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THE past season has been a remarkable one for the extent of rainy, cold weather. This weather has been ideal for the production of an epidemic of late blight of potatoes. Michigan has not had a severe attack of the blight for nearly ten years but old growers know and fear it. Last year not a single severe loss was reported, but this year it is to be expected that some counties, especially those in which late potatoes are an important crop will be hard hit.

Fortunately the late blight was true to name this year and the main attack was late, so late in fact that many varieties escaped entirely.

Late blight of potatoes is one of the best known of plant diseases. Presenting as it does, clearly marked symptoms, and attacking a money crop of Michigan, it should be understood by all growers.

The Symptoms.

Late blight works as a leaf and stem blight and as a tuber rot. Leaves and stems that have been attacked by the late blight wilt and lop over quite as if hit by frost or killed by scalding water. The killed parts soon become black, not merely drying down. The under side of the diseased leaves shows a white, cobwebby, fungous growth. The attack may take a single leaflet of a leaf or it may advance so that the entire plant is rotted. The attack always begins in a few scattered spots but with a dashing of the spores of the fungus from vine to vine by the rains and by swaying tops, the disease makes enormous progress.

The tuber rot comes from spores of the fungus that are washed into the soil to them. These spores sprout and can penetrate the sound skin of the potato, although the decay is more rapid if the epidermis is broken.

The beginning of rot in the tuber is as hard to tell as the final stage is easy. Infection may be so light as to escape detection until the rot has commenced. Rot begins as a darkened area—showing as a reddish brown discoloration through the skin—and this may extend into the tuber only a small fraction of an inch. A potato so infected if put under conditions of moisture, soon becomes completely rotted, chiefly through the agency of the blight fungus and certain "wet rot" bacteria. A potato rotted in this fashion becomes a slimy, sticky, ill-smelling mass. If, however, the potato is put under drier conditions, "dry rot" follows and the tuber wizens up and becomes covered with white cottony tufts of the fungus. Under either condition loss to the man with potatoes in storage follows.

For many years the Michigan Farmer has been giving the growers of potatoes the following advice about digging potatoes: Where vines are struck by the blight, delay digging for a week or more. This advice has saved many thousand dollars to the state. The advice is based on work done at the Vermont Experiment Station.

It was found there by careful experiment that potatoes which were dug soon after the death of the tops rotted

THE ROTTING OF POTATOES.

badly in storage. This was due to the severe infection which took place from the tops. These tops bearing myriads of spores, dusted the potatoes with the germs and the subsequent rotting was great. Potatoes left in the ground until the tops were out of the way, avoided nearly all the infection and such of these potatoes that were diseased became so from spores which were washed to them

through the ground. Then, too, we have the possibility that many of the infected potatoes rotted in the ground and thus never were taken into the cellars.

One must not leave potatoes in ground that is very wet, either from the nature of the soil or from the season. Potatoes so left are badly injured by wet rot.

Rot in Storage.

The amount of rot to be expected in

storage can be predicted only from an examination of the plants in the field and from conditions of the storehouse. I expect the rotting in storage this season to be large, and with late-maturing varieties in which blight appeared, I should believe that early sale is the only thing to be advised, for with conditions as they are, a total loss may be expected.

Rotting in storage bears a direct relation to the temperature and dryness. If the cellar is dry and cold rotting will be checked to a great extent. Many—in fact, most—growers do not have dry conditions nor is the temperature kept low enough. The storage cellar needs constant attention and should be equipped with a good thermometer and means of ventilation.

What to Do.

As can be gathered from what has been said of the damage done by this disease, little remains to be done by the grower with badly rotted potatoes, except to throw out the rotted crop and count up the loss. It is a good time, however to look up the protection that spraying of the crop gives. As is well known, spraying with Bordeaux mixture is an efficient control measure for late blight. In Michigan, however, in most seasons, the spray is applied to control the early blight and to stimulate the foliage, simply because late blight is not always a factor.

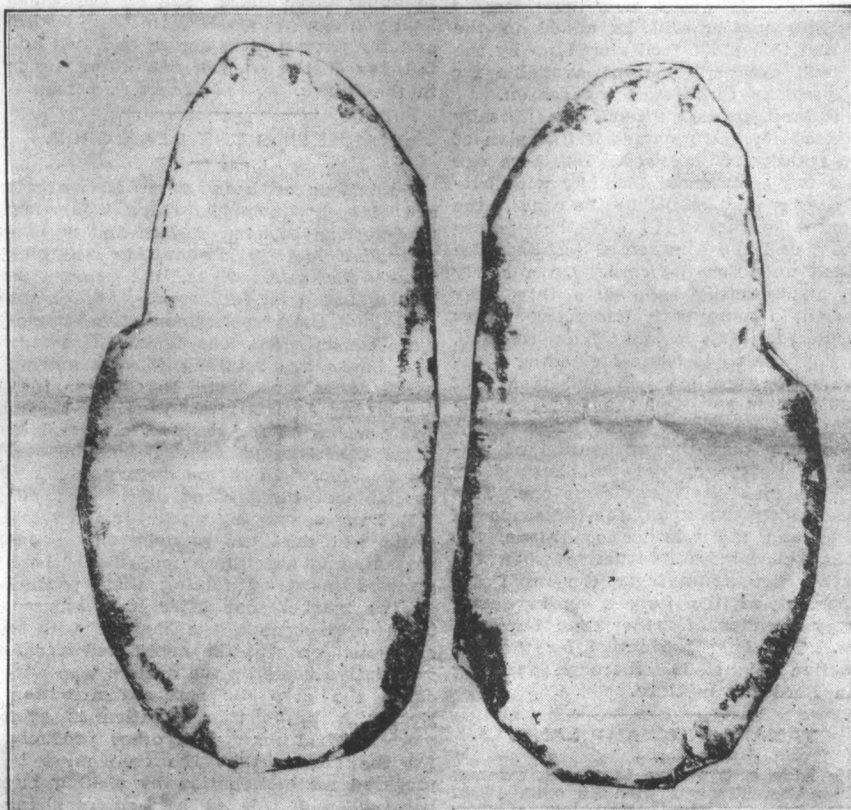
It has been abundantly proven in this state and in others that the use of spray determines whether a man makes a profit or not. This will be proven again this year with still a greater margin in favor of the man who sprays and who sprays often.

In many cases the recommendation to spray means that in nine cases out of ten it will pay to spray, but in the case of potatoes the recommendation holds ten times out of ten. Not only does it pay to spray to save the crop, but you actually get a bigger crop in years when there is no blight. The action of copper on the foliage is little understood, but nevertheless sprayed plants are stimulated, keep green longer and give bigger yields than unsprayed plants. Here, then, is an insurance against blight—and there are no premiums. It is protection without cost, protection with a profit.

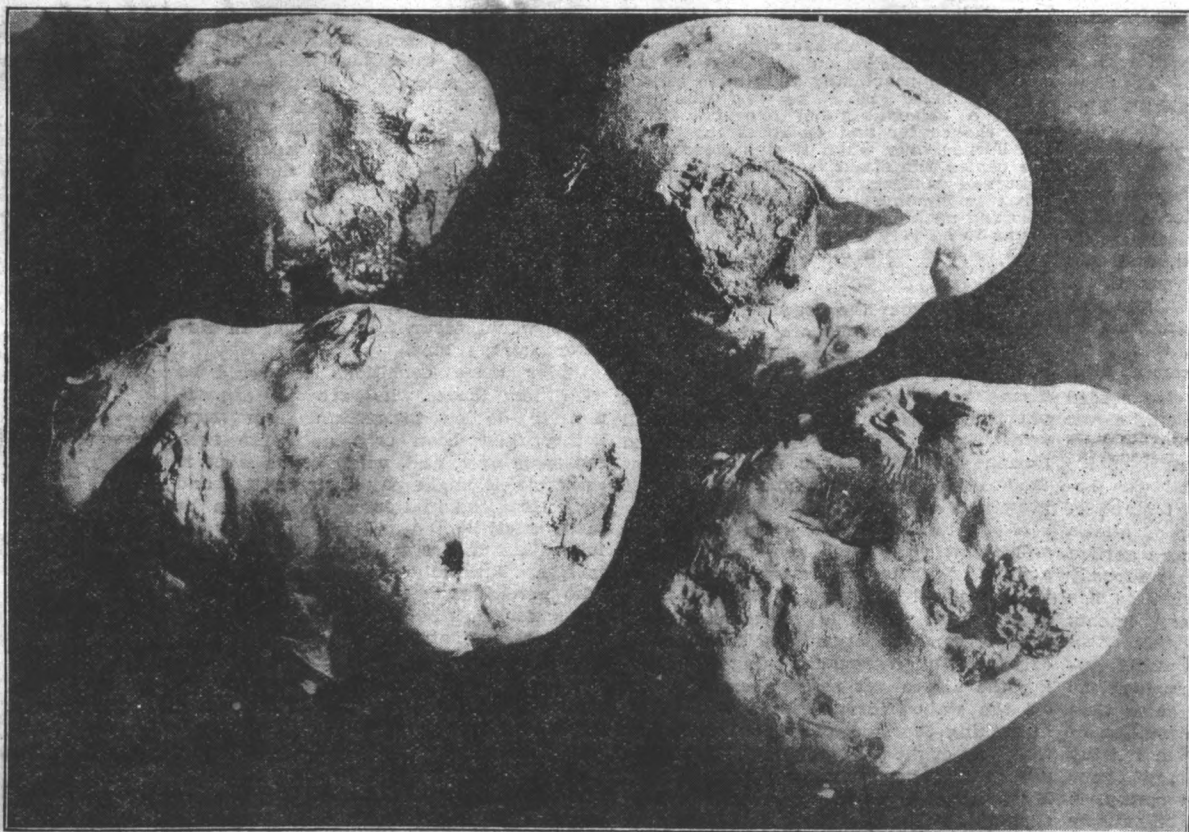
M. A. C. G. H. COONS.

Note.—In order to determine the loss to the state the Department of Botany is very anxious to find out the loss in every county of the state. Correspondence invited.

Another factor in this connection which seems worthy of careful observation is the comparative immunity of different varieties in this respect. We have observed in blighted fields at least two varieties, the seed of which had become mixed with the seed used in planting these fields, which appeared to be almost wholly immune from the destructive late blight. Unfortunately, however, these were not very valuable or productive varieties in Michigan, although one was a highly recommended German variety, the seed of which was imported some five or six years ago. The other was a



Early Stage of Late Blight on Tubers. Note that Rotting Shown in Halved Potato Does Not Come from Stem End, but Shows at Various Points.



Early Stages of Dry Rot on Tubers, Caused by Late Blight.

new variety secured from an American seed firm for experimental purposes. Observation would seem to indicate, however, that as between two varieties of equal productive value there may be a difference as to susceptibility to damage by late blight. Under present conditions it has been well said that spraying is the only insurance policy against damage from this disease, but there may be a promise of greater immunity from such loss in the future through the development of more blight-resistant varieties. We shall be glad to hear from our readers as to experience regarding the comparative qualities of different varieties in this direction.—Eds.

FARM NOTES.

Inoculating Alfalfa.

About the last of August I disked up my oat stubble and after top-dressing lightly with manure and 200 lbs. of commercial fertilizer to the acre, also using 200 lbs. of hydrated lime per acre, I sowed my alfalfa. But a short time ago it began to get yellow in spots, although in places there are a few nodules. I used "Pure Culture," which I got from M. A. C. for inoculation. What I wish to know is, would it do to sow dirt which is inoculated this fall, or should I wait until spring?

Jackson Co.

L. C.

So many factors enter into this problem that it is impossible to state definitely whether this stand of alfalfa can be made to succeed by inoculation with soil containing the bacteria peculiar to the alfalfa plant or not. In his experience the writer has found that where an application of lime is necessary to get a successful stand of alfalfa the results are not at once apparent, at least not the same extent as obtains the following year after the lime is applied. In a number of experiments covering several years, the writer has used lime of different kinds and in varying quantities in preparing the soil for alfalfa. Ground limestone has been applied at varying rates, from one to three tons per acre and hydrated lime and ground burned lime in quantities ranging from a few hundred pounds to nearly one ton per acre, although as small an application as 200 pounds per acre has never been tried on the writer's farm.

Where between 300 and 400 pounds per acre were used, however, apparently as good results in securing a stand of alfalfa have been attained as where a heavier application was made, but in no case have these results seemed to be what might be desired the first year after the application was made. For instance, this year the writer seeded a small area, some three acres, of alfalfa in corn on land which had had an application of about 500 pounds of hydrated lime two years previously, after alfalfa had failed to catch when it had been inoculated both with pure culture and with soil containing the bacteria. This lime was applied to the ground the following year after this failure, when the land was being fitted for potatoes. The next year it was sown to oats and seeded to alfalfa. This was in the summer of 1911, and although a perfect stand was secured it was rather small in the fall, owing to the exceedingly severe drouth which prevailed. As an added protection during the winter, about four loads of manure per acre were applied with a manure spreader in the fall. Notwithstanding this precaution the alfalfa winter-killed, except in a few protected places and the ground was plowed and planted to corn last spring. The corn was liberally fertilized and made a very good crop. During the latter part of July it was seeded to alfalfa, the seeding being lightly cultivated in, and this has made a perfect stand, very thick, and with perfect inoculation. There was also good inoculation in the stand secured last year in the oats on this same land, one year after the lime was applied.

A fourteen-acre field was also seeded to a mixture of alfalfa and alsike clover seeded in oats last spring, hydrated lime having been applied at the rate of 500 pounds per acre when the soil was being prepared for oats. A good stand of clover with a fair sprinkling of alfalfa was secured, but nothing like as good a stand of alfalfa as we have uniformly secured the second year after lime has been sown in the several experiments tried during recent years.

From these experiences it would appear that where only light applications of lime are made it requires some time for it to neutralize the acid condition of the soil and make it a fit home for the nitrifying bacteria. However, if your stand of alfalfa endures until spring, it would, in the writer's opinion, be entirely practical to inoculate by sowing soil and

harrowing same in before the plants have started to any considerable extent.

Potatoes in the Crop Rotation.

I have recently purchased a sandy farm, good potato land in good condition. I intend to use a four-year rotation with potatoes after corn. Would you manure before the corn or the potatoes? The man I bought it of said if I manured for the potatoes it would keep away the blight.

Tuscola Co.

C. E. D.

Where potatoes follow corn in a four-year crop rotation, it would be much better in the writer's opinion to use the stable manure on the sod ground intended for corn for several reasons. First, the corn has a longer growing season than the potatoes and much of the plant food in the manure would become available for this crop. But another very good reason is that the manure could be drawn on the sod ground in the fall and winter or in early spring with far less loss of plant food than would be the case were it drawn on the corn stubble ground. Where a four-year rotation is used with corn following potatoes, however, some provision should be made to add vegetable matter to the soil between the two cultivated crops. This, of course, can only be done through the use of a catch crop. Perhaps the most available crop for this purpose would be rye sown in the corn, either before or after the corn was cut, according to weather conditions. This would serve as a cover crop over winter, appropriating the available plant food in the soil and holding it in the roots and crown of the plants. Then, when the ground is plowed for potatoes the following year considerable vegetable matter will be added to the soil and this plant food stored up by the rye will gradually become available for the potatoes throughout the season.

The land should, however, be liberally fertilized for the potatoes if this plan of crop rotation is followed. But here one could use commercial fertilizer with better results than would be the case if the manure were used on the potato ground and the commercial fertilizer depended upon for the corn. On a sandy soil, as ordinarily handled, a three-year rotation is more satisfactory, all things considered, than a four-year rotation, but if provision is made for adding vegetable matter to the soil and plenty of plant food is provided the four-year rotation will be entirely practicable.

The idea that the application of manure to potato ground will keep away blight is an entirely erroneous one. This disease depends upon the presence of spores and the weather conditions, the blight being more destructive when the weather conditions favor the rapid development of the fungus, as in damp, muggy weather of rather even temperature. The only preventive for the destructive blight is thorough spraying with Bordeaux mixture.

TAMARACK SWAMP LAND.

We have a two-acre tamarack swamp. It has been drained with an open ditch. East of the ditch it was burned over several years ago. The west side was similarly treated two years ago. The whole is underlaid with blue clay and in the driest times the water level is not more than 30 inches below the surface. I applied stable manure to the east side two years ago and received very little returns from it. This spring we sowed timothy and alsike on the whole. The east side is practically a failure, except near the hard land. The west side produced a splendid stand except a little near the center and on spots that were not burned over when it was cleared. In the center the stand is light and on the unburned surface it is a total failure. What is the most economical method of handling such a piece of land? The muck seems to be very deep. Would it become solid to hold up a horse if it were thoroughly drained?

