that flashed in upon him.

Fearfully he looked out and up. The scratch on the wall showed clear and plain, washed out by the rain.

As he looked a brick fell from the top of the wall, and out near one end a crack suddenly shot half way down the side. And then another opened up and the corner of the wall slid away, and went down, with a crash, into the alley behind. To the startled eyes of the young assistant the whole wall was tottering.

A dozen days of practice had taught Bruce some precision and skill in handling the crane. His quickness was hastened by the need of the moment, for right before him, and in the descending path of that heavy crushing mass of brick and mortar, should it tumble, stood the toolhouse with a dozen men inside.

He snatched at a lever. The engine snorted and the cables tightened. Slowly at first, so slowly it seemed to

It Was Once Old and Dingy



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Bruce, but with quickening rush, the crane lifted and trailed after it the twenty-foot piece of steel. Bruce swung it out and over to the very center of the wall. Then with deft hand he dropped the head of the crane till it rested on the wall and the steel stood a strong prop against the loosened mass. He stiffened the crane itself with a strong pull on the cable and thrust its powerful opposition in front of the impending rush.

His action had not been a moment too soon. A tremendous roar of thunder crashed out and the lightning flash was blinding. It seemed to the panting boy as if the engine itself had been struck,

The thunder crash was followed by another, by two others, in fact, for the two ends of the four-story wall both fell outward, coming down in crumbling blocks, which covered all the floor on each side of the tool-house. But the steady thrust of the crane and the stick of steel held back the center. They held it back while Davis and his men rushed out of the almost fatal trap.

"Not a man was lost," declared the foreman, as a reported came up, an hour later. "I want to tell you that I am glad I took young Russell on. He ought to have a medal for putting that old crane square in the face of that slide."

Some Ideas on Gossiping

By F. J. YATES

IT is natural that we should be interested in the goings and comings, the ups and downs, and the bad luck and prosperity of our neighbor; especially in the country, where small things take on greater importance than the same occurrences would in a large town or city. People undoubtedly will discuss their neighbors to the end of time; but I have in mind the malicious gossip, who stretches originally innocent recitals, who surmises evil which are often only the reflection of the gossip's own unhealthy attitude toward life; and who presents one of the most deplorable aspects of gossip.

John Jones calls on Mary Brown. At once they are slated to be married soon, when John may have called on business only, or an errand. Henry Thomas gets a new horse and buggy, or a new piano for his wife, or even a new automobile, if he is lucky enough to see his way clear to the purchase. Immediately the word is passed that Henry must have been insane enough to mortgage his farm for that tom-foolery. Indeed, this must be the case for the gossips who are settling his affairs know from unmistakable signs the state of his finances. Tom Burns never takes his wife about; consequently he is a hard-hearted wretch. That's why Nellie never dares to say her soul is her own. Heads wag, and Tom's and Nellie's cases are settled for good and all. I've known women who couldn't be dragged out with a grappling hook—foolish, but true—how do we know it's not Nellie's fault instead of Tom's?

Jack Morse never buys and sells anything without taking his wife along; and when he goes out with any sort of rig, from the lumber wagon to the auto, Molly's always on deck. Poor hen-pecked chap! And all the time it is quite within the range of possibility that Jack and Molly are one of those happily married couples who like to share their work and play together—as the ideally married couple should. Maybe Jack found out quite a while ago that Molly's judgment is better than his—at any rate it would be a good thing if there were more Jacks and Mollys married and living on farms.

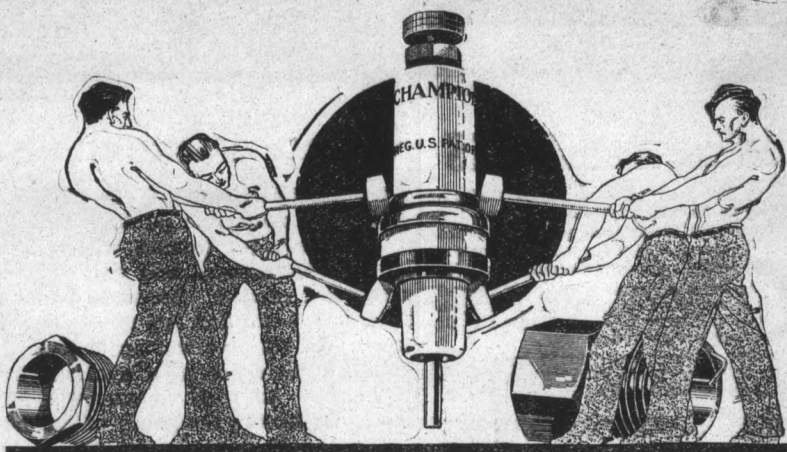
So much gossip is without foundation of any sort. The stories grow in mystery, go rolling along, getting larger and larger as they roll, for all the world like the snowballs which the children push through the damp snow. One could instance many more examples where originally harmless actions are multiplied into mountains of wickedness by the ever busy tongues of the gossips of a neighborhood.

Not long ago I was told by a clergyman—a good man and true—of his reasons for leaving a certain charge. There were two or three malicious gossips in the church who made life so miserable for him and his good wife that they chose to depart the town rather than endure such a malign influence. These gossips worked in two ways, trying to set the clergyman up against other parishioners, and also to get the congregation discontented with each

other, and with their leader. They succeeded well, I judge. Think of two or three gossips doing all this, and then ponder on the power of the tongue for evil as well as for good. You will never find a better piece of advice, and a better antidote for gossip than the words of Christ, "Let him who is without sin cast the first stone." Every day we ourselves are doing things we know to be wrong, but because we know our temptations and our weaknesses we can palliate our sins. "I was overtired; I was ill; I was not at all to blame in spite of the way things look." Oh, our excuses are forever in our hearts and on the tips of our tongues. But in our attitude toward the other fellow the opposite method is taken. We dilate on the worst, and forget his provocations, his excuses, and his hot temper, which are so all-sufficient to him as reasons for his defection. Dr. Jordan's words sum up the whole matter: "We never see the target a man aims at; we only see the target he hits."

Men and women need not to insist on poking and nosing about for all the scandal they can find, as the pig noses in the filth and mud for a stray bit of grain. The pig at least follows the dictates of a healthy appetite, and for need of proper provision on the part of his owner must wallow in the dirt; but we have no excuse for wandering about in the darkness of unhealthy thoughts and malicious gossip regarding neighbors save that of a morbid taste. Speak often, but speak advisedly and from the depths of a sympathetic heart. Speak of the beautiful devotion of the mother for the fatherless children; speak of the thrift and application of that young man who has made his way in the face of many difficulties; speak of the happy companionship of the young couple that lives a piece up the road; speak to your children, telling them all the wise things that come into your head from your long experience with nature. Point out to your little ones the beauties of nature, the loveliness of the bursting buds of spring, the charm of the tiny yellow balls, which were smooth white eggs but a short while before, and which will soon be sturdy young chickens, speak to them of the lesson of the falling maple leaves, love-ly in all their sadness of death, and promising to the hopeful the resurrection of the spring; speak to them of the superiority of selflessness over selfishness. Inspire those with whom you come in contact with the desire to be good and honest, and to think the clean thought which proceeds from the clean heart. Set your children a good example by excluding from the family table discussion of the unpleasant phases of your neighbor's lives. Resolve to follow at least two of the hints given in the old test question, "Is it true, is it kind, is it necessary?" We must often speak unnecessary things in order to add to the happiness of those about us; but we should always ask ourselves before speaking a thought, "Is it true?" and "Is it kind?"

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Woman and Her Needs

At Home, and Elsewhere

When Women Edit Women's Papers

SOMETIME before I die I hope to see a magazine published in the interests of women which shall be owned, managed and edited exclusively by women. Looking over the field now, I can find few magazines for women on which a woman has the deciding voice as to what shall go into the sheet. In most instances it is a man who decides the policy of the magazine, and as a result the patient and long-suffering women readers get surfeited with advice as to their duty.

For years now we have been treated to articles dealing out profound advice on how we shall know when the right man proposes and what we must do to keep him from breaking the halter after we have him tied. We have been lectured on our duty to keep our troubles to ourselves, never to show jealousy, to be always serene and calm, how to bring up the children, how to furnish the homes properly, how to set a table on three dollars a week with five in the family, how to make over a dress we have worn five years so it will look like new, and then, once more, how to keep our husband's love. In between we have been blamed for the high cost of living, race suicide, man's drunkenness, divorce, the white slave traffic, the tango, turkey trot, slit skirt, and affinities. Women have been lectured, blamed, advised and threatened, until this particular worm has turned. It seems to me it is high time for something to be said on the other side.

I should like to see, just for a change a few articles on how men should behave after matrimony. What should the man do to keep his wife's love? Is it taken for granted that women are so much more loyal than men that they will love in spite of ill-treatment? Or are they considered to be of so little importance that it isn't necessary for the husband to make any effort to retain their respect and affection? I might tell the men who are so confident of their wives' love, no matter what their own behavior, that they very much overestimate their own importance. If editors would only accept the manuscripts, there is many a wife who might write thrillingly of "How my Husband Lost my Love," instead of "What I Did when I Nearly Lost my Husband."

The American husband takes too much for granted when he marries. He seems to be imbued with the idea that the girl he honors by choosing is so tickled to death to escape being an old maid or having to work for her living that she will be willing to eat out of his hand for the rest of her days. Perhaps the woman of twenty years ago did have this frame of mind. But the woman of today is far from it. Matrimony is no longer considered the sole end and aim of woman existence, and when a girl honors a man by consenting to adopt his name she no longer does it from a sense of gratitude or with an idea of escape from the ignominy of being a spinster. She does it because she loves him and wants to form a partnership which shall be founded upon mutual respect and love.

All too often she discovers that the partnership, so far as she is considered, must be a silent one. No matter what her education, accomplishments of training her husband's attitude towards her becomes one of tolerance and calm superiority. The mere fact that she is his wife relegates her to the position of an inferior so far as he

is concerned. It is no longer necessary for him to try to be entertaining or polite. Does not this woman cook his food and mend his socks? How, then, can she expect to tread the mental plain where walk the lords of creation?

She, poor thing, loves him, of course. How could she help it? It isn't necessary for him to exert himself to be agreeable. Home is the place for a man to relax. After having been forced to be polite and smiling to outsiders all day long, hang it all, a man has got to have some place to growl and show his teeth. That's what a home is for, and wives don't mind it. They thrive on it. But let the wife beware how she bares her claws. If she isn't low-voiced and pussy-footed and servile, some other woman who is pleasant and charming is going to get her husband. It's a woman's duty to be nice to her husband and spend her entire time studying how she may please him. Every woman's magazine in the country, edited by a man, says so. And so on this assurance the American husbands calmly rest.

