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NOTWITHSTANDING the labor involved in growing roots many stockmen make an effort to have at least an acre or two. Of course, the main dependence for a succulent feed during the winter is in silage, yet a combination of the two, in my experience, gives better results. For this reason I continue to grow roots. In discussing the subject of their handling from field to cellar I will describe what seems to me the best methods, having in view the economy of time and labor.

From the tenth to the fifteenth of October we usually begin pulling the mangels. Growing so much above ground this exposure makes them more susceptible to frost than most other roots. Light frosts do no damage, but if sufficiently heavy the keeping qualities are injured, rot setting in soon after they are stored.

In harvesting, pull each mangel with both hands, then gathering all the tops together with the right hand and holding the mangel firmly with the left a sudden jerk easily breaks them off. Topped in this way the roots are less likely to start decaying at this point than if a knife or a hoe were used in the operation. Some growers do the topping with a hoe and use a harrow to pull the roots out of the ground. This bruises the mangel considerably, causing small spots to take on a dry, bitter rot which decreases palatability as well as the keeping qualities of the roots. Unbruised, the mangel is a long-keeper. We like to hold them over for feeding toward spring; and if they have been properly harvested and stored I always find them in first-class condition. For late fall and early winter feeding we depend on the turnip crop for it is very seldom that their keeping qualities extend much beyond January. When pulling the mangels four drills should be thrown into one row for convenience in loading the carts or wagons. After pulling and topping they will be improved by being left on the ground for twenty-four hours. If, however, there are any indications of frost they should be protected by a light covering of straw held in place by a few boards or a little earth. In case the mangels become frost-bitten either before or after pulling do not disturb them until they have thawed out as the least handling will break the skin and cause rotting.

HARVESTING AND STORING ROOTS

Turnips are usually harvested about the last week in October. As much of their growth is made late in the season it is well to leave them as long as possible. They will stand considerable frost

without injury and need not be lifted until immediately before the danger of winter sets in. However, the work can be done more expeditiously on a fine dry day, as much of the earth clinging to the roots can be shaken off in the process of harvesting, if not too wet. It is the roots not the soil that we want in the cellar; the latter fills up a lot of good air space that is essential to good-keeping conditions.

Pulling the turnips is the work that presents most difficulties. Where the roots are a good size, are a hard variety, like the Swedes, and are in sandy soil, harrowing is the method in most general use. I like to do the topping two or three days before pulling, using a sharp hoe for the purpose. This gives the tops time to wilt so that they give very little trouble during the process of harrowing. A couple of strokes with the harrow crosswise of the rows should be enough to pull all the turnips, after which an extra stroke lengthwise will remove practically all the earth adhering to them. In clay soil, however, this method has two drawbacks: The roots receive considerable injury from the har-

rows passing over them and more earth will cling to the roots and find its way to the cellar or pit than is desirable. In this case, it is a good plan to top with an ordinary hoe and turn the roots out with a sharp-sharred plow with the mouldboard removed. By striking the tops of two rows together the turnips can be plainly seen and if turned inward on the row of tops they are clearly visible for loading into the wagon. After pulling, it is desirable that they be left on the ground for a day or two; not being so easily injured by frost as other roots little risk is run and the roots will be in better shape for storing.

In storing the roots it is advisable to run them over a slatted chute when unloading. This operation knocks off practically all the earth still adhering and allows the roots to drop into the cellar in good, clean condition. Even with this precaution there is danger of the roots heating unless a ventilating shaft has been previously put in. The spot in most danger from heating is just below the opening where the roots have been dumped. There is the place to locate the shaft, running it from the bottom to the top of the cellar. The principle of ventilation involved is the same as that required to cause a draught in a stove. Small shafts should be placed down the outside of the wall and entering at the



The Attractive Exhibit of the Upper Peninsula Development Bureau at the Recent State Fair Well Illustrated the Varied Products of Fertile U. P. Farms.

floor-level with the large openings directly through the ceiling or roof. Until there is danger of frost it will be well to keep the outside doors and windows open. Remember, there are two important factors in the successful storing of roots: Keep them sufficiently cool and prevent them from freezing. One will spoil the roots as quickly as the other.

Where there is no root cellar, the crop may be pitted successfully. Having selected a high, dry spot convenient to the buildings, scrape out the pit bottom to a depth of about six inches. The roots are then piled in a cone-shaped heap and covered with straw over which is placed a light covering of earth, about two or three inches, until cold weather sets in. Then, the depth of earth covering should be increased to seven or eight inches and later with a layer of horse manure. It is just as necessary to ventilate the pit as the cellar. This may be done by placing tile on end at intervals along the top. With a little practice, one can be guided by the mildness or severity of weather conditions as to just the amount of covering and ventilation required to maintain a proper temperature.

Canada. J. HUGH MCKENNEY.

THE FARM LABOR PROBLEM.

The writer has been severely criticized by Michigan Farmer readers for stipulating too much work for one man to do, yet every farmer in the country will agree that the farm labor problem is, year by year, becoming more difficult of solution. In the first place it seems to be the desire of all the young men today to leave the farm. They want what they call an easy job and good pay. In other words, they want something for nothing. But instead of getting it they fool away the better portion of their lives looking for "soft snaps."

How many men can you hire today who will work as they should work and look after your interests? There are some, of course, but too often they endeavor to see how unjust and wilful they can treat you, notwithstanding the fact that they get the best of treatment and good pay. This situation has been brought about by the great prosperity of the country. The immense industries that have of late years sprung up, like the automobile business, have drawn thousands of young men from the farms to the city. Prosperity of this nature is all right. It makes high wages and high prices for all farm products and is the most productive source of "good times," as when the laboring man can get good wages and plenty of work he makes the country prosperous as he spends money freely. But the farmer is severely handicapped by this labor condition and he must figure carefully on how he can best solve the labor problem on his farm.

Even if a farmer has boys of his own it seems quite impossible to hold them on the farm. I was talking with a young man the other day who is of age this fall, who said he had done his last year's work on the farm. He said his "dad" had always made him work and follow the plow while he had the easy snap riding around, and he was tired of the long hours and hard work. Right here is a point which should not be overlooked. Thousands of farmers today are using the old methods of farming and are doing two days' very hard work to accomplish one. A sulky plow only costs a little more than the old kind, but it affords far more pleasure for the boy or yourself to operate. Horses and mules were created to do the work upon our farms, and why should we put on a harness and work beside them when they are able to do most all the work. What we want is the improved up-to-date machinery which enables any man to do "two days' work in one." It is not what we make but what we save that pays for our farm, and hired help is at present very expensive. A man at \$35 per month horse kept, board and washing, costs a total of around \$60 per month and some of them who are careless or inefficient cost much more. In view of all these facts is it not almost imperative that we figure out methods of saving "time and labor?"

I hope other Michigan Farmer readers noticed what Mr. Underwood wrote in a recent issue about permanent pastures. This is my theory and has always been, especially on a large farm. It is all nonsense to plow up every available acre on any farm and plant to a variety of crops that require a great amount of labor, especially at this time where there is little available help. It is safe to say that there are millions of acres of land farmed at a loss each year, while if the same were seeded to a good permanent pas-

ture with a flock of well-bred sheep or cattle grazing thereon, it would not only help to solve the labor problem but would give the careworn farmer rest while the profitable animals were farming for him. I have for years kept a good flock of ewes, of 60 to 200 breeding ewes, and have found them a splendid investment.

No matter if we do have a large farm, it can be operated with a limited amount of help. Of course, a good crop on any land that produces well pays better than a flock of sheep grazing on the same land, perhaps, but we must figure on the expense of production, the chances of getting a crop, the fact that the crop depletes the soil, fluctuations of prices, etc. All progressive farmers like to work no doubt, but first of all should figure to gain something from the amount of work done each year. If the manufacturer did not carefully figure every detail in his business to save the pennies as well as the dollars he would never succeed, as the great expense would eat up all the gain. The manner in which thousands of farmers manage their work is a parallel case, and a goodly share of them are employing more help than is necessary. This not only makes farm help higher and scarcer but takes every extra dollar the hard working farmer has to pay his help.

For instance, I have helped many farmers do their threshing and it is amusing what a hard job some make of it. I have helped carry grain up a 16-ft. ladder to dump the same in some particular place that this farmer's "Grandfather" used for the same purpose. This same grain is all carefully "bagged" up and carried down the same ladder and placed in the wagon for market. Just think of this shameful hard work all for nothing! Last year I had a field of oats standing in the shock.

The machine pulled in in the morning after the dew was off and I had them set alongside of one of the basement barns where the blower could be pointed through the door above and a chute to carry the grain below from the machine where I had constructed a temporary bin. Before night came we had about 1,500 bushels of oats nicely cleaned in the basement and a barn nearly full of bright oat straw. My job was to take care of the oats and the straw, but I was not busy more than half of the time. Four teams hauled the grain from the field and two pitched it on the wagons. When the price came right in the fall I backed the three-box wagon in the basement and could shovel on about 100 bushels of these oats in less than thirty minutes. Making two trips per day I have hauled 1,000 bushels a distance of five miles in five days and did it perfectly easily. The balance of the pile I left in the basement until I had leisure time, then I hauled them in suitable places for feeding. Now I am sure that in this one job I saved the price of about 100 bushels of oats in time and labor.

Farmers, wake up! Study new and simple methods of how to manage your work. Do not take hundreds of unnecessary steps when a few will accomplish better results. The fact that the unnecessary drudging on the farm is responsible for driving thousands of boys away from the farms is evidence that a change should be made to make life more pleasant and happier. Farming can be made a success and a pleasure by the right kind of management and there is no position in the wide world that affords the opportunity for liberty and independence.

Washtenaw Co. B. F. WASHBURN.

PROTECTING THE OUTLET OF TILE DRAINS.

The action of freezing and thawing is very apt to cause the soil to crumble and fill up the outlet of a tile drain. To prevent this trouble, I have found a few stones, fitted in around the last tile at the outlet to work all right. Take a couple of fair-sized stones, and dig down each side of the tile deep enough so the top of the stone will be even with the top of the tile, then place a flattish stone on top. And if a good-sized sod can be had, place this on top of the stone, then fill up the ditch back of the sod, and there will be but very little trouble about the outlet of the tile becoming blocked.

Ottawa Co. JOHN JACKSON.

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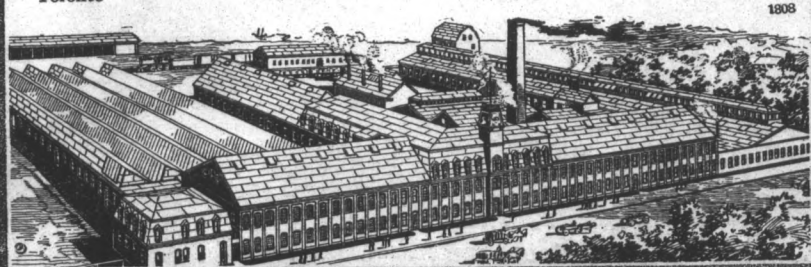
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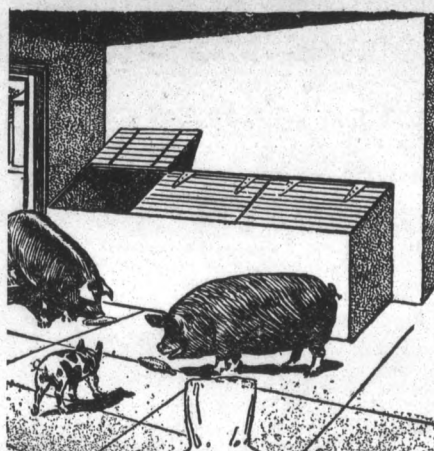
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SHOULD WE PICK OFF PART OF THE EARS BEFORE PUTTING CORN INTO THE SILO?

I have built a cement silo this season, 10x30 ft. I keep five cows, eight sheep, two brood sows, two horses and one colt. I have more than corn enough to fill silo. Corn is planted three feet each way. Have a big growth and many large ears nearly ripe enough for seed. There are six silos to fill before they get to mine. Would you break off a part of the ears before cutting, or would you put it all in? If I break them off, how can I dry them? I have all the field corn I need, planted three feet 10 in. each way. Also I have one acre of sugar beets. Would you advise refilling silo with corn or beet tops? Would the beet tops be enough to fill silo after it settles? Is beet silage as good as corn silage? Would you put hay or straw in with the beet tops?

Allegan Co.

C. L. B.

If one has all the field corn that he needs I certainly would not pick any ears off from the ensilage corn even if they are large, because it will make much better ensilage if you leave them on. Sometimes I think it is not a bad idea to pick off some of the ears if the corn is extremely well eared and has got pretty ripe, but I never under any circumstances would pick them off unless some of the ears were ripe, and then not unless I really needed the corn for some other purpose.

It is quite a job to take care of the corn that has been picked off. You drop it down on the ground, the corn binder will run over it, the wagons, in drawing off the ensilage corn will run over some of it. Then if it rains it gets wet. It will not do to husk and crib at once, and if it is piled up it will heat and spoil. If the fall is very favorable, the ground is dry, and the weather remains pleasant with very little rain, sometimes we can handle quite a crop of ears picked off in this way without serious loss, but take such a fall as we had last year and there would be serious loss the best way you could handle these ears, so my advice would be, under all ordinary conditions, to not pick off the ears.

Under the circumstances I think I would refill the silo with the beet tops, if you can get an ensilage cutter to handle them. Some men don't like to cut beet tops with their ensilage cutter because it dulls the knives, but if you can get a man to do it and blow them up into the silo I would fill the silo a second time with the beet tops rather than to put in dry corn, for if you put in dry corn you must take extra pains in wetting it and tramping it down, otherwise much of it will mold.

I think beet top ensilage is practically as good as corn silage. There may be a little more moisture in it but if it contained no more moisture than corn silage I think its feeding value would be practically the same. Probably it is not best to feed as much beet top silage as you would corn silage because it acts as a diuretic and also as a laxative and if animals are fed too heavily on it I don't think it is good for them. We have our beet top ensilage in a separate silo and feed beet top ensilage once a day and corn silage once a day and have no bad results.

In putting beet tops in the silo I should prefer to mix straw or cornstalks with them. If you had some cornstalks and would feed beet tops and cornstalks together then I think there would be no harm in feeding this ensilage twice a day if you choose to. We did this way last year, cut up the cornstalks and run them in between the loads of beet tops. We had a load of cornstalks close by the cutter and would run through a wagon box full of beet tops and then run through a few bundles of cornstalks, then put in another load of beet tops. In that way we got them quite evenly distributed.

COLON C. LILLIE.

POWER DEVELOPED BY A SMALL STREAM.

I want to develop a fruit farm in western Michigan which has on it the site of an old water power saw mill. Can you inform me how much power can be developed from an eight or ten foot head, and of whom I could purchase the necessary electric machinery, pumps, etc. This is a swiftly flowing trout brook, about eight feet wide and 12 or 14 inches deep. The flow is constant.

Wayne Co.

R. H. H.

Without making measurements of flow of water of the stream in question it would be difficult to determine with any degree of accuracy its power possibilities. However, by making certain assumptions it is possible to get a rough estimate of the power which may be obtained from it. If we take a width of eight feet and an average depth of one

foot we may assume a velocity of 60 feet per minute. This latter figure is based upon a crude test of the velocity of water flowing in a stream similar to the one in question. With these figures as a basis we find the volume of water flowing to be $8 \times 1 \times 60 = 480$ cubic feet, or 30,000 pounds per minute. This weight falling a distance, or with a head of 10 feet, would produce 300,000 foot-pounds of energy, which divided by the unit horse power 30,000 foot-pounds per minute would give a trifle over nine horse-power.

Probably not more than 40 per cent of his power would be available for use on account of friction and other losses in the power developing machinery. Perhaps not more than from two to four horse-power would be available for actual use.

Any of the electrical companies should be in position to furnish electrical equipment for an installation of this kind. No doubt these companies are also in close touch with manufacturers of hydraulic machinery, as the two types of power developing machines are closely connected.

Mich. Ag. Col. H. H. MUSSELMAN.

HOW TO HARVEST CLOVER SEED.

Please tell me how to dry clover seed the best this fall.

A. D.

I can tell you how I harvest clover seed. We have an attachment that bolts onto the cutter bar of the mowing machine. It is a number of long strips of steel curved at the back end. The ones near the machine are longer than those at the other end of the cutter bar. The clover slips and jiggles along on these strips of steel and is left in a small window right behind the mower. Then when you come around the next time the mowing machine and the horses straddle this windrow and you do not tramp on the seed or break off the heads and hull it, and it is left in a nice loose windrow which dries out rapidly. If it gets pretty dry before you cut it it is best to cut it early in the day, before the dew is off.

You can rake it with a common hay rake in a windrow and then it can be left there a while and stacked, or you can cock it up first. If the weather is favorable it can be threshed directly from the field. The safest way is to cock it up, let it cure a few days in the cock, and then put it in the barn if you have room for it, if not, stack it and then it can be threshed or hulled at your convenience. Hulling clover from the field is just like threshing oats or wheat from the field. It is quite an easy way to do the job if the weather is only favorable, but if it remains wet when you get ready to hull then it makes a bad muss of it.

COLON C. LILLIE.

THE CORN HARVESTER.

I sowed my ensilage corn with a common grain drill and am getting an enormous crop. Now I want to know what I should get to cut it with. Have just built a silo. How would a one-horse corn cutter do for this purpose? My hardware man offers corn binders for \$130 but it appears to me as though a cheaper machine would do the work as well.

Mackinac Co.

A. G. S.

I do not think you will find anything on the market satisfactory to cut corn with that you want to put into the silo as a regular corn harvester. You can get one-horse corn harvesters or cutters where the horse walks between two rows of corn, and the corn harvester being a sled-like arrangement with a sharp knife on either side, a man stands on this sled and takes the corn in his arms as it is cut off by the sharp knife. Of course, you can cut ensilage corn in this way and lay it down in piles and then gather it up and put it on the wagon, but it would be much more satisfactory to cut it with a regular corn harvester, even if they do cost about \$125 or \$130 because that machine binds it up in bundles so that it can be handled readily, and that advantage gained by having the corn in bundles so that it can be economically handled will more than offset any other advantage which a low down cutter might have. These low down cutters are used more particularly where corn is shocked for husking by hand. A man gathers the corn in his arms as it is cut. When he gets an armful he stops the horse and sets it up in the shock, and then starts along again. They work entirely different than the regular corn harvester which binds it into bundles, and while this machine is rather expensive it is no more so than many other farm machines that the farmer has to have to do his work properly with.

COLON C. LILLIE.

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Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of **Caustic Balsam** sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address **THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.**

KEEP IT HANDY

You can never tell when a horse is going to develop a Curb, Splint, Spavin, Ringbone or lameness. Yet it is bound to happen sooner or later. And you can't afford to keep him in the barn. Keep a bottle of

Kendall's Spavin Cure

handy at all times. John Sayer of 334 Bronson Avenue, Ottawa, Ont., writes: I would not be without Kendall's Spavin Cure at any cost. It is a priceless liniment for both man and beast. Get Kendall's Spavin Cure at any druggist's. \$1 per bottle—6 for \$5. "Treatise on the Horse"—free—or write to **Dr. B. J. KENDALL CO., Enosburg Falls, Vt., U.S.A.**

DEATH TO HEAVES! NEWTON'S

Free Booklet **PER AND INDIGESTION CURE.** Cures Heaves by correcting Indigestion. The original, scientific remedy. 22 years sale, 30 years in Veterinary practice. One to three \$1.00 cans cures heaves. Money refunded if results are not satisfactory after using two cans. A grand conditioner. Expels worms. \$1.00 per can at dealers or express prepaid. **THE NEWTON REMEDY CO., Toledo, Ohio**

Contagious Abortion
Worse Than Tuberculosis in Cows

Fully a fourth of all the cows of the country are affected by it. There is loss of calf, loss of milk, damage to the cow, damage to the entire herd. Disease is highly contagious and spreads rapidly when started. Losses run into hundreds of millions every year.

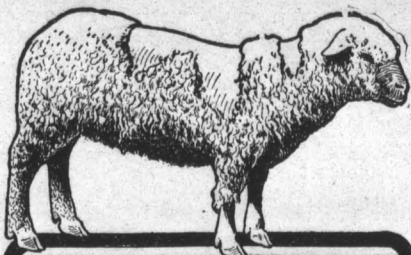
Dr. David Roberts' Anti-Abortion Treatment Stamps Out the Disease

Dr. Roberts' success in stamping out this, one of the worst of all diseases, has been the marvel of veterinarians and stock raisers. Treatment is purely scientific. It both prevents and overcomes abortion. In years of service it has never failed to overcome and wipe out the disease from any herd, no matter of how long standing, if directions are followed.

The Practical Home Veterinarian, Dr. Roberts' great book, gives particulars on Cow Abortion and other animal diseases. 184 pages. Practical, plain, authoritative. Best book published for posting up on your animals. Distributed free at your drug stores. If not at yours, send 25 cents and receive a copy direct, postpaid.

Get this 184 page book and post up on all animal ailments

Dr. DAVID ROBERTS VETERINARY CO. 934 Broadway, Waukesha, Wis.



Kreso dip No. 1 CURES SCAB

A DIP THAT DOES THE WORK WITHOUT INJURY

TO THE ANIMAL OR FLEECE
NO BURNING OF THE FIBRES;
NO STAINING; NO POISONING;
NO SICKENING.

WHY USE DIPS THAT HAVE THESE DESTRUCTIVE AND DANGEROUS QUALITIES? WHY EXPERIMENT WITH UNKNOWN PREPARATIONS?

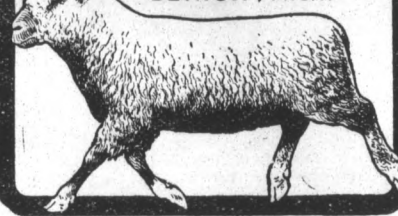
KRESO DIP No. 1
STANDARDIZED

INEXPENSIVE, EASY TO USE

PERMITTED BY THE U.S. DEPARTMENT OF AGRICULTURE FOR THE OFFICIAL DIPPING OF SHEEP FOR SCAB

FOR SALE BY ALL DRUGGISTS
WE HAVE BOOKLETS GIVING FULL DIRECTIONS FOR USE ALSO MANY VALUABLE HINTS ON HANDLING SHEEP. WRITE FOR FREE COPIES.

PARKE, DAVIS & CO.
DEPARTMENT OF ANIMAL INDUSTRY
DETROIT, MICH.



5A The Quality Mark On Horse Blankets

It's the guarantee of satisfaction. It means that the blanket is made of the strongest, tightest-twisted yarns our spinners can produce. It means that the entire blanket—yarns, straps, buckles, everything—was made in the largest blanket factory in the world and was shipped direct from that factory to your dealer's shelves.

Ask Your Dealer for

5A Storm King Square Blankets

They are strong, warm, thick and closely woven. They outwear several ordinary blankets. Weight 8 lbs. Measure 84 x 90 inches. Cost but \$2.50.

Buy a 5A Square Blanket for street use.
Buy a 5A Blue Girth Blanket for stable use.
Buy a 5A Flush Robe for carriage or auto.

Write for booklet showing blankets in colors.

WM. AYRES & SONS, Philadelphia, Pa.

WANTED—Railway Mail, Customs, Internal Revenue and Postal Clerks. Examinations soon. Prepare now. Trial lesson free. Write OZMENT, 17 R. St. Louis.

LIVE STOCK

ADDITIONAL STATE FAIR AWARDS.

SWINE.

Hampshires.

Boar two years or over—First, W. C. Gilliland, Van Wert, Ohio; 2nd, Adam Alt, Rockford, Ohio; 3rd, Clark Bros., Grand Blanc, Mich.

Boar 18 months and under two years—First, W. C. Gilliland; 2nd, Adam Alt; 3rd, H. T. Crandell, Cass City, Mich.; 4th, J. C. Barney, Coldwater, Mich.

Boar six months and under 12—First and 2nd, J. C. Barney; 3rd, W. C. Gilliland.

Boar under six months—First and 2nd, J. C. Barney; 3rd, W. C. Gilliland; 4th, H. T. Crandell.

Sow two years or over—First, W. C. Gilliland; 2nd, Adam Alt; 3rd, Clark Bros.; 4th, H. T. Crandell.

Sow 18 months and under two years—First, W. C. Gilliland; 2nd, Adam Alt; 3rd, Clark Bros.; 4th, J. C. Barney.