Kent Co.

I. J. H.

I believe from the description given of this land and the way crops behaved upon it that it is sour and also that it is deficient in phosphoric acid and potash. Then the remedy is to use lime and phosphoric acid and potash. Lime will sweeten the soil, phosphoric acid and potash will furnish the necessary plant food ingredients, and you will get a growth of crop then.

If you thoroughly tile-drain the land it will assist very much in overcoming the acidity. This tamarack swamp has been water soaked so long and there is such a mass of vegetable matter to decay that it contains organic acids undoubtedly, and by thoroughly tiling it, allowing the air to get through and drawing off the water, it will assist very much in making the land sweet, but to hasten this you ought to apply lime. You can use ground limestone or hydrated lime. My personal preference would be hydrated lime at the rate of about a thousand pounds per acre. This will sweeten up

the surface soil so that there won't be any question about its acidity. Now most all muck land is deficient in potash and phosphoric acid, especially in potash, and I would advise the application of the muriate of potash, say 200 lbs. per acre well worked into the soil, and 200 lbs. of acid phosphate also will put this tamarack swamp in condition to bring you some crops.

The probable reason that you didn't get any results by applying stable manure was that the stable manure did not overcome the acidity of the soil and it did not furnish phosphoric acid and potash in desired quantities. Stable manure, of course, is a splendid thing to use even on muck land, but it isn't a balanced plant food, especially when your soil is deficient in the mineral elements because the mineral elements are just the ingredients which stable manure is deficient in, and this stable manure ought to be balanced up by using the mineral elements. If you will apply the lime and the phosphoric acid and potash then I think you will also get results from the addition of stable manure, although the manure won't be as necessary then because you have already applied two of the essential elements of fertility. The probability is, however, that while this muck land contains much inert nitrogen, very little of it is available. The organic matter hasn't been made available by the action of the elements—there hasn't been sufficient time—although it may be that this action has taken place more rapidly than I think. If you don't care to apply these ingredients on the whole field you can get small quantities of them and try it on a strip across and this will tell you just what you can afford to do in the future.

COLON C. LILLIE.

MARKETING THE BEAN CROP.

Quotations on beans from all markets are largely nominal, there being few transactions between dealers and no consignment lots to amount to anything placed for sale. Thus, the market is largely based on future prospects of the trade and the present demand for immediate consumption. The demand is steady and beans are retailing in this market at 12 cents per quart. In Chicago they are selling to the retail trade at \$2.55@2.65 per bushel for choice stock, and at these prices beans furnish the cheapest source of protein in the dietary which is available at the present time.

But the consuming public or the retail trade will take the product only about so fast, and as quite a majority of bean growers insist on forcing their product on the market soon after it is secured, it is evident that the market will be conducted on what is considered a safe speculative basis by the dealers who purchase the crop for future distribution. But with beans this situation is even more marked than with other products, for the reason that the crop must be prepared for distribution by picking and bagging, and this is a task requiring considerable time and labor especially in a year like this when the weather has been such as to make the average of the bean crop rather heavy pickers.

As a result, when beans are freely offered to local buyers in bean sections, they soon get their bins full and are naturally not anxious to keep taking in beans until a portion of those already bought can be picked and either shipped or sacked and stored, which naturally has a depressing effect upon the market, as conditions are likely to be much the same in all sections.

Another factor which is more or less detrimental to the tone of the market is that a good many beans are somewhat damp and must be handled frequently or losses would occur from heating in elevator storage bins.

Under these conditions it would be wise for those who are in a position to do so to refrain from marketing their bean crop until the rush season is over, and, where home labor is available, it might pay to hand-pick and sack them, as in this way they can be more safely stored and will be ready for immediate delivery whenever the market is ripe. Naturally the local bean buyer who purchases considerable quantities of beans for distribution on the later market, expects that he will be able to make a profit upon them. Of course, his expectations may not be realized, but they are based on the apparent supply and demand, as estimated by the best judges, rather than on the present overcrowded market. Hence conservative marketing of this cash crop by growers will tend to increase the proportion of the consumer's dollar which growers will secure.

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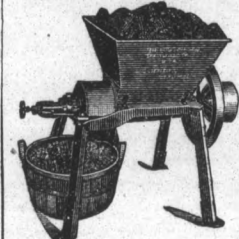
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LIVE STOCK

BREEDING FOR SPRING LITTERS.

Breeding, raising and fattening pigs for market, is one of the readiest and surest means of getting quick and profitable returns on the money invested in the stock of hogs kept on the farm. The success of the venture depends a good deal on how the breeding stock is handled.

One of the first things for the farmer to consider is his brood sows. If he has all that he needs that are of the right kind, he can select and secure a boar of the right type and proceed with his business when the right time comes. If he has not the right kind of sows it is his first task to select and secure them.

Selecting the Sows.

The success of the hog breeding and raising business depends a good deal on the character of the sows kept in the herd. One of the things to look to in a brood sow is that characteristic we call thriftiness. It is not worth the while to bother with the fat little chunks. We want a large, roomy, growthy sow, that can withstand a good deal and yet hold her own in flesh and general appearance. Such an animal has large vital organs, and can transmit life and vigor to the pigs. Farther, the sow should be, although large, decidedly feminine in her general characteristics. A sow that is semi-masculine in make-up will produce but small litters and in a short period of time quit breeding altogether.

The sows should come from families or of stock that are prolific—raise large litters. This characteristic of fecundity is inherent and can be kept in a herd or bred out at the will of the breeder. It is not worth the while to keep sows that breed but small litters, no matter how beautiful they may be in general appearance. It does not cost any more to winter a sow that will produce ten or twelve pigs than it does one that will produce but four. It is a matter of good management to give much attention to and use good judgment in shaping the swine herd on the farm.

The Kind of Boar to Use.

One can not afford to breed a good lot of sows to a boar that is closely related to them. No other class of stock kept on the farm will show evidences of deterioration as quickly as will the swine. The general conformation, thriftiness and constitutional vigor will be injured very soon, and the hogs soon reach that condition usually expressed by the farmers as "run out."

In order to secure the most satisfactory results the boar should come from a family of hogs that are prolific. The pigs can be bred backwards as well as forward in general characteristics, and results indicate that the boar has much to do with the size of the litters produced.

While the sows may be somewhat loosely built the boar should be of that form described as compactly built. As he is expected to transmit to the progeny the general form, he himself should be as closely as one can secure, about an ideal shaped hog. If he has short, broad head, a short neck which molds evenly into wide shoulders, is wide between the forelegs, has well sprung ribs, broad back, long hips and deep hams, he will transmit to the pigs an inherent tendency to put on meat where it is worth the most, and that too, at a small cost for feed. The profits, whether large or small, are often fixed by the character of the animals that are bred, raised and fitted for market.

When to Breed the Sows.

It is safe to assert that more disappointment and loss with the spring pigs come from having them farrowed too early than from any other source. A very large percentage of the farmers do not have a suitable place in which to farrow and care for early litters that come when the weather is cold. There is not suitable places where the pigs can be kept dry and warm, and at the same time have plenty of pure air. The general result is that disease in some form gets hold of the pigs and there are severe losses. It is safe to say that not fifty per cent of the pigs farrowed in March in Michigan are saved in a condition to make profitable pork producers. The stunted and diseased pigs are sure to make indifferent and unprofitable hogs.

When the spring opens about the first of April, then the pigs can be saved, can get out of doors where there is plenty

of fresh air, get to the ground, chew the dirt, eat some green feeds, and make a rapid and healthy growth. The month of April and the early part of May is the ideal time to have the spring pigs farrowed.

Handling the Breeding Stock.

During the breeding seasons, it is by far better to keep the males and females well apart. If the sows are near the boar he will be constantly worrying, and will not do well. Keep the boar away by himself in dry, comfortable quarters. When it is desired to breed a sow take her to the boar and let him serve her and take her away. One service is as well for the sow as more, and the boar will be in much better condition if allowed to serve a sow but once.

Sometimes neighbors may desire to breed some sows to the boar. Do not be misled by some of the "old fogies" who will declare that they will get more pigs at a litter if you will let them turn the sow in with the boar and leave her over night. Such a proceeding will be likely to injure the boar for good service for the remaining portion of the season. It is safest to conduct your breeding business in a manner to keep the sire in excellent condition for service throughout the whole year.

Oakland Co.

N. A. CLAPP.

COST OF KEEPING HORSES.

The truth of the statement that the methods of handling and the stable accommodations have a marked influence on the amount of feed required to keep a horse in good condition has been proven by investigations made in Columbus by the animal husbandry students of the College of Agriculture, Ohio State University. These investigations have been carried on for several years, over 1,000 head of horses have been included. It was found that the concerns with the poorest accommodations for their horses and where the least care was given, were paying out the largest amount for feed. The average cost of keeping horses in Columbus is 40.1 cents a day, and contrary to popular belief heavy express horses are fed for nearly two and a half cents less than light driving horses. The lowest cost was \$89.02 per year in the case of an underfed animal, and the highest cost was \$229.02, a stallion being fitted for show. One noticeable fact was the absence of variety in the ration, the principle roughage being timothy hay the year round and it was common to find this feed given in excess. Corn and oats constituted the principal grains fed. In one instance a saving of \$11.15 per animal, or a yearly saving of \$669, was brought about by the use of four pounds of oat straw in place of a similar amount of hay.

MICHIGAN IMPROVED LIVE STOCK BREEDERS' AND FEEDERS' ASSOCIATION.

The meeting of the executive committee of the Michigan Live Stock Breeders' and Feeders' Association, was held at the M. A. C., in the office of Secretary Brown, Thursday, November 14, at which time arrangements were completed for the annual meeting which will convene at the M. A. C., January 15-16, 1913.

Aside from the usual interesting program there will be matters of exceptional interest and importance to the live stock interests of the state that will come up for discussion and definite action. A legislative committee consisting of T. F. Marston, H. H. Hinds, and W. H. Shantz, were appointed to prepare and present to the coming meeting certain proposed legislative enactments upon which may hinge a great deal of weal or woe for the live stock industry of the state for the future.

A new feature has been inaugurated for the coming meeting, which consists of a hog exhibition and killing contest which will take place at the College at the time of the annual meeting. Awards will be made by the association, the funds for which were provided at the executive committee meeting. Championship cups will be presented, and already entries have been made to make this a very interesting and valuable exhibition. Anyone desiring to enter hogs of any breed should correspond with Secretary George A. Brown at the earliest possible date.

All who enjoyed the inspiration and enthusiasm of the last annual meeting will appreciate what the annual meeting has in store with its added feature. Plan now to be there.

R. C. REED, President.

THE INTERNATIONAL.

As noted in the last issue, this year's International, the thirteenth in this series of events, will be the largest and most magnificent ever held. Each year the average quality of entries has been better and this year promises to be no exception. With a world shortage of live stock and the high price which prevails, there never was a better outlook for live stock breeding and feeding than at the present time. So far as the International is concerned, it will furnish the patron two requisite factors of success, viz., an up-to-date knowledge concerning breed improvement and economic methods of production. This, together with the entertainment and pleasure which may be gathered at the night shows, the knowledge which can be gleaned from the judging ring, the appreciation of values which will come from attendance at the daily sales of pure-bred stock, all will prove of exceptional value to the International patron and all are reasons why every farmer who can possibly arrange to do so should attend this premier live stock show between November 30 and December 9.

JUDGING PROGRAM.

International Live Stock Exposition, November 30 to December 7, 1912.

Cattle Department.

Monday, December 2, 9:00 A. M.—Pure-bred and grade steers; college and experiment station stock; Clay-Robinson specials.

Tuesday, December 3, 9:00 A. M.—Hereford classes; Galloway breeding classes; carloads fat cattle; "short-fed special" carloads.

Wednesday, December 4, 9:00 A. M.—Aberdeen-Angus breeding classes; Hereford breeding classes, concluded. 1:00 P. M.—Shorthorn breeding classes.

Thursday, December 5, 9:00 A. M.—Shorthorn breeding classes; Aberdeen-Angus breeding classes, concluded. 1:00 P. M.—Red-Polled breeding classes.

Friday, December 6, 9:00 A. M.—Polled Durham breeding classes, Red-Polled breeding classes, concluded.

Sheep Department.

Monday, December 2, 9:00 A. M.—Pure-bred, grade and cross-bred wethers; college and experiment station stock; Clay-Robinson specials.

Note:—Fat sheep entered for slaughter must be placed in charge of committee Monday evening, December 2. The hour for slaughter and for awarding prizes on dressed carcasses will be designated by committee in charge.

Tuesday, December 3, 9:00 A. M.—Shropshire breeding classes; Lincoln breeding classes; carloads native and range sheep.

Wednesday, December 4, 9:00 A. M.—Cotswold breeding classes; Hampshire breeding classes; Cheviot breeding classes.

Thursday, December 5, 9:00 A. M.—Oxford-Down breeding classes; Dorset breeding classes; Rambouillet breeding classes.

Friday, December 6, 9:00 A. M.—South-down breeding classes; Leicester breeding classes.

Swine Department.

Monday, December 2, 9:00 A. M.—Barrows, all classes; college and experiment station stock; Clay-Robinson specials.

Tuesday, December 3, 9:00 A. M.—Berkshire breeding classes; Poland-China breeding classes.

Wednesday, December 4, 9:00 A. M.—Duroc-Jersey breeding classes; Hampshire breeding classes.

Thursday, December 5, 9:00 A. M.—Chester-White breeding classes; Yorkshire breeding classes.

Friday, December 6, 9:00 A. M.—Tamworth breeding classes.

Horse Department.

Monday, December 2, 9:00 A. M.—Belgians. P. M.—Draft geldings to halter-classes.

Tuesday, December 3, 9:00 A. M.—Percherons. P. M.—Draft geldings in harness pairs.

Wednesday, December 4.—Clydesdales. P. M.—Draft geldings in harness-threes.

Thursday, December 5.—9:00 A. M.—Shires. P. M.—Draft geldings in harness-fours.

Friday, December 6, 9:00 A. M.—Suffolks; Hackneys. P. M.—French coach horses.

Saturday, December 7, 9:00 A. M.—Ponies to halter.

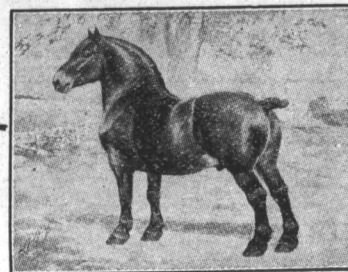
UNITED STATES LIVE STOCK SANITARY ASSOCIATION.

The Sixteenth Annual Meeting of this association will be held at Hotel Sherman, Chicago, December 3-4, 1912.

The association includes all leading federal and state live stock sanitary officials. It has done good work in securing uniformity in state live stock sanitary laws and quarantine regulations. The 1911 meeting was the best attended and most successful in the history of the association. Already indications point to a larger attendance and better program at this year's meeting.

All state veterinarians, members of live stock sanitary board and officials interested in federal, state or municipal live stock sanitary control work are cordially invited to attend.

Particulars can be had of Secretary J. J. Ferguson, Union Stock Yards, Chicago.



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60 Head to select from.

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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.

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CLEAR-EYE FOR HORSES' EYES.

Best remedy ever discovered for Moonblindness, Pink-Eye, Cataracts and all ailments of eyes of animals. \$2 a bottle. Guaranteed. Write for our free horse book "Forty Facts for Horse Owners." **THE LAKESIDE REMEDY CO.,** 5409 Calumet Ave., Chicago, Ill.



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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.

Hogs Have Lice.—Am anxious to know how to rid my hogs of lice. I have been advised to feed sulphur, but concluded to consult you before doing so. J. P. M., Mendon, Mich.—Drop 5 ozs. of crushed stavesacre seed in a gallon of boiling water and let it simmer for two or three hours, then strain and fill to original one gallon, then apply to lousy hogs every two or three evenings and you will soon rid them of lice. Kindly understand that the lice may be in other places besides on hogs; therefore, you will have to clean, disinfect and whitewash their pens in order to get rid of them all.

Partial Paralysis.—I have 11 shoats six months old that are fed rye meal and middlings with separator milk and water for slop, and they also have plenty of new ear corn with nice lot to run in and cement floor to feed. This last week three of them have partially lost control of their hind legs, they eat heartily when food is placed within their reach, but will not voluntarily go to it. R. M., Otsego, Mich.—You should feed them less starchy food, substituting oats and oil meal in place of new corn. Give each shoat one-sixteenth of a grain strychnine at a dose three times a day and apply one part turpentine, one part aqua ammonia and six parts camphorated oil to back three times a week.