So far women have had to stand for it, for thieves hang together and no male editor is going to print things which in any way reflect on the glory of man. But "it's a long, long lane that has no turn, and every little dog must have his day," as the song runs, and some day women are going to have their turn at telling men their duty.

DEBORAH.

CLEANSERS AND REJUVENATORS.

BY EMMA GARY WALLACE.

Grease Remover.—Mix equal parts of ether, alcohol and ammonia water. If the spot is so located that you can do so, place a piece of blotting paper or thick, clean, absorbent cloth under it. Take a piece of old, soft linen and wring out of warm water. Now moisten with the mixture and pat the spot until thoroughly moistened. Do not rub. Continue until the grease has been absorbed by the pad underneath and partly changed to the soapy substance. Then rinse the cloth and wring out partly dry and pat with this until spot is absorbed.

To Clean Carpet on the Floor.—All the dust should be removed from the carpet. Sponge with the following mixture, keeping all the time a pail of clean, hot water at hand in which to rinse the cloth, and frequently changing the cleaning solution as fast as it is soiled. To each half pailful of water use one cupful of oxgall. Rub until clean, then go over the carpet with clear, warm water to rinse out the oxgall. Rub as dry as possible.

Another cleaning solution for carpets is prepared by taking one pint of ammonia water, one-half pint of alcohol, one-half pint of turpentine, and one-half pint of water. Mix, and use one-half cup of this to one-half pail of warm water and go over the carpet, rubbing thoroughly.

Tar and Axle Grease.—To remove tar and axle grease from white goods, rub first with soap, then with a little turpentine, next with alcohol, and lastly with water. To remove the same stains from colored goods and woollens, smear the spots with lard, then rub in naphtha soap and water, and let stand awhile. After this, wash out with water which contains a little spirits of turpentine. Rinse thoroughly. To take

the same kind of stains out of silk, use gasoline in which a few grains of salt have been dissolved.

Wall Paper Cleaner.—Take regular white dough as prepared for baking, add a few drops of ammonia to this, and form into a good-sized ball. Go over the paper and as the dough becomes soiled, fold inside, taking a fresh piece or adding more ammonia as needed. To remove grease spots from wall paper mix Fuller's Earth to the consistency of thick cream with water and apply to the spots. Let it stand several hours, or preferably over night, then remove with a clean brush or cloth.

When a bottle of ink is spilled soak up as much as possible with cloths, blotters, or whatever may be handy, then wash with sweet milk until the spot is pretty well out and the milk used is not much discolored. Finish by washing with cold water.

To Clean Marble.—Make a paste of quicklime and water in which a little sal soda has been dissolved. Cover and let stand several hours. Remove, wash thoroughly, and polish.

Renewing Oil Paintings.—Wash the painting with pure white soap and water to remove the dirt, then with a piece of soft cotton treat the surface gently with pure linseed oil. Do this for several days. Rub dry each time so the surface will not collect dust. The oil evaporates in the hot rooms and the surface of the painting is liable to become cracked and defaced. The oil also helps brighten and soften the colors slightly.

Cleaning Engravings.—When these have become yellowed and discolored, they may be exposed to the fumes of muriatic acid and then sponged gently with cold water. Or the engravings may be dipped in a solution of hydrogen peroxide, using two ounces to a quart of water, after which they may be rinsed in cold water. Pat partly dry and stretch on a smooth surface with thumb tacks.

Gold Frames.—All dust should be removed with a soft brush. Slice an onion in cold water and steep until pulpy. Strain and use this water. Afterwards rinse with clear water and dry.

Paint Stains on Glass.—Use a hot solution of sal soda. Moisten to soften, then rub the spot with the edge of a milled coin. Apply hot vinegar with a cloth for fresh paint.

A Good Furniture Polish.—Wash the furniture in warm water made slightly soapy. Dry, then polish with the following mixture: Two ounces shaved beeswax dissolved in five ounces of hot oil of turpentine in which has been soaked one-half ounce of alkanet root. Strain while hot. Care must be taken that the mixture does not catch fire. The turpentine must be heated in a little pail inside of a larger container of water.

Another furniture polish is made by taking seven ounces of linseed oil, one ounce of vinegar, and two drams of hydrochloric acid. Mix and apply. Any furniture must be polished until dry and the surface not left greasy.

Leather Renewer.—Equal parts of cream and linseed oil beaten together, applied as a dressing and rubbed in thoroughly.

Cleaning the Family Silver.—Make a cream of four ounces of fine whiting, two ounces of ammonia water and one pint of cold water. Use this to polish and wash the articles in a hot solution of borax. Dry with a soft cloth.

Grange.

A GRANGE GALA DAY.

May 27 was especially designed by nature for picnics. Not a breath stirred. Unfolding leaves mantled the forest in daintiest verdure. Snow-white trillium starred the earth and blossoming orchards freighted the air with fragrance and glorified the landscape. As if prophetic instinct guided our plans the secretary of Empire Grange No. 1458 mailed notification cards to each member informing them that a picnic at Glen Lake would replace the regular meeting of that date.

It was a happy thought. Many left behind dull care for a few hours of wholesome pleasure. Loads of grangers in autos and carriages drove from far and near to the lake of unsurpassed beauty where one of our members conducts a summer hotel. Here a long table was arranged on the hotel porch within a few feet of the hill-rimmed, glistening lake. The committee in charge of the commissary department transferred the generous contents of many baskets to the huge table where presently a hungry throng ate their famished way from sandwiches and coffee to every known variety of luscious cake and delicious ice cream.

Not a moment of dullness marred the hour. Faces glowed with happiness, and at the crest of gaiety Miss Lela Barr and Mr. Baker set up cameras and photographed the long table surrounded by smiling grangers. Later the throng was posed facing the lake and the artists secured a massed portrait of it.

Master McCormick's field day program next was staged on the hotel tennis court. The sack races, potato races, needle threading contest and tug of war received enthusiastic applause. In the first contest half the sack racers fell repeatedly but one of them, Harvey Dorsey, not to be outdone, rolled to the goal. A ladies sack race was closely contested and finally won by Mrs. H. Norconk, overseer. In the needle-threading contest each gentleman chose a lady able to quickly add thread to his needle. The line of gentlemen then, at a signal, rushed to the waiting ladies at the extreme end of the court and presented the needles. Miss Barr threaded her partner's needle in record time and he easily won.

One paper was presented. Miss Dena Setter wrote of a dream which troubled her some nights before the picnic. She dreamed that the sisters were told by the dining committee—because of housecleaning time—to bring anything handy so they all brought beans and nothing else. This calamity climaxed others. Like all dreams it proved to be the reverse of the actual happening. Our real picnic with its music, good food, games, kindly cheerful faces and the exquisite scenery turned out to be a red-letter day, a day to be long remembered with pleasure. It was, in brief, a perfect day.

AMONG THE LIVE GRANGES.

Musical Night.—A large number of members of the Bend of the River Grange met at the home of Clarence Dixon near Berrien Springs, and a fine time was enjoyed. It was a musical evening and the Misses Ruth and Bess Sewell gave a duet, Mrs. William Egert read an excellent paper entitled, "The Songs that Live," which was finely illustrated with vocal songs and victrola selections.

County Picnic.—A large number of representatives from Eaton county Granges met recently at Grange hall, Charlotte, and made partial arrangements for a county picnic to be held in this city about August 10. W. L. Huber was elected chairman and committees were appointed to take charge of the various departments of the exercises.

Memorial Services by Casco Grange, for departed grangers, was held June 3. Chairs were draped for the departed brothers and sisters.

Farmers' Clubs

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—R. J. Robb, Mason.
Vice-president—C. B. Scully, Almont.
Secretary and Treasurer—Mrs. J. S. Brown, Howell.

Directors—Alfred Allen, Mason; C. T. Hainline, Alma; W. K. Crafts, Grass Lake; Edward Burke, St. Johns; Mrs. C. J. Reed, Spring Arbor; Roy E. Moore, Bellevue.

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."

CLUB DISCUSSIONS.

The Rural Church as a Social Center.—On Thursday, June 8, at Fairview the pleasant farm home of Mrs. C. C. Emiling, occurred one of the most enjoyable gatherings ever held by the Sand Beach Farmers' Club. The meeting was called to order by President Howard Baker and opened with singing. After an earnest prayer by Wesley Ridd, roll call found everyone ready to respond with his or her favorite book. Mr. John Gilbert then favored the Club with a very instructive talk on "My Western Trip," giving a vivid picture of the country visited by himself and his estimable wife on their trip to Twin Falls, Idaho. He found some of the scenery barren but in many places very beautiful, the huge rocks and mammoth boulders were intensely interesting, but lacked the beauty to be found upon the vast fruit ranches visited. Following this, Rev. H. T. Wilson gave a fine discourse on "The Rural Church as a Social Center." He defined the socialized country church as "one which has taken unto itself the spirit of ministering unto the community," and showed how this may be done in four ways, viz., by ministering to the physical, educational, social and spiritual needs of the people of the rural communities. This paper was very ably discussed by Mrs. Malcolm Campbell, who brought to bear upon the subject much practical knowledge and experience. The concluding number of the program was vocal music by the Emiling young people which was appreciated by all. The Club members and their friends to the number of 60, then repaired to the dining-rooms, where all did ample justice to the bountiful repast. After according their hostess a warm vote of thanks, for her gracious hospitality, all left for their homes, feeling that the day had been well spent.—Mrs. George Ward, Cor. Sec.

An Interesting Question Box.—The Washington Center Farmers' Club met Thursday afternoon, June 8, at "Fair Acres," the home of Mr. and Mrs. Eugene Wagner, "Sunshine and Rain" were well represented for the good cheer greetings and happy faces made one forget about the rain that was liable to come down any moment. The meeting was called to order by Vice-president Mrs. F. L. Cook. After a song the usual order of business was dispensed with and the several topics on the program were taken up. "Are Everbearing Strawberries a Success?" could not be talked upon from any personal experience, but hope to know more about them by another year, as some of the members have invested in plants this spring. After short talks on "Music in the Home," and "Amusements for Children," the question box was opened. Among the several questions was one which the Club would like an answer from the editors of the Michigan Farmer, viz., "How can we sell sugar to foreign countries for half what we have to pay at home?" After listening to a vocal duet by Messrs. Gilman and Cumberworth, the hostess served a two-course luncheon of sandwiches and salad, ice cream, lemonade and cake. The Club then adjourned to meet at "Fairholm," with Mr. and Mrs. Clarence Henson on the second Thursday in July.—Mrs. S. Z. Crowl, Cor. Sec.