Sow 12 months and under 18—First, W. C. Gilliland; 2nd, Adam Alt; 3rd, Clark Bros.; 4th, J. C. Barney.

Sow six months and under 18—First, W. C. Gilliland; 2nd, Clark Bros.; 3rd, Adam Alt; 4th, J. C. Barney.

Sow under six months—First and 2nd, W. C. Gilliland; 3rd and 4th, Adam Alt.

Exhibitor's herd—First, W. C. Gilliland; 2nd, Adam Alt; 3rd, Clark Bros.; 4th, J. C. Barney.

Breeder's herd—First, W. C. Gilliland; 2nd, Adam Alt; 3rd, Clark Bros.; 4th, J. C. Barney.

Four either sex, get of same boar, bred by exhibitor—First, W. C. Gilliland; 2nd, Adam Alt; 3rd, Clark Bros.; 4th, J. C. Barney.

Four either sex under six months, produce of same sow—First, W. C. Gilliland; 2nd, Adam Alt; 3rd, J. C. Barney; 4th, Clark Bros.

Champion Boar one year or over—W. C. Gilliland.

Champion boar under one year—J. C. Barney.

Champion Sow one year or over—W. C. Gilliland.

Champion Sow under one year—W. C. Gilliland.

Grand Champion Boar—W. C. Gilliland.

Grand Champion Sow—W. C. Gilliland.

Yorkshires.

Boar two years or over—First, George Ineichen & Son, Geneva, Ind.; 2nd, M. F. Story, Lowell, Mich.; 3rd, C. A. Story, Lowell, Mich.

Boar 18 months and under two years—First, Ineichen & Son; 2nd, M. F. Story; 3rd, C. A. Story.

Boar 12 months and under 18—First, Ineichen & Son; 2nd, M. F. Story.

Boar six months and under 12—First, M. F. Story; 2nd, C. A. Story.

Boar under six months—First and 2nd, Ineichen & Son; 3rd, M. F. Story; 4th, C. A. Story.

Sow two years or over—First, Ineichen & Son; 2nd, M. F. Story; 3rd, C. A. Story.

Sow 18 months and under two years—First, Ineichen & Son; 2nd and 3rd, M. F. Story; 4th, C. A. Story.

Sow 12 months and under 18—First, Ineichen & Son; 2nd, M. F. Story; 3rd, C. A. Story.

Sow six months and under 12—First, Ineichen & Son; 2nd, M. F. Story; 3rd, C. A. Story.

Sow under six months—First and 2nd, Ineichen & Son; 3rd, M. F. Story; 4th, C. A. Story.

Exhibitor's Herd—First, Ineichen & Son; 2nd, M. F. Story; 3rd, C. A. Story.

Breeder's Herd—First, Ineichen & Son; 2nd, M. F. Story; 3rd, C. A. Story.

Four either sex, get of same boar, bred by exhibitor—First, Ineichen & Son; 2nd, M. F. Story; 3rd, C. A. Story.

Four either sex under six months, produce of same sow—First, Ineichen & Son; 2nd, M. F. Story; 3rd, C. A. Story.

All champion ribbons, etc., won by G. Ineichen & Son.

Chester Whites.

Boar two years old—First, Ineichen & Son.

Boar 18 months and under two years—First, Adams Bros., Litchfield, Mich.

Boar 12 months and under 18—First, Adams Bros.; 2nd, Ineichen & Son.

Boar six months and under 12—First, Adams Bros.; 2nd, Ineichen & Son.

Boar under six months—First and 2nd, Adams Bros.; 3rd, Ineichen & Son; 4th, W. S. Adams, Litchfield, Mich.

Sow two years or over—First, Ineichen & Son; 2nd, Adams Bros.; 3rd, H. T. Crandell; 4th, W. S. Adams.

Sow 18 months and under two years—First, Adams Bros.; 2nd, Ineichen & Son; 3rd, H. T. Crandell; 4th, W. S. Adams.

Sow 12 months and under 18—First, C. H. Thompson, Rockford, Mich.; 2nd, Ineichen & Son; 3rd, Adams Bros.; 4th, H. T. Crandell.

Sow six months and under 12—First and 2nd, Ineichen & Son; 3rd, C. J. Thompson; 4th, W. S. Adams.

Sow under six months—First and 2nd, Ineichen & Son; 3rd and 4th, Adams Bros.

Exhibitor's Herd—First, Ineichen & Son; 2nd, Adams Bros.; 3rd, W. S. Adams.

Breeder's Herd—First, Ineichen & Son; 2nd, Adams Bros.; 3rd, W. S. Adams.

Four either sex, get of same boar, bred by exhibitor—First, Ineichen & Son; 2nd, Adams Bros.; 3rd, H. T. Crandell; 4th, W. S. Adams.

Four either sex under six months, produce of same sow—First, Adams Bros.; 2nd, Ineichen & Son; 3rd, H. T. Crandell; 4th, W. S. Adams.

Champion Boar one year or over—Geo. Ineichen & Son.

Champion Boar under one year—Adams Bros.

Champion Sow one year or over,

Champion Sow under one year, Grand Champion Sow, Grand Champion Boar, all won by Geo. Ineichen & Son.

Large Yorkshires.

Boar two years or over—First, F. M. Buck, La Porte, Ind.; 2nd, M. S. Jones, Danville, Ill.

Boar 18 months and under two years—First and 2nd, M. S. Jones; 3rd, F. M. Buck.

Boar 12 months and under 18—First, M. S. Jones; 2nd and 3rd, F. M. Buck.

Boar six months and under 12—First, F. M. Buck; 2nd, M. S. Jones.

Boar under six months—First, 2nd and 3rd, F. M. Buck.

Sow two years or over—First, and 2d, M. S. Jones; 3rd and 4th, F. M. Buck.

Sow 18 months and under two years—First, M. S. Jones; 2nd, F. M. Buck.

Sow 12 months and under 18—First and 2nd, M. S. Jones; 3rd and 4th, F. M. Buck.

Sow six months and under 12—First and 2nd, M. S. Jones; 3rd, F. M. Buck.

Sow under six months—First and 2nd, M. S. Jones; 3rd and 4th, F. M. Buck.

Exhibitor's Herd—First, M. S. Jones; 2nd, F. M. Buck.

Breeder's Herd—First, M. S. Jones; 2nd, F. M. Buck.

Four either sex, get of same boar, bred by exhibitor—First, M. S. Jones; 2nd, F. M. Buck.

Four either sex, under six months, produce of same sow—First, M. S. Jones; 2nd, F. M. Buck.

Champion Boar one year or over—F. M. Buck.

Champion Boar under one year—F. M. Buck.

Champion Sow one year or over—M. S. Jones.

Champion Sow under one year—M. S. Jones.

Grand Champion Boar—F. M. Buck.

Grand Champion Sow—M. S. Jones.

Premier Champion for Exhibition—M. S. Jones.

Premier Champion for Breeder—M. S. Jones.

Duroc-Jerseys.

Boar two years or over—First, H. E. Browning, Hersman, Ill.; 2nd, J. C. Barney, Coldwater, Mich.; 3rd, E. C. Stemen & Son; 4th, M. F. Story, Lowell, Mich.

Boar 12 months and under 18—First, H. E. Browning; 2nd, Stemen & Son; 3d, M. F. Story; 4th, H. E. Browning.

Boar 12 months and under 18—First, H. E. Browning; 2nd and 3rd, Stemen & Son; 4th, J. C. Barney.

Boar six months and under 12—First, H. E. Browning.

Boar under six months—First and 2nd, Stemen & Son; 3rd and 4th, H. E. Browning & Son.

Exhibitor's Herd—First, H. E. Browning; 2nd, Stemen & Son; 3rd, J. C. Barney; 4th, M. F. Story.

Breeder's Herd—First, H. E. Browning; 2nd, Stemen & Son; 3rd, J. C. Barney; 4th, M. F. Story.

Four either sex, get of same boar, bred by exhibitor—First, H. E. Browning; 2nd, Stemen & Son; 3rd, J. C. Barney; 4th, M. F. Story.

Four either sex, under six months, produce of same sow—First, Stemen & Son; 2nd, J. C. Barney; 3rd, M. F. Story.

Champion Boar one year or over—H. E. Browning.

Champion Boar under one year—H. E. Browning.

Champion Sow—H. E. Browning.

Champion Sow under one year—Stemen & Son.

Grand Champion Boar—H. E. Browning.

Grand Champion Sow—H. E. Browning.

Premium Champion for Exhibitor—H. E. Browning.

Premier Champion for Breeder—H. E. Browning.

Tamworths.

Boar two years or over—First, W. W. Morton, Rulleville, Ky.; 2nd, Arcadia Farm.

Boar 18 months and under two years—First, W. W. Morton; 2nd, Arcadia Farm.

Boar 12 months and under 18—First, Adams Bros.; 2d and 3rd, Arcadia Farm; 4th, R. W. Blackmar.

Boar six months and under 12—First and 2nd, W. W. Morton; 3rd and 4th, Arcadia Farm.

Boar under six months—First and 2nd, Adams Bros.; 3rd and 4th, Arcadia Farm.

Sow two years or over—First and 2nd, W. W. Morton; 3rd and 4th, Arcadia Farm.

Sow 18 months and under two years—First, W. W. Morton; 2nd, Adams Bros.; 3rd, Arcadia Farm; 4th, W. S. Adams.

Sow 12 months and under 18—First, Adams Bros.; 2nd, W. W. Morton; 3rd and 4th, Arcadia Farm.

Sow six months and under 12—First, Arcadia Farm; 2nd, W. W. Morton; 3rd, Arcadia Farm; 4th, R. W. Blackmar.

Sow under six months—First and 2nd, Arcadia Farm; 3rd and 4th, Adams Bros.

Exhibitor's Herd—First, W. W. Morton; 2nd, Arcadia Farm; 3rd, Adams Bros.

Breeder's Herd—First, W. W. Morton; 2nd, Adams Bros.; 3rd, W. S. Adams.

Four either sex, get of same boar, bred by exhibitor—First, W. W. Morton; 2nd, Adams Bros.; 3rd, Arcadia Farm; 4th, W. S. Adams.

Four either sex, under six months, produce of same sow—First, Adams Bros.; 2nd, W. W. Morton; 3rd, W. S. Adams.

Champion Boar one year or over—W. W. Morton.

(Concluded on page 313).

Am I Too Particular?

By R. E. Olds, Designer

Some men in this line call me an extremist. Some use the word "old-maidish."

They say that I waste \$200 per car on features that men don't appreciate.

These are some of those features. Do you, as a car buyer, regard these things as wasteful?

Tires 34 x 4

My latest extreme—adopted Oct. 1—is 34x4-inch tires.

That means 22 per cent greater tire capacity than I used on this car before.

It means a vastly over-tired car, for its size and weight, according to usual standards.

But tire makers say that 22 per cent will add 65 per cent to the average tire mileage. Does it seem extravagant to add 22 per cent to save you 65?

190 Drop Forgings

Another extreme lies in costly drop forgings. In Reo the Fifth as made today I use 190.

But each one gives both lightness and strength to some important part. Together they give me these racy lines, with even more strength than heavy, cumbersome cars.

The cost comes back to you, over and over, in the saving on tires.

Roller Bearings

Another useless expense, so some men say, lies in these roller bearings. What buyer sees the bearings?

But I have found that ball bearings do not stand the strain. So I have thrown them out. In Reo the Fifth I use 15 roller bearings—11 of them Timken, 4 Hyatt High Duty.

Over-Capacity

Each driving part, by actual test, is made amply sufficient for 45 horsepower. That gives a big margin of safety.

My springs are made two inches wide, and of seven leaves of steel. The front springs are 38 inches long, the rear are 46. That means both strength and comfort.

In my cooling system I use a centrifugal pump, to give positive circulation. Some say a syphon will do.

My carburetor is doubly heated—with hot air and hot water—to save the troubles due to low-grade gasoline.

I use a \$75 magneto, to give a hot spark at low tension. You can start on this magneto.

I use 14-inch brake drums for safety. Also cable connections, not noisy rods.

Extreme Tests

Each lot of steel is analyzed twice, before and after treating. So there's never a weakness here.

Each gear tooth must stand 75,000 pounds, and prove it in a crushing machine.

Each engine is tested 20 hours on blocks, and 28 hours in the chassis. There are five long-continued tests.

The cars are built slowly and carefully. Parts are ground over and over—ground to utter exactness. Each car gets a thousand inspections.

I limit my output to 50 cars daily, so these things can all be done.

Rare Finish

I use a special, costly body, because it saves you 50 pounds in weight. And it takes a wonderful finish. Each body is finished with 17 coats.

I use the best genuine leather and the best curled hair—also springs in both the backs and

seats—to give you this comfortable upholstery.

Every detail shows the final touch. Even the engine is nickel trimmed.

Center Control

As for center control and left-side drive, you will note that the best cars for next year have come to them. But no control compares with mine, where all the gear shifting is done by moving a handle only three inches in each of four directions.

I operate both brakes by foot pedals, so the front of the car is kept entirely clear. Those are some of the features which I have contributed to the modern motor car.

After 60,000 Cars

In 25 years I have built some 60,000 cars. I have created in that time 24 models, each better than the last.

I have watched these cars under every condition, and I've watched other makers' cars. I know pretty well, after 25 years, where cars fail to meet the test.

No builder can be over-cautious. One can't build cars too well. And petty skimping is what leads to trouble.

It is true I might save \$200 per car. But in time I should lose that

splendid faith which men now show in me.

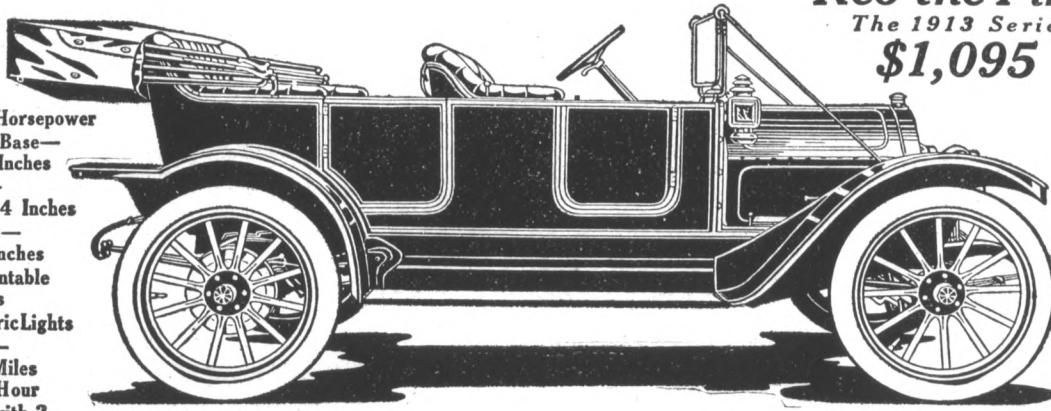
And you would lose—two, three, maybe ten times over—all you saved on price.

So I offer you only the best car I can build. And I offer the car at an underprice, so my extremes cost you little.

I know that enough men want cars like this to take all I can ever make.

A thousand dealers now are ready to show the Fall model of Reo the Fifth. Write for our catalog, showing various bodies, and we'll direct you to the nearest Reo salesroom.

Reo the Fifth
The 1913 Series
\$1,095



30-35 Horsepower
Wheel Base—
112 Inches
Tires—
34 x 4 Inches
Wheels—
34 Inches
Demountable
Rims
3 Electric Lights
Speed—
45 Miles
per Hour
Made with 2
and 5 Passenger
Bodies

Top and windshield not included in price. We equip this car with mohair top, side curtains and slip cover, windshield, gas tank for headlights, speedometer and self-starter—all for \$100 extra.

R. M. Owen & Co. General Sales Agents for **Reo Motor Car Co., Lansing, Mich.**
Canadian Factory, St. Catharines, Ont.

VETERINARY

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

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to some one else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Sprained Shoulder.—Sometime ago I bought a horse of a farmer, worked him 2½ days on manure spreader, noticed him slip and fall on knees, but showed no effect from it. His collar did not fit properly, soon noticed him favoring leg and unable to raise foot high off ground. A swelling came on point of shoulder low down, and I might add that he now runs in pasture and is stable during storms. W. A. G., Jonesville, Mich.—Clip hair off point of shoulder and apply one part powdered cantharides and six parts lard once a week. If he runs and exercises violently while in pasture, I advise you to keep him in stable until he travels sound.

Sweeneyd Hip.—I have a 17-year-old horse that has been lame for the past six months and he is now sweeneyd in stifle and hip. In fact, the muscles of both hips are smaller than they should be. When traveling he walks as if his back was weak. I have noticed him show some uneasiness when blacksmith held up foot. W. J., Barryton, Mich.—Apply to back and both hips one part turpentine and one part aqua ammonia and four parts olive oil, every day or two.

Sore Feet.—I have a cow that is troubled with sore feet and her legs have the appearance of a horse with scratches or mud fever. A. L., River Rouge, Mich.—Apply one part oxide of zinc, one part carbolic acid and six parts vaseline twice a day. Give her ½ oz. Donovan's solution at a dose in feed night and morning.

Vaginal Polypus.—I have a filly six months old that has been troubled for the past five months with a sort of growth that protrudes from vagina when she is in a certain position, but when in other postures, it returns. Now I would like very much to have you tell me of a remedy for this ailment. F. C. C., Vermontville, Mich.—Either an eversion of vagina takes place, or else she has a vaginal polypus and if it is the latter, then a surgical operation will be necessary to make her well. Dissolve 1 oz. of powdered alum in three pints of water and inject some into vagina twice a day. This might prevent eversion, or it may be necessary to place her in position with fore feet five or six inches lower than hind.

Irritation of Skin.—We have two colts suffering from a peculiar ailment which our Vet. calls alsike fever. Both of them have swollen, inflamed faces and we have applied vinegar, alum, zinc chloride and water wash, without doing them much good. R. H., Silverwood, Mich.—Alsike possesses irritating properties and the skin of some animals is easily irritated when coming in contact with it. Apply one part oxide of zinc, five parts vaseline once a day. Also give a teaspoonful of powdered saltpeter at a dose in feed once or twice a day.

Influenza—Asthma.—I have a mare that had a bad attack of influenza some time ago and now she breathes with more difficulty than a horse that has heaves. I am inclined to believe that her bronchial tubes are closing, but her appetite is good. H. H., Lenox, Mich.—Feed your mare no clover, or dusty, musty, badly cured fodder of any kind and the best food is grain and grass. Give her ½ oz. Fowler's solution, 1 dr. fluid extract of opium, ½ dr. fluid extract lobelia and ½ dr. fluid extract nuxvomica at a dose three times a day. Are you sure that the trouble is not in throat?

Bunch Composed of Scar Tissue.—Breeding Question.—My colt was badly cut with barb wire, making wound on lower part of leg and when wound is healed a large ridge of flesh seemed to remain. Now I would like to have it removed. I also have a heifer that cast her wethers before and after dropping her first calf. I would like to know if you advise me to keep her for a cow. H. E. D., McGregor, Mich.—A bunch composed of scar tissue can only be removed by cutting it out or burning it off with caustic. This, of course, makes another wound as large or nearly so, as before; therefore, in most cases treatment is unsatisfactory. You may breed the heifer, but be sure and give her good care at calving time.

Symptoms of Tuberculosis.—What are the outward symptoms of tuberculosis in cattle? Also, can you tell me whether or not owners are compensated by the state for animals which they test and destroy for tuberculosis? W. E. G., Walkerville, Mich.—Outward symptoms are very often absent in tuberculosis. A physical examination will only tell if the case is an advanced one. You had better take this matter up with the State Veterinarian. **Enlarged Sheath.**—I have a gelding whose sheath is swollen and the enlargement is mostly confined to one side. J. F. C., Hersey, Mich.—You will find it almost impossible to reduce a chronic swelling of sheath; however, you will find benefit by giving 1 dr. iodine potassium at a dose in feed twice a day.

Wart on Ear.—We have a two-year-old colt that has wart on ear the size of a hickory-nut. What can I apply that will take it off? F. W. B., Cassopolis, Mich.—Cut it off with a knife and apply one part powdered alum and four parts boracic acid.

BIGELOW'S HOLSTEIN FARM BREEDSVILLE, MICHIGAN.

Have for sale a five months old bull, ½ white. His dam has an official record of 25.50 lbs. butter and is a granddaughter of Hengerveld DeKol. His sire's dam has an official record of 26.73 lbs. butter, and is a grandson of De Kol Burke. First check for \$125 takes this fine youngster.

Another—same sire from a 22.83 lb. dam, 6 months old—\$90.

Another—same sire from a 20.27 lb. dam, 9 months old—\$85.

Another—same sire from a 20.41 lb. dam, 7 months old—\$80.

And two 4 and 5 months old by same sire \$35 and \$45, out of good milking dams.

Extra Fine O. I. C. Pigs

Bred from Champion Stock. Pedigrees Guaranteed. Fine Two months' pigs, mated or single. Not akin. Write for prices, etc.

The Cleveland Swine Company, Cleveland, O.

AUCTION SALE

80—Head Registered Holsteins—80 Wellington, O., Wednesday, Oct 23, 10:30 A.M.

Consisting of fresh cows, springers, heifers, calves of grand breeding and individuality. Cows bred to the best sires of the breed. Tuberculin tested. Terms if desired. Address

FRANK P. SUTLIFF, 8620 Wade Park Ave. Cleveland, Ohio.

PERCHERONS

bred for utility as well as show quality. Stable includes several international winners. Three 2-year-old stallion colts of quality for sale. Come, or write B. F. ANDERSON, R. No. 3, Adrian, Mich.

For Sale—Horses, cattle, sheep, swine, poultry and dogs, nearly all breeds. Sires exchanged. South West Michigan Pedigreed Stock Ass'n., David Woodman, Sec'y-Treas., Paw Paw, Mich.

BREEDERS' DIRECTORY.

CATTLE.

ABERDEEN-ANGUS.

Herd, consisting of Trojan Erics, Blackbirds and Prides, only, is headed by Egerton W. a Trojan Erica, by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec. 1910. A few choice bred young bulls for sale.

WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES—One of foremost dairy breeds; young bulls and bull calves for sale. Berkshire swine. All pure bred. Michigan School for Deaf, Flint, Mich.

GUERNSEYS—Two nicely marked bull calves dropped in March, at farmers prices. ALLAN KELSEY, Lakeview, Mich.

For Sale—Registered Ayrshire Bull Calves at farmers' prices. Also a few cows and heifers. E. A. BLACK, R. No. 6, Lakeview, Mich.

GUERNSEY BULL CALVES, YORKSHIRE PIGS. Good Stock.

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

For Sale—Registered GUERNSEY BULLS, Large Yorkshire hogs, either sex, best breeding. JOHN EBELS, R. 10, Holland, Mich.

Reg. Guernseys—Both sexes. Sired by Grandson Mashier Sequel. Prices right. F. G. LAMSON, R. 41, Sinclairville, N. Y.

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also cows and heifers bred to his sire, Johanna Concordia Champion, whose dam, sires dam and dams dam average 29.57 lbs. butter in 7 days.

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Large Yorkshires—Gilts bred for September farrow; boars for service; pigs either sex, not akin. W. C. COOK, R. 42, Box 22, Ada, Mich.

Lillie Farmstead YORKSHIRES. A few choice Gilts bred for September farrow, good ones. Spring pigs, either sex, pairs and trios not akin. Satisfaction guaranteed.

COLON C. LILLIE, Coopersville, Mich.

Fistula on Ear.—My yearling colt has had a sore ear for several months and there is a small bunch at base of ear from which comes a white sticky fluid and no matter what I apply it fails to heal it. J. N., Moscow, Mich.—A little cutting must be done in order to obtain drainage from this fistulous tumor, then it will heal. There is no risk in opening it from top to bottom, then apply one part iodoform and ten parts boracic acid to sores twice a day.

Injured Hip.—We have a cow that met with an accident, injuring point of hip, making wound which required stitching. The stitches break loose and we have opened into pocket some six inches below to allow drainage, but the hip still remains quite sore. Our local Vet. is in doubt about her recovery and I would like to have your opinion. G. C., Marlette, Mich.—The drainage may not be complete; if not wound will not heal quickly. Inject hydrogen peroxide into parts slowly, this will clean off pus, then apply one part carbolic acid and 20 parts water twice a day; also apply one part iodoform and ten parts boracic acid to raw surface and put some into cavity once a day.