Heaves—Indigestion.—I have a 12-year-old mare that has heaves, is very thin, but has a ravenous appetite and will eat about all the feed that a person can carry to her. I have fed her lots of grain, but she fails to lay on flesh and I would like to know what can be done that will improve her condition. F. H., Clio, Mich.—You had better examine her teeth for they may need floating. Give her a dessertspoonful of Fowler's solution, a teaspoonful of urotropine, a tablespoonful of tincture nuxvomica and a tablespoonful salt at a dose in feed three times a day. The feeding and management of her will have more to do with her getting into good condition, than by giving drugs. It is important to keep her stable clean and plenty of fresh air should be admitted at all times.

Chronic Lymphangitis.—I have a horse that has been troubled with lymphangitis; his legs stock, worse one time than another, and he has been treated by our local Vet. who says there is no help for him. E. F. W., L., Oxford, Mich.—Your Vet. is perhaps right; as little can be done towards effecting a cure in this kind of a case; however, you had better try giving him 1 dr. potassium iodide, 1 oz. bicarbonate soda and 1 oz. ground gentian at a dose in feed two or three times a day.

Navel Infection.—I have a colt about four weeks old that is suffering from infected navel and is now having joint trouble. Have called in our local Vet. who says there can be nothing done; however, he prescribed quinine which we have given to colt three times a day. We are also unable to heal wound at navel. This sore is not less than two inches in diameter and is in a suppurative sloughing condition; besides, it contains some proud flesh. J. H. V., Sheridan, Mich.—It is doubtful whether the bacterin treatment would help your colt now or not; however, you might ask your Vet. to give it a trial and apply one part iodoform and ten parts boracic acid to wound twice a day. When your colt came, you should have treated its navel, then you would have avoided this trouble.

Ringworm.—I have a cow that has several sore spots on different parts of body that are about the size of a silver dollar. The hair seems to shed out of these patches and leaves the skin bald and rough. E. W. J., Honor, Mich.—Apply one part iodine and ten parts vaseline to bald patches every day or two and give her a dessertspoonful of powdered sulphur at a dose in feed night and morning.

Everything appears to favor good prices for well-matured hogs in the future, and the only bearish feature at the present time is the restricted eastern shipping demand in the Chicago market. Of course, in sections of the corn belt where hog plague prevails the proper thing to do is to market hogs without delay, but where swine are healthy, it will assuredly pay for owners to feed them to full maturity, making use of the abundance of low-cost feeds. It is true that hogs have had the customary big decline in prices seen pretty much every year when the fall and winter packing season opens, but it will be seen by those who make comparisons with past years that hogs are still higher than usual so late in the year. For instance, the packers entered the winter packing season with hogs costing in the Chicago market around \$7.85 per 100 lbs. A year earlier the average cost was \$6.10, two years earlier \$8 and three years ago \$7.75. With the single exception of two years ago, the average price on the first day of November stands the highest on record for that time of the year. While it is impossible to know what the future will bring forth, there is good reason for predicting that hogs will sell higher for the present winter season than for the corresponding period a year ago.

Bigelow's Holstein Farms, BREEDSVILLE, MICHIGAN,

Have for sale several fine young bulls out of cows with high official butter and milk records. Send for circular.

BAGS

WE BUY OLD BAGS SOUND AND TORN We Pay The Freight IROQUOIS BAG CO. 724 Broadway, Buffalo, N. Y. Reference—Citizens Bank.

Save Your Feed Sacks

It pays to take care of them. They bring good money. Write what you have and we will name price. DRAKE BAG CO., Box 36, Port Huron, Mich.

AUCTION SALE Dec. 2nd

Reg. Rambouillets 75 bred ewes, 20 Rams; 6 P. C. Sows, 35 Pigs, both sexes; 6 Cows; 2 Horses.

J. Q. A. COOK, East Morrice, Michigan.

Hog Book Free.

Great value to hog men. On care and diseases of hogs. Tells how to destroy worms, cure and prevent disease. Sent free. Write Dr. D. C. Snoddy Co., Nashville, Tenn. Dept. D.

Reg. Percheron Stallion and Mare Colts for Sale. M. A. BRAY, Okemos, Mich.

For Sale—Horses, cattle, sheep, swine and poultry, 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 Erica, Blackbirds and Prides, only, is headed by Egeston 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.

GUERNSEY BULL CALVES, YORKSHIRE PIGS. Good Stock. HICKS GUERNSEY FARM, Saginaw, W. S., Mich.

GUERNSEYS—Bull calves from high producing ancestors. Herd tuberculin tested. No females for sale. ALLAN KELSEY, Lakeview, Mich.

10 Registered Guernseys Cows in milk. Bulls and bull calves. Write today for sale list. G. A. WIGENT, Watervliet, Michigan.

GUERNSEYS Bull calves seven months old, splendid breeding. Moderate prices. Address, J. K. Blatchford, Windermere Farm, Watervliet, Mich.

8 REG. GUERNSEY BULLS—Serviceable age; sire Imp. Must be sold Nov. 15. Come down and see them. Cheap. JOHN EBELES, R. 10, Holland, Mich.

HATCH HERD HOLSTEINS—Choice sires from ARO dams. Reasonable prices. HATCH HERD, Ypsilanti, Michigan.

Holstein-Friesian Cattle—The kind that make good. GREGORY & BORDEN, Howell, Michigan.

HOLSTEIN BULL CALVES—Sired by our 30-lb. bull A.R.O. dams. Duroc Jersey boars and gilts of best blood lines. E. R. CORNELL, Howell, Mich.

Holstein Bull De Kol 2nd. Butter Boy 3rd. Sired by best son of Pontiac Butter Boy. Price only \$50. C. D. WOODBURY, Lansing, Mich.

Holstein Bulls.

1 Holstein Bull - \$ 60
1 Holstein Bull - 75
1 Holstein Bull - 100
1 Holstein Bull - 150

From 3 to 12 months old. All from A.R.O. dams.

LONG BEACH FARM, Augusta, Michigan.

Must Be Sold By Dec. 15

Holstein Bulls ready for service. Sired by Johanna Concordia Champion, whose dam and two grand dams average 29.32 lbs. butter in 7 days, Avg. fat 4.5%. You can buy a bull right if you do it by the above date. Who will be the first to get a bargain? Twenty-five cows and heifers bred to the above bull also for sale.

L. E. CONNELL, Fayette, Ohio.

HOLSTEINS—To speed up the sales machine I will sell a Korndyke Pontiac bull calf for \$50, worth \$100. Get his pedigree and photo. HOBART W. FAX, Mason, Michigan.

HOLSTEIN MILK FOR SALE—6 yearling Holstein Friesian Bulls, 2 A. R. O. bred. Some cows. Also bull calves. 34 years a breeder. Photos and pedigrees on application. W. C. Jackson, South Bend, Ind., 719 Rex St.

FOUR CHOICE A. R. O. HOLSTEIN BULL CALVES from six weeks to one year old. Price \$40 to \$150. ELLIS W. DORN, Brookside Farm, Sunfield, Mich. R.F.D. 3.

FOR SALE—HOLSTEIN BULL CALF Born June 5, 1912, sire a son of the King of the Pontiacs from a daughter of Hengerveld De Kol. Dam of calf, an A. R. O. daughter of Sadie Vale Concordia's Paul De Kol, her dam a 20 lb. imported cow. ED. S. LEWIS, Marshall, Mich.

Purebred Registered **HOLSTEIN CATTLE** The Greatest Dairy Breed Send for FREE Illustrated Booklets Holstein-Friesian, Also, Box 164, Brattleboro, Vt.

"Top-Notch" Holsteins.

Choice bulls from 11 to 14 mos. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices. Also young bull calves. McPHERSON FARMS CO., Howell, Michigan.

Lillie Farmstead Jerseys

(Tuberculin tested. Guaranteed free from Tuberculosis.) Several good bulls and bull calves out of good dairy cows for sale. No females for sale at present. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

Jersey Bulls to the Highest Bidder.

2 Fall Calves, Grandsons of Hood Fan Pogis 9th. 2 Spring Calves, both State Fair winners 1912. 1 2-year-old, also State Fair winner 1911 & 12.

Any of the 5 bulls will be delivered F.O.B. Pontiac consigned to the party sending the highest bid arriving here on or before December 10th, 1912. Write at once for particulars, pick out your bull and send your bid to FISHERTON FARM, Pontiac, Michigan.

REGISTERED Holstein Cattle—Two good bull calves. R. Herd headed by Hengerveld Coin. Pictorial. FLOYD F. JONES, R. F. D. 3, Oak Grove, Mich.

Jersey Cattle For Sale. C. A. BRISTOL Fenton, Michigan.

Jerseys—Bulls ready for service, bred for production. Also cows and heifers. Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

BUTTER BRED JERSEY BULLS FOR SALE CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

FOR SALE—Jersey Bull Calf—born Dec. 26th, 1911. First class individual from the best of blood lines. WATERMAN & WATERMAN, Meadow Land Farm, Ann Arbor, Mich.

WILL EXCHANGE A JERSEY BULL CALF for a Duroc gilt. All kinds of Durocs for sale. F. A. Lamb & Son, Cassopolis, Michigan.

RED POLLED BULLS FOR SALE—from good milking strains. JOHN BERNER & SON, Grand Ledge, Mich.

Scotch Shorthorn Bulls and Heifers for Sale. W. W. KNAPP, Howell, Michigan.

ONE YEARLING SHORTHORN BULL color white, for sale. W. C. OSIUS, Hillsdale, Mich.

Dairy Bred Shorthorns—Beef type, dairy strain, young bulls, 6 months old for sale. Cash or good note. J. B. HUMMEL, Mason, Mich.

Dairy Shorthorns—Large Cattle—Heavy Milkers. Milk Records Furnished. Bulls all sold. Prices right. A square deal to all. W. W. KNAPP, R. No. 4, Watervliet, Mich.

SHEEP.

"BREED UP YOUR SHEEP"—Article sent free to any address. PARSONS, "The Sheep Man of the East," R. No. 1, Grand Ledge, Mich.

Oxford Down Sheep—Good Yearling Field Rams of all ages for sale. I. B. WATERBURY, Highland, Michigan.

OXFORD RAMS sired by and ewes sired by and bred to Imported Rams for sale. B. F. MILLER or GEORGE L. SPILLANE, Flint, Mich.

OXFORDS for sale, at reasonable prices; twenty-five two-year-old OXFORD rams; four two-year-old SHROPSHIRE rams; and five yearling Shropshire rams. PARKBURST BROS., Reed City, Michigan.

Choice Registered RAMBOUILLETS—Both sexes and sold right. Ira B. Baldwin, Hastings, Mich.

Superb Von Homeyer Rambouillets for sale. Rams absolutely the best. Dr. L. Broisacher, Detroit, Mich.

Northern Grown Shropshire Sheep and Berkshire Swine. Yearling and two-year-old rams, two boars old enough for service, one of the best Jersey bulls in Mich. 3 yr. old. Blue Bells Golden Lad \$65. Will be sold cheap if taken at once. D. C. Magahay, R. 1, Harrisville, Mich.

SHROPSHIRE FOR SALE 50 Choice two-year, yearling and ram lambs; 20 yearling ewes from imported sires. F. R. OTTAWAY, Flushing, Mich.

Shropshires—Yearling rams at \$12 and \$15. Two extra fine rams at \$25 each. C. J. THOMPSON, Rockford, Mich.

FOR SALE—Choice Shropshire Yearling Rams in lots of one to twenty. Prices right. JONES & MORRIS, Flushing, Mich.

Shropshires—Ten good ewes. Yearling rams and ram lambs. One aged Imp. Minton ram. WILLIS S. MEADE, R. No. 3, Lapeer, Mich.

Shropshire Rams and Ewes at farmers' prices. HARRY POTTER, Davison, Mich.

HOGS.

DUROCS and VICTORIAS—A grand bunch of spring farrow. Boars. A few sows for fall farrow. Prices right. M. T. STORV, Lowell, Mich.

THREE choice Berkshire Boars ready for service, to close out. Write me your wants, we will please you with our stock. A. A. PATULLO, Deckerville, Mich.

BERKSHIRE BOARS May and June farrow, large size, heavy bone. \$18 and \$20 each. GEO. E. LAPHAM, St. Johns, Michigan.

BERKSHIRES Choice spring boars and gilts, priced to move quick. Farmers stock. ELMHURST STOCK FARM, Almont, Mich.

Quick Maturing Berkshires—Best breeding; best type, satisfaction guaranteed or money refunded. C. S. BARTLETT, Pontiac, Mich.

BERKSHIRES Weaned pigs either sex \$15 two for \$25; bred gilts \$35; bred sows \$50, registered and transferred. Excellent breeding. Choice individuals. C. C. COREY, New Haven, Michigan.

O. I. C. Extra choice bred gilts, service boars and spring pigs, not akin from State Fair winners. Avondale Stock Farm, Wayne, Mich.

O. I. C's—All ages, growthy and large, sows bred. Males ready, 100 to select from. Attractive prices on young stock. H. H. Jump, Munith, Mich.

O. I. C's of superior quality. 17 choice young gilts and 11 top young boars. Pairs no akin. FRED NICKEL, Monroe, Michigan.

O. I. C. SWINE Write me for price on Spring Pigs, pairs and trios, not akin. Have a number of service males of good type. Write me describing of your wants. A. J. GORDEN, R. No. 2, Dorr, Mich.

O. I. C's with size & quality, the kind I can positively guarantee to give satisfaction and refund money. Newman's Stock Farm, R. No. 1, Marlette, Mich.

O. I. C. Swine, both sexes. Males weighing 100 to 225 lbs. Herd registered in O. I. C. Association. GEO. P. ANDREWS, Dansville, Ingham Co., Mich.

O. I. C's—Fall pigs, either sex, from prize-winning stock. Also 2 May boars left. Call or write. Rolling View Stock Farm, Cass City, Mich.

Reg. Chester Whites—Both sexes and bred gilts, also serviceable registered Holstein bulls. Bargains. RAY PARHAM, Bronson, Mich.

O. I. C's—A fine lot of last spring stock for sale, big growthy type, either sex, pairs not akin. Sired by Grand Champion boar, Scott No. 1. Half mile west of depot. OTTO B. SCHULZE, Nashville, Mich.

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

IONIA GIRL

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

DUROC-JERSEYS—Fall and Spring boars from prize-winning strains. Sows all ages. SPECIAL BARGAIN in summer pigs. Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

LARGE TYPE DUROCS—Spring pigs that are large boned and lengthy. Some open fall gilts of the right sort. Let me tell you about anything you may be in need of or call at MAPLE GROVE FARM, Stockbridge, Michigan.

I HAVE some extra good **DUROC** males for sale. Prices right, last fall and spring farrow. Breeding and quality my standard. Brod sow sale this winter. H. K. KESSLER, Cassopolis, Michigan.

Duroc Jerseys—for sale: 20 fine service boars of fancy breeding and individual quality. Prices reasonable. John McNeill, North Star, Mich.

DUROC JERSEYS—25 SPRING BOARS FOR SALE. CAREY U. EDMONDS, Hastings, Michigan.

Duroc Jerseys for Sale—Spring boars ready for service. Holstein Friesian bull calf, dropped Sept. 26. Write or come and see. R. G. VIVIAN, R. No. 4, Monroe, Mich.

DUROC GILTS—Shropshire Ewes \$20 to \$30. KOPE-KON FARM, Kinderhook, Michigan.

Duroc Jersey SWINE. Spring and summer pigs for sale, both sexes. I pay express, 25 years experience. J. H. BANGHART, Lansing, Mich.

DUROC JERSEYS—10 Fall and Winter Boars, ready for service. Prices right for 10 days. Write or come and see J. C. BARNEY, Coldwater, Mich.

Big Smooth Poland China Hogs from large sires, other sexes, at reasonable prices. ALLEN BROS., Paw Paw, Mich.

POLAND CHINAS—Either sex, all ages. Something good at a low price. P. D. LONG, R. No. 8, Grand Rapids, Mich.

PROLIFIC POLAND CHINA BOARS ready Big Bone, for business. Quality high, prices right. Write today. Maplewood Stock Farm, Allegan, Mich.

POLAND CHINAS—Both Western and Home Bred. Either sex, all ages. Prices right. W. J. HAGELSHAW, Augusta, Mich.

POLAND CHINAS Spring boars ready for business. Extra good length and bone. Prices right. L. W. BARNES & SON, Byron, Michigan.

LARGE styled Poland China spring and fall pigs from strong, healthy, prolific breeders, either sex at low prices. ROBERT NEVE, Pierson, Mich.