The domestic sugar production of the United States is only about one-half as great as the domestic consumption. Only under exceptional conditions, such as obtained at the outbreak of the great European war, is sugar exported from this country in any appreciable quantities. In the case referred to the Allies purchased a quantity of sugar against future needs in our open market and at prevailing values, thus causing a shortage for domestic consumption which has not been fully relieved, as indicated by price levels.—Eds.

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FOR SALE stock of groceries to invoice about \$1800. Fixtures including Ford Delivery car \$550.00. Building with six nice living rooms cheap rent. Business \$75.00 per day. Good reason for selling. Box M-624, Care of Michigan Farmer, Detroit, Mich.

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100 Acres, Pr. Horses, 6 Cattle

and long list tools and machinery, 400-tree maple sugar outfit; 40 acres under cultivation, 15 cow pasture, wood and fruit. Daily mail, near neighbors, charming view; cottage house, new barn, spring water. Owned by a city man who to insure early sale makes low price \$1600 for all; \$500 down and easy terms. For full details see page 17, "Strout's Money-Making Farms," our big catalogue of 300 bargains in a dozen states. Write today for your free copy. E. A. STROUT FARM AGENCY, Dept., 101, 150 Nassau St., New York.

LANDS FOR SALE.

20,000 Acres of No. 1 hardwood cut over lands, a part of which has been cut over several years and burned over comparatively clean, seeded in the ashes to timothy and clover and now covered with tame grass pasture, easily cleared in farms. Soil heavy clay loam, slightly rolling. Good schools close to all the lands, good roads, good farm settlements surrounding. Close to Onaway with good churches, good markets and good R. R. accommodations. For dairying, stock raising and farming in general no better district in Michigan. Price \$10 to \$25.00 per acre on easy terms. We own the lands.

THAD. B. PRESTON, Trustee, Onaway, Mich.

Cedar Lane Farm

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FOR SALE : 114 acre hill farm. All in grass except 4 acres wheat and 3 acres corn. 20 acres meadow, balance fine blue grass pasture. Good buildings, 1 mile from village, 1/2 mile from school. \$20 per acre. **HERBERT FYLE, BLUE ROCK, OHIO.**

257 ACRE STOCK FARM on main road, all improvements. \$30 per acre. 100 others. Send for list. Neville Farm Agency, Phelps Bldg. Binghamton, New York.

Markets.

GRAINS AND SEEDS.

June 20, 1916.

Wheat.—A combination of war news and bad weather served to check the slump in wheat values early this week and start prices upward. Wet weather is delaying harvesting in the south-western states and threatening war with Mexico is also regarded as a bullish factor by the trade. Should America become involved, it is quite likely that European agents will take steps to insure their supplies. Some foreign buying was noted on Monday. The world's exports are large, and there is an increase in the quantity on passage. Because of the large stocks at primary elevators, the cash market is unusually quiet. One year ago No. 2 red wheat was quoted locally at \$1.15 per bushel. The visible supply decreased 861,000 bushels last week. Detroit quotations for the past week are:

	No. 2	No. 1	Red.	White.	July.
Wednesday	1.07½	1.02½	1.08½	1.08½	1.09½
Thursday	1.08½	1.03½	1.09½	1.09½	1.10½
Friday	1.06½	1.01½	1.08	1.08	1.09
Saturday	1.05½	1.00½	1.07	1.07	1.08
Monday	1.07½	1.02½	1.08½	1.08½	1.09½
Tuesday	1.07½	1.02½	1.09	1.09	1.10

Chicago.—July wheat \$1.03½; Sept. \$1.05½; Dec. \$1.08½.

Corn.—Wet weather and the foreign sales boosted corn prices on Monday. The new plant is not growing as it should. While eastern buyers are not bidding high for corn at present, it is expected that their needs will cause them to become more active soon. The United States visible supply decreased 2,206,000 bushels last week. One year ago No. 3 corn was quoted at 77c per bushel. Last week's Detroit quotations are:

	No. 3	No. 3
	Mixed.	Yellow.
Wednesday	75	77
Thursday	76	78
Friday	76	78
Saturday	76	78
Monday	77	79
Tuesday	77½	79½

Chicago.—July corn 73.5c; Sept. 73.5c; Dec. 64.3c.

Oats.—The new crop is growing rapidly, and each day shows promise of a better harvest. Consequently the tone of the trade is dull and transactions are restricted. A year ago standard oats were quoted at 51½c per bushel. The United States visible supply decreased 1,064,000 bushels. Last week's Detroit quotations were:

	No. 3	Standard.	White.
Wednesday	42½	41½	41½
Thursday	43	42	42
Friday	43	42	42
Saturday	43	42	42
Monday	43	42	42
Tuesday	43	42	42

Chicago.—July oats 39.5c; Sept. 39.3c; Dec. 40.6c.

Rye.—Prices rule a fraction lower at 9½c for cash No. 2. Very little trading is done.

Beans.—Trade is firm at greatly advanced prices. Cash beans are quoted at Detroit at \$4.45 per bushel. On the Chicago market beans are firm and stocks light with pea beans hand-picked quoted at \$4.30 to \$4.40 and red kidneys at \$5 to \$5.30.

Seeds.—Prime red clover \$8.85; al-sike \$9.25; prime timothy seed \$3.60 per bushel.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$6.20; seconds \$6; straight \$5.60; spring patent \$6.50; rye flour \$6.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$24; standard middlings \$25; fine middlings \$30; cracked corn \$33; corn and oat chop \$29 per ton.

Hay.—No. 1 timothy \$21.50 to \$22; standard timothy \$20.50 to \$21; light mixed \$20.50 to \$21; No. 2 timothy \$19 to \$20; No. 1 mixed \$16 to \$16.50; No. 1 clover \$13 to \$14.

DAIRY AND POULTRY PRODUCTS.

Butter.—The market is easy; prices ½c lower. Extra creamery 28½c; firsts 26½c; dairy 23c; packing stock 21c.

Eggs.—The market is easy and lower. Price for the week, based on sales is 28½c.

Chicago.—An easy tone prevails and prices favor buyers. Trade is slow. Extra creamery 28½c; extra firsts 27½c to 27¾c; firsts 26½c to 27¼c; dairy extras 28½c; packing stock 22½c.

Eggs.—The demand is good; prices are higher. Current receipts are quoted at 21½c; firsts 22c.

Chicago.—The demand is good and prices are ¼c higher.—Firsts 21 to 21½c; ordinary firsts 18½ to 20½c; miscellaneous lots, cases included 20 to 21c per dozen.

Poultry.—Market easy; broilers lower; others unchanged. Fowls 17½ to 19½c; broilers 26 to 28c; ducks 18 to 19c; geese 10 to 11c.

Chicago.—The supply and demand is moderate and prices remain unchanged except for broilers, which are lower. Hens 17½c; roosters 11c; spg chickens, 2 lbs. and over 27c; 1½ lbs. 26c; turkeys 12 to 20c; spring geese 16c.

FRUITS AND VEGETABLES.

Strawberries.—Michigan berries in demand at \$1.10 to \$1.15 per 16-qt. case. At Chicago the price ranges from \$1 to \$1.25 per 16-qt. case.

Potatoes.—Potatoes are scarce and firm at unchanged prices. Carlots on track \$1.25 to \$1.35 for white. At Chicago the demand is active and receipts are small. Prices higher. No Michigan stock is quoted but others sell from \$1.05 to \$1.30.

WOOL.

Wool continues to advance. Manufacturers are becoming anxious, and at the primary markets a large volume of contracts were made last week. At Boston the aggregate of sales was the largest for any week since February. In the fleece states farmers and local dealers are holding back their stocks of wool so that very few fleeces are reaching the eastern seaboard. Present conditions appear to justify holding for later marketing.

Hides.—No. 1 cured hides 18½c; No. 1 green hides 15c; No. 1 cured bulls 13c; No. 1 green bulls 10c; No. 1 cured veal kip 20c; No. 1 green veal kip 18c; No. 1 cured murrain 18c; No. 1 green murrain 16c; No. 1 cured calf 28c; No. 1 green calf 25c; No. 1 horsehides \$6; No. 2 horsehides \$5; sheepskins as to amount of wool 50c to \$2.50; No. 2 kip and calf, 1½c; other No. 1 hides 1c off.

GRAND RAPIDS.

This is strawberry week, with berries starting off at 10 to 12c per quart retail. Berries are of good quality despite the rains, and if the weather continues cool the growers should do well with their fruit. Canneries are making a large pack which will tend to stabilize the market. Old potatoes are higher, selling at \$1 to \$1.20. Hay is lower, selling at \$15 to \$17 per ton. Eggs are worth 21c; live fowls 14 to 15c. The mills pay 96c for No. 2 red wheat.

DETROIT EASTERN MARKET.

An increased number of farmers' loads was offered at the Eastern Market Tuesday morning, and prices were well maintained. Strawberries ranged from \$2.50 to \$4 per 24-qt. case. Old potatoes \$1.30 to \$1.40; lettuce 70 to 90c; tomatoes \$2.50 per one-fifth bushel basket; celery 60c per bunch; eggs 32c per dozen. No loose hay in sight.

LIVE STOCK MARKETS.

Buffalo.

June 19, 1916.

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

Receipts here today as follows: Cattle 154 cars; hogs 100 d. d.; sheep and lambs 10 d. d.; calves 1400 head.

With 154 cars of cattle today, the good to choice shipping cattle were scarce and sold about steady, but the medium cattle and grass stuff were very slow going and the bulk of them sold 25c lower than last Friday, or 40 to 50c lower than a week ago today. Bulls also showed a break of 25c per cwt. We look for a fair run of cattle here next Monday and what few strictly choice cattle that will be here will sell about steady, but this medium and cow stuff that is showing grass is bound to work lower.

We had about 100 double decks of hogs here today, and with big runs all over the west and lower markets all along the line, our prices broke fully 25c per cwt. from the close of last week, choice grades selling at \$10 generally, and quite a number of ordinary grades, regardless of weight, selling from \$9.75 to \$9.90; pigs and lights \$9.50; roughs \$8.40 to \$8.60; stags \$6 to \$7. Quite a number of hogs in sight for Tuesday's trade and with a slow tone to closing trade here today looks very much like would have a slow and lower market for the next day or two.

Market was active on sheep and lambs, with prices steady with the close of last week. About all sold and we look for steady to possibly a shade lower prices for last of the week.

We quote: Spring lambs \$12 to \$12.25; cull to fair \$6 to \$11.50; yearlings \$8.75 to \$10.40; bucks \$4.50 to \$6.50; handy ewes

\$7 to \$7.25; heavy do \$6.50 to \$7; wethers \$7.75 to \$8.25; cull sheep \$5 to \$6; veals, good to choice \$12.25 to \$12.50; common to fair \$8 to \$12; heavy \$6 to \$10.