Bloating Cattle.—I see many useful prescriptions in your veterinary column, but do not remember seeing a remedy for preventing bloat in cattle. The cattle in this locality bloat from eating clover and quite a few of them have died. Subscriber, Marine City, Mich.—Whenever hungry cattle are turned in on damp clover and over-eat, some of them are sure to suffer from bloat. What you should do is to let your cattle graze on this rich food a short time twice a day and not allow them to gorge themselves. They should be well salted. If any of them bloat too much give three drams salicylic acid and three tablespoonfuls of aromatic spirits of ammonia and repeat the dose every hour until bloating subsides. It is needless for me to say that every farmer should own a trocar and canula, suitable for tapping to relieve bloat.

Indigestion—Anaemic.—We have an old horse that we should like to keep for the good he has done, but he is so low in flesh and thin that I dislike to drive him to town. Now what I would like to do is to have a prescription that will strengthen and build him up. A. J. F., Muskegon, Mich.—First of all, his teeth may need a little attention if worn out or decayed; he should be fed ground grain and cut fodder, also mix together equal parts Fowler's solution, fluid extract cinchona and fluid extract of gentian and give him two tablespoonfuls at a dose in feed three times a day.

Sluggish Kidneys—Stocking—Enlarged Gland.—I have a pair of geldings that seem to have kidney trouble and suffer a little pain while passing urine, and I might add that hind legs stock whenever they stand in stable a day or two. I also have a yearling colt that had a sick spell last winter; since then he has a bunch under jaw. W. C. M., Breckenridge, Mich.—Give your geldings a dessertspoonful of powdered nitrate of potash, a teaspoonful of powdered sulphate of iron and two tablespoonfuls bicarbonate soda at a dose in feed two or three times a day. Also apply one part iodine and eight parts lard to enlarged gland three times a week.

Foreign Body in Mouth—Apoplexy—Internal Hemorrhage.—I have a ten-year-old cow which, when chewing food or cud quite a portion of food drops out of mouth, and she has almost entirely failed in milk yield. Is her milk fit for domestic use? A few of my four months old pigs have died suddenly and I opened one, found the intestines were bloody. Three of them have died, the last one bloating some and usually before death they squeal. N. R., Grosse Isle, Mich.—If you will examine mouth of cow, you will find either an abnormal tooth, a piece of wood, corn cob or perhaps a piece of wire wedged between grinder teeth which, when removed cow will be all right. Your pigs die perhaps the result of brain hemorrhage. If you will give those that bloat 10 grains of salol at a dose three times a day, it will help them. It is possible that they are over-fed and under-exercised. Cow's milk can be safely used.

Worms.—I am somewhat inclined to believe that my horses are troubled with worms, and if so I would like to know what to give them. H. N. C., Mattawan, Mich.—Give a teaspoonful of powdered wormseed, two tablespoonfuls of ground gentian and a tablespoonful of salt at a dose in feed three times a day.

Indigestion—Leucorrhea.—I have a 4-year-old horse that is out of condition, has fair life, but weak and is inclined to open mouth and rub nose against wall. I also have a 12-year-old mare that has had a vaginal discharge ever since breeding her last spring. I am pretty sure she is not in foal. G. H. S., Sugar Rapids, Mich.—Your four-year-old horse may have mouth trouble, caused by a temporary tooth crowding against tongue or cheek which, when removed, he will get relief. Give two tablespoonfuls of ground gentian and a tablespoonful of salt at a dose in feed three times a day. Dissolve 1 dr. permanganate potash in one gallon of water and when injecting her with this lotion and it smarts her, add 2 ozs. more water. She should be treated daily and this lotion used freely. Also give her two tablespoonfuls bicarbonate soda at a dose in feed night and morning.

Mare Sleeps Standing—Scrotal Abscess.—I have an eight-year-old work mare that I think is not right. When standing in stall she pulls on halter lightly as if resting, leaning back as far as possible, and finally lays down, but gets up immediately. Sometimes she will do this when hitched to the plow. When she has these spells her eyes are closed, but she seems to be in good health. I also have a yearling colt that was castrated last spring that afterwards was troubled with abscesses, which has left his sheath and scrotum enlarged. I took the Mich-

igan Farmer four or five years ago and asked several questions, but never saw any answers to them. Now I would very much like to have these questions answered. H. E. R., Charlotte, Mich.—Your mare has a habit of sleeping on foot; you had better stable her in box stall and when she becomes drowsy in harness, wake her up. The swelling in the sheath will always remain, but by giving 1 dr. potassium iodide once or twice a day it will reduce it some. For many years I have answered every communication that has come to the veterinary department of this paper, either by personal letter or through the veterinary column. You may not have watched the paper closely or you may have done like many others, sent a communication without name or address and in this event your letters would, of course, reach the waste basket.

Cow-pox.—I would like to know what to do for cows that are troubled with cow-pox. G. D. W., Grand Rapids, Mich. In most cases of cow-pox the animal does not sicken much, therefore, treatment is usually not required. It is good practice if the bowels are constive to give a dose of epsom salts and it is always beneficial to give a tablespoonful of powdered saltpeter at a dose in feed night and morning. Also apply one part oxide of zinc and five parts vaseline to sore parts of udder twice a day. There are many other home healing remedies that are proper to use.

Acute Indigestion—Dysentery—Inflamed Udder.—Nine-year-old cow, on good pasture, gave 18 quarts of milk; in 48 hours she dropped to one quart a day. Her appetite is not good and her bowel movements are watery and her udder is inflamed and swollen. A. S. D., Germfask, Mich.—Your cow suffered from an attack of indigestion followed by dysentery, and perhaps her udder inflamed, the result of bee stings. Apply to udder one part chinosol and 500 parts water, or apply one part alcohol and three parts extract of witch hazel twice a day. Give her 50 grs. salol at a dose three times a day.

Warts—Ringworm.—We have a heifer that has what appears to be warts growing on her, but a cow man tells me it is ringworm. I was advised to apply turpentine, but it fails to take them off. I remember of seeing a cow last fall that was almost completely covered with these same sort of wart like bodies. This heifer seems to be in good health. F. A., Barryton, Mich.—I am inclined to believe that your heifer has warts and if you will apply acetic acid every day or two, you will succeed in taking them off. When they are mostly all gone, occasionally apply castor oil. If you were sure that it is a case of ringworm, apply tincture iodine occasionally.

Garget.—I have a cow that gives lumpy milk part of the time, occasionally bloody milk, and she is always worse when the weather is damp. C. B. H., Gladwin, Mich.—Apply one part iodine and 15 parts fresh lard to diseased quarter of udder three times a week, also give her a dessertspoonful of sulphate of iron and the same quantity of powdered nitrate of potash at a dose in feed two or three times a day.

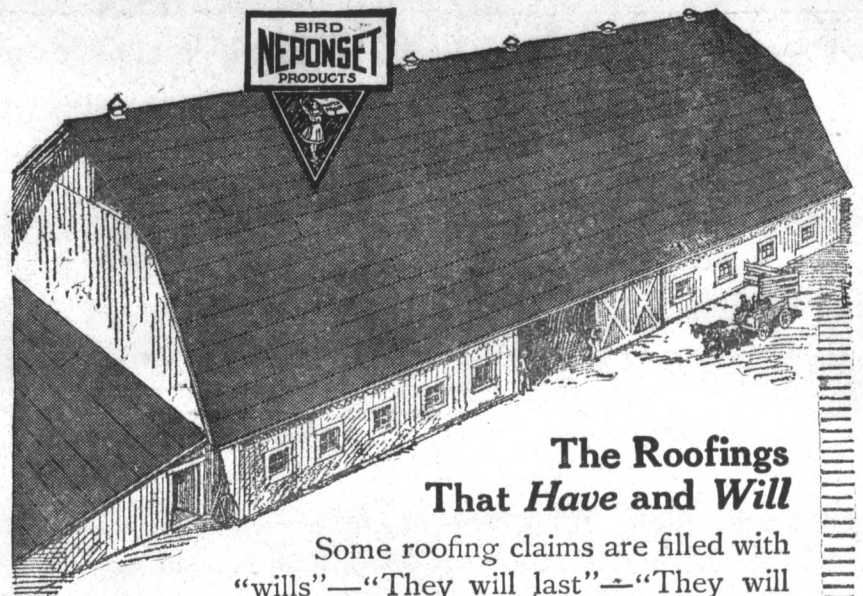
Enlargement on Hock.—I have a colt two years old that is a little full on outside of right hind leg, the bunch being near where a curb is situated. This colt was born with this enlargement on leg, the back part of leg is straight and he has never gone lame, but I would like to have this enlargement reduced. J. H., Elsie, Mich.—I am inclined to believe that it will be difficult for you to reduce this bunch; however, you might apply one part iodine and ten parts fresh lard once or twice a week.

Stocking.—Have a three-year-old filly that appears to be in good health, working every day, but her legs stock if she stands in stable over night. R. C. R., Standish, Mich.—Stocking is the result of a torpid condition of the secreting and excreting organs of the body. Give her a teaspoonful of powdered sulphate of iron and a dessertspoonful of powdered nitrate of potash at a dose in feed two or three times a day.

Decayed Molar Teeth.—Our local Vet. tells me that my 15-year-old horse is troubled with a hollow tooth and he does not eat his food as he should. I had his teeth filed, but it failed to help him. When eating dry hay, he seems to chew at it as if his tooth pained him, but when the food is shifted to opposite side of mouth, he seems to chew and swallow it all right. A. B., Big Rapids, Mich.—Secure the services of a Vet. who is equipped with proper dental tools to extract diseased tooth, then your horse will get well. It may be necessary to feed him cut fodder and ground grain for a while.

Catarrhal Fever—Impure Blood.—My 14-year-old brood mare has been gradually failing in flesh all summer. Her colt does not grow, our local Vet. examined her, floated her teeth, but this failed to help her. She soon broke out in skin blisters all over her body and discharged from both nostrils. G. M., Cassopolis, Mich.—Give your mare ½ oz. Donovan's solution of arsenic at a dose in feed three times a day. Dissolve 6 ozs. of borax in a gallon of water and wet body bichloride mercury and 1,000 parts water twice a day or you may apply one part.

Anaemic.—I have a two-year-old filly that was in fine shape last spring when taken with sore eye, but this eye trouble soon yielded to treatment which was prescribed by our Vet. From that time on she has lost flesh and is at present very thin and much out of condition. I am inclined to believe that she has some fever part of the time and her ears are always cold. She is also quite hide-bound, although I have given her tonic and blood medicine. H. D. L., Lakeview, Mich.—Give your filly a teaspoonful of powdered sulphate iron, a tablespoonful of ground gentian, a tablespoonful of powdered charcoal at a dose in feed two or three times a day. She needs plenty of nourishing food and good care.



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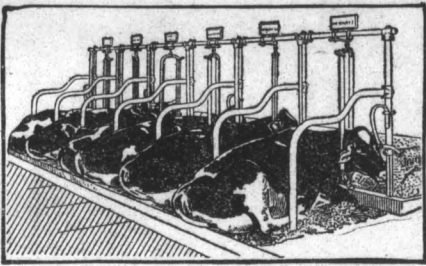
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Zimmerman Steel Co., Lone Tree, Iowa
Address Dept. 22.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

WHAT COW-TESTING ASSOCIATIONS ARE ACCOMPLISHING.

From the little beginning made in Newaygo county, Michigan, a few years ago, the idea of the cow testing associations has been extended to nearly all dairying sections of the country, and now with several seasons' records at hand it is possible to make observations on the value of these enterprises to their respective members and communities. Helmer Rabild, who is at the head of this special work for the federal department of agriculture has summed up the benefits in the following manner:

Perhaps the most important result of the cow-testing associations is the increased interest which members take in their work. Farm work, consisting as it does in large part of manual labor, is apt to become monotonous unless there is an intelligent interest in the operations and unless the farmer has something special in view. The monthly visit of the cow tester stimulates this interest; and while the primary object for which the association was organized is the selection and rejection of individual animals, the results, direct and indirect, cover a very broad field.

The tester, being an expert dairyman, not only studies the individual animals in the herd as to their capacity for utilizing feed economically, but he also assists the farmer in selecting those feeds which contain the greatest amount of food nutrients at the lowest price, thereby creating a larger net return per cow, per acre, per dollar's worth of feed, and, last but not least, per man. This larger net return per cow is brought about not only by the increased yield of the cows, but by improved economy in the conversion of feed into finished product.

One of the direct results is improved breeding. Many testing associations have proved to be forerunners of breeding associations, or bull associations, for the development of pure-bred cattle of breeds particularly adapted to the local conditions.

The cow-testing movement, being an organized effort for improvement, is conducive to better community spirit. At the monthly meetings problems of interest to dairymen are discussed, and this discussion often stimulates a friendly rivalry for attainment of the best results. The systematic and co-operative effort creates an interest in the growing of better forage crops and in better feeding; in more sanitary stabling and better care of the milk; it opens the eyes of the farmers to the value of system in their work, and leads to the application of better business methods.

Co-operative buying of feeding stuffs is a feature in nearly all cow-testing associations. At the monthly meetings the members place in the hands of the board of directors an order for the amount of feed stuffs they wish to buy. The aggregate of these orders often amounts to several carloads, and by buying in carload lots and for cash lower prices and freight rates are obtained. The officers of the associations study the markets for feed stuffs and are often able to take advantage of a low market. In this way business judgment is stimulated and the individual member is enabled to reap the benefit of the business judgment of his more experienced coworkers.

The work, broad as it is, has value not only for the farmer, but also for the creamery and the cheese factory, since it encourages better dairy methods at the same time that it procures larger remuneration for the dairymen. One of the causes of dissatisfaction with creameries and cheese factories has been the low average production of dairy commodities. The farmer has not had any systematic performance record of the production of his individual cows, and it is natural for him to think that some one else besides himself is responsible for the low return, and the creamery or cheese factory manager, being the one who purchases his milk or cream, has received the blame. Many farmers have had only a half-hearted interest in dairying, because the average production of their herds has been so low that they could make but a small profit therefrom. The experience already gained in places where associations have been organized shows that with the elimination of the poor cows in the herd comes an interest in better

cows and better care of the cows, and a tendency to make greater discrimination in price between good and poor animals. The introduction of better cows on the farms creates a desire for more of them, and a larger number of cows renders it possible for creameries and cheese factories to collect more milk or cream in a given territory, thus reducing the cost of collection.

The increased interest in dairying stimulates interest in dairy and kindred associations, and creates an interest in pure-bred stock. In the Newaygo County Dairy Testing Association, where during the first year only one man owned a pure-bred dairy bull, 22 such bulls were found among the herds during the second year; and while no pure-bred cows at all were present in the first year, 21 were bought during the second year. This interest has steadily increased, and during the third year a breeding association was organized. Such increased interest in pure-bred stock naturally affects the market for such stock and entitles the movement to the hearty support of the breeders' associations of the different dairy breeds.

The consumer is interested not only in greater economy in the production of dairy commodities, but in improvement of their quality, which is promoted by sanitary stabling and better care of milk on the farm. These results follow from cow-testing associations wherever tried, and the consumer should for this reason give encouragement to such organizations.

ADVANTAGES OF SELLING RICH CREAM.

There is a distinct advantage to both the producer and the buyer of selling a rich cream from the farm rather than a thin one. A recent bulletin from the Wisconsin experiment station sums up these advantages.

The benefits to the farmer are (1) that more skim-milk is retained for the farm; (2) that there is a smaller quantity of cream to cool; (3) that there are fewer cans and utensils required for transporting the cream; (4) that there is less bulk to deliver. On the other hand, the benefits of a rich cream to the cream buyer are: (1) that less vat capacity is needed for storing and ripening; (2) that fuel is saved in heating and ice in cooling the smaller bulk; (3) that the cream can be churned at a lower temperature and thus improve the texture of the butter as well as save losses in the buttermilk; (4) that the maker can use more starter, thus giving better control over the flavor of the butter, and (5) that the cream can be pasteurized without excessive losses.

The standard centrifugal cream separators will skim a cream of any desired richness and do it as efficiently as they will skim a thin cream. Also, the actual work and trouble to the farmer in the making of a rich cream is absolutely no greater than in the production of a lighter testing cream.

An example might illustrate to better advantage what is said in the above paragraph: Supposing one patron skims his cream so that it will test 20 per cent fat, while a neighbor adjusts his separator to skim 40 per cent fat. The first man would have to sell 500 lbs. of cream to secure credit for 100 lbs. of butter-fat, whereas the second man would only need to sell 250 lbs. of his cream to secure credit for the required 100 lbs. of butter-fat. The first man would actually give away to the buyer 250 lbs. of skim-milk, which if it is worth 30 cents per 100 lbs., (the usual price set upon this product), would amount for the lot to 75 cents. For the ordinary cow that produces 250 lbs. of butter-fat in a year the saving would be \$1.87½.

JUDGES FOR NATIONAL DAIRY SHOW.

Following is a list of judges for the 1912 National Dairy Show:

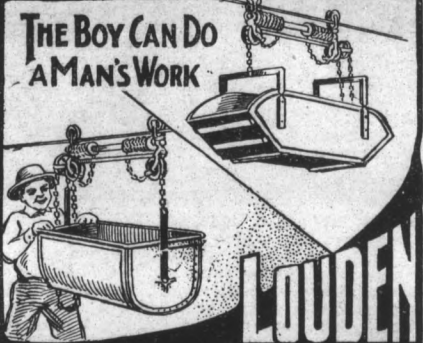
Ayrshires—G. P. Grout, Duluth, Minn.
Guernseys—F. S. Peer, Ithaca, N. Y.;
J. L. Hope, Madison, N. J.; Prof. Geo. C. Humphrey, Madison, Wis.

Holstein-Friesians—W. J. Gillett, Rosendale, Wis.

Jerseys—H. G. VanPelt, Waterloo, Ia.
Brown Swiss—H. E. Janes, Ithaca, N. Y.

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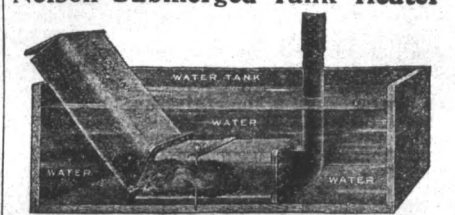
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\$24 Buy the New Butterfly Jr. No. 1. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 qts. per hour. Made also in four larger sizes up to 6 1/2 shown here.

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ENSILOING SHREDDED CORN-STALKS.

Would shredded cornstalks keep all right in a silo if packed well when put in? They heat in a mow, but if wet and packed down when put in it would seem they ought to make good feed for young cattle and sheep.

A. G. B.

Yes, shredded cornstalks will keep in a silo if they are properly moistened when put in. You will have to use more water than you have any idea of. They must be well wet down, and this moisture ought to be evenly distributed. I don't think there is any better way than to set a barrel so that you can have a small stream of water flow into the lower part of the ensilage constantly when you are filling. This distributes the moisture evenly and thoroughly saturating all of the shredded corn fodder. If you attempt to fill a portion of the silo and then put on water, then fill again and repeat the watering you will make a serious mistake and you will have dry mold. The only way is to run the water into the machine and throw it with the stalks into the silo so that every part of the stalks will be moistened. Now, with real dry stalks, stalks that are dry enough so that the corn can be husked and cribbed, you ought to have a stream of water flowing on them larger than a good-sized lead pencil. You must add as much moisture as has been evaporated from the stalks after they came to maturity. That's all that is necessary. Then another thing must be borne in mind, shredded corn fodder is light and fluffy and will not pack and settle down as the green corn. Therefore you ought to have more help in the silo to keep tramping it constantly and packing it down to exclude the air. If you do this you can get shredded corn fodder so that it will heat up and make good silage. Of course, it is not as good feed as green corn, ears and all, but I think you can get more out of your cornstalks in this way than any other.

AN IMPORTANT DAIRY PROBLEM.

In the work of improving the productive qualities of a herd of dairy cows the selection of a suitable sire is of great importance. It is a question that increases in importance as the herd approaches perfection. The man who has the necessary capital to invest can get together a select herd of dairy cows that will produce an average of 10,000 pounds of milk per year, or 400 pounds of butter in the same period, but some of these cows must be replaced each year if this high average is maintained. How to replace these cows that are sold for various reasons is one of the most perplexing dairy problems. Of course, it is possible to go out and buy good dairy cows to maintain the dairy but this is uncertain and expensive. The most economical and efficient method of maintaining a high average production in the dairy herd is to breed his own stock and it is in the providing for the future excellence in his dairy herd that he must devote careful attention to the selection of a suitable sire. The man who can go out and buy a herd of cows that will average 10,000 pounds of milk per year or 400 pounds of butter in the same period and select a sire that will beget heifers that will equal or excel their dams in milk and butter production, will be successful.

The man who has got together a herd of dairy cows that are producing almost up to their limit of dairy capacity as has been reached at the present time finds it very difficult to select a sire that will carry on his ideas of further improvement. In fact, it is a difficult problem to maintain what has already been secured. The man who has a herd of common cows that give an average of only 5,000 pounds of milk or 200 pounds of butter a year could increase his milk and butter production by selecting almost any pure-bred sire from one of the leading dairy breeds. It is certain that a pure-bred sire of good productive ancestry would in a single generation produce good results in such a herd. This only shows how the problem increases in magnitude as the herd approaches the breeder's ideal of perfection.

Many times a man selects a bull calf, perhaps only a few weeks old, at a high price, to become in time the head of his herd. To buy an untried animal is a good deal of a speculation. He is buying a sire because its mother has a wide reputation and ought to have a calf of great value for breeding purposes. But is this always so? Experienced breeders understand the value of a pedigree but they know that an animal cannot show its actual worth until some of its progeny come into production. It is the sire

that possesses prepotency that will produce heifers that will equal or excel under ordinary conditions the productive capacity of their dams, that becomes valuable as a breeder, consequently the man who buys a tried sire is on safer ground than the man who pays a fabulous price for a bull calf whose valuable asset is the reputation of its dam.

Great sires have made breeders famous, while poor sires have ruined many excellent herds of cattle. The man who buys a herd of pure-bred cows and one or two of them prove valueless as breeders suffers comparatively little loss, but if the head of the herd after two or three years demonstrates his worthlessness as a breeder, he suffers great financial loss. The calf inherits the qualities of both sire and dam. These qualities of the one parent are to a great extent modified by the qualities of the other, therefore, if the cow is first-class in every respect and the bull inferior, the progeny stand little chance of being equal or superior to their dam. Of course, a young sire is more desirable as an investment, if the owner is sure of what he is getting and if the calf comes from a creditable line of ancestry the chances are very much in favor of his being able to transmit the qualities of his ancestry to his progeny. The man who can afford to buy a young sire and only use him moderately until he is fully assured of his ability to beget good heifers, is safe in buying such a sire, but the man who is compelled by circumstances to use only one sire will do well to use only such sires as have proved their value as breeders.

The bull that possesses masculine appearance about the head and neck is usually a prepotent sire. The feminine bull, like the "sissy man," seldom makes a mark in the world. The breeder who places a feminine appearing sire at the head of his herd makes a serious mistake. In fact, the dairy sire has as good a right to masculine appearance as a man. Vigorous and prepotent sires seldom have a fine and delicate appearance about the head and neck. Rather, they are possessed with those strong qualities that everywhere characterize the male in nature.

New York. W. MILTON KELLY.

MILK AND CREAM CONTESTS.

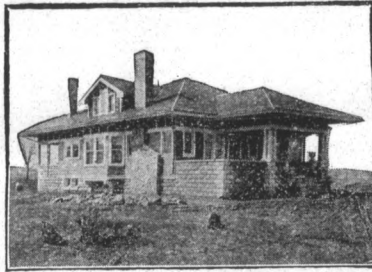
There is nothing that will appeal to the spirit of the American so quickly as a contest, whether it be in the arena, on the diamond, the football field or in the pursuit of a livelihood. Prominent dairymen have found in this spirit a means of improving the dairy output through milk and cream contests. On February 14-24, 1906, during the National Dairy Show in Chicago, the first milk and cream contest was held. From that date rapid progress in the movement has been made, and in the six years from February, 1906, to February of this year, forty such contests have been held under the direction of the Dairy Division, Bureau of Animal Husbandry, Department of Agriculture. These public exhibitions and the meetings held in connection therewith have proved to be of great educational value to the dairy interests of the country, and they have given a decided impetus to the movement for the improvement of the milk supply, especially in the large cities.