P. C. BOARS AND SOWS—large type, sired by Expansion 3059 and E. M. F. 3387. Satisfaction guaranteed. R. W. MILLS, Saline, Mich.

Poland Chinas—The big kind wants. W. L. PENNOCK, Hastings, Mich.

Butler's Big Type Poland Chinas. We have a few big-boned, long-bodied P. C. boars yet in herd. Two big yearlings at \$30. Early spring pigs \$20 to \$25. Summer pigs \$10 to \$15. Fall pigs \$5 each. Pedigree with every pig. J. C. BUTLER, Portland, Michigan.

LARGE strain P. C. Hogs, largest in Michigan. A few big, strictly heavy boned boars of Mar. farrow left, weighing from 275 to 300 lbs. in just good growing condition, priced to move them quick. Come and see them, also see their big sire and dams. Free livery from Parma. Expenses paid if not satisfied. W. E. LIVINGSTON, Parma, Michigan.

TWO YOUNG TAMWORTH BOARS FOR SALE T. F. MARSTON, Bay City, Michigan.

CHOLERA PROOF HOGS

I keep from 4000 to 6000 grade Yorkshire, Poland China and Tamworth cholera immune hogs and am selling prolific brood sows and thin shoats at prices that make them desirable on cholera infected farms. Will furnish open sows or those bred to cholera immune boars. I expect to have several thousand pigs for sale next Spring from immune stock.

ALVAH BROWNS PIG FARM, Grand Rapids, Mich.

LARGE YORKSHIRE SWINE—Pairs not akin. Sired by Canadian bred stock. Geo. S. McMullen, Citz. Phone, Grand Ledge, Mich.

LARGE Yorkshires—Choice breeding stock, all ages, not akin, from State Fair prize-winners. Pedigrees furnished. 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. Choice individuals. COLON C. LILLIE, Coopersville, Mich.

PRACTICAL SCIENCE.

ACCESSORIES IN THE HUMAN DIETARY.

BY FLOYD W. ROBISON.

The Function of Common Salt.

Aside from the consideration due to palatability and taste, it has been exceedingly difficult to ascribe a true place in the human dietary for common salt, otherwise chemically known as sodium chloride. There is sufficient scientific evidence to indicate that certain races of men use salt very sparingly indeed, and in some instances the use of salt is entirely unknown. It seems that this, we might say peculiarity, exists almost entirely among the races of men who are flesh eaters entirely; and conversely it seems true that the use of salt in the dietary has come about concomitant with if not as a direct result of, the use of vegetable food.

Salt Content of Animals an Argument in Favor of Evolution.

Certain scientists have attempted to show that the demand of man and other animals for salt is one evidence of their evolution from the seafaring animals, as the best evidence we have at the present time indicates that at one time all beings were aquatic, that is, living in the water. Because of this and because of the fact that the waters of the earth contain considerable quantities of sodium chloride, the bodies thereby acquire, as a result thereof, sodium chloride as an inherent constituent. Where animals and man have been removed for long periods of time from the dietetic consideration of vegetable foods, the demand for salt has very greatly decreased. This brings up for consideration another phase of the very interesting war between the sodium salts and the potassium salts. Experiment stations have early discovered the fact that whereas from most points of view it was difficult to see any real difference in the structure and in the behavior of chloride of sodium, or common salt, and the chloride of potassium which is used extensively as a fertilizing ingredient, in spite of this however, they discovered that plants would not grow if sodium chloride were substituted for potassium chloride in the fertilizer. As a matter of fact, an analysis of the inorganic constituents of plants reveals the presence of a considerable amount of potassium salts.

Why the Ocean Contains Sodium Instead of Potassium.

It is a strange condition but nevertheless true, that the ocean contains a heavy concentration of sodium chloride. In other words, the ocean, we know, is salt and this salt is a sodium salt. The question then comes up, why do we find such a large content of sodium chloride in the sea and such a small content of potassium salts, despite the fact that potassium chloride as well as sodium chloride is exceedingly soluble in water. It seems that the potassium combining with the silicic acid of the earth's crust does not yield as readily to the action of carbonic acid as does sodium, but remains behind as a very insoluble feldspar, while the sodium, dissolved by the action of the carbonic acid in the water, goes in streams to the sea as a sodium carbonate where the carbonic acid is liberated and the sodium combining with chloride forms the soluble sodium chloride of the sea, while the carbonate, or carbonic acid, being liberated, combines with the other alkaline metals, sinks to the bottom, forming our strata of carbonate of lime, etc.

The Land Needs the Potassium.

Sea water is in this way very rich in common salt and very poor in potassium chloride, whereas, on the other hand, on the land we find the soil to contain greater quantities of potassium chloride, or potassium salts and to be relatively poor in sodium chloride. We should expect, then, a priori that vegetation would naturally contain a greater quantity of the salts of potassium than of sodium, and as a matter of fact, except in a few well-known instances, the plants seem to exert a decided selective, absorbing power for potassium salts. Indeed, so great is this demand on the part of the plants that, as stated before, we recognize this and supply the potassium salts in fertilizers, to take the place of those removed from the soil by crops, and to establish the most favorable conditions for plant growth.

Sea animals, because of their environment, contain an exceedingly large amount of sodium chloride, or common

salt, consequently among those races of animals or man which subsist entirely or largely upon these animals, the demand for common salt is very limited and in some instances, as we have said, is unknown. However, among animals which have to live almost, if not entirely on vegetation, which vegetation, as we have just noted, depends so intimately upon the potassium salts in the soil and of a consequence contain such notable quantities of potassium, we may naturally expect as a result thereof that the demand for sodium chloride among such would be very marked.

Why Herbivorous Animals Like Salt.

In certain sections of the world there are notable deposits of common salt and the attractiveness of these places to animals has been so well known that they have been called "salt licks," meaning spots where animals congregate to lick the salt deposits that are there. This demand is not at all a fanciful one, but is forced upon animals because of the one-sidedness of their vegetable diet.

Unquestionably the human race has become accustomed to the use of altogether too large quantities of salt. This is not necessarily an accident, but is due largely to the peculiarities of our mode of living. We might assume that the amount of salt needed in the ordinary diet might best be arrived at by studying the salt content of milk, which is a product that nature has provided for the sustenance of the young. We find that several times the amount of salt which would be contained in a diet of milk, which we might consider as ample, is taken into the body in the ordinary human diet. It is even conceded by some that the use of spirituous liquors also tends to the introduction of abnormal quantities of salt in the system.

Too Much Salt is Very Undesirable.

Salt is exceedingly soluble, as we know, in water, and the decided thirst which is created when large quantities of salt and salty foods are taken is simply an evidence that nature requires that this product should be exceedingly highly diluted in order to pass the organs of excretion with the least possible damage. The task that is devolved upon the kidneys in excreting the soluble constituents of the food and the waste constituents of the body is an enormous task and when we realize that the perfect condition of the excretory organs of the body seems much more vital to our existence than that the health of the digestive organs of the body be kept perfect, we will then appreciate why it becomes desirable—yes, necessary—to take cognizance of any extra burden which is put upon these organs. The introduction of large quantities of salt in the diet imposes an extra burden upon the kidneys for its excretion, the use of large amounts of salt should therefore be discouraged. The introduction of any unnecessary inorganic constituent in food products should likewise be deprecated, and on the same grounds. Were we to consider, for instance, no immediate injury because of the introduction of sodium benzoate, salicylic acid, borax, saccharine, and the various so-called preservatives which commercial interests would like to introduce into food products, we say, were we to consider each one by itself to be harmless, their collective use should be discouraged because of the burdens they impose on the already overworked excretory organs of the body and especially the kidneys.

Why Salt Tastes Good on Potatoes.

It is well known that a diet of potatoes, for example, is exceedingly unpalatable unless taken with considerable quantities of common salt. An analysis of potatoes would indicate that a person living almost exclusively on such a diet would take, during the course of a day, from 35 to 50 grams of potassium. With the continual warfare which we have shown is going on between salts of potassium and salts of sodium, we may thus see why the use of sodium chloride is so necessary with the diet of potatoes. Potatoes are exceedingly high in potassium and while other vegetables and other cereals do not contain this large quantity of potassium, yet the presence of potassium is so sufficiently marked that the use of sodium in more or less large quantities is indicated in the diet.

Salt Unknown to Some Nations.

Bunge states that there are certain nations who do not have the word salt even incorporated in the language and

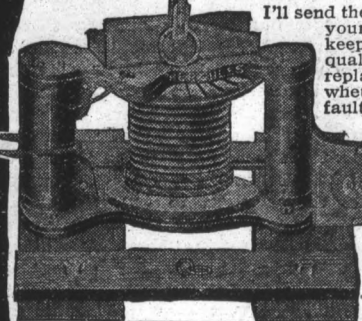
(Continued on page 499).

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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

PURCHASING A PRIVATE OUTFIT FOR SILO FILLING.

I would like very much to put up a silo; but if I do I will have to own the entire outfit for cutting the silage and putting it into the silo, as there are no such outfits here that can be hired. I have looked up the matter of prices and find that a silo will cost about \$200, a cutter with blower about the same, and a gasoline engine large enough to drive it, very nearly \$400, making the total outfit about \$800. Now this amount is beyond my reach, and as I do not expect to keep more than ten cows, I doubt its being a good business plan to put so much money into it. The question of help is also to be considered, for the "hired man" is almost an extinct species here; there are two men on our farm, myself and my son, and I have thought to get a four-horse engine, which we could use for sawing wood, grinding feed, etc., and a smaller cutter, with carrier instead of blower, for I know the blower requires a great deal of power, and then cut the corn and put it in the silo a few loads at a time, as we could do it ourselves. Do you consider this plan practical? Kindly give your advice along this line. Unless I can do something of this kind I shall have to go out of the cow business as my present way of keeping them is decidedly unprofitable.

Montcalm Co. E. H.

This is certainly a good opportunity for neighborhood co-operation. As E. H. says, it is hardly practical for a single farmer to go to the expense of \$800 or \$1,000 in putting up a silo, and purchasing the necessary machinery, an outfit for filling it, and then use this machinery only a few days each year, especially where one intends to keep only ten cows, and yet I would have a silo if I had to do this. But it seems to me that it would be unnecessary for one man to do this whole thing alone. Why can't you get some people in your neighborhood to co-operate? They needn't necessarily be your next door neighbor, but men living within a radius of five or six or even ten miles. If you could get five or six men to put up silos and then jointly purchase an ensilage cutter it would be practical, and you wouldn't have to buy an engine to run it. You could get a thresherman with an engine and hire him by the day to fill these silos, and this can be done at a reasonable rate. The trouble in purchasing a small engine of four or five horsepower for this purpose is that it can't do the work. There isn't enough power to it. It requires a lot of power to run an ensilage cutter and do business, and when you get ready to do business you want to do it. And so, too, in getting a real small ensilage cutter, and then to get one with the old-fashioned carrier rather than the blower. It is not up-to-date, and you won't be satisfied with it, and you will only use it two or three years before you will trade it off or get a new one, and my advice would be to get one that is up-to-date and of the best quality, and then you will have something that can be of use to you.

I have been through this proposition myself, and know from actual experience. When I first built my first silo there wasn't an ensilage cutter in the whole community and there wasn't another silo within six or seven miles, and so I purchased a small ensilage cutter. It was a very good one and would do good business but it required a good threshing machine engine to run it. It wanted a ten or twelve horsepower engine to run this cutter and do good business. It takes a lot of power to cut good, big, heavy green corn and elevate it. Of course, we had no blower attachment and had to use the old-fashioned carrier. Now if you ever use the old-fashioned carrier and then use the blower you wouldn't go back to the old-fashioned carrier for anything. When we got through filling our silo there was all the way from 50 to 100 baskets of ensilage around on the ground where it had accumulated at the lower end of the carrier; been blown out. With the blower when you get through cutting there isn't any left, it has all gone up into the silo. The first ensilage cutter which I purchased had 12-inch knives, and it would, as I say, do fairly good work, but you had to cut the bands and feed the bundles in as you would into a threshing machine.

Now, with a good-sized cutter with 19 or 20-inch knives you don't have to cut the bands. The bundles go through without cutting. It is less expense and you can do it faster. Of course, where it is absolutely impossible to get more help, why, with a small outfit two men could

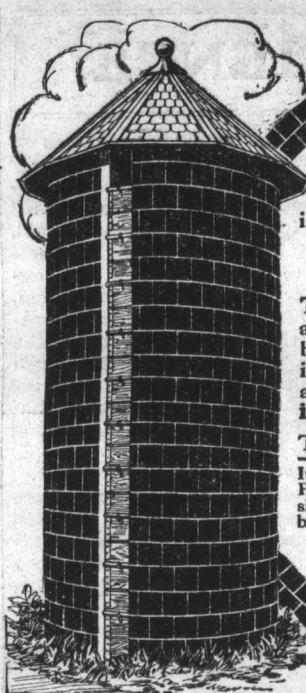
draw up a load of corn and run it into the silo. This would work all right but it would be so slow that I doubt if it would be satisfactory. If you could only get a few of your neighbors to build silos and then you could exchange work and have a gang of men and fill all of the silos quicker than you could fill your own, working alone, and it would be done in a much more satisfactory way. I venture to say that you could get a thresherman at that time of the year to come with his engine and run the ensilage cutter for \$4 or \$5 per day. He would be through with threshing and will have nothing for his engine to do, and if you would co-operate with your neighbors and buy a real good ensilage cutter and get a thresherman to run it, after he had run it one fall you could probably sell him the ensilage cutter for practically what you gave for it and get it off your hands. He simply wants to know that there is a business in running this ensilage cutter. He doesn't take the initiative because he didn't know that there is any business and there wouldn't be any business unless five or six of your neighbors build silos. But if you can get co-operation among your neighbors and get a half-dozen silos, then, if you can't get a thresherman to buy an ensilage cutter you could buy it yourselves and I venture to say in two years time you can sell him the outfit so that you could get out of it if you didn't want to keep it yourself.

With the statistics which we now have for ensilage as a beef producing food there isn't any question but what it would pay a man, whether he keeps cows or beef cattle or fattens sheep, or keeps a breeding flock of sheep, to put his corn into the silo. He can get more food out of it than in any other way, and it is only going to be a matter of a few years before every man who keeps live stock has a silo. You will simply begin the good work. If you are keeping track of current agricultural matter you will know that the farmers in Iowa and Illinois who do not keep dairy cows are building more silos at the present time than dairymen, simply because some very successful experiments have been made at experiment stations with regard to feeding ensilage to fattening steers. They find they can get much more out of their corn crop if they put it into the silo, and they are building silos by the hundreds and thousands on beef farms. The silo is not going to be confined to the dairyman alone in the future by any means. The steer man used to laugh at the dairymen and tell him that he needed a silo but that he did not. The dairymen knew that the steer man needed it just as well as he needed it but he couldn't convince him. Now cold facts have convinced the steer man that in order to make the most economical food for his fattening steers he must put corn into the silo, and if you start the good work in your neighborhood you will find that there will be no trouble in a year or two about getting a man to come and fill your silo just as well as to come and do your threshing, and you can change work with your neighbors and get your job done in a very short time. Furthermore, it will be more satisfactory than it will to attempt to have a small outfit of your own. This is my judgment after actual experience with this whole business. If you will discuss this matter in your farmers' club or your grange this winter I venture to say that you could find a dozen men in your vicinity who would put up silos next year, and this would make the proposition practical.

ECONOMY IN DOING CHORES.

There are many rearrangements about the ordinary dairy barn that would reduce the work required to do the chores to a considerable extent. The grain supply is often located too far from the cows; measures for carrying same are not provided; hay chutes are lacking; the silo is illy located; bedding is out-side to be covered by the first snow storm; it is inconvenient to get the manure out of the stables; too few doors and passageways are furnished to make every part of the barn easily accessible; poor floor, mangers and other equipment hamper quick work. Many of these conditions could be overcome or improved at little cost and, especially where help must be employed to do chores, the change would, without doubt, effect a considerable saving.

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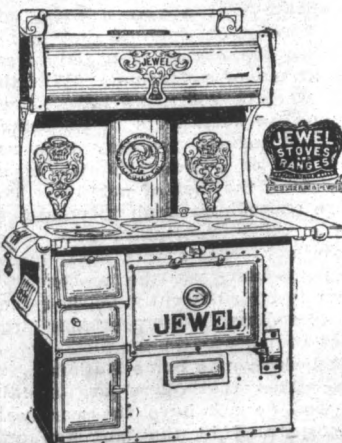
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THE MILKING MACHINE.