Chicago.

June 19, 1916.

Cattle. Hogs. Sheep.
Receipts today..22,000 50,000 14,000
Same day 1915..16,338 37,598 9,364
Last week.....45,374 121,025 75,487
Same wk 1915..39,505 108,012 49,235

Only 7131 hogs were shipped from here last week, comparing with 11,142 a week earlier and 19,445 a year ago. Hogs received averaged 226 lbs. This week opens today with larger receipts of hogs than usual and a decline of 10 to 15c in prices, sales ranging at \$9.10 to \$9.80. The cattle market opens with a large supply for these times and a slow demand, bids being 15 to 25c lower. The least weakness is shown in choice beefs. Sheep and lambs are in small supply, and a large part of the receipts came consigned to the big packers. Prime lots are higher, with Idaho spring lambs sold at \$11.55 to \$11.65.

The best cattle were higher last week, but the undesirable kind moved slowly at declining prices. The customary weekly new high record was made when prime heavy steers sold for \$11.40, with the bulk of the steers selling by Wednesday at \$9.50 to \$11.25 and top yearlings fetching \$11.25. Good steers brought \$10.50 to \$11, choice to fancy beefs \$11.10 to \$11.40, medium class steers \$9.75 to \$10.45, inferior to fair light killers \$8 to \$9.45. Inferior to middling grades of yearlings sold unsatisfactorily, as did older cattle of poor finish, and the same was true of poorly fattened cows and heifers. Butcher cows sold at \$6.15 to \$9.50, heifers \$6.10 to \$9.75, cutters \$4.80 to \$6.10, canners \$3.75 to \$4.75, bulls \$5.50 to \$9. Calves were taken at \$5.50 to \$12, with choice light vealers selling especially well. There was a lively call for desirable lots of stockers and feeders at high prices, ordinary to prime offerings going at \$6 to \$9, but not many steers were good enough to sell near the top figures. The best cattle on Saturday were only a little higher, while common to pretty good cattle, including steers, cows and heifers, declined largely 25 to 35c.

Hogs were in active local demand most of last week, and prices scored substantial advances, because of small receipts. Country owners of hogs refused to be stampeded by packers into letting their hogs go at constantly declining prices and hogs are now selling up to prices never before paid in June. After prime hogs sold up to \$10.15 on Friday, a bad break took place that left prices on Saturday at \$9.30 to \$9.95, comparing with \$8.75 to \$9.60 a week earlier. Prime light hogs sold a dime below the top price. Pigs brought \$7.50 to \$9.25.

Fed lambs, yearlings, wethers, ewes and spring lambs sold high last week as compared with past years, despite some declines resulting from buyers holding back at times. Spring lambs comprised a large percentage of the daily receipts, with extremely few feeders included. Prime spring lambs declined about a dime, while the general sheep and lamb market was about 25c lower, closing as follows for shorn offerings: Lambs \$5.75 to \$10.30; yearlings \$7.75 to \$9.15; wethers \$7.15 to \$8; ewes \$3 to \$7.25; bucks \$5 to \$6; spring lambs \$8 to \$11.50; clipped feeding lambs \$6.50 to \$7.75; breeding sheep \$5.50 to \$7.

Horses were in unusually small supply last week, and prices were well maintained. Horses were taken for the British army up to \$185 for field and \$200 for heavy artillery horses with sales of light artillery rejected horses at \$85 to \$120 and \$25 to \$75 for rejected drivers. Drafters were salable at \$230 to \$265, extra heavy ones being scarce and worth up to \$275 to \$300.

LIVE STOCK NEWS.

A short time since the Chicago Live Stock Exchange made the important announcement that an advance in the price of dead hogs weighing 100 lbs. or more had been made by which they will bring one and three-fourths cents per pound. This is the highest price offered for at least 20 years in the Chicago market, and it was paid then for a period of only a few months.

MICHIGAN STEERS BRING \$10.80.

Two carloads of fancy white-faced steers fed by Eben and Giles Kellogg on the Kellogg farm near Ithaca, Gratiot county, recently sold on the Buffalo market at \$10.80 per cwt. The feeders of these animals are certainly to be congratulated upon receiving so high a price for so large a number. The cattle were put in last fall on a dearcid through on heavy feed until sold. The top price on the Buffalo market for the day was \$10.90 for a single carload. The steers in two loads from the Kellogg farm averaged 1350 and 1413 lbs. per head respectively.

Auto Claim Settled

Chelsea, Mich., June 20, 1916.

To Automobile Owners:

I hold a policy in the Citizens' Mutual Automobile Insurance Company, of Howell, Mich.

I have driven an automobile for over four years and never had an accident until some time ago when driving into Jackson an accident occurred in which I ran into a thirteen-year-old boy, causing a serious injury to his shoulder. He was attempting to cross the street. I felt I was not to blame, yet I found they blamed me, and his people talked of starting a damage case against me.

Mr. Robb, Secretary of the Company, looked up the evidence, and entered into negotiations, settling the matter up satisfactorily to all parties, paying \$400.00.

I am acquainted with W. E. Robb, Secretary, and George J. Burke, of the law firm of Cavanaugh & Burke, a director. They have each had experience as Prosecuting Attorney, and have ability to give service to the automobile owner, who is in trouble, and I am sure that a third party is in a much better position to make an adjustment, as the facts are often exaggerated and many rumors afloat that are untrue, which would tend to make a man angry.

The fact that the Company now has about seven thousand members; has paid many claims and still has on hand about \$15,000 of cash in banks to fight cases whenever the injured party attempts to frame up and capitalize their misfortune, tends to make the injured party more fair and reasonable, and I am sure that this Company intends to treat both parties with fairness.

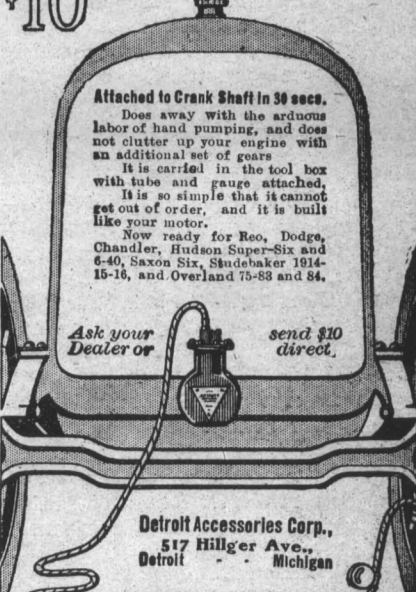
I count myself lucky that I was insured in this Big Mutual Company that is now in a position, with a large growing membership and a surplus fund on hand to protect its members. I think every automobile owner should carry insurance in this Company, as a large membership in one Company will keep down the cost of insurance and be able to give better service when the injured party attempts to take advantage of the automobile owner.

Yours respectfully,

R. B. WALTROUS.

GEARLESS DETROIT MOTOR-DRIVEN TIRE-PUMP
PATENTED AUG-24-1913

\$10.00



Attached to Crank Shaft in 30 secs.
Does away with the arduous labor of hand pumping, and does not clutter up your engine with an additional set of gears.
It is carried in the tool box with tube and gauge attached. It is so simple that it cannot get out of order, and it is built like your motor.
Now ready for Geo. Dodge, Chandler, Hudson Super-Six and 6-40, Saxon Six, Studebaker 15-16-18, and Overland 15-18 and 24.

Ask your Dealer or send \$10 direct.

Detroit Accessories Corp.,
517 Hillier Ave.,
Detroit - Michigan

Baird's Heave Remedy Is guaranteed. Works while animal works. Write BAIRD MFG. CO., Box 627, Purcell, Okla., for particulars.

FARMERS—We will pay premiums whenever possible above the highest official Detroit Market quotation for your eggs shipped direct to us by express. Write us for information. It will pay you. **American Butter & Cheese Co.,** Detroit, Mich.

HAY Ship To The Old Reliable House **Daniel McCaffrey's Sons Co.,** 623-625 Wabash Bldg., Pittsburgh Pa.

FRUIT HIGHEST MARKET PRICE Quick Returns. Write for Stencil. Ship Direct to E. L. RICHMOND CO., Detroit.

EGGS, ETC.—Small consignments from producers in your territory bring very attractive prices. Returns day of arrival. Refer to Dun or Pradstreet. **Zenith Butter & Egg Co.,** 355-59 Greenwich St., New York, N.Y.

When writing to advertisers please mention **The Michigan Farmer.**

THIS IS THE LAST 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 MARKET.

Thursday's Market.

June 22, 1916.

Cattle.

Receipts 2141. The local market opened this week with a large number of cattle on sale and nearly the entire lot were grassers and many of them of the common order, as was predicted last week all grass cattle took a bad slump and were fully 25¢ per cwt. lower than they were at the same period a week ago, the only grade to hold up being canners and bulls, which were steady. Quite a bunch went back for feeding at considerably lower prices. The close was very dull on Wednesday with a large number holding over and the same applied to Thursday. Quotations below are for grass cattle only: Best heavy weight steers \$3.50@9.25; best heavy weight butcher steers \$7.50@8.50; mixed steers and heifers \$7@8; handy light butchers \$7@7.75; light butchers \$6@7; best cows \$6.25@7; butcher cows \$5.25@6; common cows \$4.50@5; canners \$3@4.50; best heavy bulls \$6.50@7.25; bologna bulls \$5.75@6.50; feeders \$7@8; stockers \$6.75@7.50; milkers and springers \$4@6.5.

Sandel, S., B. & G. sold Golden 1 cow wgh 1080 at \$6, 1 canner wgh 1000 at \$4; to Mich. B. Co. 19 butchers av 810 at \$7.50, 2 cows av 915 at \$5, 2 bulls av 890 at \$6.25, 31 butchers av 731 at \$7; to Breitenbeck 15 do av 910 at \$8, 1 bull wgh 990 at \$6.25; to Bray & B. 1 cow wgh 1270 at \$5.50, 3 do av 1247 at \$7, 1 bull wgh 1790 at \$7; to Kamman 6 steers av 1146 at \$8.75, 7 do av 817 at \$7.10; to Hammond, S. & Co. 1 bull wgh 1040 at \$6.50, 1 do wgh 720 at \$6; to Wallace 23 stockers av 612 at \$6.40; to Kendall 11 feeders av 764 at \$7.25; to Frutchey 1 steers av 725 at \$7.75; to Sullivan P. Co. 5 butchers av 816 at \$7.75, 2 cows av 980 at \$5.25, 6 do av 1055 at \$6, 6 steers av 865 at \$7; to Kamman B. Co. 26 do av 921 at \$8.65; to Bray & B. 5 cows av 1346 at \$7.60; to Kendall 12 feeders av 775 at \$7.25, 3 do av 887 at \$7.25, 8 do av 771 at \$7.25; to Brighton D. M. Co. 8 cows av 1150 at \$6.40; to Sutton 2 stockers av 775 at \$6.50, 24 do av 614 at \$6.50; to Hammond, S. & Co. 2 bulls av 955 at \$6.25, 2 do av 1085 at \$6.25; to Mich. B. Co. 1 steer wgh 940 at \$8.75, 2 do av 855 at \$6, 10 do av 858 at \$7.50.