Two things are very noticeable in going over the scores of contests which have been held in the same place for two years in succession. The first is that dairymen who compete for two successive years almost always do better in a second contest than they do in their first attempt, showing very plainly that they have received valuable suggestions as to the production of sanitary milk. The second is that dairymen who have had previous experience in these competitions nearly always do better than those who are competing for the first time. In the Maryland State Dairymen's Association contest for 1911 ten men who had previous experience in preparing milk for contests averaged over nine points better on the score card than those men who were competing for the first time. At the Illinois State Fair in 1911 those who had competed the year previous bettered their former scores by over five points and averaged over 15 points more than the dairymen who were competing for the first time.

The Department of Agriculture will shortly issue a circular—No. 205 of the Bureau of Animal Industry—on this subject. This circular tells how to conduct the contests and how to prepare samples for competition. It should be in the hands of every live dairyman.

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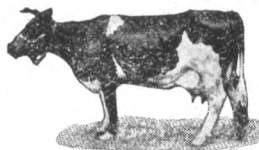
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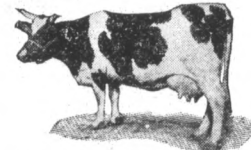
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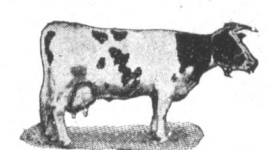
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Semi-Official Yearly Record:—
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Lbs. of butter fat . . . 1,055.34
Lbs. of butter, 80 percent fat 1,322.925
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Lbs. of butter, 80 percent fat 1,247.925
Average percent fat for year . . . 3.90



DAISY GRACE DEKOL
World's Champion Junior 4-year-old.
Semi-Official Yearly Record:—
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Lbs. of butter fat . . . 962.795
Lbs. of butter, 80 percent fat 1,203.493
Average percent fat for year . . . 4.43

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POULTRY AND BEES

PRODUCING BETTER MARKET EGGS.

There is a growing sentiment among some farmers and egg buyers for the production of better eggs for the market. The buyers demand better eggs than they have been receiving, and some farmers desire a better price for their good eggs. To produce these better eggs, the farmer should have a thorough knowledge of conditions that may affect production. The egg is manufactured by the hen from the food that is consumed, hence her feeding should be carefully considered.

No ration should be made up wholly of grain, but it should contain with the grain a mixture of bran, shorts and beef scraps or skim-milk. The grain should be fed in a deep litter to induce exercise. Green food of some kind, and grit and oyster shells should always be handy. The number of eggs produced will depend largely upon the breed used, the ration fed, the congeniality of surroundings and the care given. If any of these things be omitted, the number of eggs will decrease. A male bird is not necessary for the production of eggs, hence should be removed from the flock at the end of each breeding season, in order to insure infertile eggs. Infertile eggs keep better and are very desirable upon the market.

Farmers should look well to their flocks when considering egg production, selecting large hens of the breed which they keep, culling out and disposing of all undersized ones.

All people do not agree on the definition of a good egg, and even some do not realize the conditions that sometimes affect egg quality. In order to meet any demand for first-class stock, eggs should weigh $1\frac{1}{2}$ lbs. to the dozen, be uniform in size, naturally clean, not washed, strong shelled and fresh.

A fresh egg is one that was laid by a healthy hen, is only a few days old, and has been kept in a proper place. A fresh egg is not one that was allowed to stay in the nest for a day or two, until it became convenient to gather it, or was taken from a stolen nest or an incubator, or from under a sitting hen.

Age causes an egg to become stale and shrunken. Heat seriously affects the quality of eggs, hence in warm weather they must be gathered daily and marketed as quickly as possible. Moisture causes molds to develop and quickly changes the quality of the egg. Muddy weather means dirty nests, consequently dirty eggs. Nests built on the walls of barns and henhouses are often used as roosting places, causing filth to accumulate and resulting in dirty eggs. Dirty eggs must be handled as second grade stock; washed eggs are just as bad. Eggs deteriorate in quality if they are left behind the kitchen stove, or are stored in damp or musty cellars.

It is not desirable to keep eggs any length of time before marketing, although it sometimes becomes necessary to do so. When it is necessary to keep eggs, a cool, dry cellar is desirable and they should be kept in some receptacle, such as an egg case, that will prevent them becoming broken or stained. Only eggs that are properly handled can be accepted by buyers as first-class stock.

New York. T. A. TEFFT.

FEEDING WINTER LAYERS.

If the layers are to be healthy, vigorous and productive, it is necessary that we supply them with liberal quantities of three food elements—protein, carbohydrates and ash. In making up winter rations it is not necessary to devote much if any attention to the amount of ash or mineral matter, for this is easily supplied. While it is true that many flocks produce large egg yields on improperly balanced rations, the fact remains that the well-balanced ration is safer and more economical when hens are kept under normal conditions.

An excess of protein will, to a certain extent, take the place of a deficiency of carbohydrates, but it is cheaper and better for the hens to have an abundance of carbonaceous foods. No one kind of grain should be used as an exclusive diet. Grains, like oats, wheat, corn, barley and buckwheat, can be combined so as to give a nutritive ratio of one part protein to six parts carbohydrates with good results. Any mixture of good, clean grain may be used if well-proportioned. I like to use two or three mixtures of grain and change frequently to furnish variety. In mixing grain feeds we must consider

the amount of vegetable and animal foods that are being used. It is best to use the whole grain in clean litter so that the hens will have to work to find it. When feeding a mash feed of ground grains, better results usually come from giving it in two feeds and supplementing them with dry grain scattered in the litter. In this way the hens obtain the beneficial effects of the mash feed without getting logy and lazy, as they do when a heavy mash feed is given only once a day.

Wheat bran and linseed oil meal make a suitable addition to the mash feed. Table scraps and kitchen wastes also improve a mash feed. Fowls need some kind of green feed to take the place of the grass that is available during the summer. Freshly cut clover or alfalfa hay, steamed for about an hour, cannot be beaten as a substitute for green grass. Clover is a good egg-producing food. These feeds, cut and steamed, will take the place of considerable grain or animal food. If they are not available, wheat bran may be used in moderate quantities. Vegetables should be fed raw.

To secure best results animal foods are necessary. Nothing is better than green bone; it contains the elements necessary for egg production. However, without the aid of a good bone cutter, the amount of labor required to prepare the bone is so great that it precludes its use. Dried meat scraps can be used in its place with good results. In fact, I would not feed green bone unless I had the means for preparing it quickly and economically.

Skim-milk is an exceedingly valuable poultry food and can be profitably used every day in the year. I have found millet the best scratching-room litter, because the seeds are fine and afford the hens an inducement to exercise while looking for them. I give two liberal feeds a day, night and morning, with a light feed at noon, and find that I have better results than when feeding oftener.

New York. W. MILTON KELLY.

FACTORS INFLUENCING COMB-HONEY PRODUCTION.

An analysis of the best practice in the production of comb honey is made in a bulletin recently issued by the Department of Agriculture. Essentials to the production of maximum crops of the best grades of comb honey are pointed out, and their presentation seems timely because of the present tendency toward the production of extracted honey rather than of comb honey. Enormous quantities of honey are now used for manufacturing purposes and this demand is, of course, solely for extracted honey. If the general public finally becomes convinced of the purity and wholesomeness of extracted honey, it will become a staple article of food. Comb honey to command the higher price—proportionate to the greater cost of production—must justify the extra cost to the consumer by its finer appearance. By virtue of its appearance there will probably always be a good demand for the finest grade of comb honey where appearance is the chief consideration.

Conditions and environment must be given consideration by the producer of comb honey, the author of the bulletin saying that comb-honey production should not be attempted in localities where the honey flow is very slow or intermittent, where the character of the honey is such that it granulates quickly in the comb while it is on the market, where the honey is dark or "off color," or where honeys from various sources are mixed if these different sources produce honey of different colors and flavors. The bee-keeper who produces comb honey for the general market should first be sure that his is a comb-honey locality. Even in the best localities, during an occasional season, conditions are such that it is not possible to produce comb honey of fine appearance. Some comb-honey specialists find it profitable to provide an equipment for extracted honey for such an emergency. In some cases comb honey is produced only during the height of the season, when conditions are most favorable, extracting supers being used both at the beginning and close of the honey flow.

Well filled sections of comb honey, with delicate white comb and perfect cappings, are obtainable only during a rapid flow of sufficient duration to insure their completion. The production of comb honey, the appearance of which is sufficient to justify the extra cost, requires a combination of conditions that are peculiar to rather limited areas, outside of which the bee-keeper will find it decidedly advantageous to produce extracted honey.

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PRACTICAL SCIENCE.

SPECIAL ARTICLES ON MILK

BY FLOYD W. ROBISON.
(Continued from last week).

Reaction of Milk.

The chemical reaction of fresh milk is generally considered amphoteric, which means that it is both acid and alkaline. This, at first, seems impossible that any substance could be both acid and alkaline, but when we speak of milk being both acid and alkaline we mean that when tested with litmus indicator paper it shows a blue reaction on a red paper and a red reaction on a blue paper. Of course, all milk, that is, all commercial milk, very soon after being removed from the udder of the cow, exhibits a distinct acid reaction, due to the activity of the various organisms, or the lactic acid bacteria, which we have discussed, which are present therein.

Composition of Milk.

A fair average composition of cow's milk would be as follows:

Proteids—that is, the nitrogenous constituents, per cent	4.2
Milk fat, per cent	3.8
Milk sugar, per cent	3.8
Mineral matter, per cent	.7
Total solids, per cent	12.5
Water, per cent	87.5

The specific gravity of milk varies between 1.029 and 1.034, or as given in the state law, between 1.029 and 1.033. Milk therefore, is heavier than water in spite of the fact that it contains a considerable quantity of milk fat which, when pure, is lighter than water. The legal requirements as far as the specific gravity are concerned, are that it shall lie between 1.029 and 1.033. In the eyes of the law, therefore, any milk which shows a lower specific gravity than 1.029 is adulterated, or that shows a higher specific gravity than 1.033 is adulterated. It is rare that normal milk will show a lower specific gravity than 1.029 although we have examined samples running as low as 1.028 which we have not been willing to condemn as containing any added water. In fact, the chemist who bases his computations on the specific gravity, or the use of lactometer alone, is on very dangerous grounds and what is much worse, is taking chances of doing an actual injustice to some milk producers. While the law limits the specific gravity of pure milk between the limits of 1.029 and 1.033, we have analyzed several samples of very superior milk which showed a specific gravity as high as 1.035 and even 1.036.

Lactometer or Specific Gravity Not a Safe Guide as to Purity.

Great was my surprise on testing a herd of pure-bred Jersey cattle several years ago to find that practically every one of those cows gave milk with specific gravity running between 1.034 and 1.036. The content of milk solids ran from 14 per cent to 16 per cent, and it would, of course, be wrong indeed to condemn as adulterated, even though the percentage does exceed the limit stated by the law, a milk which is of such a superior quality as indicated by this analysis.

The Question of Standard.

The question then arises, what is the use of having a standard if this standard does not apply in all cases? The answer to this question will apply not only to milk but to nearly every food product with which we have to deal, and if prosecuting officials will learn this simple lesson, not only will the efficiency of their work be materially increased but they will likewise have the satisfaction of knowing that they are in the business of punishing infractions of the law which jeopardize the consumers' interests instead of prosecuting on questions of mere technicalities. Not only are food laws enacted to protect the consumer but at the present time they are made also to throw a safeguard around the business of the man who manufactures pure articles of food and drink. The statement in the law is a guide to be used with discrimination and is not to be invoked on pure articles of food except when this standard regulates the strength of the pure article. This point is such a big one that we cannot dwell upon it further here now but shall in a future article discuss the subject in considerable detail because it is one which is of exceeding great importance and one upon which the police officials should be thoroughly familiar.

The Proteids of Milk.

The principal proteid constituent of milk is commonly known as caseinogen. When acted upon by rennet or pepsin

it becomes precipitated or coagulated, and then is known as casein. It is this casein in milk which marks its value in the production of cheese. Along, of course, with the casein of cheese is milk fat which becomes entangled with casein during the process of coagulation. The other principal proteid constituent of milk is albumin which is present, of course, in rather small quantities. The coagulation of milk in the stomach of human beings is accomplished principally by means of a small ferment known as rennet, or pepsin, and likewise, commercially for cheese making purposes rennet is used. After milk has curdled or coagulated, the curd of the casein and the intermingled fat is made into cheese and the whey, or the liquid portion containing the sugar, the mineral matter and the albumin, is used in various ways; the sugar to make milk sugar, the whey and albumin being used for feeding purposes generally.

Composition of Milk Fat.

The fats of milk with which we are familiar under the term butter, consist principally of three constituents; one is known as palmitin, one as olein and one as stearin. The same constituents are present in lard and in tallow, but the proportions are different, and, in addition, butter, or milk fat, contains a considerable quantity of butyric acid which gives it its characteristic flavor.

Souring of Milk.

When milk is allowed to sour the principal constitutional change is the change from the sugar of milk, or lactose, into lactic acid. When the lactic acid has accumulated to a sufficient degree it acts in a way similar to the action of rennet and coagulates the milk, in this way throwing down the curd containing the casein and intermingled fat.

Koumiss is a preparation produced by the alcoholic fermentation of the lactose in milk. It is a drink which is prized very highly, especially in Switzerland. Although milk sugar has the same generic formula as does cane sugar, it does not readily undergo the alcoholic fermentation with yeast, but under certain specific conditions this fermentation does take place.

The principal salt, or mineral compound, in milk, is calcium phosphate, although there are small percentages of chlorides and some magnesium, iron and potassium as well.

The remarkable characteristic of milk other than the fact that it contains all of the constituents which are necessary in human nutrition, is its physical condition. The form of emulsion in which these various constituents exist pronounce milk to be a very unusual and unique article of human food, and there is probably no single article of food which is in such general use as is milk.

LABORATORY REPORT.

I want to know what one can do to cedar posts to make them last longer in sandy land. Can you tell?
Monroe Co. WILDWOOD.

The common method for the treatment of cedar posts to prolong their life is to treat them for some little time by dipping the posts up as far as the ground line in a vat of hot creosote oil or coal tar oil. This method is similar to that used in the treatment of creosote blocks for paving in cities and it is considered to prolong very materially the life of the wood.

I am sending you in a separate package a sample of soil and some weeds which grow on the same land, and would like to hear from you as soon as possible. Please tell me what the soil is and what it is best adapted for. Would it be good fruit and alfalfa land? Also, what kind of weeds are the specimens?
Illinois. J. M.

The weed submitted above is known as "Wild Sage." The sample of soil submitted in the box is not in a very high state of fertility and would require a considerable amount of manuring to make it very desirable for crop production. If it is favorably located as far as climate is concerned, we think the soil in question would be valuable for fruit.

It is doubtful if it would be easy to get a good catch of alfalfa or clover but of course, if once a leguminous crop could be started then the redemption of this land would follow quite readily.

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DETROIT, OCT. 12, 1912.

CURRENT COMMENT.

Michigan Farmer readers are familiar with the plans under which agriculture has been introduced into a number of high schools in the state through previous comment on the subject in these columns. A recent report from Prof. W. H. French, professor of agricultural education at M. A. C., who has this work in charge, shows that in the school year of 1912-13, full agricultural courses will be taught in twenty-one high schools of the state, in addition to which agricultural instruction is given in a number of other high schools.

In every case this work has been popular in the community in which agricultural instruction has been introduced, a fact which no doubt makes the decision of Superintendent of Public Instruction Wright providing for the gradual introduction of primary agricultural instruction in all public schools, a popular one. When it is considered that in addition to the hundreds of students who have graduated or soon will graduate from these agricultural courses in the high schools, many of whom will be available as teachers in other schools and a considerable proportion of whom will go back to the farms there to illustrate by the power of example the benefits derived from such instruction, that hundreds of practical farmers have been benefited through the short course lectures given in connection with these courses, it is difficult to estimate the beneficial results which will accrue to the state.

Yet all this has been accomplished in an inexpensive manner without state aid other than for the direction of the work, which is rather remarkable in comparison with other states where liberal aid has been extended in this direction. Among the states which have been liberal in their support of this branch of educational work Minnesota is probably in the lead. Through the Putnam act, passed in that state three years ago, high schools and graded schools maintaining an agricultural course were granted state aid to the amount of \$2,500 each. Under the provisions of this law the course included manual training and home economics as well as agriculture.

During the first year ten schools established a course of agriculture under this act, which was supplemented by the Lee-Benson act of 1911, under which agricultural courses were introduced in 50 more Minnesota schools. Apparently a majority of educators and people alike in Minnesota are in favor of this liberal state aid for vocational training. Michigan has made a very creditable start along this line without state aid, except for direction, as above noted, but undoubtedly the growth of the work will be less

rapid than would be the case under a system of state aid.

It is possible that the legislature may be called upon to decide the question as to whether such aid will be granted in Michigan at the next regular session, thus making this a subject well worthy of careful consideration by the progressive farmers of the state.

The Automobile and the Farmer.

The use of the automobile has now become so common upon the country highways that our farm horses have become accustomed to seeing them and very few horses are sufficiently afraid of them to make them a source of danger upon the country highways. This has done much to remove the very general prejudice which existed among country people with regard to automobiles and their drivers a few years ago.

The fact that autos are now used more generally for utility purposes than for touring has also led to a change of sentiment in this regard. But probably the greatest factor in this general change of sentiment is due to the fact that automobiles have come into quite general use among farmers themselves within very recent years. It is impossible to determine just how many automobiles are owned by farmers in the state of Michigan, but at our request the secretary of state recently reported on the number of automobiles owned by people living outside of incorporated cities. Out of some 33,000 automobiles owned in the state of Michigan on July 1, more than 14,000 were owned by people living outside of incorporated cities, which undoubtedly means that more than half, probably 75 per cent of this latter number, or something like 10,000 machines are owned and operated by farmers in the state of Michigan.

Not many years ago the automobile was considered too costly a luxury to be owned by farmers, not so much because of the first cost of the machine as because of the expense of maintenance. But with the lowering of the cost of good automobiles which has been marked in recent years, more farmers have annually purchased them and found the cost of maintenance to be generally very much less than they had supposed would be the case.

One reason for this impression of the high cost of the maintenance of automobiles is the fact that the average city owner of a machine has neither the mechanical knowledge nor the disposition to keep it in proper adjustment and repair himself. When it needs cleaning up, when some little part needs adjusting or tightening he drives it around to some garage and pays a long price for a comparatively simple adjustment. The average farmer, however, is accustomed to machinery and with a little study is able to understand the mechanical details of his machine and make ordinary adjustments and minor repairs himself. His machine is also cared for at home with no expense for cleaning, the same as his carriages, so that the operating expense is very materially reduced and farm owners of automobiles generally express themselves as well satisfied with their experiences.

The time will come when auto trucks, as well as pleasure and utility cars will be in very general use upon Michigan farms and it is a matter for congratulation that an increasing number of farmers are annually availing themselves of this means of rapid conveyance which does much to relieve the isolation of farm life.

Co-operative Credit. Frequent comments have been made in these columns during the past year regarding the system of co-operative credit which has been such a success in the agricultural sections of many European countries and the desirability of the establishment of a similar system in this country has been repeatedly emphasized. In the meantime, the administration has taken cognizance of the possibilities of such a system and machinery has been set in motion by the President to secure needed information as to the basis upon which such co-operative credit could best be established in the United States.

In this connection an interesting communication from Ambassador Herrick has just been made public which is of more than ordinary interest, due to the fact that Mr. Herrick was one of the first prominent American bankers to favor the establishment of such a system in this country. In stating his conclusions that carefully considered enabling legislation which would at the same time provide for adequate supervision should

be enacted, Ambassador Herrick writes: "I realize that the agitation of the financial phase of the agricultural question has undoubtedly brought many people into the field who only see here an opportunity for creating a security which will have a wide market. Of course, we can not prohibit them from entering this field and organizing under present laws, but I would urge that a timely reminder be given to the people, recalling the infinite harm that came to our country from the exploitation of Europe in our early days of railroad building, with railway securities of unlimited issue, unchecked by any state restrictions."

"There was also the land-mortgage craze of some 25 or 30 years ago, conducted with unbridled license. There were, indeed, in that movement certain companies, honest and well meaning but lacking in judgment. Others, however, counted upon the cupidity of the public and victimized the investor to such an extent that land mortgages have been a stench in the nostrils of the investor ever since."

"The plan which I am now at work upon by direction of President Taft is of the greatest magnitude. It affects every individual in the United States. It is essential that the government, both federal and state, assume due responsibility and thus prevent a recurrence of these errors of the past. This field must not be permitted to be overrun by the irresponsible people without check of legislation."

"The study which we have made of the co-operative and mortgage systems of Europe has demonstrated beyond question that these organizations, with or without state aid, but all inspected and carefully guarded by the state, have resulted in financing, in the most satisfactory way, the agricultural interests of all Europe. It has demonstrated as well that these systems may be adopted in the United States and that we may even, with the experiments of Europe to guide us, vastly improve upon the European systems and do for the American farmer what has been done for the European farmer—create a ready market for agricultural securities at low rates of interest and with unburdensome amortization and thus afford a natural increase and, in some cases, double the production of his soil."

HAPPENINGS OF THE WEEK.

National.

Sunday fire destroyed 5,000 tons of coal and burned over a four-acre coal yard at Chicago, the estimated loss being \$75,000. The treasury department has issued an order directing the public health service to make a thorough inspection of the sanitary features of railway trains and vessels engaged in interstate commerce. The order is reported to be the beginning of one of the most important public health reforms that the federal government has undertaken.

Two men were killed and three others injured during a fire in New York, Sunday. The victims were trapped in the third story of the burning building.

A chauffeur was killed when his automobile ran off an unguarded bridge approach near Williamsport, Pa.

Last week was the most peaceful one in the Kanawha Valley strike zone since the proclamation of marshal law over that section more than two weeks ago. A large number of troops have withdrawn from the coal fields and violence has ceased. However, the miners and operators are no nearer the solution of their differences than at any time during the pending demands of the miners.

The assemblage of the American battleships and other war vessels in New York harbor this week will display the greatest naval fleet ever gotten together in American waters. There will be 31 battleships, four armored cruisers, four cruisers, 21 special type boats, six naval military ships, eight fuel ships, 26 destroyers, 16 torpedo boats and 10 submarines, making in all 126 ships having a displacement of 741,590 tons.

According to an act passed by the last congress, 400 wireless equipped American ships, nearly 100 commercial wireless stations, besides many others connected with colleges, schools and experimental laboratories, will be placed under federal control and come under the charge of the department of commerce and labor, beginning December, 1913. The act establishes a complete federal control system over all radio-communication and requires licenses for all operators working across state lines and communicating with ships at sea.

The interstate commerce commission has moved to make an investigation into the shortage of freight cars through the middle and far west. Producers are complaining of inability of transportation lines to move their shipments quickly.

Lieut. Towers, of the naval aviation squad, broke the American record for an endurance flight by remaining in the air continuously for six hours, ten minutes and 35 seconds. This is nearly two hours greater than the former record. It is estimated that he covered 389 miles in his flight.

The interior department has yielded to the demands of the conservationists that coal lands owned by the government be leased to private concerns. As a result 2,480 acres of such land in the state of Wyoming will be leased to local corporations. The corporations will pay a certain rental per acre on the land, besides a royalty for each ton of coal mined.

A loss approximating \$75,000 was caused by a fire in the lumbering towns of Big Bay near Marquette, Mich. Reservations have been made by 92 car concerns for the Chicago automobile show. Twenty-four of these concerns are Detroit manufacturers.

The controversy between the United States and the Northern Pacific Railway Company over the title to about 160,000 acres of valuable land in the state of Washington is to be taken before the

federal supreme court for settlement. The government is bringing the suit on behalf of several hundred settlers who have located upon this property.

An oil explosion in the Brooklyn harbor resulted in the death of one person, the fatal burning of two others, while many more were taken to a hospital suffering from great pain. The explosion occurred on an oil tank steamer.

A review of the business done by the postal savings banks of this country to date shows that the state of Illinois leads all others in the aggregate deposits made, there being nearly \$2,000,000 deposited by the citizens of that state alone.

The gas supply of Kansas City is running short and the fuel to families and commercial users is to be limited this winter.

Edward Clark, former president of the Cincinnati Iron Workers' Union, entered a plea of guilty to the charge of participating in the dynamiting of a bridge at Dayton, O.

Four persons were killed in a head-on collision at Cober, Pa., Monday.

The strike of street car men in Augusta, Ga., resulted in the killing of three men by troops. The men ventured beyond a "dead line" and were shot while the troops were guarding the power plant of the electric car company. A military court is now to investigate the killing.

The teamsters of Des Moines, Iowa, have gone out on strike, asking for an increase in wages.