Do you think that the milking machine will hurt a cow's udder? A man who pretends to understand these machines claims that they would draw the blood from the cow's udder if the machine were attached after all the milk was drawn. How many cows can a man milk with one machine in one hour? About what is the expense of keeping the machine in repair? Could I afford to buy one to milk 20 cows? We are finding it difficult to get men to milk; when hiring they always make inquiry as to the number of cows to be milked and if it be many they seldom will offer their services. I am started in the dairy business and have 20 cows at the present time. I would like to increase my herd, providing I could make the machine work and be independent with regard to the milking proposition.

Lemawee Co.

A. T. W.

I should like to ask if you still use your milking machines? If so, are they a success? Do the cows dry up as soon as they would by hand-milking? I am thinking of purchasing one. I milk from 10 to 13 cows.

Ionia Co.

C. E. B.

As both of these inquiries refer to the milking machine, I am answering them together, because they require practically the same answer. We have used milking machines now at Lillie Farmstead for about seven years, yet we have never used them continually the year through. We generally begin using the milking machines along in the spring after all of the cows have freshened, when we have the barn full, and when we want as many men to get out into the field to work as we can get hold of. Then I insist upon using the milking machines, and two men with my outfit of four machines, will handle a herd of 50 cows, and do it nicely. We continue using the milking machines until the cows begin to dry up for their vacation, which is along in August. Then, when the milking becomes a small job so that two men can do it without much trouble, we discontinue the milking machines. I can't tell you just why, only the men prefer to milk by hand when the cows give small amounts of milk, and I don't insist on their using the milking machines only during the spring and summer when it takes so much help to do the milking. As long as two men can do the milking I make no objection to their milking by hand if they prefer to do so. We have two men who do not pretend to go into the fields to work. They take care of the cows and hogs and hens, and one of them does odd jobs of repairing part of the time. They have time to milk and get through with all the chores by six o'clock in the afternoon, and as long as I don't figure on these men going into the field it makes practically no difference to me whether they milk the cows by hand or whether they milk them with the machines, and after cows become strippers it is not as practical to milk with the machines as it is before, because each cow must be examined after the milking machine is taken off to be sure she is milked clean. It is some trouble to put the milking machine on and take care of it while it is working and they seem to think that it doesn't pay when cows are strippers.

Many men have asked me if I think the milking machines practical, if it pays and I have always replied that I cannot tell, for I don't know. I would not like to get along without it, and yet I don't think it is practical for a small herd. It takes considerable time to keep the milking machine clean and properly adjusted, to take care of it. It is not a difficult job, but it takes time, and it is a puttering job, especially for a man to do.

I am also asked, "Will cows give as much milk if milked by a machine as they will by hand?" and I cannot answer this, because we all know that a cow will hardly ever do as well one year as she does another. She is a variable quantity. One year she does exceedingly well and then perhaps the next year she doesn't do as well. Now, if you milk her during one of her poor years with the milking machine, then you are liable to blame the low yield to the machine. On the other hand, if she is milked with the machine the year that she seems to be in her prime, then you will say that a cow will give more milk when milked with a machine than she will without it. There is not data enough so that it gives us any reliable information. The sum and substance of it is, when you milk a cow with a milking machine you can't milk her by hand, and so it is impossible to tell whether she would do better milked the one way or the other.

I am satisfied that the milking machine in the hands of a careful person will milk cows as successfully as the av-

erage milker. I don't believe that it is as good as a first-class milker, but where you have to depend upon hired help to do the milking, I am satisfied that it will milk better than the average milker.

Now, with regard to injuring the cows' udder by leaving the machine on, I never knew of a cow's udder being injured. Of course, it is not a good practice to leave the machine on after the cow has been milked, but it will not suck blood, it will not cause any pain, it will not cause the cows any inconvenience, it will not injure the udder, if it is not taken off just when it should be. The intermittent suction of the machine prevents this. The earlier milking machines, especially the old simple milking machine, had a continual suction. This, if it was not removed as soon as the milk was removed from the udder, would keep sucking until it would draw blood. In fact, if you put the teat cup on the back of your hand and kept it there long enough it would draw blood from the back of your hand because it was a continuous suction. With this intermittent suction no injury of this sort occurs.

One machine will milk from eight to ten cows an hour, not any faster than one man can milk by hand, and so it don't seem to me that if you only have eight or ten cows that it would pay to have a milking machine, because it takes a man to run one milking machine, and with only one machine you could milk just about as fast by hand as you could with the machine. The saving comes where you have 40 or 50 cows and have from four to six milkers, where one man can run two or three of these machines. Then, if one machine will milk eight to ten cows an hour, the same man can milk 18 to 20 cows an hour by using two machines, and he can tend to two machines as well as he can to one. This is where the time is gained with the milking machine.

The milking machine, as a machine, is as near perfection as any machine I ever saw. It has cost very little for repairs. Just occasionally a small amount for rubber mouth pieces and a few cheap springs that run the pulsator. In other respects there has been no expense whatever. The rubber, of course, costs for the first cost but it is very durable, lasts a long time, and the expense of keeping up the outfit is smaller than with any other machinery that I ever handled.

MORE AND BETTER MILK.

Dr. A. D. Melvin, of the department of agriculture, who returned to Washington this week from the meeting of the milk producers' Association at Chicago, tells an interesting story of progress in the milk business toward what promises a purer supply of milk for the public and without lessening, but on the contrary, increasing the prosperity of producers.

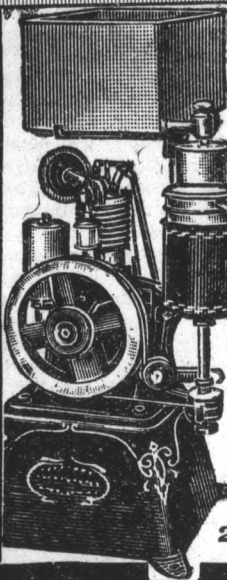
At the show the Bureau had a demonstration that attracted considerable attention. The dairy division of the Department had selected a dozen cows at random from one of the big dairies near Chicago. These animals were kept in a model stable all the time and fed identical rations. Over each stall there was a big chart, added to daily, showing the weight and cost of the ration for that day and the weight and value of the milk produced.

The owners were astonished at the results. Some of the animals were making money for their owner and some were losing it. With some of the cows the dairy would have made money selling them for beef. This was just in line with the experience of the Department wherever the cost ratio system of scoring has been tried in a dairy.

A couple of months ago the same experiment was tried on a dairy outside of Washington. The dairyman had 32 cows. After scoring them all carefully the Department picked out 12 and their owner got rid of them. After this weeding out the dairy was actually making more money than before. The boarders had been eating up the bulk of the profits in food, without returning anything for their keep.

Dr. Melvin stated that the dairymen of the country are beginning to realize that their interest is advanced by the adoption of scientific measures based upon hygienic laws. There is really a community of interest in this matter of the healthfulness of the milk supply. Antagonism between the milk producer and health officials is bound to result in loss to the former. It has now been demonstrated that the dairyman can take advantage of scientific methods not merely to keep his product pure and wholesome, but to increase the quantity and decrease the cost.

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A Money Maker for the Man

The hoisting gear has a power of 40 to 1—twice as much as others; easily, quickly and safely raised and lowered, and stands at any point; no hit and miss ratchet to bother and let the box drop and smash; no dangerous crank to fly back and cripple the boy; runs easily on sharp curves or switches, in either direction, to right or left—these are a few of the important advantages of

The Louden Litter Carrier

which changes hard, disagreeable work for a man into easy pleasant work for a boy—and keeps the barn clean and sanitary so the cows will give more milk and bring more money.

Has box of heavy galvanized iron, reinforced by angles and soldered watertight. All the latest up-to-date improvements which inventive ingenuity and long experience can devise. Will save its cost many times a year.

We also manufacture a full line of Hay Tools, Bird Proof Barn Door Hangers, Feed Carriers, Stalls, Stanchions, etc. Catalogs mailed free. If you are going to build or remodel a barn our Special Architectural Department will send you, free, valuable information and plans which will save you money and worry.

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HORTICULTURE

DESTROYING GARDEN PESTS.

As soon as possible after the late vegetables are out of the way, clear the garden of all dead vegetation and then plow it. A number of insects are at home in the garden and will hibernate in the litter that accumulates where the vegetables were grown. If all this is raked into heaps with the remains of the truck still on the ground and burned when it has dried out, many of the insect pests and their eggs which, in protected locations, will survive the winter and thus be on hand in the spring ready for business, will be destroyed. Many fungus spores that are clinging to diseased plants will be destroyed also. Then when the clearing is completed apply well-decayed barnyard manure generously, spreading it evenly. The garden is now ready for plowing at any time when the soil is in the right condition. While this work is being done it is a good plan to arrange for the poultry flock to have the run of the garden so that the fowls may get a feast of the worms while the plow is throwing them to the surface. If it can't be managed any other way, coax the chickens in with a little grain. They can do a great deal of good at such a time. After plowing, disk and harrow well so that the soil will be in shape for early spring planting.

Indiana.

W. F. PURDUE.

WINTER TREE PROTECTION.

A short article in the Michigan Farmer in regard to a "soot and buttermilk" solution to be applied to trunks of young trees to protect them from rabbits, etc., may be good, but here is a method at once cheap, easily applied, and has absolutely no dangerous features about it to injure in any way the tender bark of the orchard trees. It also acts as a protection from sun-scald and excessive freezing in inclement winter seasons. Procure as desired and required one or more rolls of ordinary, heavy tarred sheathing paper, the newer and heavier the tar solution upon it, the better, cut into strips cross-wise of the paper, which is about a yard wide, pieces four to six inches wide; purchase the heavy tarred twine which comes in balls, or one can immerse ordinary binder twine in warm tar until thoroughly saturated. Now form a loose tube of these strips about the trees and tie midway and at each end with short strings of this tarred cord. Be sure and crowd down the lower end very close to the ground, and if not frozen push into the soil an inch or more; this precludes all possibility of field mice and meadow moles getting under to do damage.

It will not only keep all rodents at a respectful distance from the trees but also all leaf and bark insects, grubs, etc., which do much injury to young trees. One may use these strips several seasons and even leave them about the trees until late in the spring without injury to the trees. I have used wire screens and patented protectors but find the tarred paper strips as above, equal to any and superior to many. It is very cheap, quickly applied, a sure protector and the material can be found in any town having a hardware store.

Gratiot Co.

G. A. RANDALL.

EAT GRAPES.

This is our method of regaling and solacing ourselves through this long stretch of unusual weather. Layered in paper-lined baskets, double-decked with slats between layers to prevent pressure, they have kept finely and are so delicious we cannot eat enough of them. It is the Salem, a large red variety with a vinous flavor, that we prize most highly for its eating and keeping qualities. Other sorts in our graperies are the Concord, Delaware and Niagara, all excellent and productive.

By planting canes cut from the old vine trimmings we keep a yearly supply of young plants. This may be done in the open ground either in spring or fall. We never take the trouble to pack them in sand to be wintered in the cellar, as the manner of some is, for it is quite unnecessary. Pieces are cut with about four buds, two for inserting in the ground to make the root—one bud might do, but two are safer—two buds are above to form the branch, only the more vigorous of these is left after starting, the other is rubbed off.

In every available place, along buildings and fences, in unused woods, these canes are planted for permanent occupation and an extra row of times added for distribution among friends. There is no need of anybody's going without grapes if he owns the merest plot of ground. It is enough for the root and a post for the attachment of the stem. Some of our vines are attached to a single post; others are trained on wires. All receive a severe annual trimming, performed any time in the dormant period above freezing weather. From our abundant yield last season we bottled several gallons of grape juice. The remaining pulp was pressed through a colander and added to the cider apple-sauce.

Unfermented fruit juices of all kinds, and emphatically that of the grape, make acceptable and wholesome beverages for the summer months, nor do we restrict its use to any one season.

The possibilities of this fruit in the manufacture of sauces and relishes is beyond easy computation, but it appeals most gratefully to the palate as it comes fully ripe, fresh from the vines.

Oceana Co.

M. A. HOYT.

PROCEEDINGS OF STATE HORTICULTURAL SOCIETY.

(Continued from last week.)

The program arranged for this half-day session was designed especially as a school for beginners in fruit growing. Prof. Eustace spoke on selecting the site, dwelling somewhat on the importance of nearness to market. R. D. Graham, of Kent county, gave some of the practical methods he has followed for years in preparing the land and planting trees, particularly peaches. Mr. Graham has had poor luck in starting orchards on sod ground and says his best success has come from selection of his poorest land, such as would not grow white beans, so avoiding too much early growth and soft, weak wood in the trees. He does not advise cover crops in one or two-year-old orchards. Some of Mr. Graham's points were: Every tree should be root-pruned. Prune from the bottom and use a sharp knife rather than shears. Take off every broken root. Cut the tops back after the trees are planted. In planting budded peach trees I always put the buds one way, then the trees are of more uniform growth. We usually trim peach trees to a switch, then cut the switch off. We grow our tree too high, as a rule. Cultivate very thoroughly up to August 1. I like a corn crop in a young orchard and potatoes are the last thing I would plant.

In the discussion that followed, Henry Smith, of Grand Rapids, said he preferred to set out sweet cherry trees in the fall rather than spring. The question of use of dynamite in digging holes for trees was brought up, and one member stated this method had cost him seven cents a hole. Another grower placed the cost at only three and one-half to four cents, but in this case only one-fourth of a pound of dynamite was used and the soil was simply loosened. None could say as to the benefits coming from dynamiting holes, the experiment not having been tried long enough.

Pruning and cultivating was the subject handled by O. K. White, of the College. Mr. White laid stress on the importance of the first pruning, since at this time the height of the head is established, also its general shape. The four reasons given for low-headed trees were convenience in pruning, in spraying, thinning and harvest, while on the other hand, only one reason could be urged for high heads, namely, convenience in cultivation. "I like to have the top distributed along the trunk," said he. "Many growers prefer one-year-old apple and sweet cherry trees, because they can better govern the distribution of the top and avoid crotches. If an orchard is planted in the fall, wait till spring to prune for there may be some winter injuries. Cultivate young orchards early in the spring, and often, to preserve moisture, kill the weeds, break up the surface and liberate plant food. Stop cultivation about August 1 and then use cover crops." Mr. White gave practical demonstrations in pruning one and two-year-old apple and peach trees. He prefers shears to the knife.

Just before adjournment there was a brief discussion of the need of a fruit marketing association, or associations, and co-operation among growers in the packing and selling of their fruit. A. M. Young, of Oceana county, led in the discussion and President Farrand named a

committee of five to confer on the subject and report later to the convention. This committee was composed of A. M. Young, R. A. Smythe, George Friday, E. O. Ladd, and C. B. Welch.

Wednesday Morning.

Miss Lucy Page Gaston, founder of the anti-cigarette movement, spoke briefly of her work at the opening, saying that 11 states have already made the cigarette an outlaw, and that Michigan would be next.

D. R. Waters, of Ottawa county, read a paper on "Protection From Frost," in which the theory was advanced that spraying the orchards with water would protect the buds from frost injury. He had not tried the experiment, however, except in a small way on shrubbery. Prof. Taft stated that spraying has given results, and that frosts were too infrequent in Michigan to make an investment in smudge pots profitable. The question as to the possible influence of the Chicago drainage canal in changing climatic conditions in the fruit belt was touched upon, but the growers did not seem greatly alarmed over it. One member said the canal would increase the shipping facilities and would greatly benefit the Michigan growers. C. J. Monroe, of Van Buren county, stated that in his long experience as a grower he has never lost a tree or a fruit crop when the wind was in the west and blowing across the lake.

Robert Thompson, manager of the Cold Storage & Forwarding Co., of Ontario, and a prominent Canadian grower, was the next speaker and his remarks were informal, seeming to come welling up like a spring, from many years of experience. At the outset he asked for questions, with a view to giving the growers just what they wanted most. Mr. Thompson said in part: "The Williams is our leading strawberry, but it wouldn't do well here, perhaps. We raise all kinds of tender fruits and are not troubled to any great extent by frost. We raise fruit for canning factories and for general distribution, the strawberries selling at home and other fruits being shipped into the western provinces. We are going into currants and gooseberries more extensively than usual. Our lands bring from \$200 to \$2,000 per acre. Why? Largely, I confess, because eastern land dealers are booming that country and inducing city people to 'go out and get an easy living.' Still, I believe in land investments and have an eye myself on property that I am ready to pay \$600 an acre for. We are a large group of growers and ship in quantities by freight at low rates with good service. We raise small fruits between the tree rows. I use barnyard manure and commercial fertilizers, preferring steamed bone and acid rock on light land. I would put barnyard manure on currants every second year. We use cover crops, plowing down vetch and clover.