Erwin & S. sold Fineman 1 heifer wgh 710 at \$6.25, 2 bulls av 665 at \$6; to Golden 2 cows av 930 at \$5; to Sullivan P. Co. 6 cows av 1011 at \$6.25, 3 do av 990 at \$6.25, 6 do av 1023 at \$6.25, 9 do av 920 at \$6.15, 13 butchers av 823 at \$6.85, 12 do av 816 at \$7.35, 6 do av 1030 at \$8, 4 do av 755 at \$7; to Fineman 4 do av 670 at \$5.75; to Frutchey 15 feeders av 800 at \$8.10, 6 do av 850 at \$8.

Haley & M. sold Bell 2 bulls av 950 at \$6.50, 1 cow wgh 850 at \$5.90; to Golden 3 do av 947 at \$5.50, 1 do wgh 920 at \$5, 1 bull wgh 1000 at \$6.50; to Kamman 1 bull wgh 1620 at \$7; to Rattkowsky 2 cows av 410 at \$6, 2 steers av 1230 at \$8.50; to Bray 4 cows av 1217 at \$6.30; to Feldman 2 steers av 915 at \$7.50; to Brighton D. M. Co. 9 cows av 1131 at \$6.40; to Mich. B. Co. 6 do av 1053 at \$5.85, 9 steers av 1092 at \$8.35, 2 do av 990 at \$7.

Veal Calves.

Receipts 1266. The veal calf trade was active at last week's prices, a few extra fancy selling at \$12.25, but the bulk of sales for the best was \$11.50@12; common and medium \$8@10.50.

Haley & M. sold Goose 3 av 160 at \$12; to Hammond, S. & Co. 11 av 170 at \$11.75, 22 av 160 at \$12, 12 av 160 at \$11.75; to Rattkowsky 2 av 220 at \$10.

Sheep and Lambs.

Receipts 958. The run of sheep and lambs was again very light and the quality not very good; the market was strong at last week's prices, selling as follows: Best lambs \$10@10.25; fair do \$9.50@9.75; light to common lambs \$7.50@8.50; spring lambs \$11@12; fair to good sheep \$6@6.75; culls and common \$4@5.50.

Bishop, B. & H. sold Hammond, S. & Co. 12 spg lambs av 50 at \$12, 7 do av 75 at \$11.50, 14 sheep av 105 at \$6.50; to Newton B. Co. 15 spg lambs av 59 at \$12, 13 lambs av 60 at \$10, 4 sheep av 120 at \$6; to Ollich 28 spg lambs av 65 at \$12; to Sullivan P. Co. 44 sheep av 125 at \$6, 9 do av 95 at \$5.25, 15 do av 110 at \$5.25, 30 do av 95 at \$6.

Hogs.

Receipts 8267. Hogs started advancing early in the week and kept going and on Wednesday the bulk of the good ones brought \$9.75; on Thursday they were 5¢@10¢ higher; yorkers and heavy \$9.75@9.85; pigs at \$9.25@9.35.

Veterinary.

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

Lymphangitis—Farcy.—My 18-year-old mare has for years had periodical attacks of lymphangitis and last fall she showed symptoms of farcy.—B. R. DeL., Alberta, Mich.—Careful and light feeding when idle, and regular daily exercise will have a tendency to ward off future attacks. Give her 2 drs. of Fowler's solution of arsenic at a dose three times a day. Also paint suppurating nodules with tincture of iodine three times a week.

Feeding Horses Grass.—I am working mare and have been feeding her ground feed, bran and hay. She has also had about an hour's run on grass every evening. Now I have changed her to oats, bran and hay without feeding grass, thinking perhaps the grass might do her harm. T. H., Sterling, Mich.—At this season of the year when the grass is fresh, I believe every horse should be allowed to eat a certain quantity of grass that is dry and free from wet that has grown in other than shaded places. Allow your Vet. to treat your young colt that has had scours.

Blind Staggers.—I have a 12-year-old gelding which is apparently in good health, but twice during the past week while driving he has suddenly stretched out his neck sideways and started toward the ditch, then he trembles violently for two or three minutes when the attack leaves him as suddenly as it came. We cannot control him with the reins during the attack. Two or three years ago he had a similar attack. J. D., Belleville, Mich.—Your horse suffered from a mild attack of blind staggers (vertigo) caused perhaps by over-feeding, improper harnessing, being over-fleshy, a torpid liver or indigestion. A run on grass will do him more good than drugs. Be sure and not over feed him, and keep his bowels open. An ailment of this kind is usually considered incurable, unless you ascertain its cause and remove it.

Septic Poison.—I have a five-year-old cow that came fresh April 5, since then she has lost considerable flesh. After calving she had to be cleaned by our local Vet. Has been bred twice, but fails to get with calf. F. P., St. Louis, Mich.—Give your cow 1 dr. powdered sulphate iron, 1 oz. cooking soda, ½ oz. of ground gentian at a dose in feed twice a day. Dissolve 1 dr. permanganate of potash in two quarts of water and wash out vagina three times a week.

Enlarged Gland.—I wish you would tell me what to do for a cow that has a lump underneath the jaw, which is about the size of a teacup and gradually growing larger. J. J., Berrien Springs, Mich.—Apply tincture iodine daily and if bunch softens which it perhaps will, open it, and continue applying the iodine externally and into the cavity.

Injured Fetlock—Bog Spavin.—My four-year-old horse caught his foot in a wire fence while rolling, injured the ankle joint and sprained hock, resulting in bog spavin. M. H. W., Ovid, Mich.—Apply to both fetlock and hock joint equal parts tincture cantharides, aqua ammonia, turpentine and raw linseed oil two or three times a week. If this horse is lame, you should give him rest.

Indigestion—Weakness.—We have a five-year-old mare that has not yet shed her winter coat, although she has a good appetite and eats plenty of feed, she is not able to endure much work, tiring quickly. C. C., Elk Rapids, Mich.—Give her 1 dr. of ground nux vomica, ½ oz. cooking soda, ½ oz. ground gentian and ½ oz. powdered charcoal in ground oats and bran two or three times a day. She should be allowed enough grass to keep her bowels open or perhaps turned out on pasture every night.

Infected Navel.—I have a colt three weeks old that was born apparently well with the exception of having a large navel cord which broke off about an inch from the body. We did not tie the cord as it did not bleed, but we applied an antiseptic at birth to the navel. On the third day a gathering began to form around the cord; we had this bunch lanced and from that time on until now we have painted bunch daily with iodine and occasionally injected some into the opening. The cord sloughed off close to body; the colt is lively. I would like to know if there is any danger of losing this colt if the treatment is kept up. P. C., Coopersville, Mich.—Apply equal parts powdered alum, oxide of zinc, boric acid and tannic acid to cavity once a day. Also apply one part iodoform and three parts boric acid once a day.

HOLSTEINS FOR SALE

Having sold my farm in the city for platting purposes, it will be necessary for me to dispose of the Holsteins before August 1st next, as I have agreed to surrender possession of the farm at that time.

These animals represent the highest type of the Holstein breed and are representatives of the best known families.

I shall be glad to have any one who anticipates starting a Holstein herd to come and see them. They are suitable for foundation stock and are the result of years of careful breeding.

I have on hand a number of young bulls of the highest type of the breed, ready for service, that will be sold at very reasonable prices.

I venture the assertion that a man can take four of these animals, retain them and their female offspring for six years, selling the males, and at the end of that period his pure bred Holsteins will be worth more than his 80 acre farm, provided he grows them and takes first-class care of them. In the meantime he has had the milk and the returns from the sale of the bull calves.

A year's time will be given to responsible parties, with interest at 6%.

D. D. AITKEN, Flint, Michigan.

DISPERSION SALE

Having decided to go out of the dairy business I will sell my entire herd of

69 HEAD 69

At the farm ¼ mile north and ¾ mile west of the village of Armada, on

MONDAY, JUNE 26, 1916

Commencing at 11:00 O'Clock A. M.

1 Registered Jersey Aged Bull; 1 Registered Jersey Yearling Bull; 1 Registered Jersey Bull Calf 10 mo. old; 5 Registered Jersey Cows; 2 Registered Jersey Heifers; 35 Grade Jersey Cows; 14 Grade Jersey Heifers; 10 Grade Jersey Calves. Free Lunch will be served at noon.

TERMS:—One year's time given with good approved, endorsed notes at 7 per cent interest.

Geo. A. True, Prop., Armada, Mich.

James Haviland, Auctioneer.

An itemized list of the Animals will be printed before the sale and mailed to all that apply.

Duroc Jersey Herd Boars

Special Offering of High Class Fall Boar Pigs. Breeding and Individuality good enough for breeders who appreciate the best.

Also some good farmer's boars. This is the best lot of fall pigs we have ever had to offer. A cordial invitation is extended to visit the farm and inspect the stock. If you wish one of the best young Jersey bulls in Michigan we have him for sale. For further particulars, address,

Brookwater Farm, Swine Dept., Ann Arbor, Mich.

MINERAL HEAVE COMPOUND

CURES HEAVES

Booklet Free

NEGLIGENCE Will Ruin Your Horse

Sold on Its Merits

SEND TODAY

AGENTS WANTED

MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburg, Pa.

\$3 Package guaranteed to give satisfaction or money refunded

\$1 Package sufficient for ordinary cases. Postpaid on receipt of price. Write for descriptive booklet.

BREEDERS' DIRECTORY.

Change of Copy or Cancellations must reach us Ten Days before date of publication.

CATTLE.

ABERDEEN ANGUS: We are offering 15 head of Choice young bulls, one two year old Trojan Erica at \$200.00 if taken in 6 weeks, 14 head from 8 to twenty months old including the first and second prize. Senior bull calves at the 1915 State Fair. Write for Particulars, and come to the farm to look over the stock, they are of the Blackbird Trojan-Ericas, and K. Pride Families only. 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. WOODCOTE STOCK FARM, Ionia, Mich.

Pure Bred Aberdeen Angus, a few bulls and heifers one year and older at \$100 each. GEO. HATHAWAY & SON, OVID, MICHIGAN.

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.

VILLAGE FARMS, Incorporated

Grass Lake, Michigan,

GUERNSEY CATTLE
BERKSHIRE HOGS

AVONDALE Guernsey bulls all sold. Sorry to disappoint those wishing our stock. Only registered bull calves left. Avondale Stock Farm, Wayne, Mich.