Foreign.

A registered main package containing \$200,000 was stolen from the mails somewhere between Havana and New York City.

Although preparations for war are continuing in Bulgaria, the situation there appears to be more optimistic than at any time since the first report came out that relations with Turkey were weakened. It appears, however, that the only way in which war will be averted is by Turkey taking the initiative and putting into immediate effect certain reforms. It appears, however, that Turkey is willing to make concessions. If this is true and she can prove to the powers that she will make good her promises the trouble will, in all probability, be brought to an end.

Rebels were reported to be sacking the town of Cholula, Mexico. Juarez is also threatened by the rebels and many villages have been raided. The American mining camps at Aguililla, Achitan and Cocoyuta are also considered in danger. Near Suptec a battle lasting three hours was fought.

A second fight is reported between the American marines and rebel forces in Nicaragua. Thirteen rebels are reported killed and a large number wounded. Five of the American force are suffering from wounds. The skirmish took place at Chichigalpa and the rebels were quickly dispersed.

Requests are coming to Washington from Americans in different parts of Mexico asking for aid and protection. It appears that an air of unrest is apparent over the greater part of that country and that the rapid progress toward anarchy can only be arrested by a strong hand. While it has been intimated that a special session of congress may be called to consider whether intervention in Mexican affairs should be made, yet there appears to be no positive step in this direction taken by the President.

MICHIGAN CROP REPORT.

Wheat.—The final estimated yield of wheat in the state is 11, in the southern counties, 9; in the central counties, 10; in the northern counties, 14, and the upper peninsula, 21 bu. per acre. The estimated total yield for the state is 5,714,544 bu.

The total number of bushels of wheat marketed by farmers in September at 92 flouring mills is 125,447, and at 92 elevators and to grain dealers 125,688, or a total of 251,135 bu. Of this amount 185,030 bushels were marketed in the southern four tiers of counties, 45,659 in the central counties, and 20,446 in the northern counties and upper peninsula.

The estimated total number of bushels of wheat marketed in the two months, August-September, is 1,250,000. Fifty-eight mills, elevators and grain dealers report no wheat marketed in September.

The per cent of acreage sown this fall as compared with last year is 84 in the state, 82 in the southern counties, 81 in the central counties, 88 in the northern counties and 95 in the upper peninsula.

The average date of sowing wheat in the state is September 20, in the southern counties the 22d, in the central counties the 19th, in the northern counties the 17th, and in the upper peninsula the 16th.

Rye.—The per cent of acreage sown this fall as compared with last year is 91 in the state and southern counties, 86 in the central counties, 94 in the northern counties, and 96 in the upper peninsula.

Barley.—The estimated average yield per acre in the state and central counties is 24, in the southern counties 23, in the northern counties 21 and in the upper peninsula 28 bu.

Oats.—The estimated average yield per acre in the state and central counties is 32, in the southern counties 33, in the northern counties 27 and in the upper peninsula 34 bu.

Corn.—The estimated average yield in the state is 31, in the southern counties 34, in the central counties 27, in the northern counties 29 and in the upper peninsula 24 bu. per acre.

Potatoes.—The estimated average yield in the state is 105, in the southern counties 106, in the central counties 90, in the northern counties 103 and in the upper peninsula 160 bu. per acre.

Beans.—The estimated average yield in the state and northern counties is 14, in the southern and central counties 13 and in the upper peninsula 20 bu. per acre.

Sugar Beets.—The estimated average yield in the state, southern, central and northern counties is 10, and in the upper peninsula 12 tons per acre.

Buckwheat.—The estimated average

yield in the state is 17, in the southern and central counties 16, in the northern counties 18 and in the upper peninsula 22 bu. per acre.

CROP AND MARKET NOTES.

Washtenaw Co., Sept. 30.—At this date it still continues so wet as to seriously inconvenience the farmer. The bean crop especially, has been badly damaged, both those pulled and not pulled. Some farmers have turned and re-turned their crop for ten days, unable to get them dry enough to draw. And it has much retarded other farm operations; the only redeeming feature of the situation, the excellent fall pasture resulting from so much rain, and the cold weather has in a great measure banished the scourge of flies, which seems to have been worse than ever before. Cows have gained in their milk fully one-third, and all stock promises to go into winter fat. A condition that seems to peculiarly surround the business of farming is the law of compensation, it being almost impossible for the farmer to lose on all sides. The gains will usually overbalance the losses. Potato digging in full blast. While some early planted are turning out a good crop of sound tubers, many late fields are disappointing in quality and yield. Hogs and cattle maintain high prices. Calves are higher than ever, at least \$2 per cwt. higher than one year ago.

Gratiot Co., Sept. 30.—October 1 and 2 has been fine bean weather and it is being well improved. Three light frosts have cut crops on low ground. Many acres plowed for wheat which will not be put in. Some few are yet fitting and drilling. Corn is being cut as fast as farmers can get to it. Potatoes are generally good and are being secured. Threshing is about finished.

Shiawassee Co., Oct. 7.—The weather for the past few days has been very favorable for farm work. Wheat about all sown. Some fields of rye yet to seed. Beans are being harvested and so far have been uninjured by the rainy weather. Corn was cut with the frost the past week and many fields are badly in need of attention. Corn is the banner crop of the season and farmers are looking for plenty of feed for wintering their stock. Silo filling is under way. In this locality 11 new silos have been put up this season. Farmers are coming to recognize the value of ensilage as a winter feed for stock. The apple crop is below the average, only now and then a profitable orchard. Late potatoes are coming along, but need two weeks of good weather. A large amount of fall plowing is being done the rain the past few weeks making it favorable for doing the work. Farmers are purchasing cows for winter milking. Good cows are in strong demand and command good prices. Not as many hogs in the country as usual and high price is looked for.

Northern Isabella and Southern Clare Co's., Sept. 24.—Continued wet weather makes the farmer look blue. The oats are gathered and are bad in condition, owing to so much rain. Potatoes rotting in the ground in clay soil. Beans badly damaged and the ground too soft to run the puller. Corn will be a poor crop unless the frost holds off very late. Threshing about half done. Oat yield fair; wheat nearly a failure; buckwheat good. Hay selling from \$11@13 per ton. Cattle buyers plentiful and are picking up all kinds of cattle at good prices. Sugar beets poor and a pretty poor year for the farmer.

Ohio.

Carroll Co., Oct. 7.—The weather has been very nice for the past few weeks. And farmers are getting along nicely with the fall work. About half of the corn is cut. About all the buckwheat threshed; it turned out pretty good. Some have their potatoes dug. Won't be much cider made this year as the apple crop is very light. Onions and tobacco did well this year. Most of the wheat and rye was sowed early this fall. The potato crop was pretty good. Many farmers are hauling coal now while the roads are good.

(Continued from page 304).

Champion Boar, under one year—W. W. Morton.
Champion Sow one year or over—W. W. Morton.
Champion Sow under one year—Arcadia Farm.
Grand Champion Boar—W. W. Morton.
Grand Champion Sow—W. W. Morton.
Premier Champion for exhibition—W. W. Morton.
Premier Champion for Breeder—Adams Bros.

HORSES.

Belgians.

Stallion four years old or over—First and 2nd, Bell Bros., Wooster, Ohio; 3rd, Finch Bros., Joliet, Ill.
Stallion three years old—First and 2d, Bell Bros.; 3rd, Geo. W. Ackerman & Sons, Elkton, Mich.
Stallion two years old—First and 2nd, Bell Bros.; 3rd, Finch Bros.
Stallion one year old—First, Finch Bros.; 2nd, Bell Bros.; 3rd, Finch Bros.
Mare four years old or over—Finch Bros.
Mare three years old—First, Bell Bros.; 2nd and 3rd, Finch Bros.
Mare two years old—First and 2nd, Bell Bros.; 3rd, Finch Bros.; 4th, Ackerman & Sons.
Mare one year old—Finch Bros.
Mare Colt—Finch Bros.
Mare with two of produce—Finch Bros.
Champion cups won by Bell Bros.

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A Master Farmer and Fifty Farms

In the Genesee Valley, New York, one man owns some fifty farms—over 10,000 acres in all, rented at \$2 to \$4 an acre. Much of this land fifteen years ago returned only seventy-five cents an acre—some of it, nothing at all. Now it is all on a paying basis.

How this master farmer manages this enormous estate, and aids fifty tenants in making a profit, is told in one article of our series on successful farmers. It's the story, not of a fad, but of a money-maker. So with all this series.

Wiped Out By Fire

In New York State alone there were 5800 farm fires last year. They caused a loss of \$1,500,000. Most of them could have been prevented. We shall print a series of articles on fire prevention and protection, covering (1) What farm fire losses represent; (2) How to guard against fire; (3) How to put it out if it starts; (4) The best kinds of insurance on buildings, crops and livestock impartially compared; (5) Actual facts about farmers' mutual insurance companies that have worked. These articles will show you in a practical way how to strengthen your protection against fire.

What is Your Money Crop?

If your farm were big enough, and the soil, climate and market conditions varied enough for 30 crops, you would like to have 30 experts—one for each. But the cost would be too great. Most successful farming communities center attention on a single crop adapted to the locality.

We are printing a series on "The Money Crop" written by 30 experts. Each article will show the essentials in business management, soil, climate and capital, and the returns which may be expected.

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Our departments for women appeal directly to the woman in the country. They include four regular features, all ably written. (1) Practical Talks by a country woman of experience on problems of the hired man and hired girl, training of children, pin-money, etc. (*The Country Gentlewoman*); (2) Foods and Cooking, country dishes, pleasing new recipes from East and West, preserving and canning; (3) The Rural Home—its furnishings and decorations; (4) Sewing—how to make clothes stylish yet practical—embroidery, laces and knitting ideas.

How Are Crops and What Are They Worth?

What crop to grow? When to sell it? These questions determine profits on most farms. THE COUNTRY GENTLEMAN employs a national expert on crop reports to write a weekly department on *The Crops and the Markets*, giving the changes in prices and the market demands. Also, there are special articles telling how to put each crop on the market in prime condition so as to get the maximum price. No farmer who reads this department regularly, and supplements its with a local newspaper, can be ignorant of when and how to market his crop to get the greatest returns.

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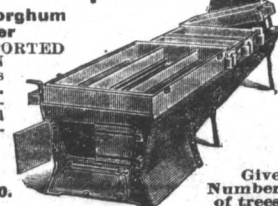
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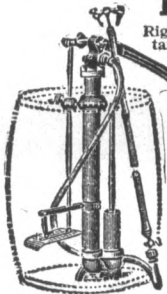
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HORTICULTURE

PRESERVING SWEET CIDER.

In a year like the present when many sections will have a bumper crop of apples and consequently a large number of bushels for cider purposes, the question of keeping cider sweet becomes an interesting and important one. Were it possible to have a supply of sweet cider on into the winter, more would be consumed and a much wider market for apples grading "seconds" would arise. Getting rid of the poorer apples through such a channel should clear the way for a better trade in the fancy grades. Then, too, sweet cider is a drink that is generally enjoyed and could it be kept for a long period with its original flavors, increased satisfaction from the apple crop would be had. As a direct source of income, aside from its indirect benefit in making a better market for the fancy grades, a trade in sweet cider has possibilities quite as promising as many another of the big businesses in which men employ themselves. In our larger towns and cities are many families who would pay a fancy price for cider of superior quality could they be assured of its quality, that it does not contain harmful chemicals and that it can be delivered over a consider-

able period of time. These conditions and possibilities impress the advantage to fruit growers, as well as to the consuming public, of preserving sweet cider. Keeping cider sweet is usually done by the use of some preservative chemicals or by heating. A number of chemicals have been placed on the market and some one generally becomes the agent employed by most farmers and cider preservers for preventing apple juice from becoming "sour." This is done largely for the reason that they seem to afford the only expedient even though their effect upon the health of the consumer may be questioned. Heating cider to destroy the yeast and germs which changes the sugar content to alcohol and then to acetic acid, impairs the flavor of the cider.

Experiments by the bureau of chemistry of the department of agriculture point to a more promising method of preserving sweet cider. Cider carefully made from different varieties of apples was kept without any apparent fermentation from 36 to 83 days by being held in cold storage at a temperature approximating 32 degrees F.; and before they had become sufficiently fermented to be called "sour" from 90 to 125 had days had elapsed. It was also noted from the work that the ciders suffered no loss of quality during refrigeration, but had rather become more palatable. As yet cold storage facilities are not available to all farmers but the increase in the number of co-operative storage institutions and in the renting of space in private storage concerns, give a color of practicability to the idea that promises well for the future, if not immediately useful.

The method of manufacturing the cider was as follows: All rot was removed from the apples. Then they were ground in a rotary apple grinder and pressed with a powerful hand press. Racks and press cloths were used in the same manner as in commercial establishments. Five gallon kegs and one 50-gallon barrel were used to contain the juice. These retainers were carefully sterilized by steaming and then rinsed in cold water

before filling with cider. After being filled the kegs were placed in a temperature of 32 degrees F., which cooled them rapidly. In the head of each receptacle a 3/8-inch hole was bored to give vent and permit the taking of samples. These holes were closed with loose cotton to keep out foreign material and only opened for the purpose of testing the contents. While it may not be general knowledge the fact remains that the variety of apples used determines to a large degree the keeping quality of the cider. In this experiment Tolman Sweet, Winesap, Yellow Newton, Ralls, Gilpins, Baldwins, Golden Russet, Roxbury Russet and Kentucky Red varieties were used. The first six mentioned developed acidity several days before the remaining kinds showed change. The Tolman was the one exception to the rule that the quality of the cider did not deteriorate during the days that the different kegs were held at a low temperature. The last four of the varieties named gave the highest quality of cider.

SPRAYING FOR CUCUMBER AND MELON DISEASES.

Work covering a period of nine years at the experiment station of Connecticut gave some very interesting results on the spraying of cucumbers and melons for blight. The results were not generally satisfactory so far as finding a remedy

Some of the earlier kinds of melons mature a full crop before the disease appears.

EDUCATING THE CONSUMER OF FRUITS.

The consumer's knowledge of fruits leaves much to encourage educational undertakings that will instruct him in fruit values. The fruit that appeals to the eye is not always acceptable to the palate, but usually the eye is the only sense used in making a purchase. An expensive container does not add virtue to the contents; nevertheless retailers will sell the same quality of apples for from 50 to 100 per cent more when enclosed in a well-labeled box. Thus far it appears that all educational enterprises promoted have aimed to educate the consumer to pay a price that is out of proportion to the real value of the fruit, and the producer is being constantly encouraged to put much unnecessary labor upon the product and then to make for himself a profit he must secure for it the highest quotations. Would it not be better for all concerned if the consumer of this part of the country be shown that real good fruit can be packed in a barrel and gotten to him at a much less expense than put up in a fancy box, and that the grower be taught that it is better for his business to grow good apples, put them up well but not by the addition



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of much unnecessary labor, and then sell them at a price which will encourage the ordinary family of our cities and towns to buy and eat? Those who are looking to the future of the apple industry will agree with me that the best market is the home market and that by encouraging a wider consumption among the common people of our neighboring towns and cities growers will be building upon the rock and making their business a permanent one.

Wayne Co. A CONSUMER.

SECOND ANNUAL MICHIGAN APPLE SHOW.

The second annual Michigan apple show will be held in Grand Rapids, Nov. 12-16 inclusive, and the scope of the exhibition has been considerably broadened this year, with the result that the interest has become state-wide, instead of being confined to a section as heretofore.

This year there is a large list of prizes offered, both cash and merchandise, for individual displays, and as the meeting of the State Horticultural Society is to be held in conjunction with the show, this competition is open to fruit growers from all over the state, which is expected to bring together the finest showing of apples especially which has ever been shown in Michigan. In fact, so confident is the management that the showing will be equal to any that any other section of the country can produce, that the request of western states for space in the show is being considered, and if the limits of the coliseum, where the show is to be held, will permit of it, there will undoubtedly be a number of the great apple-producing sections of the west which will put up displays in competition.

While competition in display will be permitted, the prizes offered are only for Michigan-grown fruits, and the exhibitor who wishes to enter a display at the show is assured that no matter how small his display may be, it will be given a prominent place. Michigan first will be the rule; then if there is any space left, the west will be welcomed.

Exhibits can be sent in advance, directed to the Michigan Land and Apple Show, in care of the Kent Cold Storage Co., Grand Rapids, and they will be delivered direct to the cold storage, and kept there free of charge until the show.

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Remember that when you use this catalogue you are in the real Town of Values, the Town of Real Bargains. When you travel Main Street of Bargain Town bear in mind that while you are doing so, thousands of others are walking Main Street with you in just the same way. Take the family with you—and your friends. Let each select what he or she needs. Buy judiciously, at your leisure and according to the most perfect, the most economical system ever devised for the sale of merchandise to the consumer.

If you have not as yet been so fortunate as to secure a 1913 catalogue, write immediately, and in the meantime borrow the catalogue your neighbor is using.

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208 ACRES—\$35 per A., 40 mi. Detroit. Plenty buildings in fair condition. This farm with proper handling can be made an ideal one. Lays fine, no waste land. Owner out of State says "Sell." \$2,500 mortgage can stand, terms on balance. GEO. H. CARPENTER, 365 Ford Bldg., Detroit, Mich.

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CENTRAL MICHIGAN. Write for our large list of stock and Grain Farms, also our booklet "Facts about Central Michigan", giving complete information regarding the finest farming district in Central Michigan. HOLMES REALTY CO., Lansing, Mich.

FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley, the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Development Association, Sacramento, CALIFORNIA

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Woman and Her Needs

At Home and Elsewhere

DO YOU LIVE OR EXIST?

THANK Heaven, if I've never been farther from home than to the county fair, I've lived," remarked a silver-haired woman fervently. "I haven't headed suffrage processions, nor belonged to any club bigger than the Ladies' Aid, nor studied music nor art nor had a 'call' to a vocation, but I'll bet there isn't a woman in the United States who has done more living than I have. I've got all there was out of everything that touched my life, and if that isn't living, what is?"

And certainly, this woman had gotten everything there was for her in every experience that came to her, whether of pleasure or of woe. She had a large family of children, but they had meant to her not added responsibility but opportunity. Six children meant to her just six new ways in which to view life, and she entered into each child's experiences so heartily that she absorbed their viewpoint and became thereby a broader and a better woman.

Their playmates did not annoy her by "tramping all over the house and musing things up." More children meant just so many more ideas, just so much more of "life." She even found time to organize the neighborhood youngsters into a club and study with them the things that interested them in each phase of their development. Books, stamps, flowers, even worms from which neighbor women turned in disgust, this woman studied with her club, and learned more

about the God of the universe in so doing than she got in church.

There was a large farm and a larger mortgage. But that meant only a chance for development to her. She studied ways and means to make the farm produce the most with the least hard work, and suggested them to her husband so tactfully that he thought the ideas were his and bragged all over the neighborhood about "his" improved ways of doing things. She really managed the farm, and her husband never suspected he was under the rule of "petticoat government." And I do not believe the good wife realized it either, she was so full of admiration for her amiable, but inferior, husband.

The life of the neighborhood, too, interested her. Not in a gossip sort of way did she show that interest, but with a broad, full sympathy which made each one feel her human, heartfelt understanding. She was the confidant of discouraged mothers and quarrelling lovers, and by her quick understanding and common sense smoothed out many a misunderstanding.

And with it all she found time to keep in touch with the whole world. Her missionary circle told her of the life in foreign lands, her magazines, of discoveries in science and new methods in education. She knew about the great musicians and the great artists though she had no chance to know personally their work. She realized to the full that

she was only a very tiny part of the whole. But she lived, and no one lived more heartily or enthusiastically or thankfully than this woman, six miles from a village and 100 miles from any large town.

So can anyone live no matter where they are situated, if they so desire. It is not the chances for improvement that make us learned, it is our grasping of the opportunities at our door. I know one young man who has never been more than 100 miles from home, yet he is well-informed on every subject, even the manners and customs of the folks beyond the seas. For he has had access to a good library and has taken his evenings, after the heavy day's farm work, to read. Another young man of his age has traveled through those countries of which the first has read, yet he could not tell you one intelligent thing about them. He went through with his eyes shut, traveled simply because it is "the thing," and his father sent him to "finish his education." He might tell you in what cities he got the best champagne and where the cigars are vile, but as to telling you anything about the people, the cathedrals, the paintings or the trade conditions, well, it would be simply impossible.

So you see, whether we lead a colorless existence or whether we live is simply a matter of choice. If we choose to, we can find a lesson in our hard work, in our sickness, in our troubles and in our joys. There is something for us every moment of the day, and the finding of it is what makes life.

DEBORAH.

FLORAL WORK FOR OCTOBER.

BY EVA RYMAN-GAILLARD.

PLANTING bulbs in October may seem like tiresome work because their blooming time is so far in the future, but the work will receive its sure reward when the garden is bright with flowers in the early spring. Whether the display be large or small will depend on individual circumstances but for those who plant a dozen bulbs, or for those who plant hundreds the same general laws hold good and the most imperative of these is a thoroughly worked bed of rich soil with good under drainage, either natural or supplied.

Work the soil deeply with a spading-fork, which breaks it up better than a spade, and as each row is forked over mix with it some thoroughly rotted manure from the barn-yard. Never use raw manure as it will burn the roots. When the soil is all prepared rake it level. I know that is going contrary to the advice usually given to make the bed highest at the center but I know, too, that with the raised center the blooming is uneven because the highest parts get warm and dry sooner than the edges. Another point to be remembered in working to secure simultaneous blooming is to plant bulbs of equal size at equal depths.

When planting in formal beds the larger bulbs should be in rows from six to ten inches apart and from four to eight inches apart in the row. The very largest bulbs should be set five to six inches deep, hyacinths four to five and narcissi three to four, while smaller bulbs may be set closer together and not so deep in the soil.

Tulips and hyacinths give best results if taken up each spring after the foliage turns yellow and re-set in the fall, a fact which makes it possible to make double use of the beds where the geraniums and other tender plants are grown during the summer. Narcissi, however, are impatient of frequent changes and are at their best when left undisturbed for several years, as are most of the hardy bulbs except the tulip and hyacinth.

If there is a shrub-bed, or border about the place, bulbs may be planted among the bushes and will bloom to perfection in the spring before the foliage of the shrubs develop, the flowers seeming doubly beautiful if the overhanging shrubs

are of the sorts that bloom before their foliage starts, like forsythia and some others.

Grown in masses at the edge of the lawn, or even in the edge of a woodlot, the hardiest types of narcissi, and some other bulbs, will become naturalized and grow more beautiful year after year. For such plantings avoid regular lines and make the upspringing flowers look as wild flowers do. Leave space between bulbs, as before stated, and they will fill in by natural increase.

Sometimes the advice is given to scatter bulbs through the lawn for spring blooming but, personally, I have never known the plan to prove successful, for the reason that the lawn, if well cared for, must be mown before the foliage of the bulbs has matured and the too early cutting off weakens the bulbs. But the planting at the side may be left to fully mature.

Get material ready for mulching the bulb beds but do not put it in place until the soil is frozen. If not put on until after the holidays it will serve its purpose of preventing the too early thawing of the soil and the consequent heaving out of the bulbs in spring, while placing it before the soil freezes is tempting moles and root eating pests to make their winter home under its protection. Evergreen branches, cornstalks, or any light waste material that will shade the beds in the spring will answer the purpose on the exposed plantings. But for the bulbs among shrubs, leaves that may be left to decay and provide humus, are more easily handled.

Space has been given to the subject of bulbs in the open because they are so well worth all the time and money expended in securing them but there are many other things waiting to be done before the month ends and one of them is the transplanting of perennials. The best time to do the work is as soon as possible after the plant has fully matured and ripened its growth, and shows by its yellowing foliage that growth has stopped, but may be done at any time before the ground freezes solid. Taking the peony as an example we find it perfectly dormant at this season and if lifted and re-set, the earth settles firmly around it and in the spring it makes a vigorous growth in its new location. On the oth-

er hand, if left until spring we will find that new roots have formed and begun working before it is possible to do the transplanting, after which moving would mean a set-back from which the plant would not recover during the summer. What is true of the peony is true of the iris, the phlox, and other perennials and for that reason general transplanting should be done this month.

If the soil should be very dry give it a good wetting around the plants that are to be moved to make it cling to the roots and keep them covered. Cut down through the roots that are to be divided before lifting from the soil and have the holes dug, ready to place them in. Fill dry soil around them, firm it down well, and give a good thorough wetting. Then, before hard freezing, cover with a generous, wide-spreading mulch of coarse stuff from the barnyard, straw, or leaves. The object of mulching these plants is to protect the roots from cold and should be done earlier than for bulbs but not until the ground is frozen enough to keep insects dormant in some other place.