Next came the real feature of the three days' meeting, and one that was thoroughly appreciated by every member present. This was the annual speaking contest by senior students at the Michigan Agricultural College, the boys giving plain, sensible talks of interest and profit on live topics in fruit growing. Fifteen young men participated, each one being introduced by Prof. Eustace and limited to five minutes. Score cards were distributed among the audience and there were 100 judges. Each one of the speakers did remarkably well and there was difficulty in selecting the winners. The three cash prizes were \$15, \$10 and \$5, and the winners were as follows: First, H. F. Miners, St. Joseph, on "The Red Grape or Downey Midew;" second, I. J. Woodin, Owosso, "The Sulzer Apple Bill;" third, L. H. Hutchins, Fennville, "Legumes for Cover Crops." Other contestants, with the subjects, were: T. F. Baker, Grand Haven, "Top Working Apple Trees;" L. C. Carey, Charlevoix, "Apple Packing-boxes and Barrels;" C. C. Carstens, Michigan City, Ind., "Pedigree Trees;" W. S. Fields, Buffalo, N. Y., "Baldwin Fruit Spots;" F. L. Granger, Lexington, "Needs of Michigan Horticulture;" A. H. Hendrickson, Grand Rapids, "History of the Native Grape;" G. T. Leonard, Hart, "Three Kinds of Apple Trees;" R. W. Loree, East Lansing, "Apple Breeding;" A. J. Olney, Reeman, "Varieties for Commercial Peach Orchard;" R. R. Palthorp, Petoskey, "Coddling Moth in the Packing House;" I. J. Pickford, East Lansing, "Thinning Fruit;" H. A. Schuyler, Adrian, "Business Principles in Horticulture."

Similar cash prizes of \$15, \$10 and \$5 were awarded in the fruit judging and (Continued on page 499).



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POULTRY AND BEES

THE RESULT OF AN AVERAGE BARNYARD CACKLE.

The flock of ye humble scribe consisted of 69 hens and 11 roosters of Plymouth Rock parentage. Their place of business consisted of one henhouse 13x40 ft., with shed roof, facing the south, with one enclosed acre of ground for work and recreation.

The time of performance was Nov. 1, 1911, to Oct. 31, 1912, inclusive. The reason that I balance books at this season of the year is that most all of the surplus stock has been disposed of.

The eggs were all sold in the local market. Chicken raising was carried on by the hens as a matter of second nature to propagate the species, the offspring numbering 180. Ten of these did not survive, leaving 170, 40 male members of this number being sold to make room for their more promising brothers and sisters.

Along about the middle of August the bane of the poultryman (cholera) descended upon this happy flock and, in a very business-like manner, reduced the number by 50. The remainder, except 20, which were sold or eaten at different times, I now have on hand.

The grain fed to this flock was raised on the farm but an accurate account was kept of all that was fed. The following is a complete account of the whole cackle:

Debit Account.	
Nov. 1, '11, to 69 hens and 11 roosters at 50c	\$ 40.00
125 bu. ear corn at 28c	35.00
633 lbs. oats at \$1 per cwt.	6.33
755 lbs. wheat at \$1.50 per cwt.	11.23
676 lbs. cornmeal at \$1.10 per cwt.	7.43
Oyster shells, scraps, etc.	7.74

Value flock and feed.....\$107.73

Credit Account.	
Nov. 1, '12, by 10 yearling hens....	\$ 6.00
By 130 pullets and roosters.....	65.00
Value eggs laid during year.....	92.17
By 40 young chickens sold.....	14.37
By 20 hens and roosters sold, and eaten	13.85

Stock on hand and sales.....\$191.39

Value original flock and feed.... 107.73

Balance

The value of the eggs laid, by months, figured at the average selling price, is as follows:

Month.	Av. price doz.	Amount.
November, 1911	25½c	\$ 2.28
December, 1911	30 c	4.70
January, 1912	27 2-5c	7.29
February, 1912	27½c	11.17
March, 1912	18.8c	12.78
April, 1912	17½c	15.45
May, 1912	16 7-9c	12.83
June, 1912	16c	8.74
July, 1912	17c	12.36
August, 1912	17c	1.67
September, 1912	22c	1.10
October, 1912	24c	1.80

Total

Ingham Co. LACEY GRIEB.

BUILDING UP TYPE IN THE FARMER'S FOWLS.

While there is no question that the type of poultry which the farmer should own is not identical with that which fills the pens at our big poultry shows, I hold that the mongrels and indifferent stock found in so many barnyards should give way to a better and more clearly marked strain, more even in appearance and more closely approaching the show fowl in type and plumage. It is not expected that the barnyard shall be turned into a pen of show birds, but I do say and think that farmers should pay more attention to mating up and improving their flocks instead of raising so many uneven, scrawny and light fowls. It is possible that a pen of fancy poultry valued at a thousand or more dollars by its owner purely as show birds, would, if set down in a farmer's barnyard be worth but a few dollars to him, and yet if a few of those same fowls be crossed upon a flock of farmyard fowls, in the course of one season a great change and improvement could be noted.

Our markets demand an even grade of fowls, and anyone accustomed to selling early hatched fowls in the early season, when prices range high, will be readily apprised of this fact—that the more uniform and even a crate of fowls are the better will be the price received, with sales more readily made. With these facts in view, I began to look around for something that would meet my needs. I already knew that the Plymouth Rock was the type desired in our market, hence I began to try to find out if that type would answer the demand for a general purpose fowl for the farmyard.

I was told it would. This was several years ago.

I found myself with a very badly mixed flock of Games, Rocks, Black Spanish and everything else. The Black Spanish were beauties, but they had to go. I had about three dozen Plymouth Rocks, or at least they had some resemblance to them. So one morning I sorted out all other colors and kept this flock of Rocks, sending the rest to market. I secured from a breeder of Barred Rocks a couple of cockerels of a good strain. The next season when my young chickens began to feather out about half of them bore resemblance to the Plymouth Rock, and the rest were variegated in color. My idea then was that if I was to own a flock of one color of feather and breed, I must start new by buying a flock from someone who followed up a line of thoroughbred fowls, or else follow up a persistent line of breeding possibly for years.

The next year I had cause to change my mind. One flock of hens was mated up with cockerels from a hatch of eggs secured from a Michigan breeder, and I had but one odd colored bird hatched in two hundred. Thus I have found it to be a very easy task to secure a nice flock of even-feathered fowls and also one that is capable of giving satisfaction, both in egg production and at market time, with but little trouble and outlay of expense. Of course, I do not pretend to say that I have any high scoring show fowls for I do own that I know nothing much concerning points of merit in thoroughbred poultry. But I know from experience that I am suited better with my even colored flock, and if the demand for breeding purposes was any good omen of luck, I am satisfied that I made no mistake in starting and following up this strain in my own farm yard.

Ohio. G. W. BROWN.

IN ANSWER TO INQUIRIES.

Choosing a Breed.

Can you tell me which are the best layers of the heavy breeds of poultry. I am interested in the Barred Rocks, R. I. Reds, Buff Orpingtons and Wyandottes but do not know which one to decide upon. Which are the heaviest of these breeds?

G. B. W.

All of the breeds named can be classed as general-purpose fowls, and I don't think that any one would be warranted in saying that any one particular breed is better than any of the others named. They are all good, and I think that one can select whichever one of the four he fancies most and make no mistake. The number of eggs which they lay will depend largely upon their care and also upon the care of their immediate ancestors. The production of eggs is not so much a matter of breeding as it is of environment and care. I have an idea that one of these breeds will lay just about as many as any of the others under similar circumstances. I keep on my own farm two of these breeds, namely, Barred Rocks and R. I. Reds, and I can see no particular difference with regard to their laying qualities. I like them both. I don't believe any mistake would be made in selecting the Barred Rock if that is the breed which you fancy. They are the second largest of the breeds mentioned being slightly lighter than the Orpingtons and slightly heavier than the Reds and Wyandottes.

COLON C. LILLIE.

Probably Tuberculosis.

An Oakland county woman writes that her hens become lame in one leg, limp around for several weeks and then die. At first they eat well and seem in good health. Gradually their appetites fail and they are reduced to nothing but skin, bones and feathers before they die. They are never confined and are fed wheat, corn and oats. The flock has been thus troubled for several years but losses have been greatest this season.

It is possible, even probable, that your flock is being depleted by tuberculosis. The facts that the trouble has existed for several seasons, that it appears to be steadily gaining ground and that the fowls become much emaciated before death, all point to this disease. The conditions under which they have been kept have been in their favor; had they been closely confined the disease would probably have made much more rapid progress.

Make a careful postmortem examination of the next victim and if the liver, also the spleen (the small rounded, purplish organ lying just above the liver) and the intestines are found studded with yellowish-white cheesy nodules of varying sizes it is suggested that you bring the matter to the attention of the department of bacteriology at M. A. C., as a microscopic examination of the affect-

ed organs will be necessary to definitely determine whether the fowls are tuberculous. The department above mentioned has made a careful study of this disease, as it affects poultry, in recent years, the salient results of which were given in our issue of Jan. 27, 1912.

Where this disease is found to have secured a firm foothold in a flock the treatment usually prescribed is to destroy the flock, thoroughly clean up the premises and start anew with healthy stock. These are heroic measures and inevitably entail considerable loss. If it is possible to remove those fowls which are yet vigorous and apparently healthy to new quarters, in which they can have an abundance of sunshine and pure air, it may be possible that whatever tendency toward tuberculosis the fowls may possess will be overcome. To be on the safe side, however, it will be best not to use any members of such remnant flock for breeding purposes next season.

GETTING THE BEES INTO THE CELLAR.

The most satisfactory place, I have found, in which to winter bees is a good cellar built of stone or concrete entirely below the ground level, under a dwelling or other building, where the temperature can be maintained at from 44 to 50 degs. F. Any cellar fit for fruit or vegetables will do to winter bees in, provided a corner may be set apart for them and cut off from the main cellar by some sort of partition.

There must be means of ventilation so as to reduce the temperature which may become too high, especially if the colonies are strong and numerous. I take them in without the cap or super, and give them both upper and lower ventilation. The hives may be piled on top of each other, placing slats or blocks on top of the first tier before putting on the next, so that there may be a space between them. I leave the hive entrance entirely open, turning it to the wall or towards the darkness, so the bees will not be induced to fly. Darkness is important, and the window, if there is one, should be darkened by a curtain.

A special bee cellar in which nothing else is kept is certainly desirable, but many bee-keepers cannot afford this and yet can well spare room in a good house cellar. From years of experience, repeated by others, I find that about 45 degs. is the nearest correct. This may vary a little according to outside temperatures, but the degree at which the bees remain quietest is correct. A low hum is all that should be heard. When the temperature rises, or gets too low, the noise increases. Towards spring a few bees will leave the cluster, from time to time, and fall to the cellar floor after making a vain attempt to escape. Those bees have become restless from some cause, and would disturb the quiet of the others, so it is better that they should die. The loss in this manner will be small.

Carry the bees into the cellar as soon as there is little prospect of their having any more flights. Leaving bees out for two or three weeks after freezing weather has come, hoping for that "one more" last flight, is poor management. Even if the flight is secured, nothing particularly has been gained by it. After bees have settled down into that quiescent state in which they pass the winter, they may as well be in the cellar where the consumption of food is much less than in a freezing temperature. I am satisfied that, in this latitude, bees are better off when put into the cellar before their honey and combs have been exposed to a freezing temperature and the other conditions that go with it. At this time the combs are usually dry, while, if exposed to a freezing temperature for a time, there will be considerable moisture all through the hive as the result of condensation. I believe that bees placed in a good cellar before hard freezing, with the hive perfectly dry, will stand confinement far better than they would otherwise. If pains are taken a day or two in advance to see that the bottom boards are not stuck fast, and the hives slightly raised at one end, thus causing the bees to draw up among the combs, they can be picked up quietly, and be quickly and carefully carried into the cellar.

F. G. HERMAN.

PASS IT ALONG.

A good thing should be passed along. Can you think of any better news to tell your friends and neighbors than the reduction in price of The Michigan Farmer to 50c a year, Two years for an even \$1.00, three years for \$1.25 and five years for an even \$2.00.

A FRIEND'S ADVICE

Something Worth Listening To.

A young Nebr. man was advised by a friend to eat Grape-Nuts because he was all run down from a spell of fever. He tells the story:

"Last spring I had an attack of fever that left me in a very weak condition. I had to quit work; had no appetite, was nervous and discouraged.

"A friend advised me to eat Grape-Nuts, but I paid no attention to him and kept getting worse as time went by.

"I took many kinds of medicine but none of them seemed to help me. My system was completely run down, my blood got out of order from want of proper food, and several very large boils broke out on my neck. I was so weak I could hardly walk.

"One day mother ordered some Grape-Nuts and induced me to eat some. I felt better and that night rested fine. As I continued to use the food every day, I grew stronger steadily and now have regained my former good health. I would not be without Grape-Nuts as I believe it is the most health-giving food in the world." Name given by Postum Co., Battle Creek, Mich.

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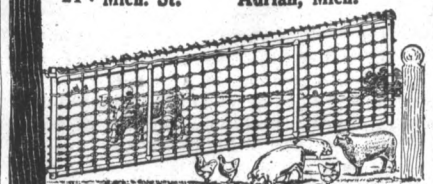
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DETROIT, NOV. 30, 1912.

CURRENT COMMENT.

Wisconsin has maintained her reputation as a progressive state by the passage of a law governing the incorporation of co-operative associations. Under this law any number of persons, not less than five, may associate themselves together as a co-operative organization for the purpose of engaging in any agricultural, dairy, mercantile, mining, manufacturing or mechanical business on the co-operative plan. The law provides for the form of articles of incorporation, the manner of filing them and the fees for same. An essential feature of the law is the provision for the distribution of profits on the basis of patronage after a reasonable rate of interest has been paid on the capital invested, further profits being distributed in proportion to the amount of business done through the association by the individual members. Only a limited amount of stock can be held by any one person and each stockholder is limited to one vote instead of voting according to the amount of stock held, as in other corporations.

As a matter of protection to such organizations, the law provides a penalty for the use of the word "co-operative" by any organization that is not based on true co-operative principles, or which does not comply with the requirements of the act and pay profits on patronage rather than on capital stock above the prescribed limit. The law provides that each co-operative organization shall be managed by a board of not less than five directors to be elected by and from the stockholders for such terms of office as the laws may prescribe. Power is, however, given to a majority of the stockholders to remove at any time any director or officer for cause.

The articles of incorporation may be amended by majority vote of the stockholders at any regular or special meeting called for that purpose. The dividends which may be paid upon the capital stock, to which purpose the profits are first devoted, are limited to six per cent per annum. Next, the law provides that 10 per cent of the net profits shall be set aside for a reserve fund until that fund shall reach an amount equal to 30 per cent of the paid up capital, also five per cent of the net profits must be set aside as an educational fund to be devoted to teaching co-operation, after which the remainder of the net profits is distributed by uniform dividends upon the amount of business done by shareholders and upon wages and salaries of employes, one-half the amount of such dividends to be distributed to non-members of the association who have done business through it, according to the amount of such business.

This law is well worthy of attention of all who are interested in the development of co-operative enterprises. With the growth of such enterprises which is bound to occur in Michigan at no distant date, enabling and protective legislation somewhat of this character would be most desirable.

In his recommendations for new legislation contained in a communication to Governor Osborn, as recently made public, State Highway Commissioner Ely advocated a new departure in road maintenance. He recommends that the state highway department be given authority to maintain state reward roads, for the reason that many roads built under the state reward system by the state and county or township are allowed to deteriorate by the officers who have charge of their upkeep. As a means of correcting this evil, he recommends that the state pay a small amount per mile for the upkeep of roads and take charge of the work. Other recommendations are, that the state increase the bounty for roads wider than nine feet, as prescribed under the present law, allowing \$100 for each additional foot up to 16 feet in width. It is the opinion of the commissioner that the nine-foot road is too narrow on main thoroughfares, where there is passing of rigs.

Another innovation recommended by the commissioner is that of levying of a specific tax on automobiles in lieu of the local tax and license fee now imposed, the tax to go into the state highway fund. He suggests that a tax of \$10 each on 40,000 automobiles would furnish \$400,000, which he estimates will be needed for state reward purposes next year. This recommendation is made upon the ground that automobiles do more damage to the roads than other vehicles, hence their owners should pay something toward their upkeep.

These recommendations are of interest to every Michigan Farmer reader. The suggestion of the state maintenance of state reward roads is worthy of special attention. Undoubtedly it might increase the cost of inspection somewhat, but on the other hand there is every possibility that it might be most beneficial in an educational way, thereby more than offsetting any increase in the cost.