Guernsey (May Rose) Bull for sale, born Sept. 5, 1913. Splendid animal in every respect, Dam 520 lbs. fat class F. J. K. Blatchford, Auditorium Tower, Chicago, Ill.

Guernsey Bulls of service age and calves from choice. Adv. reg. breeding. T. V. HICKS, Route 1, Battle Creek, Mich.

Guernsey, yearling bull, also a bull calf. Gr. G. Son, Pauline Sottwood 745 lbs. fat, cheap enough so you can buy. J. M. Williams, No. Adams, Mich.

GUERNSEYS

We offer a choice lot of high grade Guernsey cows and heifers, bred to registered bulls LaTortue of Maple Lane, No. 23192 and Sir Dena No. 36178. Prices reasonable. THE JENNING'S FARMS, R. 1, Bailey, Mich.

BEACH FARM GUERNSEYS

Average yearly production 422.3 lbs. of fat, three-fourths of them making their records as two year olds. By the use of a pure bred sire, a big improvement can soon be attained if the right selection is made. The breeding of the Beach Farm Herd is as good as can be found, and we guarantee them to be free from contagious diseases and to be satisfactory in every way or money refunded. Write and let us tell you about them.

CAMPBELL & ANGEVINE,
Coldwater, Michigan.

GUERNSEYS—REGISTERED BULL CALVES
Containing blood of world champions.
HICKS' GUERNSEY FARM, Saginaw, W. S. Mich.

Herefords—One Bull Calf.

ALLEN BROS. PAW PAW, MICH.

HEREFORDS:

EARL C. McCARTY, Bad Axe, Michigan.



Purebred Registered
HOLSTEIN CATTLE

Holsteins, the best dual purpose breed.

Remarkable Holstein Productiveness. In 1915, from April 22 to April 28, the records of 670 cows were accepted to entry in the Holstein-Friesian Advanced Registry. As evidence of the high efficiency of pure bred Holsteins these 670 cows of which over one-half were heifers with first or second calves, produced in seven days, 279, 121 pounds of milk containing 10,067 pounds of butterfat, an average percent of 3.61 butterfat. Average production for each animal was 25 quarts of milk per day and 17 pounds of commercial butter per week. This is just a random showing of the wonderful things of which the big "Black-and-White" is capable. Send for FREE Illustrated Descriptive Booklet. The Holstein-Friesian Association of America. F. L. Houghton, Sec'y., Box 164, Brattleboro, Va.

HOLSTEIN BULLS FOR SALE

Four of them from 12 to 17 months old by 31 lb. sire dam's A.R.O. Price \$100.00 to \$150.00. Younger bull calves from \$50.00 up.

BLISSVELDT FARMS, Jenison, Michigan

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. 64¢ fat daughter of Pontiac Argie Korndyke who has more 30 lb. daughters than any other living bull. If you do write for pedigree.

EDWIN S. LEWIS, Marshall, Mich.

FOR SALE

SOME VERY FINE YOUNG BULLS Whose sires have as high as 31 lbs. of butter behind them. As they are young, will make a low price on them. BIGELOW'S HOLSTEIN FARMS, BREEDSVILLE, MICH.

HOLSTEINS, a nice straight deep bodied, blocky built bull calf, born Oct. 5th, 1915. His 7 nearest dams have A. R. O. records that average butter 7 days 25.36 lbs., milk 53.36 lbs. W. B. READER, Howell, Mich.

(Additional Stock Ads on Page 788)



POULTRY JOURNAL
Practical, Snappy, Instructive—YOUR
PAPEK. For the breeders of Mich.
Ind., Ill., Wis., only. You should read
it—50c a year, 3 mo. 10c. Agents
wanted. Big 4 Poultry Journal, Desk
28, Chicago.

POULTRY.

BARRED Rocks Parks 200 Egg Strain with records to
290 eggs a year—\$1.50 per 15 Delivered. By Parcel
post. Fred Astling, Constantine, Mich.

Barred Rock Eggs, Cock birds, hens. Three pullets
W. C. COFFMAN, BENTON HARBOR, MICH.

BARRED ROCK EGGS—Cock bird 213 egg hen.
Puls. 198, 201, 205, 221, 287
egg hens, 15, \$3.00. Extra choice utility, \$1.15.
FINE KNOLL, BOX 39, SHELBY, MICHIGAN.

Cousins Northern King Strain Barred Plymouth
Rocks. Have won
many prizes. Eggs \$2. for 15. Both matings. Satisfaction
guaranteed. David W. Cousins, North Port, Mich.

JOHN'S Big, beautiful, hen-hatched Barred Rocks. Eggs,
30, \$2.50; 100, \$7.00. Select matings 15, \$4; 30, \$7.00, all
postpaid. Photos. Circulars. John Northon, Clare, Mich.

Chicks, Balance of season, Wh. and Brown Leghorns
\$8.50, S. C. Reds, Anconas, Wh. Wyandottes \$11
hundred, prepaid. Freeport Hatchery, Box 12, Freeport, Mich.

BABY CHICKS

From Standard Bred S. C. White Leghorns and
Brown Leghorns. Down to \$8.00 per 100 for
chicks after June 15th, delivery. Safe arrival
guaranteed. Catalogue free.

WOLVERINE HATCHERY, Box 2221, Zeeland, Michigan.

Strong Day Old Chicks Now \$8.00 Per 100 Laybitt
S. C. W. Leghorns, large, great layers, pure white, hatch every
week till Aug. 1st. Guaranteed delivery alive and
lively. **EVERFRESH EGG FARM**, Ionia, Mich.

CHICKS 7c and up. Barred Rock, Wyandottes, Leg-
horns, Minorcas, etc. Safe delivery guaranteed.
Circular free. Reliable Hatchery, McAlisterville, Box 6 Pa

EGGS for hatching from pure bred White Plymouth
Rocks and S. C. Buff Leghorns on free range.
Kletzen & Webster, Bath, Mich.

Hatching Eggs Buff, Barred, Columbian, Par-
tridge, Silver and White Rocks,
Pekin and Rouen Ducks, Sheri-
dan Poultry Yards, Sheridan, Mich.

Eggs for hatching—From pure bred White Plymouth
Rocks. Pekin and White runner ducks. White
African guineas. H. V. Hostetler, R. 1, St. Johns, Mich.

Eggs Delivered from S. S. Hamburgs rose comb
White Leghorns, B. P. Rocks, white Indian
Runner Ducks, fine Belgian hare ducks, \$3, \$4, \$5.
Circular free. **RIVERVIEW FARM**, Vassar, Mich.

Fowlers' Buff Rocks : Prices reduced one
half, balance of season.
Utility eggs \$1.50 for 15, \$1.50 for 30, \$2 for 50, \$3.50
for 100. **R. B. FOWLER**, Hartford, Mich.

Leghorns, Baby Chicks, Prices Reduced.
S. C. White and Brown, \$3 per 100, for balance of
season. Order Early. **SUNNYBROOK POUL-
TRY FARMS**, Hillsdale, Michigan.

LILLIE Farmstead Poultry, B. P. Rocks: R. I. Reds.
W. Leghorns. 15 eggs \$1; 25 eggs \$1.50; 50 eggs \$2.50;
P. P. delivery free. Colon C. Lillie, Coopersville, Mich.

ORPINGTONS—White, Single-Comb
Kellerstrass. 100 eggs \$5.
10 hens, 1 cock \$20. M. E. THOMPSON, Redford, Mich.

PINE Crest S. C. White Orpingtons—2 and 3 months
old cockerels for sale. Hatching eggs and stock
from pens, one half price. No baby chicks. MRS.
WILLIS HOUGH, Pine Crest Farm, Royal Oak, Mich.

R. I. Reds, Both Combs, Most Popular strain in
Michigan for hatching. Baby Chicks. Write for catalog.
INTERLAKES FARM, Box 38, Lawrence, Michigan.

R. and S. C. R. I. Reds, eggs and breeding stock for
sale at reduced prices for bal. of season, Belgian
hares very reasonable. O. E. Hawley, Ladington, Mich.

Rose Comb Brown Leghorns
Kulp and Gale strains \$2.50 per 100 eggs. Cockerels
50c each. **CLAUDIA BETTS**, Hillsdale, Mich.

RHODE ISLAND WHITES win at the National Egg
Laying contest. Cold weather don't stop them.
Eggs \$1.50, 2 settings, \$2.50. H. H. Jump, Jackson, Mich.

BUFF LEGHORNS: Big cut in prices for remain-
der of Season.
DR. WILLIAM SMITH, PETERSBURG, MICH

Ferris Leghorns—200 Egg Strain—Eggs, chicks, 8
week-old pullets from hens with
records up to 264 eggs. Prize winners at largest shows.
Prompt shipment, prices low, quality guaranteed.
White Leghorns are best for eggs. We raise thousands.
Free catalog and price list gives particulars. Write for it now.
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Heavy Winter Layers:—Long, large
Leghorns, Wyckoff strain. Eggs, \$1.00 per 15; \$3, per
50; \$5, per 100. H. A. Magoon, R. 5, Ann Arbor, Mich.

RHODE ISLAND REDS AND PLYMOUTH ROCKS.
Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens
weight 5 to 10 lbs., eggs 15 for \$1.00; 100, \$5; 120, \$6.
Mammoth Bronze Tom Turkeys, 8 to 38 lbs. according
to age \$6 to \$25, 10 eggs \$5. A. E. Cramton, Vassar, Mich.

ROSE Comb Rhode Island Red Eggs, dark colored
matings \$1.00 per 15. Utility eggs, laying strain,
\$4 per 100. MRS. T. A. ETTER, Richland, Michigan

ROSE and S. C. R. I. Red eggs by mail \$1.50 per 15
or 20c per egg from special pens; \$5 per 100. Hens
for sale. **JENNIE BUELL**, Ann Arbor, R. 8, Mich.

IMPROVE your poultry. My Young's strain S. C. White
Leghorns great money makers. Strong, vigorous, free-
range stock. Baby chicks \$3 per 100. Satisfaction guar-
anteed. Free catalogue, W. Van Appledorn, Holland, Michigan

S. C. WHITE LEGHORNS, bred for size, shape,
vigor, egg production. 14 years' experience breed-
ing Leghorns. Hatching eggs \$4.50 per 100. Baby
Chicks \$10 per 100. A. O. HOWARD, Tecumseh, Mich.