To give a list of the most desirable perennials would be impossible but, as a class they furnish a glorious display from the appearance of the peonies, bleeding-hearts and fleur-de-lis in May, on through the summer months when phlox, coreopsis, gypsophila, and other sorts keep the garden gay only to be followed by the showy anemone that keeps up the show until cut down by frosts. The fact that once well planted they demand little care for several years makes them the ideal flowers for busy farm people.

All that has been said as to method and time of transplanting perennials, and the little care required, applies as well to shrubs. They, also, furnish a wealth of bloom from the time the forsythia covers its naked branches with golden bells until the fall blooming varieties are gone. Even after that, the white snow berry and the scarlet barberry lend brightness to the winter landscape.

Both perennials and shrubs need space in which to develop to their full beauty and this most farm homesteads can give. Yet, for some unexplained reason, finer displays are commonly seen in the confined space of town or city lots. Another feature in their favor is the fact that aside from beautifying the premises outside they furnish an abundance of flowers, of lasting character, for cutting and using throughout the home.

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the garden, as seems best, but plan to, in some way, get more and yet more of these standard, always-to-be-relied-on bloomers started.

Lift cannas, dahlias, and other tuberous rooted plants before the end of the month and let the tops dry before cutting them off. Then store in a dry, frost-proof place until spring. If chrysanthemums are blooming freely it will be time well spent to cover them when frost threatens, as covering a few times will keep them blooming several weeks longer. If there are some extra fine specimens they may be lifted and brought into the house and, if kept in a room just above freezing point, will remain in bloom for holiday decorations. Many times a hard freeze and snow finds the bushes full of half developed buds and if these are cut, on long stems or branches, and kept in water in a cool room they will develop into perfect flowers. Adding a little ammonia (a teaspoonful to a quart), to the water will force a faster and finer development.

Many little things will need attention through the month but as each will find different problems, each will have to solve them as they arise, the principal thing being to do things at once and not let so many accumulate that they can not be attended to in time.

A COUNTRY MOTHER'S CLUB.

BY EDITH WILSON M'CORMICK.

We can all remember the time when "Mother's Clubs" were ridiculed by the newspapers and men folks in general. When Mrs. Sumboddy was pictured wending her way thither with a pet poodle under one arm and a bundle of MSS under the other, leaving her puny infant to the tender (?), mercies of the maid while she expatiated to an addleheaded set of old maids on the "Beauties and Duties of Motherhood."

Now these comics have turned their attention to the suffragette and the mother's club has developed into a union of earnest mothers who meet to discuss such concrete and practical subjects as food values and care of the bodies, manners, and morals of their children. These same children, if too young to be in school during this time, accompany mother and are near at hand under charge of some competent person during the meeting. Mother's meetings are now common in cities and towns but we have as yet to hear of any really country, where there seems to be need of them, too.

But there is one neighborhood where we hope to organize one this year which is doubtless typical of many in Michigan. If one were to draw a circle with a three-mile radius its center at our school house, it would pass through a city and several small towns and include within its borders organizations of churches, lodges and societies of many kinds. All of us belong to some of these, but to none of them do we all belong. Except the school district we have no community interest. Not even in a city would you find more plainly exemplified the "every man for himself" theory. "Everybody is lonesome," was the secret Marjory told the king, and on the truth of this secret will depend the success of our mother's club.

Our children must all alike attend the school. Here they must, under our conditions, find most of their social life. Here are their associates. Here are their friendships formed among people who are mostly strangers to us. It is a new problem to us. In our childhood the center of sociability was our church. Our associates were lifelong neighbors and friends, many of them were relatives. Here there are many strangers.

When Mary asks, "Please may I go to see Isabel?" "Please may Isabel come home with me to stay all night?" what shall I answer? How can I tell? I don't know my daughter's clum by sight, or her mother. How should I? We are both busy farm women. We have never met. Both are strangers in the neighborhood. We are not any more interested in each other than as if the continent separated us.

Now what but a district mother's club will bring us all together in a unity of interest, for we are all interested in the betterment of our children and the efficiency of our school?

If we wish to keep our children at home on the farm when they approach maturity we must certainly allow and furnish them some amusement, some fun. Our own house, however attractive, is not enough. Even grown-ups have been known to long for someone else to drop in of an evening. Young people will have young friends. The best sort of "home

grown" amusement comes from unity of plans among the mothers.

Not alone, however, would we dedicate our club to the play spells of our lives. If the mothers are aroused what might be accomplished at the school house itself! In sanitation, in decoration and also in education. So many farmers at present seem to farm "just because we happen to live on a farm, you know," and raise their children just because they happened to come to them and they "naturally grow up, of course." Suppose these children could be taught the beauty and science of the two noblest life vocations, farming and the raising of happy, healthy, competent farmers?

Into the schools all over the world will soon come great changes. Congress and the state legislatures of our own country have already discussed or passed many bills permitting and encouraging trade schools and it's up to us, the country mothers, to obtain for our own children the best.

If there are any of these country mother's clubs in the state we would be glad to hear of them, what they have done and hope to do as a help to those who have not had courage to organize. This old verse has not lost its truth and never will, and it is a sentiment for all country mothers to remember:

"Princes and Lords may flourish or may fade,
A breath can make them, as a breath has made.

But a bold peasantry, a nation's pride,
When once destroyed can never be supplied."

We don't draw the lines here in America at prince and peasant but it means the same. The strong, virile blood of a nation must come from its country people and the redder it is and the purer of all sorts of taint, and the more intelligent the brain it feeds, the greater will be the nation's strength in time of stress.

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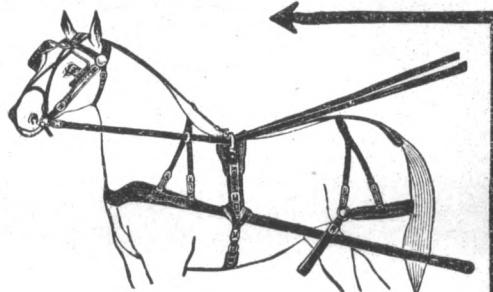
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"At times I would have no appetite for days, then I would feel ravenous, never satisfied when I did eat and so nervous I felt like shrieking at the top of my voice. I lost flesh badly and hardly knew which way to turn until one day I bought a box of Grape-Nuts food to see if I could eat that. I tried it, without telling the doctor, and liked it fine; made me feel as if I had something to eat that was satisfying and still I didn't have that heaviness that I had felt after eating any other food.

"I hadn't drank any coffee then in five weeks. I kept on with the Grape-Nuts and in a month and a half I had gained 15 pounds, could eat almost anything I wanted, didn't feel badly after eating and my nervousness was all gone. It's a pleasure to be well again."

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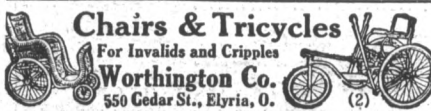
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HOME AND YOUTH

A LITTLE VACATION IN BIG AUTUMN-LAND.

Under the Maples and in the Meadows.

BY ALICE J. CLEATOR.

An Indian once told me that when starting out on trips to the forest with his father he would often hear from his father this advice: "My son, make your ears wide that you may not only hear things, but listen to them. Make your eyes big that you may not only look at things but see them."

I am sure this Indian must have done so, for his knowledge of the out-door world seemed almost unlimited. The forests had whispered to him, the streams had sung to him, and he had learned to know what they said.

That is what we will do for a little while today. We will see, and hear, and talk about the beautiful things round about us. The Autumn-land is now like a wonderful canvas. Nature has been putting on touches of scarlet and pink and gold which will soon turn to quiet tints and tender tones of russet and sepia browns.

It's delightful to take vacation trips out into the great world—to the historic Hudson region, to the Maine lakes with their "jaw-breaking" names, or to the blossom lands of California, but there's a wealth of beauty at our own doors if we but look to see it with our own eyes, and not through those of another. Some of my young readers may be "boy scouts;" if so, you know one of your rules is, "Learn to do things for yourself." So let us learn to do our own "seeing." There is a vast difference between looking and seeing.

Suppose we observe the trees a bit. You all have your favorite flower. What is your favorite tree? John says, "the beech, because its little branches are so white." Yes, and see how graceful those beeches are. And how smooth their bark is—so different from the rough bark of the maple. The beech never struck by lightning? Yes, the farmers have often said that, and it has been verified by scientists. The beech and chestnut and several other trees are so "rich in fat" as to offer splendid resistance to the electric current.

"The elm," Dorothy says. It is surely one of the most beautiful of our trees. It is very graceful and has been called "the tree with a soul." James says its top is like a big fan. Yes, and how the little "downies" love to chisel their winter home in an old elm snag!

Emily chooses the maple, because it gives us sugar and syrup in the spring, shade in summer, and is like a lovely, variegated bouquet in autumn. And there's a beautiful little legend which we have learned from the Indians about the maple tree. One day the maple was sending down its bright host of leaves, and sighing because they must fade away and die. Then the Great Spirit said to the maple, "I will grant your wish that your leaves may not only live, but bring joy to the earth." Then the Great Spirit breathed upon them and they became birds, some the plain little sparrows, and others the red-breasted robbin, scarlet tanager and brilliant oriole.

May likes the oak because it has such pretty shaped, glossy leaves, and is so strong. Beauty and strength! That is surely a good combination. The strength of the oak has often been written in song and story. It attains great age. I have seen oaks in England that were old at the time of William the Conqueror. You have read in your histories about the famous "Charter oak." The Indians begged of the settlers that it might be spared and their wish was granted. "It has been the guide of our ancestors," they said, "as to the time of planting our corn. When the leaves are the size of a mouse's ears, then it is time to put the seed in the ground. It seems strange, doesn't it, to think of a tree acting as a calendar?"

"The pine and spruce," someone says, "because they give such sweet odors and throw down such a soft, thick carpet of needles. And in its warm, friendly arms the little gray chickadee huddles close from the cold blasts of winter storms. And who is it I hear whispering something about Christmas trees? Yes, that's another point in favor of the pines and spruces. Perhaps that accounts for their sweet, low whisperings. They are whispering 'Christmas secrets.'"

You wish to gather some autumn treasures

to bring home, so let's take a little ramble through the meadows. The golden-rod is fringing the meadows' edge, like street lamps in a quiet town. There's a little legend which says that the flowers were late one autumn in leaving the Summerland, and they became lost in the shadows. So kind Nature placed the torches of the golden-rod in field and lane that the flowers might not again lose their way. Are not their feathery spikes beautiful, and as graceful as any plume ever worn by a knight as he proudly rode forth to the tournament. In the days of our colonial grandmothers the golden-rod was sometimes used for tea, also blackberry leaves and loose strife. We will gather a few of the prettiest sprays for our baskets, and perhaps John will gather a few of the pretty brown cat-tails over there. In those same times of our colonial grandmothers almost the only candy the children had was the sweet flag boiled in syrup and sliced off in strips.

Here are some brilliant sprays of the cardinal flower, as red as a tanager's breast, or the little epaulets of the red-wing blackbird. And see those lovely wild asters as blue as a baby's eyes! These are also called "farewell summer." They are very beautiful where they are, but if used as a house bouquet they lose much of their loveliness. Flowers, like people, appear best in their own environment. But let us gather a few for our baskets.

Listen, the little brooklet at the farther end of the meadow is whispering a little song in underbreath. Perhaps it is a timid invitation to us to gather some of its fragrant mint—spearmint and pennyroyal. We will gather a small bunch of it for Grandma Brown.

There is Old Bill whinnying at us from the fence. John, perhaps you can get a good snap of him with your kodak. Mr. Sutherland, his owner, told me the other day that Old Bill is thirty years old, and that he is giving him a year or two of rest after his long, hard service on the farm. It's splendid to see such kindness when there are so many old, worn-out horses sold to cruel hucksters and others who give them harsh treatment.

Oh, yes, Dorothy, those maple leaves are a great addition to our collection. Now we are laden with treasures and will be able to bring home with us a bit of the Autumn-land.

Listen to the crows calling. They have found their voices again after being so silent all summer. Likely they have their "drills" all learned and are rehearsing them for the day when they will start south. We, too, are going south, are we not, but ours will be but a short journey on the south road homeward. Here we are at the carriage, and Prince is waiting for us. Let's put in our treasures first, then ourselves, and John will take the reins. I can almost hear the supper bell ringing, can't you? Ting-a-ling! Ting-a-ling! Ting-a-ling!

THE CRANK'S HAVEN.

BY WILLIAM A. FREEHOFF.

Hunting has always been a passion of mine and in my quest of game I have had many peculiar experiences and come into contact with many strange people. But never did anything have such a lasting impression on me as the discovery of the Crank's Haven.

In the course of my wanderings, in the vicinity of Witching Lake I had come to an open clearing, along the edge of which an old-fashioned rail fence was standing guard. A partridge arose with its usual abrupt impetuosity as I approached. My hasty shot succeeded in breaking a wing only, the bird continuing its flight with extreme speed, running along the edge of the fence. Taking more careful aim I killed the partridge with the very next shot.

"You've got a good eye," remarked a voice as I picked up my game; "but you might be better employed."

I turned quickly, as I had not perceived anyone present. By all odds one of the most striking men I had ever seen was watching me with a peculiar expression of disapproval. His long, unkempt hair and beard, both a deep black, with black eyes expressive of a cultivated intellect, bushy eyebrows and a cliff-like forehead, could not fail to arrest my immediate attention. His voice alone was suggestive of a most remarkable personality. An unusually powerful frame was accentuated in its ruggedness by his plain, old-fashioned clothes, well suited for rural labor. He wore neither hat nor shoes.

"I am glad to see you with a rifle," said the interesting stranger, upon my

not replying to his original remarks. "That shows you hunt for some other reason than the mere sake of filling your game bag."

He spoke quietly and not in the least obtrusively. It would, indeed, have been hard for me to be offended.

Wishing to change the subject, however, I asked for a drink of water.

"Most fellows of your tribe, if they come along my way, want something stronger," he replied, significantly, yet seemingly gratified. Back of his cabin was a cool and inviting spring which gushed blithely over its pebbly course.

"Here's to Mother Nature's Brew!" raising my glass.

As I turned my way homeward again, I could not help noting that the peculiar stranger followed my departure with his eyes, his features being a peculiar blend of approval and disapproval.

On my describing him to my host that evening, he exclaimed: "Why, that must have been the Crank!"

"Crank, or no Crank, I am going to see more of him," was my rejoinder.

I was then engaged in hunting up material for a novel and the Crank presented an interesting character for study, who might be with advantage introduced into my book.

Accordingly, several days afterwards, I took my camera and strolled over my previous path, securing negatives of some excellent scenes.

I met the Crank at practically the same place I had before and he eyed me quizzically on my request for permission to photograph his cabin.

"If you won't publish it," Evidently he had had experience with the neighboring newspaper men.

"I had no intention of doing so," I replied, heartily.

The Crank had evidently built his own cabin. It was constructed of roughly hewn logs but with every crack and crevice snugly closed. The roof was made of hemlock slabs, now thickly overgrown with moss. An enormous chimney faced the south while the windows were of real glass. Protecting the cabin from the wintry blasts of the north, were three huge pines, closely planted together. Flower-beds were scattered promiscuously about, although none were in bloom, owing to the lateness of the season. These last told me a great deal about the character of their owner.

He watched me with interest as I set about my work, even offering suggestions as to the best point of view. I commenced to explain the mechanism of my apparatus, but he interrupted with a broad smile.

"O, I do some work along those lines myself," he said.

I subsided, more completely at a loss than ever to understand him.

"Have you given your house a name?" I inquired when I left.

No; but people generally call it the Crank's Haven." He laughed rather mirthlessly.

This was by no means the last journey I made to the Crank's Haven. I was a frequent visitor there. As the autumn waned and the winter approached, a firm friendship had sprung up between its odd occupant and myself.

As the days grew colder, I delighted to take a bracing tramp across the country and then to sit with the Crank before his blazing fireplace, in thoughtful conversation.

The interior of the Crank's Haven was more like the study of a scholar than the cell of a recluse. A few pictures hung on the wall; but these were the finest engraved reproductions of the old masters. Several shelves of books, mostly classics, were in convenient places, and a finely bound, but well thumbed, Bible had a shelf of honor, within reaching distance from the Crank's seat on the hearth. What attracted my attention most were a few magnificent scrolls, with the most exquisite raised letters, containing the noblest thoughts from the New Testament. I correctly surmised that these scrolls were his own handiwork.

He loved to talk about the Bible and to discourse on its great truths. His views on religion and affairs in general were sometimes radical but never fanatical.

"Men are too busy to be religious now," he would say. "The Almighty Dollar is the Supreme Deity, but there will come a day of reckoning."

"And then there is literature," he would continue. "The time was when men wrote because they had a message to deliver. Now it seems to be different. I bought a few of the best sellers recently; apparently, they no longer teach the art of clear thinking in our schools."

"Yes, living alone, I have learned how to live. One comes nearer to God in the solitude. Of course, people ridicule me because I never cut my hair and drink nothing but water. But was not Samson of old commanded to do the same?"

As I grew to know him more intimately, I could not fail to observe a wistful expression in his eyes whenever I talked to him about the society in which I moved, about the woman I was soon to marry.

"Come, come," I said laughingly, one day. "Confess! You are lonely!"

"Do you think so?" he began, vaguely. Then more confidently: "Well, in the beginning, I was more or less lonesome; but I am used to it now. I have lived retired for thirty years."

"When these spells came over you, what did you do for diversion?"

"I held intercourse with imaginary people. I wrote novels and would become so engrossed in the affairs of the characters as to make it a very real world in which I moved, although I am afraid it was the world only as it existed in my ideal."

I can yet see the amused manner in which he watched my demonstration of surprise.

"And did you publish them?" I gasped, finally.

"Yes, under a pseudonym. My publishers have no idea who I am."

Then he confided to me two or three titles. How well I remember having read his works, genius in every line, and then being seized with a desire to meet the author of these baffling books, a desire that, up to now, could not be gratified. The unique characters, the unusual scenes, the haunting melancholy, the unmistakable evidences of a sad past on the author's part, were still vivid in my mind; as also were the wild guesses in which the literary world had indulged.

The Crank grew more and more confident as the winter passed and it was not long before I heard the rest of his story.

"When I was a senior in Harvard, I had a very special chum, an extremely good-hearted fellow. He occupied a higher social station than I. One unfortunate day, he introduced me to the woman to whom he was engaged to be married. She was my ideal in every way and I had a hard time of it to curb my passionate nature. She was beyond my reach, of course, but I felt I could never love another. Accordingly, a week before graduation, I disappeared from the world. I have been in this retreat ever since. In the meantime I have to recognize the coward's part I played, to let that spoil my whole life; I have also come to realize that it is God's will that man should not shut himself off from the world, but minister unto his brothers. I know it is a selfish life I am leading, but through the books I have published and will publish, I will have labored for the common good of all."

"And did you make no effort to win her?" I asked, most interested in his romance.

"She was engaged to my friend," and I flushed at the simple rebuke.

"Is she living yet?" I was deeply stirred by his story.

"She was your mother!"

Then, for many minutes, we stared into the fire, silent.

SMILE PROVOKERS.

Stranger—Why is everyone I see around here, bandaged up and limping as if he had been in a tornado?

Villager—Oh, a local train was wrecked here the other day, and the claim-agent is expected any minute.

"Would you say I was bald?" asked the hair-dresser's customer truculently.

"Well, sir," replied the diplomatic barber, "without going so far as that, I can confidently inform you, on the best authority, that in a general way there is plenty of room at the top."

"Sir, I wish to marry your daughter, Susan."

"You do, eh? Are you in a position to support a family?"

"Oh, yes, sir."

"Better be sure of it. There are ten of us."

During an experience meeting at a colored church, a brother who had recently been converted, arose and said:

"Breth'ren, I've been a sinner—a low-down, contemptible, black-hearted sinner—dese many yeahs, and I nebber knowed it."

"Don't let that fac' molest you any, brudder," put in a sympathetic old deacon. "De rest ob us knowed it all the time."

No-Rim-Cut Tires

10 Per Cent
Oversize

Made for Winter with Double-Thick, Non-Skid Treads

The whole tire situation has been changed by the advent of No-Rim-Cut tires. Now they far outsell all others. And our factory output of 100,000 tires monthly cannot keep pace with demand.

Last year we brought out another invention—the ideal Non-Skid tread. It has given to tire users, for the first time, an efficient, enduring Non-Skid. Note these facts about it.

A Tread with a Bulldog Grip

This is an extra tread, about as thick as the regular. It is vulcanized on to the Goodyear tire, thus giving a double-thick tread.

This extra tread is of very tough rubber, immensely wear-resisting. So the non-skid feature lasts as long as an ordinary tire.

It is so thick and so tough that puncture danger is reduced to almost nothing.

Deep-Cut Blocks

The blocks are deep-cut and enduring. They present to the road surface countless edges and angles.

In every direction they effect an almost irresistible grip.

Each of these blocks widens out

at the base, so the strain is distributed just the same as with smooth-tread tires. That is a feature which other makers have widely overlooked.

You Can See the Advantages

You can see at a glance the many advantages. And tens of thousands of users have proved them.

Just make a comparison with other treads which purport to be non-skids.

Note the bulldog grip. Note the endurance. Note how the strain is distributed.

This is finality, in our estimation,

in the way of a non-skid tread.

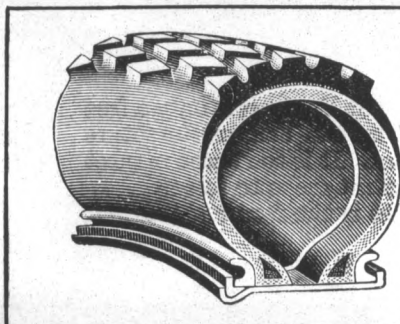
On the Perfect Tire

These treads now come on No-Rim-Cut tires, for any man who wants them.

These tires that can't rim-cut—these oversize tires—are now the most popular tires in existence. They are used, perhaps, on 250,000 cars to cut tire bills in two.

For winter use get the Non-Skid treads, to wipe out the danger of skidding. And for safety on slippery hills.

The Goodyear Tire Book—based on 13 years of tire making—is filled with facts you should know. Ask us to mail it to you.



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No-Rim-Cut Tires
With or Without Non-Skid Treads

THE GOODYEAR TIRE & RUBBER COMPANY, Akron, Ohio

Branches and Agencies in 103 Principal Cities

More Service Stations Than Any Other Tire

We Make All Kinds of Rubber Tires, Tire Accessories and Repair Outfits

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"PITTSBURGH PERFECT" FENCE

WELDED BY ELECTRICITY




A tough, strong, reliable fence, that can be depended upon in any emergency. The electrically welded joints produce a one-piece fabric which resists jolts, jars and strains with its whole surface. "Pittsburgh Perfect" Fence excels all others in strength, durability and economy, is easiest to erect, and is perfectly adjusted to uneven ground without trouble or loss of efficiency.

The present day "Pittsburgh Perfect" Fence is made exclusively of special Open Hearth wire, into the texture of which is worked a newly-discovered ingredient that preserves the wire many years longer than ever before, because it resists the destructive influences of corrosion clear through from skin to core. Also coated with pure zinc surface galvanizing.

EVERY ROD GUARANTEED PERFECT

Write for full particulars of this latest improvement in fence manufacturing, found only in "Pittsburgh Perfect" Fences, together with catalogue, showing styles for every FIELD, FARM, RANCH, LAWN, CHICKEN, POULTRY and RABBIT YARD and GARDEN; or, better still, SEE YOUR DEALER.

PITTSBURGH STEEL CO., PITTSBURGH, PA.

Makers of "Pittsburgh Perfect" Brands of Barbed Wire; Hard Spring Coil Wire; Bright, Annealed and Galvanized Wire; Twisted Cable Wire; Fence Staples; Poultry Netting Staples; Standard Wire Nails; Galvanized Wire Nails; Large Head Roofing Nails; "Pittsburgh Perfect" Fencing.

The Farmer's Interest in Government

BECAUSE the farmer combines in one person, the occupation of worker, manufacturer and merchant, his interest in political matters and the effects of governmental policies, is more than that of any other individual.

And because his mode of life renders him free from the passions and prejudices of men in other occupations, he is more open-minded than most men are.

Also, he knows the value of facts—as opposed to fancies, and he judges men and affairs by results shown by the harvest of accomplishment.