This would be particularly true with gravel roads. In this type of road the matter of maintenance is a most important one. If gone over at just the proper time with a light scraper or a King drag these roads can be maintained in first-class condition at a small expense, while if neglected they soon become full of ruts and holes, thus greatly reducing the satisfaction in their use and the permanence of their service. Unquestionably local highway officers need object lessons of this kind. Also the local traveling public needs similar object lessons, for with a better knowledge of the possibilities of cheap care on gravel and even earth roads will come an insistent demand for the use of those methods which will increase their efficiency at a small cost.

The Michigan Forestry Association in session at Saginaw last week, adopted

resolutions calling upon the governor-elect and the members of the incoming legislature to take effective steps to prevent, if possible, the further depletion of Michigan forests and the extension of the waste land areas of the state. The text of this resolution follows:

The Michigan Forestry Association views with deep concern and alarm the continuous depletion of our forest reserves, large forests and woodlots alike; the extension of our waste land areas; the enormous import of timber into the state and the utter lack of any actual work or effort on the part of the state and people to check the changes for the worse or replenish the supply of forests and give back to the state the beauty and protective cover which it so badly needs.

It deplores the sale of millions of acres of state lands, lands poorly fitted for agriculture, making possible bad land speculation. It also declares for forest fire protection and interest on the part of the public domain office in reforestation; and that the public domain office shall have full charge of fire protection in the forests.

Several of the ideas expressed in these resolutions will form profitable food for thought for many Michigan Farmer readers. By far the greater proportion of the timber area left in Michigan is included in the woodlots of the state, and yet comparatively few farmers give these woodlots the intelligent attention and

care which they merit. Realizing this, the State Board of Agriculture has put an experienced field man at the service of the farmers of the state in this connection. Mr. C. A. Tyler, who needs no introduction to our readers, is looking after this important work of advising farmers who are seeking information as to the best means of handling their woodlots in order to perpetuate and improve them and at the same time make them as great a source of revenue as possible. This is a subject which unquestionably should be given more consideration by the average farmer.

The other mistakes pointed out in the above resolutions are of equal importance in a general way and are worthy of the careful attention of the governor-elect and legislature. Undoubtedly there is much in the reforestation propaganda which has emanated from certain sources which is impractical, but at the same time there is a very practical side to the question which is well worthy the attention of each and all of us.

A movement has been started by the directors of a number of state fairs to interest the federal government in a proposition to erect government buildings on state fair grounds in which to show what the government is doing in the way of promotion of scientific farming, irrigation, forest protection, etc. It is said that a large number of congressmen have been sounded upon this subject and that an encouraging proportion of them have been found to be favorable to the scheme.

It appears, however, that in the event of such government action only those fairs would benefit which are state fairs in fact, as well as in name, which, unfortunately, would not apply to our Michigan fair and is another argument in favor of the state owning and operating the state fair, a policy which has been long and consistently advocated in the columns of the Michigan Farmer.

This matter of federal aid for state fairs is, of course, only in a speculative stage at present, but it is not an unreasonable proposition hence one which is worthy of consideration as an added reason for such action as is above recommended.

The production engineer has become an important factor in modern manufacturing enterprise. His business is to cheapen the cost of production by introducing labor-saving devices and by directing the energy of the workmen along lines which will accomplish most with the least expenditure of time and labor. In business enterprises, other than manufacturing, he is known by other names, such as efficiency expert, cost accountant, etc. He is, in fact, a sort of business doctor who seeks out the weaknesses in the business organization as the physician locates the weaknesses in the physical organism and, like the modern physician, takes such steps as may be practicable to remove the cause of the business ill.

This sort of professional doctoring has come to be a recognized business and experts along this line have been profitably employed by thousands of business houses in hundreds of different lines all over the country.

This aid which is to be extended to the farmers of Michigan through the farm management experts known as district supervisors and county agents through the co-operation of the United States Department of Agriculture and the State Board of Agriculture, is directly comparable to the line of professional work above mentioned, and instead of resenting any implication of inefficiency through offering such aid, the farmers of the state should make every possible use of these efficiency experts to make their business more profitable.

This is a good time for every farmer to ask himself whether his farming operations for the past year have been profitable or not. If they have not, why? If this important question cannot be solved without outside help, or if the aid of one of these government efficiency experts will assist in its correct answer and in the solution of the problem of making next year's campaign more profitable, there should be no hesitancy in seeking such aid or advice. Let us make the greatest possible use of these men who have at their command data which is not available to us as individual farmers, the interpretation of which will make them able to help us in the correct solution of many of these vexed problems.

HAPPENINGS OF THE WEEK.

National.

The vote for woman's suffrage is still undecided. The state board of canvassers are at work and with three counties missing the vote stood on Monday with 239,948 votes for and 239,920 against the amendment. The unofficial figures on the vote of the missing three counties included in the above count gives totals of 247,830 votes for and 248,553 votes against the measure, or a majority against the measure of 723. The result is being very much criticized because those counties not making early reports before showing increased majorities against the measure, it being implied from this that irregular work has been done.

The National American Woman's Suffrage Association elected officers at the Monday session of the convention now being held at Philadelphia. The following officers will serve the ensuing year: President, Dr. Anna H. Shaw; first vice-president, Jane Addams; second vice-president, Mrs. Charlotte Whitney; corresponding secretary, Mary W. Dennett; recording secretary, Susan W. Fitzgerald; treasurer, Mrs. Stanley W. McCormick.

The plant of the Union Sulphur Co., and adjacent warehouse buildings, of New York City, were destroyed by fire Monday. Thirteen persons were seriously hurt, two men are missing and \$750,000 damage was done by the flames.

An explosion in the Corn Products Refining Co.'s plant at Waukegan, Ill., is believed to have killed 25 persons and injured as many more. Thirteen girls are thought to be among those who perished, the starch room caused the explosion.

14 bodies having been recovered from the ruins. Combustion of the starch in two blocks in the town of Royal Oak were destroyed by fire Sunday and damage to the extent of \$30,000 was done.

The locomotive engineers of 52 railroads are pleased with the outcome of the arbitration of differences between the engineers and the railroad companies. The board of arbitrators reported their decision November 24. In place of the general advance that was demanded by the men they were allowed a certain increase with a fixed minimum wage. Michigan locomotive engineers benefited by the decision. The arbitrators urge the creation of a federal and state board for the purpose of handling such matters in the future.

It is believed that the strike in West Virginia coal mines is near an end and that an agreement between the miners and officials will be effected.

A thousand square miles of territory, lying mostly within the Sioux Indian reservation, was swept by a prairie fire of large proportions last Saturday and Sunday. The town of White Owl is reported entirely wiped out and many other places threatened. A number of homesteaders are believed to have perished in the flames.

The prosecution of the accused dynamite plotters in the federal courts at Indianapolis continues. Already 400 witnesses have been examined by the government and there are 160 more to testify. Thus far the testimony bears out the confession made by Ortle E. McManigal.

Of the mail handled by the post office department during the last fiscal year, three and eight-tenths per cent was franked mail. The matter sent out as political documents would have returned to the government \$3,250,000 had it been paid for at the usual rate.

John Shrank, who shot Colonel Roosevelt on the night of October 14, at Milwaukee, has been declared insane and is now committed to an asylum.

A memorial statue was unveiled in honor of the late William Cotter Maybury, of Detroit, at Grand Circus Park, in that city Sunday, before a throng of people who had gathered to pay honor to the distinguished citizen.

Foreign.

Strained relations exist between Serbia and Austria. Serbia desires a strip of sea coast that her commerce may be improved and this she cannot secure without disturbing Austria's interest. Now after the successes, with the other allied forces, against Turkey, the little isolated country is eager for the coveted coast line. Russia is believed to be supporting Serbia's move to gain her wants and Germany is reported to be behind Austria in opposing any demonstration along the Austrian border. While there is still hope that the matter may be settled without war, yet should trouble start the relations are such that a major part of Europe would likely be embroiled in the conflict.

A disastrous stampede occurred at a theatre at Bilbao, Spain, last Sunday afternoon where 50 children were killed. The operator lost his nerve when a film ignited, and yelled fire, which started the rush for the exits, those in the rear trampling to death such as were unable to get out of the way.

The Mexican government is ruling with an iron hand. It is stated that fully 25 villages in the state of Oaxaca have been destroyed by the federal troops. It is generally believed, however, that these drastic measures will not gain the end desired, as the rebels will gain moral strength thereby.

It is still impossible to estimate the damage done by the hurricane which swept over Jamaica last week. Railway communications have been restored to some of the important points but many isolated places still exist.

According to a cable dispatch from the far east, war has actually begun between China and Mongolia, a telegram stating that Uliassutai, Mongolia, has been captured by Chinese troops. Russia is ordering detachments from various military stations toward West Mongolia and Urga, presumably to protect her own interests and to be ready to meet conditions unfavorable to her interests.

PROCEEDINGS OF STATE HORTICULTURAL SOCIETY.

(Continued from page 496).

identification contest, by junior and senior students in horticulture, as follows: First, Robert Loree, East Lansing; second, F. C. Crawford, Caseville; third, C. B. Olney, Reethan; honorable mention, J. A. Petrie, Bellaire.

Wednesday Afternoon.

R. G. Phillips, of New York, secretary of the International Apple Shippers' Association, was the first speaker and he condemned to the limit of speech reprehensible methods of packing fruit and urged growers, with great force, to "abolish junk." Said he: "We've not measured up to our opportunities as growers. We're blinded to the fine points of our industry. As growers, you are creators—bringing into being an apple, out of the dew and rain and mother earth. There is no vocation more independent or more noble. It takes the Almighty, plus a man, to produce an apple. Orchards are increasing and our investments are growing. We must do two things—abolish junk and advertise. We must build for the future, not for today. I want an awakening, a baptism of the square deal. Just plain J-U-N-K is the ruination of our markets and as long as we ship this stuff we must never expect to have a market. We must gain the confidence of consumers. Reliability is the watchword of the business world. Poor fruit brings good fruit down to its level. It is true that the honest pack is rewarded but the reward is not adequate. Now a word as to the remedy. It does not lie in any individual brand, or in one state, but in the new national Sulzer apple law, the standard pack that looks the whole world in the face and says, 'try me.' The bill was passed at the crucial time and this standard pack forms the ideal basis for advertising. The commodity you advertise must square with your performances. Advertising has wonderful powers and a committee of our society is now at work on publicity plans to increase consumption of apples. It is possible to double the consumption of apples and yet have them bring a fair price. Establish packing schools, use the Sulzer bill, make it alive, and then insist on selling under it. The dealers cannot solve the problem. We must go to the growers, the fountain head. The Sulzer bill is the way of salvation and I beg of you to rally round the standard. Pack under the Sulzer bill."

Edward Hutchins, of Allegan county, opened the discussion, saying in part: "We want a law that will enable us to be honest, and to gain credit for it. Under the Sulzer law this is possible." Mr. Hutchins described briefly the workings of the newly organized fruit growers' exchange at Pennville, where 100 members turn over their orchards to uniform and careful methods of packing and handling the fruit, the association charging five per cent to cover expenses. While results may not be entirely satisfactory the first year, Mr. Hutchins is satisfied that a desirable trade in smaller places is being lined up and that the future has promise.

"Fruit Growing from a Woman's Standpoint," was the subject of an interesting address given by Mrs. Paul Rose, of the celebrated Rose fruit farms in Benzie county, who, with her husband, has made wild lands of northern Michigan blossom and burst into fruit. Yet she says modestly, "what we have done, others can do. Nay, they can do more, for there are bulletins and colleges and aids at every hand. It wouldn't be best for every woman to engage in fruit growing, but to one who likes it—what a fascinating business. A woman can plant trees as straight as a man and can spray if necessary, in fact, there is no part of fruit work she can't do. The wife should acquaint herself with the work so that she can direct it when her husband is gone. Always direct your work—it will not run itself. I have looked after as many as 85 packers in cherry time. Be firm with your workers but don't nag them. Be interested in each worker, study them and learn what they are best adapted for. My advice is to be careful in selection of location. Get near to market and near to help. Don't plant too extensively and don't buy land 'unsight and unseen.' We women may be easy, but there are others."

Thomas S. Smith, of Illinois, discussed apples from the commercial standpoint. At the outset he called for a vote on the Northern Spy as the leader among apples and the result was divided, many members preferring other varieties. Then he

said: "We think the Spy is best, for it brings the most money. The Steele Red is a great apple but won't cook as well as the Spy. These varieties will not turn brown in cold storage. We like the Michigan Greening especially well and find they will keep a month longer than the Greenings from anywhere else. The Michigan Jonathan is fine but a little undersize this year. The Grimes Golden is in a class with the Jonathan and grows better in the south. Why don't you grow more 20-ounce Pippin, that splendid baking apple so common in New York. The 'Sptz' has high flavor but is not a good bearer and you can't compete with the west in this variety. I wouldn't plant too many Duchess nor too many Baldwins. Would prefer the Wealthy and Duchess to the Yellow Transparent. Sutton's Beauty is not popular. We paid this year \$1 per barrel more for Spys than for any other variety."

At the close of the afternoon program, J. E. Merritt, of Manistee, gave an illustrated talk on his work of clearing over 300 acres of wild land near Manistee, 200 acres of which have been set to fruit. The first operation is brushing, then snagging with horses and chain, followed by burning snags and then the big stump puller gets in its work. A surveyor is employed in setting out trees. Numerous slides showing leading Michigan fruit growers and their orchards were also thrown on the screen.

The annual dinner of the society was served at the St. Cecilia building Wednesday evening, with upwards of 300 members present. Chas. W. Garfield was toastmaster and three-minute talks of a happy nature were given by A. S. White, C. J. Monroe, A. J. Franz, Mrs. C. J. Chatfield, R. A. Smythe, R. G. Phillips, Thos. Gunson, Arthur Hendrickson, J. H. Skinner, Mrs. M. E. Campbell, and Prof. Eustace. There was an early adjournment and many went to the apple show. Kent Co. A. GRIFFIN.

(Concluded next week).

ACCESSORIES IN THE HUMAN DIETARY.

(Continued from page 493).

these nations live almost exclusively upon an animal diet.

So great, however, has our desire for salt become that it is quite customary even when eating meat, to add some considerable quantity of salt to the diet. We believe, however, that this is an acquired characteristic occasioned by exactly the same reasons that causes us to highly spice our foods and to use strong sauces, etc., with our meats.

MICHIGAN FARMERS' INSTITUTES FOR DECEMBER.

County Institutes.

Roscommon Co., Roscommon, Dec. 3-4. Crawford Co., Grayling, Dec. 4-5. Otsego Co., Gaylord, Dec. 5-6. Montmorency Co., Atlanta, Dec. 6-7. Mason Co., Ludington, Dec. 10-13. Alpena Co., Long Rapids, Dec. 10-11. Cheboygan Co., Wolverine, Dec. 13-14. Presque Isle Co., Millersburg, Dec. 13-14. Emmet Co., Harbor Springs, Dec. 16-17. Wexford Co., Manton, Dec. 17-18. Missaukee Co., McBain, Dec. 18-19. Lake Co., Dover, Dec. 20-21. Benzie Co., Honor, Dec. 23-24. Oscoda Co., Mio, Dec. 20.

One-Day Institutes.

Kalkaska Co., Rapid City, Dec. 2; Excelsior, Dec. 3; Cold Springs, Dec. 4; North Springfield, Dec. 5. Missaukee Co., Shippy, Dec. 2; Morey, Dec. 3; Falmouth, Dec. 4; Lake City, Dec. 5-6.

Oceana Co., Blooming Valley, Dec. 3; Weare, Dec. 4; Mears, Dec. 5; Rothbury, Dec. 6; Cranston, Dec. 7. Emmet Co., Island View, Dec. 3; Ely, Dec. 4; Alanson, Dec. 5; Bear Creek, Dec. 6; Epsilon, Dec. 7.

Otsego Co., Vanderbilt, Dec. 6-7. Iosco Co., Hale, Dec. 3; Grant, Dec. 4; Sherman, Dec. 5; Alabaster, Dec. 6; Tawas City, Dec. 7.

Alpena Co., Alpena, Dec. 12. Cheboygan Co., Cheboygan, Dec. 7; Indian River, Dec. 9. Montmorency Co., Hillman, Dec. 9.

Wexford Co., Pleasant Lake, Dec. 9; Antioch, Dec. 10; Buckley, Dec. 11-12; Cadillac, Dec. 19-20. Lake Co., Baldwin, Dec. 13; Chase, Dec. 14; Luther, Dec. 23.