Tom Barron S. C. W. Leghorns. Large, vigorous
stock. Eggs \$5.00 per 100, \$1.25 per 15,
post paid. No Chicks. Bruce W. Brown, Mayville, Mich

Buff Wyandotte and Barred Rock Cockerels \$2.00
each, eggs for hatching \$1.00 per 15.
Mrs. R. W. BLACK, Caro, Michigan

SILVER GOLDEN AND WHITE WYANDOTTES.
Eggs from all matings, 150 per 15, \$2.50 per 30 until
July 1st. C. W. Browning, R. 2, Portland, Mich.

White Wyandotte Cock & Cockerels. Eggs \$1, \$2, \$3,
per 15, \$4 per 50, \$7 per 100.
DAVID RAY, 202 Forest Ave., Ypsilanti, Michigan.

WHITE WYANDOTTES, Eggs \$1.50 per 15, \$2.50
per 30, \$7.00 per 100. From choice stock.
A. FRANKLIN SMITH, Ann Arbor, Michigan.

White Wyandotte Eggs Half Price balance of the
season.
EGGADAY POULTRY RANCH, Marshall, Michigan.

"PREMIER" PARTRIDGE WYANDOTTES 80 winter
layers.
Eggs \$2.00 per 15. W. H. BACON, Petersburg, Mich.

Poultry.

MAKING POULTRY YARDS SANI- TARY.

Sanitary conditions in the poultry
yard are important. The tramping of
many "hen feet" on the same ground
for any length of time will naturally
compact dirt and disease into the soil.
Also the soil is in many cases damp.
All poultrymen know that dampness
and poultry are not good mates. Where
poultry is kept in yards continuously
the earth needs turning over at least
twice a year. Sanitary conditions
about a poultry yard can be improved
by the use of a few sticks of 20 per
cent dynamite which is especially valu-
able in eliminating surface water where
hardpan exists near the surface of the
soil. In lowering surface water by
drainage the soil can be sweetened eas-
ily by lime. Besides shaking up the
soil and draining the poultry yards,
dynamite explosions have some influ-
ence in destroying offensive pests. The
explosion scatters them and the new
soil gives them but little encourage-
ment.

The shaking of the soil provides new
scratching material and a good wallow-
ing place. After lime is scattered on
the surface the fowls will mix it with
the mellow soil and when this is done
they can be taken away and clover
sown in the yards.

Experience has shown that small
charges used in this work during the
hatching season had no effect upon the
fowls, chicks or hatching eggs.

The time to perform this work
seems to be at a time when the ground
is dry and the soil not waterlogged. To
determine whether the soil is too wet
for subsoiling depends on the soil;
sandy soils and those of a loose friable
nature can be treated at most any time
but the heavy clay soils should be
treated as near the dry state as
possible.

WHITE DIARRHEA.

Two years ago when we bought eggs
for our incubators we lost about 500
chicks with white diarrhea. We were
informed later that if we had dipped
the eggs in a solution containing alcoh-
ol it would have prevented this. We
expect to buy eggs again. Do you
think this precaution is all right? If
you do, could you tell me what per
cent of alcohol to use?

Saginaw Co. J. F. R.
We doubt very much whether the
dipping of eggs for hatching in a solu-
tion of alcohol would have any pre-
ventive effect on white diarrhea.

Investigators of this common chick-
en disease say that very frequently
the disease is carried in a dormant
state in the hen and is transmitted to
the eggs she lays. Another likely
cause of the trouble is the picking of
the droppings by the chicks shortly
after they are hatched. This is most
frequently done in the nursery tray of
the incubator. In order to prevent
this, the tray should be kept darkened
during the time the chicks are in it.

It has been found that the bacteria
causing this disease are quite easily
destroyed by weak acids, and one of
the most common methods of keeping
the chicks free from the disease is to
feed them a little sour milk shortly
after they are hatched. There are also
commercial white diarrhea remedies
which are very satisfactory, and if one
follows the directions sent with them,
he can feel quite sure of successfully
combating the trouble.

Keep the little chicks busy by feed-
ing small grains in fine litter.

Chick-size grit and fine charcoal
should be kept before the young chicks
at all times.

Feed three times a day and no more,
but add rolled oats to the chick feed
twice a day and stale bread crumbs or
corn bread will do if there are no roll-
ed oats on hand.

HOLSTEIN-FRIESIAN CATTLE

Herd headed by grandson of King Segis Pontiac,
and tuberculin tested annually. A few choice
young bulls from dams having official records.
PEACELAND STOCK FARM, Three Rivers, Mich.
Chas. Peters, Herdsman. C. L. Brody, Owner, Port Huron, Mich.

For Sale: Big Holstein Bull 2 yr. old. Good breeding.
Reg. bulls and heifers 10 mos. old.
Ferd. J. Lange, Sebewald, Mich.

75 gets Hazel-let grandson of Maplecrest De Kol
Parthena and Pontiac Maid 30 2 lb. Born
March 26. Dam Pontiac Hesperia 2nd, 14.89 lb; 436.6 lb;
her dam's sire brother to sire of world's record cow 31384 lb
milk 1 yr. **M. L. McLAULIN, REDFORD, MICH.**

I Have Holstein Bulls, Bull Calves and Cows
that I offer for sale.
I can show breeding, records, individuality and attrac-
tive prices. **L. E. CONNELL**, Fayette, Ohio.

"TOPNOTCH" Holsteins

By careful retention, for many years, of largest pro-
ducing females, and use of superior sires, a breeding
herd of wonderful quality has been established. We
are selling young bulls of this "TOPNOTCH" quality
of serviceable age, at moderate prices. Information,
pedigrees, etc., on application. **McPHERSON FARMS**
CO., Howell, Michigan.

FOR SALE Registered Holstein Bulls
ready for service, and bull calves, also females.
FREEMAN J. FISBECK, Howell, Michigan.

REG. Holstein-Friesian cows and heifers, some fresh
and some ready to freshen \$125. Reg. bulls \$30 up
Frank Staifen, R. 3, Box 38, Howard City, Mich

WANTED

Six good men to buy pure bred **HOLSTEIN BULL**
CALVES. Good notes on a year's time accepted in pay-
ment. **GEO. D. CLARKE**, Vassar, Mich.

BRAGGING NOW

My consignment of Holsteins at the Detroit sale the
8th and 9th, sold for an average price of \$229 per head,
including 3 calves under six months of age.
HOBBART W. FAY, Mason, Michigan.

CHOICE HOLSTEIN BULLS—all from A. R. O. dams
Entire herd on Semi of test for yearly work. Jr.
2-yr.-old just finished year's record of over 15,000 lbs.
milk, over 1000 lbs. butter record in mature class. Cherry
Creek Stock Farm, M. E. Parmelle, Prop., Hilliards, Mich.

FOR SALE Reg. Holstein females, Pontiac Korndyke
and Hengerveld DeKol Breeding. Price
right. 1 to 5 years. **John A. Rinke**, Warren, Mich.

6 Holstein Bulls

Ready for service, at farmers' prices. All have high
testing A. R. O. daughters from world record Sire,
nothing better at any price. **LONG BEACH FARM**,
Gull Lake, (Kalamazoo Co.) Michigan.

For Sale, 3 pure bred Holstein Bulls, ready for ser-
vice. Sires, 2 nearest dams average 34.45 lb
butter in 7 days. 1 bull and 2 heifers \$400.
W. C. JACKSON, 719 Rex St., South Bend, Ind.

Lillie Farmstead Jersey Cattle. Bull calves from R.
of M. Cows also heifer calves and several bred
heifers for sale. Colon C. Lillie, Coopersville, Mich.

Jersey Bulls for Sale from high-producing dams, with
testing Asso. records, also on
semi-official test. **C. B. Wehner**, R. 6, Allegan, Mich

One Jersey Bull READY FOR SERVICE, and sev-
eral Heifers and Calves for sale.
NOTTEN FARM, GRASS LAKE, MICHIGAN.

Senior herd bull, Majesty's Wonder 9717, for sale, sire
Royal Majesty, Dam Alina's Dewdrop, his full sister
Majesty's Butter cup produced 702.2 lbs butter in 1 yr.
Sons of Royal Majesty are scarce, here is a chance to
get one reasonable, must sell to avoid too close in-
breeding, write for particulars, also choice young bulls
from above sire. **Alvin Balden**, Capac, Michigan.

Hillside Farm Jerseys 10 mos. old, solid color bull now
offered for sale. Dam is a R. of M.
cow with record of 446 lbs. of butter as a 3 yr. old. He is a
fine individual. Price right. C. O. Deake, Ypsilanti, Mich.

Maple Lane R. of M. JERSEY HERD offers for sale,
tuberculin tested cows, heifers, bulls,
and bull calves backed by several generations of R.
of M. breeding. **IRVIN FOX**, Allegan, Michigan.

JERSEY BULL CALF FOR SALE
Ready for service, Majesty—Raleigh breeding.
Meadowland Farm, Waterman & Waterman, Ann Arbor, Mich.

FOR SALE—Our herd bull, Jacoba's Fairy Emanon
age 4 years, kind, quick and sure.
Must be seen to be appreciated. Reason for selling,
must change sires. Also two yearling bulls from him.
SMITH-PARKER, R. D. No. 4, Howell, Michigan.

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For "Beef and Milk"
Registered bulls,
Scottish topped roans,
reds and white for sale.
Farm at N.Y.C. Depot;
also D. T. & I. R'y.
Address **G. R. Schroder Mgr.**
BIDWELL STOCK FARM
Box B, Tecumseh, Mich.

Shorthorn Cattle of both Sex for Sale
W. W. KNAPP, Howell, Michigan.

DAIRY Bred Shorthorns of best Bates strains. No
more females for sale at any price.
J. B. Hummel, Mason, Michigan.

FOR Sale—Reg. Short Horn Bulls by Maxwalton
F Monarch 2nd, a son of Avondale, from 8 to 10 mos. old
John Schmidt, Reed City, R. No. 5, Michigan.

Shorthorn Cattle, Five cows, Ten heifers. Five bull
calves; also herd bull for sale.
Write. **Wm. J. Bell**, Rose City, Mich.

SHORTHORN COWS FOR SALE: No Bulls at
present.
R. R. Station, Elsie. **H. B. PETERS**, Carland, Mich.

Shorthorn AND POOLED DURHAMS FOR SALE.
Have red roan and white. Have over 100
head in herd. **C. Carlson**, Leroy, 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

Two yr. red shorthorn Bulls. Roan calf 9 mo. old.
1 Poll Angus Bull calf, 8 mo. old, not reg. Priced to
move quick. **CHASE'S STOCK FARM**, Marlette, Mich. R. 1.

Dairy Short Horns for Sale, Herd Established
Fifteen Years.
M. A. BRAY, OKEMOS, (Ingham Co.) Mich.

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Royalton Bred Berkshires. Male and female pigs
October boars and gilts, registered with papers. Satis-
faction guaranteed. **D. F. Valentine**, Supt., Temperance, Mich.