No farmer need be told that under the present administration greater prosperity has existed upon the farm than has existed in the same period of time in the history of this country. The natural question in the minds of all of us is:

Do we want to change conditions by a change in administration?

Mr. Taft never has made any glaring promises that he would do any special favors for the farmer, nor has the farmer asked such. The farmer only wants justice. Mr. Taft has a judicial mind, and, always, in administrative affairs, he has kept in mind justice.

The most truthful accusation against Mr. Taft is that he is not a politician. He has had political advice in plenty, and he has been repeatedly told when he advocated certain measures, that such action might mean his political death. His invariable answer has been that the one consideration he had in mind was:

"Is this the right thing to do?"

Tariff Revision

On no subject has Mr. Taft been criticized more freely by his opponents than on the subject of the tariff.

Right here it is well to state that Mr. Taft has strictly adhered to his promise of a downward revision of the tariff while maintaining the protective principle.

For the first time, a President of the United States has taken decisive and effective steps to remove the question of tariff tinkering from politics.

Against the opposition of the politicians of both parties, he established a non-partisan tariff board or commission, whose special duty was to ascertain the difference between cost of production at home and abroad.

Its duty was to make such a report that a schedule could be framed which would take care of the difference in cost and permit manufacturing to be carried on in this country.

Before this tariff commission reported, a job lot of political, vote-getting measures were presented to Mr. Taft for signature.

The President promptly vetoed these bills.

The facts afterwards presented to him, by the Tariff Board, clearly showed that if these "pop-gun" bills had become laws, immeasurable injustice and injury would have been inflicted upon many American industries.

Anyone who will read President Taft's messages, in which he stated his reasons for these vetoes, can ascertain these facts for himself.

The President vetoed these bills after he had been warned by political friends that

if he did so it would mean the end of his political life.

The interest of the farmer as worker, manufacturer and merchant, is in the maintaining of the home market.

The home manufactories built up under the protective policy have created the home market.

It is the policy of the Republican party to maintain this protective principle, and by an intelligent tariff commission, recommend reductions in the tariff in the interests of all the people where these reductions can be made without injuring our local industries. If it were not for our local manufactories, the farmer would be receiving one-half what he is now getting for his products.

The Democrats claim that the farmer is paying an excessive tariff tax and selling his goods in an open market.

As an actual matter of fact, we export but 4 per cent. of the wheat raised in this country a little over 2 per cent. of the corn raised, and less than 1 per cent. of oats. It is the protective policy of the present administration which has fostered local manufacture, so that we consume at home practically all of the farmers' produce.

The desirability of the home market is recognized by every civilized nation, and even England, which is called a free trade country, values the home market so highly that a law was recently passed in that country making it necessary for manufacturers of American goods who manufacture under patents to locate branch factories in England to protect their patents.

Since this law was passed, many American manufacturers have been compelled to erect factories in England.

Hence it is seen that England is only a free trade country when she can manufacture cheaper than we can. It is the home market that every government seeks to foster.

The home market is the farmers' market.

* * *

Most important in connection with this tariff question is to have information obtained by a tariff board, non-partisan and scientific.

Then we secure a tariff which represents just the difference between the cost of production abroad and at home.

President Taft created this board; fought for it; worked for it, and was guided by it, and every sane man knows that such a board is the only body of men who can properly develop the essential facts.

A permanent tariff commission—a bill for which received the vote of every Republican in the last House, but which was defeated by a solid Democratic vote—should be established. Re-elect President Taft and give him a Republican Congress and it will be. Then we can revise our tariffs, as other countries do, fairly, justly and upon a scientific basis.

Trust Prices

It has remained for President Taft's administration to uncover causes of high prices on certain manufactured goods and to expose trust methods which have been wrongly attributed to the tariff.

In completing and bringing to a successful issue cases which his predecessor started (and now says it was no use to start) certain facts were disclosed and the President promptly took steps to correct evils that were apparent.

Certain practices were in vogue under the protection of the patent laws. By a special message to Congress, Mr. Taft asked for amendments to these laws.

In his report recommending such a law as the President requested, the Chairman of the Committee on Patents gives the following explanation of the purposes of the different clauses:

"Clause (i) is directed against the practice of temporary cut-throat competition so persistently pursued by the Standard Oil and Tobacco Trusts.

"Clause (j). This clause is designed to prevent the illegal and immoral methods so frequently pursued by the Standard Oil and Tobacco Trusts of illegally securing secret information as an instrument for preventing competition."

The report quotes a number of court decisions—two of which are very significant, and from which the following extracts are taken:

"That one of the parties had acquired over 100 patents pertaining to straw stackers."

Another, "was charged with having acquired 85 patents on spring-tooth harrows."

It isn't the tariff laws that need tinkering in such cases. It is the patent laws that need amending.

Mr. Taft has recommended a revision to correct existing patent evils, and perhaps the strong opposition to him of the Farm Machinery Trusts and the cordial support of these interests for the Third Term candidate may have an explanation in this direction.

Control of Trusts

The Taft administration has made it unpleasant for the gentlemen who operate illegal combines and these gentlemen now want some one to "control" them.

They want to be told just what they can do and whom they can "do,"—and the Third Term Party has promised to tell them this.

The Taft administration plays no favorites. It demands that all business be honest, and then it pledges its best efforts to make all honest business prosperous.

* * *

Another point to present to the people of this country:

The present incumbent of the White House has never had his word questioned.

He has never felt under the necessity of calling his opponents bad names nor applying any epithets. His word never has been disputed—either his private statements or his public utterances.

Mr. Taft doesn't try to fool the people. He doesn't go out and pitch a few forks of hay to carry the idea to the farmer that he is "one of us." Neither does he get his picture taken hacking at a tree with an ax—in order to have campaign material.

Mr. Taft is a sane, able, dignified gentleman.

* * *

Mr. Taft stands for an effective Parcel Post.

Mr. Taft is for every advanced form of governmental administration for the benefit and advantage of the whole people.

REPUBLICAN NATIONAL COMMITTEE

CHARLES D. HILLES, Chairman
JAMES B. REYNOLDS, Secretary

GRANGE

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

THE OCTOBER TOPICS.

The State Lecturer has announced topics for the October meetings which should interest every Grange in Michigan. For the first meeting she suggests a school program. The outline submitted need not be followed in all cases. Indeed, it is not possible to arrange an outline which is adapted to the needs of all Granges. If it were possible, I presume Miss Buell would do it, for she is equal to almost everything in the way of lecture work.

But, Granges of Michigan, let us all have a school program of some sort, not forgetting to invite our teacher. She may or may not be a member of the order, but she should be with us on this occasion. If we could have the program hour open to the public and invite the children, too, asking them to bring their "School Knapsacks" and sing with us, it would add much to the interest of the program. From this program certain things should result—the need of a more practical education should be generally felt; the importance of a closer union of teacher, parent and pupil should have been made clear, and a greater interest in the school should have been created in the average man and woman. And, because we have observed this program, everyone concerned in the welfare of the children should be more united in the purpose to make this year's schools productive of a larger amount of good, while the order that is making these meetings possible should receive a larger portion of our time and labor.

The second meeting is to be largely devoted to the study of plans for rural community building. The home, the school and the church are to be studied in respect to their value as builders of "The Rural Community." This ought to be one of the very best meetings of the year, and I beg to offer just a few suggestions regarding it.

In some counties it will be possible to have the county school commissioner present for a talk on the relation of the school to rural life. In this part of the program we shall merely continue our school program of the former meeting. However, after the hour has passed we should have been made to feel, as never before, the need of country schools that will fit our boys and girls to be better neighbors, to serve the community better than we have been able to do, and to take a stronger and wiser part in the progress of those things in the community that help to make the country a better place in which to live.

Of course, we must study the question of the rural church apart from the claims of any particular denomination or creed. Right here we shall have to use care not to wound the feelings of someone by unfavorable mention of some special sect. It would be better if no sect were mentioned but rather that we should consider the matter of "The Country Church" in so broad a manner that every person, no matter to what sect he might belong, should feel, at the end of our program, a greater regard for sacred things and a larger charity and a stronger fellowship for every good man and woman everywhere.

Let us not forget the music in this program. A few of the Knapsack songs may be sung, and in the discussion of the influence of the country church why not all join in the singing of some one of the good old hymns? Patrons, if you take this up with your worthy lecturer and work it out you can have a meeting that you will like to look back to when time has borne you far from the date of this meeting, and you will remember it with pleasure, because you co-operated with your worthy lecturer and did your best to help carry out her plan.

We must not forget that the secret of successful lecturer's work is co-operation. It is not what the lecturer can do alone, but what she can persuade her Grange to help her do, that will determine whether or not she is a successful lecturer.

W. F. TAYLOR.

COMING EVENTS.

Pomona Meetings.

Shiawassee Co., with Owosso Grange, Tuesday, Oct. 15.
Wayne Co., with Flat Rock Grange, Friday, Oct. 18.
Ingham Co., with Fitchburg Grange, Friday, Oct. 18.

FARMERS' CLUBS

Address all communications relative to the organization of new Clubs to Mrs. C. P. Johnson, Metamora, Mich.

Associational Motto.—

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

Associational Sentiment.—

The farmer, he garners from the soil the primal wealth of nations.

CLUB DISCUSSIONS.

Will Hold Club Fair.—Hartland Farmers' Club held its September meeting at the home of Mr. Fred Huskingson and sister. Meeting called to order by the president, H. W. Clark; prayer by Rev. Porter; song by Rev. Porter and wife. Then followed recitations by Loraine Wallace and Mrs. Bert Holmes. During the program the Burgess Orchestra rendered several selections. Our president then gave a short recess, during which all enjoyed visiting. After being again called to order we talked over the Club fair which is to be held in Hartland some time during October. Mr. Harry DeGarmo, from the Highland Club, then gave a very interesting talk on alfalfa.

—Cor. Sec.

Plan for Charity Fair.—The Rives and East Tompkins Farmers' Club met at the home of Mr. and Mrs. Wm. Showerman, Saturday, Sept. 7. Over 60 were present. After a social hour, the meeting was called to order by the president. The meeting was opened by singing of "America" by the Club, followed by prayer by the chaplain. It was decided to hold our annual fair for the benefit of the Jackson Friendly Home some time next month, but the necessary arrangements will be made at the next meeting. A good literary and musical program was rendered. Miss Emerson, of Jackson, gave some very interesting ideas about woman's suffrage. After an interesting question box had been discussed we were adjourned till next meeting.—Ina Stringham, Cor. Sec.

Discuss Varied Topics.—The Riverside Farmers' Club met Sept. 6 with Mr. and Mrs. G. W. Detweiler in Owosso. Sixteen families answered to roll call, and a number of invited guests were present. Mr. Black acted as chairman, Mr. Mathews being absent. The meeting was opened by singing America by the Club, followed by chaplain's service. The first question was assigned to Mr. John Shaffer, "Would it be better if the stores were kept open after six o'clock?" Mr. Detweiler thought not; the business man could be home evenings with his family and more would plan to come to town in daytime. Everything is working for the betterment of conditions. "The Church on Crime" was a fine paper read by Mrs. Chas. Lawrence. "Are the local laws enforced as they should be; if not, what can the Farmers' Clubs do?" One Club could do no good, but if all Clubs united in the demand it would help to bring about their enforcement. "Why are we not raising more wheat to the acre?" Mr. Lewis Leffingwell said in the soil is lacking mineral matter to produce wheat. A discussion on woman suffrage showed all in favor of women voting. Mr. C. B. Cook was in favor of establishing a bureau of agriculture for the benefit of the farmers. He wished the Clubs would take it up and see what they could do with the matter. A bountiful supper was served and all departed feeling glad to be present to meet with Mr. and Mrs. Detweiler. The next meeting will be an all-day meeting with Lee Stewart the first Thursday in October.—Mrs. Henry Woodworth, Cor. Sec.

Will Combine Fair with Homecoming.—At "Sunny Slope," with Mr. and Mrs. B. S. Gillman, The Washington Center Farmers' Club held their last half-day meeting for the year. The meeting was called to order by President Cook. After music by the Club and the usual routine of business, roll call was responded to by naming a product of our foreign possessions. This covered a wide range of products, including snakes. The president, being called away at this time, Mrs. Hill, vice-president, was called to the chair and the Club discussed "What is the best method of providing children with spending money?" Led by Mrs. F. L. Cook, who thought when children could earn money it gave them more pleasure than to always have it given them. Many suggestions were given by members as to how children could earn spending money, and by earning for themselves they would gain a knowledge of the value of money. A very amusing reading was given by Mrs. Coleman, and the Club sang "Memory Day." The special feature of this meeting was music, and the rest of the session was given over to a musical program. Miss Marita Tobey, one of our youngest members, gave a very delightful selection. This was followed by selections by Mrs. Gillman, Miss Campbell and Miss Gillman, who entertained their audience most charmingly. Mr. Clarence Beamer, of Detroit, who was a guest at the home of Mr. French, also gave several fine selections, which were much appreciated. At the close of the meeting the hostess served very fine refreshments and closed one of our most delightful half-day meetings. Arrangements for the annual Club Fair are being made and the management is planning to make this fair a record breaker. This will also be "Home-comers' Day," all former members are especially urged to be present. The annual chicken-pie dinner will be served, and you will miss it if you miss it. Don't forget the date, October 10, at C. N. Curren's.—Mrs. O. J. Campbell, Cor. Sec.

A Little Story of a Great Name

"What's in a name?" Sometimes nothing at all. We have all been taught that "the rose by any other name would smell as sweet."

Nevertheless, it is a well-known fact that there are cases where we are prejudiced for or against certain persons or things merely on account of the name they happen to bear, and usually without real reason.

When a name is once given, and becomes fixed, it is difficult and often impossible to change it, even though there may be good and sufficient reason for so doing. This is particularly true of the name of old established newspapers.

The case of "The Breeder's Gazette" is a notable instance. A farmer for example not specially engaged in stock-breeding would very probably assume that he would not find a paper called "The Breeder's Gazette" of any particular value, and yet he would be wholly mistaken, because as a matter of fact the paper actually carries the biggest and best line of good farm matter being published.

More than thirty years ago this greatest of all the farm newspapers of this day and generation was started as an organ of the breeders and importers of pedigreed farm animals. Its founder very properly christened it "The Breeder's Gazette." For years it was devoted almost wholly to that important interest; it grew, it prospered and expanded.

Like an acorn slowly but surely attaining the dignity of the mighty oak, so "The Breeder's Gazette," planted in the rich soil of stock-keeping, unfolded leaf after leaf, taking on year by year a broader body and deeper roots, and has developed from an humble beginning as a mere "breeder's" paper into what it is in these closing months of 1912, the most brilliant success ever registered in the annals of general agricultural newspaper making.

Why didn't the publishers long since change its name to fit its contents? That is a fair question. Why continue to carry a name which is today altogether misleading to those who are not familiar with its actual make-up?

The answer is that no one knew or could tell the time when the transformation in its character took place. It was the child growing up to maturity. The boy doesn't become a full-grown man overnight, and his parents never see the day when they feel like changing the name under which the youth has rounded into full stature.

So "The Breeder's Gazette" of 1881 is still "The Breeder's Gazette" in 1912; under which name the successors of the original founder have builded it out into one of the biggest and best farm newspapers in all the world.

If anyone doubts this, let him send for sample copies of all of them—don't overlook one, either in the old world or new—and make your own comparison of matter and illustrations.

Therefore, let not those who may be invited for the first time to become subscribers to "The Breeder's Gazette" fall into the error of assuming that it is only made for those who are professional dealers in so-called "fancy" live stock.

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MARKETS

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DETROIT WHOLESALE MARKETS.

October 9, 1912.

Grains and Seeds.

Wheat.—The market is slightly stronger than a week ago. Home conditions would undoubtedly have weakened the trade since receipts have been liberal at all primary points, but foreign conditions worked the market higher. While it has been merely rumored that war would likely break out between Bulgaria and Turkey at present the situation indicates that these rumors will become a reality and wheat prices change according as the news of the war changes. Calls for grain to go abroad are frequent in western market centers. One year ago the price for No. 2 red wheat was 94c per bu. Quotations for the week are:

	No. 2	No. 1	Dec.	July.
Thursday	1.07	1.06	1.09½	1.13½
Friday	1.08½	1.07½	1.10	1.14
Saturday	1.07½	1.06½	1.09½	1.13½
Monday	1.07½	1.06½	1.09½	1.13½
Tuesday	1.08½	1.07½	1.10	1.14
Wednesday	1.10½	1.09½	1.12	1.16

Corn.—The corn trade is growing weaker. Prices have declined during the week about 3c. This change is the result of a better outlook for the maturing crop. A good percentage of the corn is now out of danger and much of it has already been harvested. One year ago the price for No. 3 corn was 74c per bu. Quotations for the week are:

	No. 3	No. 3	Oct.	July.
Thursday	68½	71	68½	71
Friday	67½	70	67½	70
Saturday	67½	70	67½	70
Monday	66½	69	66½	69
Tuesday	65½	68	65½	68
Wednesday	64½	67	64½	67

Oats.—This grain has steadied after last week's rapid decline. Conditions abroad have encouraged foreign buying to some extent, which with a steady situation on this side makes the present price basis a fair one to deal on. One year ago standard oats were quoted at 50½c per bu. Quotations are as follows:

	Standard.	Oct.	July.
Thursday	35½	35	35½
Friday	35½	35	35½
Saturday	36	35½	36
Monday	35½	35	35½
Tuesday	36	35½	36
Wednesday	36	35	36

Beans.—There was a slight decline on Tuesday in cash beans which brought the price to where it was two weeks ago. October offerings are unchanged. While a large per cent of the beans in Michigan are harvested many fields were caught in rains and spoiled for the best trade. The average estimated yield for the state is 14 bu. per acre. Quotations for the week are:

	Cash	Oct.	July.
Thursday	\$2.55	\$2.40	\$2.55
Friday	2.55	2.40	2.55
Saturday	2.55	2.40	2.55
Monday	2.55	2.40	2.55
Tuesday	2.50	2.40	2.50
Wednesday	2.50	2.40	2.50

Clover Seed.—No change is shown in the report for this product in the past week. There is only a small volume of business being done due to the fact that clover seed will not be plentiful this fall. Quotations are as follows:

	Oct.	Alsike.
Thursday	\$11.25	\$12.25
Friday	11.25	12.25
Saturday	11.25	12.25
Monday	11.25	12.25
Tuesday	11.25	12.25
Wednesday	11.50	12.50

Rye.—Rye values are unchanged, No. 2 being quoted at 74c per bu.

Timothy Seed.—A few bags of timothy seed were sold this past week at \$2.10 per bu., the same price that ruled the previous week.

Flour, Feed, Potatoes, Etc.

Flour.—The market is unchanged with last week. Straight \$5.20; Patent Michigan 5.80; Clear 4.90; Rye 5.00.

Feed.—Market steady. Carlot prices on track are: Bran, \$25 per ton; coarse middlings, \$28; fine middlings, \$31; cracked corn and coarse corn meal, \$32.50; corn and oat chop, \$30 per ton.

Hay and Straw.—All grades of hay are weaker. Splendid pastures are reducing hay consumption. Straw is steady. Quotations are: No. 1 timothy, \$16.50@17; No. 2 timothy, \$15@15.50; clover, mixed, \$13@15.50; rye straw, \$10@10.50; wheat and oat straw, \$8@9 per ton.

Potatoes.—Market is stronger and higher. Local prices are steady at 45@50c for car lots on track.

Provisions.—Family pork, \$22@23; mess pork, \$22.50@23; clear, backs, \$21.50@23.50; hams, 15½@16c; briskets, 12½@13½c; shoulders, 13½c; picnic hams, 13c; bacon, 17@18½c; pure lard in tierces, 12½c; kettle rendered lard, 13½c per lb.

Dairy and Poultry Products.

Butter.—All grades of butter rule the same except fancy creamery, which is quoted ½c below the price of a week ago. The market is steady at the following quotations: Extra creamery, 30½c;

first creamery, 29½c; dairy, 22c; packing stock, 21c per lb.

Eggs.—No change is made in the price for eggs. Offerings are limited and demand good. Current receipts, candled, cases included, are quoted at 26c per dozen.

Poultry.—All kinds and grades of poultry rule steady with a week ago except the best hens, which are a fraction higher. The trade is dull. Quotations are as follows: Broilers, 15c per lb; hens, 14c; No. 2 hens, 9@10c; old roosters, 9@10c; turkeys, 15@16c; geese, 8@9c; ducks, 12@13c; young ducks, 14@15c per pound.

Veal.—All grades steady. Fancy, 13½@14c per lb; choice, 9@10c.

Cheese.—Market rules higher for all grades. In wholesale lots, Michigan flats, 15½@16c; York state flats, 17½@18c; limburger, 17½@18½c; brick cream, 18½@19c.

Fruits and Vegetables.

Peaches.—Market is small at steady prices. AA, \$1.50; A, \$1.75; B, \$1 per bu.

Pears.—Bartlett's are quoted at \$2@2.45 per bushel.

Plums.—Steady. Per bu., \$1.50@1.75.

Apples.—New apples are quoted at \$1.75@2.25 for fancy, and \$1@1.50 for common; poor, 75c@1 per bbl. Good apples by the bushel are selling at 40@60c.

Grapes.—In 10-lb. baskets: Delaware, 30c; Niagara, 25@30c; Concord, 20c; Catawbas, 25@30c.

Honey.—Choice to fancy comb, 15@16c per lb; amber, 12@13c.

Onions.—Per bushel, 75c.

Cabbage.—New, \$1@1.25 per bbl.

OTHER MARKETS.

Grand Rapids.

Local houses are paying 26c for fresh eggs and 23c for dairy butter. Grapes were in good supply Tuesday on the city market, over 1,800 baskets, and 8-lb. baskets sold at 7½@8c; bushels at 50c. Apples were also plentiful, 1,300 bu., and sold from 40c up. Potatoes were in good demand at 50@55c. Other prices follow: Beets, 40c; carrots, 35c; cabbage, 25@30c; turnips, 35c; tomatoes, 60c. Dressed hogs are worth 10@11c; live fowls, 9c; springs, 10c. Hay is selling at \$11@15. The mills are paying as follows for grain: Wheat, \$1.05; old corn, 73c; new corn, 55c; new oats, 34c; rye, 62c; buckwheat 65c per bu.

Chicago.

Wheat—No. 2 red, \$1.04@1.08; Dec., 91½c; May, 96½c.

Corn—No. 3, 63½@65cc; Dec., 53½c; May, 52½c.

Oats—No. 2 white, 34½@35c; Dec., 32½c; May, 45½c.

Butter.—In the face of reasonably active trading at last week's advanced range, this market followed Elgin in a 1c decline on Tuesday. An influencing factor was a trade bulletin showing stocks in eastern storage houses to be more than 8,000,000 lbs. in excess of this date last year. Quotations: Creameries, 24½@30c; dairies, 22½@27c.

Eggs.—This market continues firm under a good demand, the better grades advancing another cent since last week. Quotations: Firsts, 24c; ordinary firsts, 21½c; at mark, cases included, 19@20c per dozen.

Potatoes.—Steadily increasing receipts have weakened this market, resulting in almost daily reductions in prices during the past week. The loss since this time last week is 12c per bu. Michigan stock is quoted at 42@45c; Minnesota, 40@43c; Wisconsin, 40@43c.

Beans.—All kinds higher, market firm. Pea beans, choice, hand-picked, \$3.10@3.20 per bu; prime, \$3; red kidneys, \$2.60@2.75.

Hay and straw.—No change this week except a further advance on rye straw and a decline on oat straw. Quotations are: Timothy, choice, \$18@19; No. 1, \$16@17c; No. 2 and No. 1 mixed, \$13@15; clover, \$7@12; No. 2 and no grade, \$5@7; alfalfa, choice, \$16@17; No. 1, \$14@15; No. 2, \$10@13. Straw—Rye, \$9@9.50; wheat, \$6.50@7; oat, \$6.50@7.50.

New York.

Butter.—All creamery grades rule lower. Quotations: Creamery, special extras, 30½@31c; do., firsts, 28@30c; seconds, 26@27½c; factory do., June make, firsts, 23½@24c.

Eggs.—A fair trade at steady prices. Fresh gathered extras, 31@34c; extra firsts, 28@30c; firsts, 26@27c per dozen.

Poultry.—Dressed—Irregular. Fresh killed western chickens, 15@23c; fowls, 14@17c; turkeys, 16c per lb. Live—Lower. Western chickens, 13@14½c; fowls, 13@14c; turkeys, 16@17c per lb.