Berkshire Hogs, Sows bred to farrow in April. Best
of breeding. **Maple Place Farms**
C. S. BARTLETT, Prop., Pontiac, Michigan

Berkshires of best breeding, of various ages, either
sex, all registered stock, no akin,
special reduced price. Write your wants quick.
Mitchell's Lakeside Farms, R. 2, Bloomington, Mich.

Berkshires, Of various ages, either sex, open or bred,
prolific strains, Registered, at moderate
price. **Elmhurst Stock Farm**, Almont, Michigan.

SWIGARTDALE FARM

HOLSTEINS AND BERKSHIRES
We have for sale a fine bull calf born March 6th, nicely
marked, dam a nineteen pound three year old, price
\$100. In Berkshires we have a nice lot of fancy fall
boars, sired by Sensational Charners Masterpiece 2nd,
also spring boars, these are all large high class ani-
mals, of unsurpassed breeding, our prices are right, and
we guarantee to please, or return your money.

Swigartdale Farm, Petersburg, Mich.

Berkshires, I have 6 choice fall gilts bred for Sept.
farrowing at \$25 each for immediate delivery.
A. A. PATULLO, R. 4, Deckerville, Mich.

Duroc Jersey Boars and Red pigs, price, weight,
faction, express prepaid, etc. given. I guarantee satis-
faction. **J. H. Banghart**, East Lansing.

Duroc Jerseys, some choice Jan. boars, spring pigs,
pairs & trios not akin, a few sows for June farrow
of leading blood lines. **W. C. Taylor**, Milan, Mich.

Duroc Jerseys—Fall and spring pigs either sex, from
choice strains. **S. C. STAHLMAN**,
CHERRY LAWN FARM, Shepherd, Michigan.

DUROC JERSEY Bred sows and gilts
all sold.
orders for spring pigs. **E. D. Heydenberk**, Wayland, Mich.

DUROC Jerseys—Fancy fall pigs (either sex). Buff
Rock eggs \$1.25 per 15; S. C. W. Leghorn eggs \$1 per
15. **John McNeill**, R. 4, Station A, Bay City, Mich.

Duroc Jersey—Sept. boars ready for service also open
gilts and some sows bred for Aug. and
Sept. **E. H. MORRIS**, **MONROE**, MICH.

DUROC JERSEYS :-- all sold out
for the
present. **Wm. W. Kennedy**, Grass Lake, Michigan.

DUROC JERSEYS—A few fall
boars for sale.
Carey U. Edmonds, Hastings, Michigan.

Duroc Jerseys I have some good last September
Boars and gilts. Gilts will be
bred for September farrow.
H. G. Keester, R. No. 5, Cassopolis, Michigan

DOBSON'S DUROCS Combine size, quality, breed-
ing. Boars for sale. Pigs at weaning time. Reg-
istered Jersey bull. **Orlo L. Dobson**, Quincy, Mich.

Duroc Jersey Boars Ready for service. Big,
smooth, lengthy fellows.
Grand Champion blood lines. Gilts bred for Sept. far-
row. **F. J. DRODT**, R. 1, Monroe, Michigan.

DUROC JERSEYS, with quality, fancy fall sows, a
few spring boars sired by Principal 4th, 3 wks. old.
J. ROBERT HICKS, R. 3, ST. JOHNS, MICH.

Raise Chester Whites
Like This
the original big producers

I HAVE started thousands of breeders on the road to
success. I can help you. I want to place one hog from
my great herd in every community where I am not already rep-
resented by these fine early developers—ready for market at six
months old. Write for my plan—“More Money from Hogs.”
G. S. BENJAMIN, R. F. D. 10 Portland, Michigan

CHESTER WHITES Sows bred for July farrow, spring
pigs in pairs, not akin.
F. W. ALEXANDER, Vassar, Mich.

O. I. C. BRED GILTS, Also young boars
shipped C. O. D.
J. CARL JEWETT, Mason, Mich.

Registered O. I. C. Swine
Stock For Sale—All Ages
Correspondence Solicited, Visitors Always Welcome

Brightside Farm
Grand Lodge, Mich.

O. I. C. SPRING BOARS of good type and
Red Polled bull calves.
John Berner and Son, Grand Lodge, Mich.

O. I. C. Swine—A nice lot of spring pigs. Write
your wants. Meadow View Stock
Farm, Holland, Michigan. **R. R. No. 5.**

O. I. C. October boars weighing 200 lbs. at \$25
each for April shipment.
C. J. THOMPSON, Rockford, Michigan.

O. I. C. Boars for service. Gilts bred for May and
June farrow. I prepay
express. **G. P. ANDREWS**, Dansville, Mich.

O. I. C. Serviceable boars and bred gilts all
sold. Booking orders for Spring pigs,
\$10.00 each. **H. W. MANN**, Dansville, Michigan.

O. I. C. Swine. I am booking orders for Spring pigs.
One yr. old Holstein bull for sale.
Elmer E. Smith, Redford, Mich.

O. I. C. bred gilts all sold, am offering Sept. boars
and gilts, large growthy ones, and booking
orders for spring pigs. **A. J. Barker**, R. 1, Belmont, Mich.

O. I. C.'s 50 Mar. and Apr. pigs, pairs and trios no akin,
5 bred gilts to farrow in Aug. 3 Holstein
Bulls. Cloverleaf Stock Farm, Monroe, Mich. R. No. 1

400 Big Type O. I. C. and Chester White Pigs
From Feb. Mar. and Apr. farrow sired by the five best
boars in the state. School Master 52707 who won more
championships, defeated more champions than any boar
show 1915. Also 2nd, sire to our undefeated breeders
young herd at 7 state fairs. Allen junior champion at
Wis. State fair 1914, and Captain Jim 33161, under 6
months boar and Junior champion at every state fair
show 1915. Then we have Le Doux model 29075, first
in class at Sioux City, Iowa, 19

O. I. C.'s Strictly Big Type
Two Sept. boars, three 1915 July gilts, bred for July farrow, sired by Lengthy Prince, No. 38161, bred to Wonder 4th, No. 33237, he by Wonder 18069, one of the most popular boars of the breed. Have the finest lot of Spring pigs I ever raised. Can furnish in pairs not akin.
NEWMAN'S STOCK FARM, R. 1, Marquette, Mich.

O. I. C. SPRING PIGS, Ready to Ship. Write for Prices.
JULIAN P. CLAXTON, FLINT, MICH., R. 8.

O. I. C. September pigs, both sex. Bred sows all sold.
E. B. MILETT, Fowlerville, Michigan.

O. I. C. SWINE: If you are interested in O. I. C.'s, let me start you with a choice pair or trio, not akin, or a gilt, due to farrow about September first.
A. J. GORDEN, R. No. 2, Dorr, Mich.

Boars at Half Price
We still have a few big boned, big type Poland China boars ready for service, weighing up to 250 lbs. not fat at \$20 & \$25 each. Registered in buyer's name. Also registered black Percheron Stallion 2 years old \$250.00.
J. C. BUTLER, Portland, Mich., Bell Phone.

BIG TYPE Poland China sows bred for July and August farrow, Spring pigs.
G. W. HOLTON, Route 11, Kalamazoo Michigan.

Big Type Poland Chinas—Boars of August farrow, booking orders for spring pigs. **A. A. WOOD & SON, Saline, Michigan.**

FOR SALE, P. C. Sows, "Big Type" bred for Sept. farrow. Extra good 7 months boar. March and April pigs. S. C. B. Minorcas. R. W. Mills, Saline, Mich.

Poland China Spring Pigs
Our herd sire was Champion and Grand Champion at the State Fair last fall. Our sows are great big, stretchy, splendid individuals, with best breeding. Pigs from such matings will please you. Get our prices.
HILLCREST FARM KALAMAZOO, MICH.

Large Strain P. C. A few choice fall boars ready for service, and 1 May boar. Gilts for early farrow all sold, a few choice Gilts to farrow in Aug. and Sept., bred to black Wonder and Oaklands Equal Jr. H. O. Swartz, Schoolcraft, Mich.

Large Type P. C. Gilts and sows, bred for Mar. and Apr. farrow. April farrow. Sired by Big Des Moines, Big Knox Jr. and Giant Defender. Bred to Big Knox Jr. Smooth Wonder 3 and Big Jumbo, four great boars in state. Come or write. W. E. Livingston, Parma, Mich.

BIG TYPE Poland Chinas, Sired by Big Type King, 3 our 1000 lb. boar. Spring pigs, sired by big type King, Pecosmeyer A Wonder Jr., and Mow's Big Bone. W. Brawbaker & Sons, Elsie, Michigan.

For Sale Poland Chinas either sex, all ages. Something good at a low price.
P. D. Long, R. F. D. No. 8, Grand Rapids, Mich.

Heavy Boned Poland Chinas. Fall and Summer Pigs. Sows Bred. Eggs from big Barred Rocks \$1.00 for 15. **ROBERT NEVE, Pierson, Michigan.**

Large Type P. C. Sows & Gilts all sold. Have 3 extra good spring boars. Sired by Big Defender.
W. J. HAGELSHAW, Augusta, Michigan.

Large Yorkshires August and September pigs. 2 spring boars. Prices reasonable.
W. C. COOK, Route No. 1, ADA, MICHIGAN.

GROWTHY THE DISEASE PROFITABLE "MULEFOOT" HOG RESIST- ING

WE ARE NOW BOOKING ORDERS FOR SPRING PIGS

THE CAHILL FARMS KALAMAZOO - - - MICHIGAN

HAMPSHIRE SWINE Spring Pigs \$10 and up, registered. **John W. Snyder, R. 4, St. Johns, Mich.**

Hampshire Swine. Bred Sows and gilts for August and September farrows. Spring pigs, both sex. **FLOYD MYERS, R. No. 9, Lecatur, Ind.**

H. H. Halladay O. H. Halladay & Son
Breeders of Hampshire Swine.
Write your wants. Clinton, Mich.

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Kope Kon Farms Offers
100 Yearling Shropshire Rams.
100 Yearling And Aged Ewes.
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Oxford Down Sheep. Good yearling field Rams and ewes of all ages for sale.
M. F. GANSLEY, Lennon, Michigan.

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Percherons, Holsteins, Angus, Shropshires, Durocs
DORR D. BUELL, Elmira, Michigan.

FOR SALE—Registered Percheron Stallions, Mares and Fillies at reasonable prices. Inspection invited. **F. L. KING & SON, Charlotte, Mich.**

FOR SALE: Percheron Stud Colt, 11 months old. Duroc pigs, Feb. farrowed, either sex. **E. J. ALDRICH, Tekonsha, Cal., Co., Mich., Bell Phone.**

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