Elgin.

Butter.—Market firm at 29c per lb., which is 1c lower than last week's quotation.

THE LIVE STOCK MARKETS.

Buffalo.

October 7, 1912. (Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York.)

Receipts of stock here today as follows: Cattle, 185 cars; hogs, 90 double decks; sheep and lambs, 90 double decks; calves 1,000 head.

With 185 loads of cattle on our market here today, and Chicago reporting 20,000 the class of cattle we had on sale, like last week, was of very inferior quality; there was a few loads of cattle of pretty good weight, but ordinary quality, however, everything that was in the killing line, and, in fact, stockers and feeders, sold 10@15c per cwt. higher than last week. At the close about everything was sold, and the market closed steady.

We quote: Best 1,300 to 1,500-lb. steers \$9@9.50; good to prime 1,200 to 1,300-lb. do., \$8.50@8.75; good to prime 1,100 to 1,200-lb. do., \$8@8.25; medium butcher steers, 1,000 to 1,100, \$6.60@7.25; butcher steers, 950 to 1,000, \$5.85@6.40; light butcher steers, \$5.40@5.75; best fat cows,

\$5.50@6; butcher cows, \$4.50@5; light butcher cows, \$3.50@4; trimmers, \$2.85@3.25; best fat heifers, \$7@7.50; medium butcher heifers, \$5.50@6.25; light butcher heifers, \$4.50@5.25; stock heifers, \$4.25@4.50; best feeding steers, dehorned, \$6.25@6.50; common feeding steers, \$4@4.25; light stockers, \$4.25@4.50; prime export bulls, \$5.75@6; best butcher bulls, \$5.25@5.50; bologna bulls, \$4.25@4.75; stock bulls, \$4@5; best milkers and springers, \$6@7; common kind do., \$3@4.50.

Hog market was a little slow at the opening, with prices somewhat uneven. Best grades, including good yorkers, selling today steady to a nickle lower. Heavy hogs, which were scarce, brought top prices; some selling up to \$9.50. Mixed grades \$9.40@9.50; bulk changing hands at \$9.45@9.50; best yorkers, \$9.35@9.50 as to quality. Some pigs sold early at \$8.60, but the bulk went at \$8.50; roughs, \$8.25@8.50; stags, \$5.50@7.50.

The sheep and lamb market was fairly active today, with prices 10c higher than the close of last week; most of the choice lambs selling from \$7.25@7.35; yearlings, \$5@5.50; look for about steady prices the balance of the week.

We quote: Choice lambs, \$7.25@7.35; cull to fair do., \$5.50@7; yearlings, \$5.25@5.50; bucks, \$2.50@3; wethers, \$4.75@5; handy ewes, \$4@4.25; heavy ewes, \$3.65@3.75; cull sheep, \$2.50@3; veals, choice to extra, \$11@11.50; fair to good, \$9@10.50; heavy calves, \$5@6.

Chicago.

October 7, 1912. Cattle. Hogs. Sheep. Received today 21,000 27,000 65,000 Same day last year 24,553 21,881 51,977 Received last week 53,201 82,547 195,767 Same week last year 71,860 108,117 157,510

Another week starts off with a moderate run of cattle for Monday, receipts including about 8,000 head from western ranges. Activity is restricted to fat offerings, which bring firm prices, with some sales of fat butcher stock at advances. Other cattle are apt to sell slowly at barely steady prices. A weakening element is found in the liberal cattle receipts at other western markets. Hogs opened strong to 5cc higher, selling at \$8.45@9.32½, but prices weakened later. Hogs received last week averaged 225 lbs being 10 lbs. lighter than two weeks earlier, and comparing with 201 lbs. one year ago, 261 lbs. two years ago and 232 lbs. three years ago. Sheep and lambs opened with a fair demand at about steady prices, but with reports of receipts of from 65,000 to 70,000 head, it was thought that before the day closed weakness would develop in the less desirable flocks.

Cattle prices, the better class of long-fed, heavy beefs and stockers and feeders excepted, pursued a downward course last week, despite much reduced receipts, demand being unreliable, aside from the high-class trade. Beef steers sold chiefly at a range of \$7.10@9.80, with the choicest lots of weight corn-fed cattle purchased at \$10@11 and the poorer light-weight grass steers going at \$5.50@6.75. A very fair class of heavy steers sold as low as \$9, and desirable little yearlings were offered at \$8@10.50. Cows and heifers, with the exception of prime lots, sold off with steers, the demand being checked by the Jewish fast days. Sales were made at \$4.40@8.90, with only scattering sales above \$8.25 and the bulk failing to go much over \$7.50 as a top. Cutters sold at \$3.60@4.35, canners at \$2.50@3.50 and bulls at \$3.90@7.25. Western range cattle comprised a large proportion of the receipts and averaged lower, although some prime lots made a good price record. Range steers sold at \$5@7.50, with limited sales around \$7.75 @9 and occasionally even higher. Top for range cattle recently was \$9.75, breaking all high records. Range cows and heifers have sold for \$4@7.25. There has been fair animation in the stocker and feeder branch of the market, although the demand was lessened perceptibly by the advance resulting from smaller offerings, stock steers going at \$4.35@6.65, feeders at \$5.75@7.75 and feeder heifers at \$4.25@5.25. The calf trade was usually vigorous, so far as the best light-weight vealers were concerned, extreme prices for calves standing at \$4@11.50 per 100 lbs. Milkers and springers sold at \$4@10 per head, demand centering in the better and others selling mainly for beef. Top price for range cattle was \$9.50. Medium to good cattle averaged 15@25c lower for the week.

Hogs scored big advances in prices last week, with sales at the highest figure recorded in two years, the upward movement being altogether due to the continued marked falling off in the receipts. Eastern shippers continued very limited buyers, as they were getting a fairly large supply from their home territory, and there were not enough hogs to meet the pressing local requirements, to say nothing of the droves wanted by shippers. The week closed with hogs selling at \$8.45@9.30, compared with \$8@8.90 a week earlier, the bulk selling at the close at \$8.85@9.20 and pigs bringing \$5.50@8.50.

Sheep and lambs cannot be expected to develop much steadiness in values so long as they are rushed to market at the rate seen in recent weeks, and sellers will have to wait until the closing of the range shipping season to experience changed conditions. The ranges of Montana, Nevada and Idaho have continued to send enormous numbers of lambs to market, as well as a good many sheep and yearlings, and as feeding districts were marketing their flocks freely at the same time, the market has been overstocked much of the time. Recently decided more feeding lambs from the range country have shown up among the runs, and country buyers have succeeded in filling their delayed orders at greatly reduced prices. The week closed with lambs averaging 25@40c lower than a week earlier and most sheep 10@15c lower. Lambs sold at \$4.50@7, yearlings at \$4.60@5.40, wethers at \$3.85@4.25, ewes at \$2@3.85 and bucks at \$2.50@3. Breeding ewes had a good outlet at \$3.75@4.75, while feeders bought range lambs at \$5.50@6.40, yearlings at \$4.60@5.40, wethers at \$3.50@4.25 and ewes at \$3@3.75.

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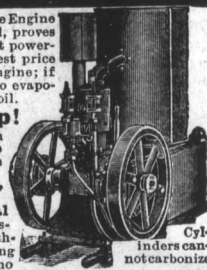
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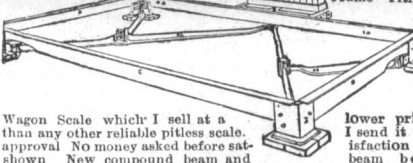
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THIS IS THE LAST EDITION.

In the first edition the Detroit Live stock markets are reports of last week; all other markets are right up to date. Thursday's Detroit Live Stock markets are given in the last edition. The first edition is mailed Thursday, the last edition Friday morning. The first edition is mailed to those who care more to get the paper early than they do for Thursday's Detroit Live Stock market report. You may have any edition desired. Subscribers may change from one edition to another by dropping us a card to that effect.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

October 10, 1912.

Cattle.

Receipts, 2,167. Market 10@15c lower than last week; run heavy.

Cattle market closed 25c lower than last week.

We quote: Extra dry-fed steers, \$8@9; steers and heifers, 1,000 to 1,200, \$7@7.25; do. 800 to 1,000, \$6@6.50; grass steers and heifers that are fat, 800 to 1,000, \$5@5.75; do. 500 to 700, \$4.25@4.60; choice fat cows, \$5.50@6; good do., \$4.50@5; common cows, \$3.25@3.75; canners, \$2@3.50; choice heavy bulls, \$4.50@4.65; fair to good bolognas, bulls, \$4@4.25; stock bulls, \$3@3.75; choice feeding steers, 800 to 1,000, \$5.25@6; fair do., 800 to 1,000, \$4.75@5; choice stockers, 500 to 700, \$4.75@5.25; fair stockers, 500 to 700, \$4@4.50; stock heifers, \$3.50@4; milkers, large, young, medium age, \$4@75; common milkers, \$3@3.50.

Roe Com. Co. sold Sullivan P. Co. 2 bulls av 1,150 at \$5, 4 cows av 1,030 at \$4.20, 3 canners av \$47 at \$3.50; to Breitenbeck 9 steers av 950 at \$6.25; to Newton B. Co. 6 cows av 825 at \$3.40; to Hammond, S. & Co. 1 bull weighing 910 at \$4.50; to Wyness 16 cows av 1,004 at \$4; to Sullivan P. Co. 18 butchers av 447 at \$4, 2 bulls av 975 at \$4.50; to Fry 13 butchers av 634 at \$5.25; to Parker, W. & Co. 11 cows av 1,013 at \$4.25; to Kammann B. Co. 8 steers av 704 at \$5.75; to Hammond, S. & Co. 4 steers av 860 at \$6.25; to Mason B. Co. 1 cow weighing 1,000 at \$4.75; to Mich. B. Co. 16 butchers av 650 at \$5.25, 2 steers av 1,400 at \$8.75; to Sullivan P. Co. 40 butchers av 533 at \$4.35; to Kammann 16 do av 840 at \$5.25; to Regan 9 do av 514 at \$4.10; to Newton B. Co. 9 cows av 920 at \$3.60; to Thompson Bros. 4 do av 1,017 at \$3.90; to Parker, W. & Co. 6 cows av 851 at \$3.75; to Kimball 9 stockers av 473 at \$4.50; to Sullivan P. Co. 2 bulls av 600 at \$4.00, 1 cow weighing 1,060 at \$5.25; to Rattkowsky 2 cows av 970 at \$4.50; to Regan 5 butchers av 534 at \$4.30; to Mich. B. Co. 2 steers av 770 at \$5.25, 4 cows av 845 at \$4.50; to Sullivan P. Co. 14 butchers av 470 at \$4; to Newton B. Co. 5 cows av 900 at \$3.50; to Kammann B. Co. 12 butchers av 622 at \$5; to Hammond, S. & Co. 16 cows av 925 at \$4.25.

Bishop, B. & H. sold Parker, W. & Co. 8 cows av 991 at \$4.10, 1 bull weighing 880 at \$4.50, 1 do weighing 1,120 at \$5, 33 butchers av 515 at \$4.65; to Regan 3 do av 570 at \$4.10, 5 do av 524 at \$4.35; to Kimball 4 stockers av 537 at \$4.75, 30 do av 509 at \$4.75, 5 do av 450 at \$4.50; to Fromm 18 butchers av 880 at \$4.50; to Sullivan P. Co. 18 do av 642 at \$4.75, 17 do av 581 at \$4, 5 do av 920 at \$6, 1 bull weighing 1,100 at \$4.75, 2 do av 600 at \$3.75; to Newton B. Co. 2 heifers av 775 at \$3.40; to Mich. B. Co. 14 butchers av 874 at \$5.50; to Bresnahan 7 cows av 853 at \$3.75; to Schumaker 4 heifers av 745 at \$5.50; to Davenport 7 stockers av 736 at \$4.75, 6 do av 700 at \$4.25; to Rattkowsky 11 butchers av 723 at \$4; to Parker, W. & Co. 1 bull weighing 1,080 at \$4.75, 19 butchers av 1,020 at \$4.25, 3 do av 883 at \$4.25, 8 do av 1,093 at \$5, 2 bulls av 665 at \$4.25; to Schlischer 36 butchers av 637 at \$4.70; to Fromm 10 do av 974 at \$4.05; to Hammond, S. & Co. 2 bulls av 768 at \$5.60, 1 do weighing 1,050 at \$5, 2 cows av 910 at \$3.75, 24 butchers av 758 at \$4.05; to Wilson 8 stockers av 565 at \$4.60; to Hammond, S. & Co. 2 bulls av 1,390 at \$5.60; to Mason B. Co. 13 butchers av 542 at \$4.30, 2 do av 840 at \$5.25; to Bresnahan 6 stockers av 525 at \$4.15.

Haley & M. sold Rattkowsky 4 cows av 845 at \$3.85, 2 do av 1,020 at \$5, 1 do weighing 1,350 at \$4, 25 stockers av 554 at \$4.25, 7 cows av 817 at \$3.50, 1 do weighing 980 at \$4.50; to Kammann 6 butchers av 505 at \$4.35, 3 do av 913 at \$4.35, 4 do av 737 at \$5.25, 1 cow weighing 1,180 at \$5.25, 6 do av 985 at \$4.10; to Newton B. Co. 1 bull weighing 1,180 at \$4.60, 2 do av 1,000 at \$4.60, 2 do av 995 at \$4.75; to Brown & P. 7 feeders av 883 at \$6, 1 do weighing 710 at \$5.35, 3 do av 826 at \$6, 3 stockers av 687 at \$5.50; to Bresnahan 6 cows av 941 at \$3.55, 7 do av 996 at \$3.75, 2 do av 1,150 at \$5, 2 do av 725 at \$4.25, 17 do av 915 at \$3.75, 2 do av 960 at \$3.50; to Mich. B. Co. 8 butchers av 891 at \$5.15, 2 bulls av 1,040 at \$4.75, 4 butchers av 765 at \$4.75, 23 steers av 785 at \$6.15, 2 do av 785 at \$5, 7 cows av 966 at \$4; to Hammond, S. & Co. 12 steers av 911 at \$6.25, 1 cow weighing 1,220 at \$5; to Fry 8 butchers av 537 at \$4.50; to Goose 16 cows av 926 at \$4.40, 10 butchers av 637 at \$4.35, 7 do av 780 at \$4.25; to Sullivan P. Co. 18 do av 642 at \$4.75, 17 do av 581 at \$4.

Veal Calves. Receipts, 479. Good grades steady; common slow to 50c@1 lower. Best, \$10@11; common, \$4@4.50. Milch cows and springers steady.

Bishop, B. & H. sold Parker, W. & Co. 4 av 150 at \$10, 1 weighing 270 at \$4.50, 10 av 142 at \$10.25; to Nagle P. Co. 3 av 175 at \$11; to Parker, W. & Co. 5 av 155 at \$11, 10 av 150 at \$10.75, 2 av 155 at \$11, 3 av 165 at \$11, 3 av 170 at \$8, 2 av 130 at \$11, 2 av 160 at \$10.50, 2 av 350 at \$8, 2 av 185 at \$10.50, 5 av 145 at \$10.50, 4 av 250 at \$9; to Shaparo 8 av 215 at \$5; to Goose 5 av 155 at \$10, 1 weighing 130 at \$10, 3 av 275 at \$5; to McGuire 7 av 145 at \$11; to Parker, W. & Co. 6 av

140 at \$10.50, 2 av 220 at \$6, 5 av 165 at \$9.50; to Burnsine 5 av 110 at \$10.50, 7 av 145 at \$11; to McGuire 4 av 145 at \$10.75, 8 av 145 at \$10.50, 6 av 200 at \$5; to Nagle P. Co. 7 av 145 at \$9.50.

Haley & M. sold Goose 9 av 275 at \$4.50; to Rattkowsky 2 av 195 at \$5, 3 av 160 at \$9.50; to Newton B. Co. 6 av 145 at \$10, 2 av 160 at \$11, 2 av 205 at \$8.50; to Parker, W. & Co. 2 av 230 at \$8.50, 1 weighing 240 at \$5, 1 weighing 120 at \$8.

Sheep and Lambs.

Receipts, 5,195. Market steady at Wednesday's and last week's prices. Best lambs, \$6.50@6.75; fair to good lambs, \$6@6.25; light to common lambs, \$4@5; wethers, \$4@4.50; fair to good sheep, \$3@3.50; culis and common, \$1.50@2.50.

Bishop, B. & H. sold Thompson Bros. 45 sheep av 110 at \$3.25; to Mich. B. Co. 65 lambs av 70 at \$6.65, 36 sheep av 125 at \$3.35; to Sullivan P. Co. 13 do av 90 at \$2.50, 8 lambs av 50 at \$5, 12 do av 47 at \$5, 19 do av 50 at \$4.50, 39 do av 48 at \$4.50, 32 lambs av 55 at \$5.25, 7 lambs av 55 at \$5; to Nagle P. Co. 31 do av 70 at \$6.75, 52 do av 65 at \$6.35, 109 do av 70 at \$6.10, 260 do av 70 at \$6.50, 129 sheep av 100 at \$3.25, 16 do av 90 at \$1.50, 15 do av 95 at \$1.50, 90 lambs av 70 at \$6.50, 126 do av 75 at \$6.60, 10 sheep av 106 at \$3.25; to Fitzpatrick Bros. 14 do av 90 at \$2.50; to Castello 11 lambs av 45 at \$4.50.

Spicer & R. sold Sullivan P. Co. 3 sheep av 115 at \$3.25, 5 do av 80 at \$1.50; to Thompson Bros. 7 lambs av 65 at \$6.25; to Sullivan P. Co. 10 do av 76 at \$6.75, 5 sheep av 80 at \$2.50, 11 lambs av 85 at \$6.75; to Breitenbeck 16 do av 55 at \$5.25, 6 do av 55 at \$5.25; to Mich. B. Co. 27 do av 67 at \$6.40, 17 do av 65 at \$5.50.

Kalaher sold Sullivan P. Co. 10 lambs av 76 at \$6.75, 14 do av 60 at \$5.50.

Roe Com. Co. sold Breitenbeck 47 lambs av 70 at \$6.40, 20 do av 95 at \$3.25.

McMillan sold Mich. B. Co. 10 sheep av 103 at \$2.85, 54 lambs av 65 at \$6.

Wantly sold Newton B. Co. 22 lambs av 60 at \$6.

Haley & M. sold Mich. B. Co. 11 lambs av 78 at \$6.25; to Sullivan P. Co. 27 do av 60 at \$5.25, 45 do av 73 at \$6.25; to Newton B. Co. 136 do av 48 at \$5, 14 do av 60 at \$5.50; to Mich. B. Co. 18 do av 80 at \$6.50, 10 sheep av 101 at \$3.50; to Newton B. Co. 25 lambs av 50 at \$5, 63 do av 65 at \$6.25, 30 yearlings av 72 at \$4.75, 5 do av 90 at \$4.50, 5 sheep av 80 at \$2, 19 do av 110 at \$3; to Nagle P. Co. 39 do av 85 at \$3.25, 172 lambs av 70 at \$6.50; to Newton B. Co. 12 yearlings av 55 at \$4.50.

Hogs.

Receipts, 3,809. Market steady at last week's close on good stuff; pigs 50c lower.

Range of prices: Light to good butchers, \$8.75@9; pigs, \$7.50@8; light yorkers, \$8.50@9; stags one-third off.

Bishop, B. & H. sold Hammond, S. & Co. 1,210 av 200 at \$9, 512 av 190 at \$8.95, 1,020 av 185 at \$8.90, 512 av 160 at \$8.80, 107 av 150 at \$8.50, 408 av 170 at \$8.85.

Spicer & R. sold Parker, W. & Co. 210 av 200 at \$9, 107 av 180 at \$8.90, 175 av 160 at \$8.85, 70 av 150 at \$8.75.

Haley & M. sold same 270 av 195 at \$9, 160 av 180 at \$8.90, 150 av 160 at \$8.85.

Roe Com. Co. sold Sullivan P. Co. 435 av 200 at \$9, 130 av 135 at \$8, 135 av 150 at \$8.40, 325 av 175 at \$8.85.

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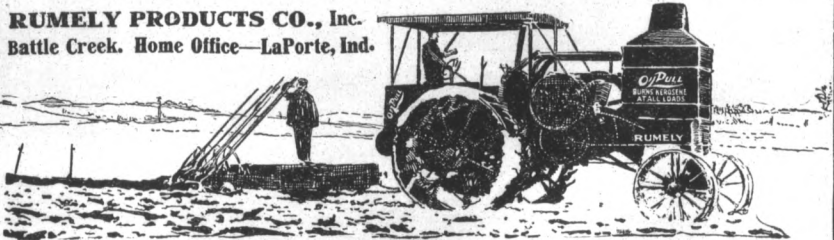
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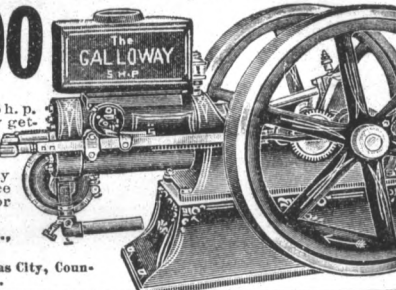
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"I have used 'Sal-Vet' for the past 60 days, and find it all you claim. I believe that as a tonic, it is superior to any that I have ever used, and costs less."

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(Signed) FRANK J. KARM,
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"Have been feeding 'Sal Vet' with the best results in every respect. I had a lot of hogs in very bad condition; they were runty, did not eat, and remained very thin. In a short time after having access to 'Sal Vet' their appetites improved, and they speedily rounded into a fine healthy condition. My horses and

mules also became fat and sleek and in good condition, in fact, better than I ever before had them at this time of the year. 'Sal Vet' is certainly all you recommend it to be."

ALEX. COLLISON,
Rt. No. 1, Vincennes, Ind.
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"For three months, beginning March 1, I have fed all my sheep, hogs and pigs and one of my work horses, that was not in condition, your 'Sal Vet.' The horse has 'rounded to' in splendid shape, my

sheep never looked so well at this time of the year and my hogs and spring pigs are in best of health—in short, I am well satisfied with results. I have been slow to feed any of the stock foods or medicated salts, thinking that good feeding and ordinary conditions ought to keep stock in good health, but your 'Sal Vet' has certainly improved, in a marked degree, the condition and appearance of my stock."

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You will be surprised, as thousands have been, at the improvement Sal-Vet will produce. It is a wonder-worker that is saving farmers thousands of dollars and solving their greatest live stock problem. Remember, I prove all my claims right in your own barnyard—60 days before you pay. Read the letters in the next column. They are actual proofs. Don't delay.



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Don't wait until you find a dead sheep or hog on your place before you accept my liberal offer. Stop your losses; save your profits. I'll do it at my risk. You know it don't pay you to keep stock that don't gain and then sell them for what they cost you. You need the **extra pounds of weight—the extra dollars** in profit. Stock must be kept healthy—they must gain; that's where you make money. Stock that are free from worms gain fast; their food does them more good; they put on flesh more rapidly; they go to the market earlier. They require less feed to keep them in tiptop condition—and every penny Sal-Vet saves you in feed bills, every pound of extra flesh it helps the animals put on, every day it cuts off the period of feeding goes into your pocket as **extra profit**.

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Sec'y. Berkshire Swine Breeders' Ass'n., Roscoe, Ill.

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E. C. Stone,
Sec'y. Hamp. Swine Breeders' Ass'n., and Pres. Ill. Swine Breeders' Ass'n., Peoria, Ill.

I Get Hundreds of Letters Like These Every Month from Stock Owners Who Sent the Coupon:

"Your Sal Vet sure does all you claim for it. We have been feeding it right along and never saw hogs and pigs do so well. It sure gets rid of the worms. The animals seem to grow faster and fatten better. Lots of hogs died around here from cholera, but my hogs never took it. I believe it was because of feeding them Sal Vet all the time."

M. Van Osdel, Nashville, Okla.

"I am greatly pleased with the results following the use of Sal Vet. I had four shoats weighing about fifty or sixty pounds. They were full of worms when I began feeding them Sal Vet. It straightened them right up, and they are thrifty and as glossy as silk, and will weigh more than double what they would when I began feeding it."

Also I fed it to a weanling fillet that was full of pin worms, with equally good results. She is making a remarkable growth now."

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"Enclosed find check for the Sal Vet you sent me. It has more than paid for itself. I have not lost a single lamb this summer, while a year ago the worms killed \$200 worth of my lambs."

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