Oscoda Co., Tustin, Dec. 16; Leroy, Dec. 17; Hersey, Dec. 18; Avondale, Dec. 19; Marion, Dec. 20.

Hillsdale Co., Lickly Corners, Dec. 11; Amboy, Dec. 12; Frontier, Dec. 13; Jefferson, Dec. 14; Allen, Dec. 16; Reading, Dec. 17; Camden, Dec. 18; Church's Corners, Dec. 19.

Oscoda Co., Comins, Dec. 16; Fairview, Dec. 17; Red Oak, Dec. 18; Luzerne, Dec. 19. Gladwin Co., Wagarville, Dec. 16; Grout, Dec. 17; Beaverton, Dec. 18. Isabella Co., Winn, Dec. 19; Blanchard, Dec. 20-21; Weidman, Dec. 23. Leelanau Co., Empire, Dec. 20-21. Mecosta Co., Morley, Dec. 17; Stanwood, Dec. 18; Barryton, Dec. 19; Remus, Dec. 20.

You Bring Unbounded Joy to the Home with A Piano for Christmas

Haven't those of your family mentioned it—Pictured the pleasures it would bring—often wished for it? And you've agreed there should be one in your home—well realize the delightful hours it would mean—and if there are any young people in the home, how necessary it is that there should be some source of entertainment which will appeal to them—be to them more enjoyable than that presented elsewhere. In such a gift you give to all the household—beautify the home in marked degree and provide a wealth of pleasure—it is a remembrance which the passing years will but serve to more greatly endear to all the family circle.

Nowhere else such a splendid line from which to choose:

Steinway, Knabe, Grinnell Bros. (own make), Sohmer, Vose, Sterling, Shoninger, Smith & Barnes, Huntington, Mendelssohn, etc.



We've determined that this Christmas business shall far exceed that of any previous year and to that end we have endeavored through the immensity of our purchases and through availing ourselves of every possible avenue of saving, to give greater value than ever. And we have succeeded; you will be amazed at the musical worth afforded at our prices. Don't fail to learn of this, for it means a saving of many dollars to you.

Special Christmas Terms

Come in at your earliest opportunity—note our prices, learn how very easy you can gladden your household with this superb remembrance. Instruments selected now, held for future delivery. Such a gift you may well be proud to present—its power to delight is not confined to one person nor does it end with the passing of the Christmas season. Many share in the joy it brings and it endures for a lifetime.

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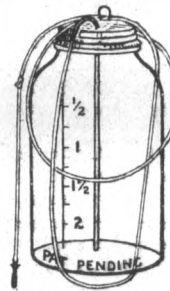
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Woman and Her Needs

At Home and Elsewhere

LET US GIVE THANKS FOR WORK.

AS you sat in your pew Thanksgiving morning and listened to your pastor discoursing on thankfulness, how many of you thought to be thankful for work. Work, just plain work, not thankful for a job that would bring you in money, but thankful that the Creator of the Universe ordained that work should be the biggest factor in life.

What would your life be without work? Just close your eyes and try to imagine what you would do if it should suddenly be decreed that you could never work again. That hereafter all the tasks which you have done should be taken away by others and that your life was to be one of absolute ease. It would result in one of two things, you would either go to the dogs or to the lunatic asylum inside of five years.

Work is all that keeps half the population of the world in the straight way. It is really shocking to think how many upright citizens who go along day by day earning their living and leading a life of morality would quickly depart from ways of rectitude if the necessity for earning a living were removed. Their minds are active, bodies vigorous and hearts young and they must do something. If that something need not be work it would certainly be mischief, though it would shock these good citizens dreadfully to think that they might under certain circumstances go wrong.

That is why I have so much sympathy with the wealthy men and women who lead such worthless lives. The poor things can scarcely help it. Just think what you would do if there wasn't anything you had to do! If all you were expected to do by your family and friends was to spend money, do you honestly think you would be any better than people you read about? Of course, we can point to such women as Helen Gould and say that this is what we would do with our wealth, but I doubt it. To choose the course that Miss Gould has taken requires an unusual character, great powers of mind, wonderful self-control, perfect judgment, a soul in harmony with the Infinite and a vision that sees beyond today. How many of us have it? How many of us can rise above the circumstances of our own life in our own little sphere? Would it be easier to get beyond selfishness and frivolity in a life where we were expected to be selfish and frivolous? The woman who works because the work is in front of her waiting for her to do it, is to be respected, but the one who hunts up the work to do must be regarded with veneration.

Work is a great character builder. There is nothing like doing a disagreeable task well if we wish to develop honesty and perseverance. It is much easier, in a way, to half do the task we dislike, or to leave it half-finished if someone offers to relieve us. But it is infinitely better for that soul-mansion we are building to stick at the onerous duty until it is well done. We talk about wanting to take part in the real battles of life. The greatest of life's battles are fought in the kitchen with the dish cloth for a flag and the mopstick for a weapon. And when it gets down to brass tacks, it does not require half the ability and tact and self-control to win a battle in a woman's club or a school meeting, or to expose some graft in civic matters that it does to bring order out of chaos in the kitchen and keep the wheels of domestic machinery running smoothly. For soul culture commend me to the woman who can keep house successfully, doing all the work herself, and never lose her temper or good manners. Going out in society can give nothing like the polish that good honest work honestly done, puts on.

I used to pity myself because I had to work. It seemed a shame that I had to peg away on the job day in and day out when so many other women, whom I didn't consider half so clever as myself, had leisure to have a good time. Lately I've got better acquainted with those women and I really believe I'm the one that is having the good time. I have something to do that counts. The women of leisure have to manufacture their work and busy themselves about such trivialities as club committees and boards of managers that are of no interest to anyone but themselves. Housekeeping, I mean homekeeping which, I am told, is the new and better word, is of interest to everyone. For it not only is of moment to the family but it is of vital interest to the state and nation. If, out of the homes come the future rulers of the country, it is the women who manage those homes who are to decide what children will be the rulers.

Just to bake good bread, provide wholesome meals, wash clothes, sew on buttons, bathe children, and tidy rooms. It seems like very commonplace work to be thankful for. But if it is honestly and faithfully done it makes for all that is good and beautiful, contentment, order and peace.

"For all Thy mercies Our Father we thank Thee," but for work most of all.

DEBORAH.

FLORAL WORK FOR DECEMBER.

By Eva Ryman Gaillard.

IN considering December work among the flowers so many little duties come to mind that each must be mentioned briefly in order to remind workers of as many as possible. One of the final duties of the year in the open is that of seeing that all needed mulches are in place and that rhododendrons and other half-hardy shrubs that retain their foliage are protected in some way. Straw, cornstalks or other materials may be used but, where available, evergreen branches are best as there is nothing about them for mice and moles to feed on. The object of this top-protection is to ward off the sun's rays rather than to protect from cold, and while it should be ample for that purpose it should not be solid enough to smother the tops.

Small evergreens like the arbor vitae and spruces, are very brittle when frozen and it is a good plan to put up guards of some sort if there is danger of their being struck in any way.

Look up the little odd jobs that can still be done and see that they are done for when the days begin to lengthen and the "cold to strengthen," it will, probably, be impossible to do them.

Most mid-winter suggestions to window-gardeners are as to the care of plants already in hand, so a few as to

getting sorts less commonly seen may be helpful. *Spiraea Japonica*, with its enormous white plumes, is one of the most showy flowers known and this is the month when they should be ordered. If potted about the last of the month, kept in a cool cellar until the last of January and then brought to the light and warmth they will start into growth very quickly and well repay one for any trouble taken to secure them.

Gladioli are rarely seen in the window though there are varieties suited to forcing. The one known as *Blushing Bride* is one of the best and if potted now and handled just as hyacinths are they will make a fine showing in April, often being open at Easter time.

If the stress of fall work crowded floral plans aside it is worth while to know that bulbs of all the polyanthus type of narcissi and many other sorts of bulbs may be potted as late as the end of the year and come into flower before any appear in the garden. Sometimes a given amount of money sent to a large dealer after the fall rush of business is over will bring several times as many bulbs as could have been purchased with the money earlier. With such an order it is well to leave the selection to the dealer for, as all bulbs are worth having the

buyer is sure to get the money's worth.

Rows of small pots in a window are not ornamental and the sun shining on their sides dries the soil so rapidly that daily watering is necessary and, what is worse, burns the roots until they are practically useless to the plant. To overcome both faults get long boxes, similar to outside window-boxes; put a layer of drainage material in the bottom and set the pots into the box, placing the tallest plants at the back. Fill the spaces between pots with some light material like moss or charcoal. Arranged in this way the plants and the top-soil get the benefit of the sunshine while the pots are shaded, and the plants make a more attractive showing.

During this month many plants will seem to make no growth but this should cause no worry if they seem to be healthy. Keep them clean, give as much fresh air as possible, and water when necessary. When standing partially dormant they will need less water and no fertilizer for they are simply taking a natural rest and next month when the days lengthen and the light strengthens they will start into new and vigorous growth.

During the winter just beginning, the work in the window-garden will consist, mainly, of supplying the water and food needed and fighting bugs. The bugs will furnish employment enough in any case, but the one who works on the "ounce of prevention theory" will find it much easier to keep them under control. Dozens of remedies might be named but we can give a few, only, of the most reliable.

Lice, mealy-bug, scale, red-spider and other insect pests thrive in dry, heated air and, again, we urge the cleanliness which means washing, and moisture on the foliage. Insects of different kinds select plants of different kinds to work on. Plant lice have a fondness for roses, cinerarias, pelargoniums, and similar plants. If they appear wash them off and while the leaves are wet dust them with the finest of tobacco dust or wash them thoroughly with a weak tobacco-tea. Quassia tea made by steeping an ounce of quassia chips in three gallons of water is another good wash, or spray. Either tobacco dust or fine quassia chips scattered on the soil will go far toward keeping them away.

Mealy-bug appears in axils of the leaves and one unacquainted with it would not suspect that the little cottony looking bunch was an insect, but it is a very hard working one and the surest remedy is to touch each one with a drop of alcohol or spirits-of-camphor.

Scale appears on hard wooded plants or on old, tough leaves and each little scale covers a nest of tiny insects. Because of their scale covering, spraying has little effect and some force must be used in rubbing them off. After the scale has been removed, wash the plant in a suds made of whale-oil soap; sulpho-tobacco soap, or common naphtha soap.

Red-spider is common where the air is dry and moisture is the only remedy. Wash and spray with clean water frequently, being sure that the under sides of the leaves are moistened. A pan of hot water set among the plants every day helps to keep this pest in check and is good for the plants in other ways.

White worms in the soil may be killed by the use of lime water. Dissolve a lump of lime as large as your fist in half a pail of water and when settled, water the plants with the clear lime water. Let the soil in the pot get as dry as possible without injury to the plant and then pour on the lime water until it comes through the drainage holes.

Never get into the habit of watering all the plants in a collection while-you-are-at-it. The one who waters a cactus, century-plant, rubber-plant, or any other having thick smooth leaves, as often as the geraniums need water, will surely ruin it and for the reason that one loses no moisture by evaporation through the leaves, while the other loses much in that way. The looks of the surface soil is not a reliable indication as to the need of water for many times it seems moist while lower down it is bone dry, or is

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wet and soggy below when dry on the surface. Lift the pot and tap the side sharply with a knife, or similar object. If it gives off a hollow, ringing sound the soil is very dry, but a dull thud indicates a wet soil. Knowing the condition is knowing what to do. Water only the plants that need it, and water them thoroughly. Warm water is best for the plant and it should be poured on until it begins to run through the drainage holes. All that comes through into the saucer should be poured off.

Plants on which flower buds are nearing perfect development, those that have completed their natural period of growth and are ready to rest, and "sick" plants should not be fertilized or forced in any way, but those that have filled the soil with a mat of roots and exhausted the food supply, need repotting or feeding, and during the winter the latter is the easier. The barnyard will afford the best of fertilizer though not quite as pleasant to use as the commercial brands prepared expressly for house use. A teaspoonful of commercial fertilizer sprinkled on the soil and watered down, once in three weeks, will be about right for a thrifty plant in a six-inch pot. Little-and-often is the safe rule for using any fertilizer, for too much or too strong will injure the roots and over-stimulate the plant.

Plants good for but one season, or those on which it is desirable to force the blooming period, may be stimulated by using a teaspoonful of household ammonia to a quart of water, or by dissolving a lump of nitrate-of-soda as large as a pea in each pint of water. Use either of these stimulants once a week if rapid forcing is desired, less often if not working for flowers to be used soon. These, and some other things will stimulate the plants to the limit, but they are not plant foods suited to building up a strong, lasting growth.

HUMAN WELFARE QUERIES.

Household Editor:—I saw in the Michigan Farmer a request for a bed-bug remedy. My mother and myself have used the following for years with the best results: In one pint of fresh turpentine dissolve one ounce of corrosive sublimate. Take a feather and go all over wherever there are signs of bugs. This is a sure remedy. Can some of the sisters tell me how to wash a green silk waist without its changing color? I am a great lover of the Michigan Farmer.—Mrs. Cora B., Henderson.

The best way to clean the waist would be to soak it for an hour in a gallon of gasoline and then wash it out of the fluid. Some have success with naphtha soap and gasoline, using the two like soap and water. I have never tried the experiment so can not say how it works. Be sure to use plenty of gasoline. You can let it stand after using until the dirt settles, then pour off the top and use again.

Household Editor:—Please publish this recipe for Mrs. G. S., South Branch. I have used it with good results and I think she will find it good also, if she will follow the directions to the letter, as I did. I think The Michigan Farmer a dandy paper. It has such good suggestions for the housewife and also for the man of the house. If we stay on the farm we will not be without it. A good preparation to rid the house of bed-bugs is a mixture of wood alcohol, one part, and gasoline, three parts. Take one room at a time, drench every part of it and shut up tightly for 24 hours. Air by opening doors and windows. Sweep before and after doing this and burn the sweepings. Avoid artificial light while using the fluid. The mixture is highly inflammable. It is sure death to every form of insect life.—Mrs. F. H. B., Decatur, Mich.

Household Editor:—I saw in the Michigan Farmer that Mrs. G. S., of South Branch, asks for quilt patterns and a remedy for bed-bugs. We have no quilt patterns to offer but we have had lots of experience with bed-bugs. We managed to get rid of them by using lots of gasoline in the bed-stands. We usually use an oil can for squirting it in all cracks. To get rid of them in the walls and rooms, if you use wall-paper it is a good plan to repaper your rooms. Size your walls before you put the paper on, and put in the sizing a little Paris Green or lead arsenic. Then give your woodwork a coat of paint. If it does not need paint, a coat of varnish will answer the same purpose. See that you do not escape any place. We know nothing of how to keep pumpkin pies or squash.—F. W. J. B.

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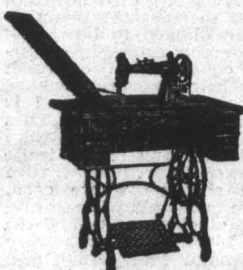
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MARKETS

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DETROIT WHOLESALE MARKETS.

November 26, 1912.

Grains and Seeds.

Wheat.—The wheat trade continues to show uneasiness with conditions more favorable to the bulls than a week ago. The political situation in Europe and Asia has been the large factor in advancing prices from last week's low mark. It seems probable that Austria, Serbia, Russia, and perhaps Germany, will be thrown into a conflict. Should such be the case a large portion of the European supply of wheat will be held back, thus affording an improved demand for wheat from other countries. The report of war between China and Mongolia is also encouraging the bulls to take hold of the trade. This news is augmented by a decline in the world's exports of a million bushels under what was expected, and also of a scarcity of cargoes in England. On the other hand, India and Argentina have good weather for finishing their crop, while in this country and Canada the movement of wheat is very free and the International Institute of Agriculture reports that the production of wheat in the northern hemisphere for 1912 is 6.4 points above the production in 1911. One year ago the local price for No. 2 red wheat was 97c per bu. Quotations for the week are:

	No. 2	No. 1	Red.	White.	Dec.	May.
Thursday	1.05 1/2	1.04 1/2	1.06	1.10 1/2		
Friday	1.05 1/2	1.04 1/2	1.05 1/2	1.10 1/2		
Saturday	1.06 1/2	1.05 1/2	1.06 1/2	1.11 1/2		
Monday	1.07	1.06	1.07	1.12		
Tuesday	1.06 1/2	1.05 1/2	1.06 1/2	1.11 1/2		

Corn.—The corn trade continues on a steady basis. The influence of wheat would have worked higher values but for the fact that farmers are selling for December delivery quite liberally. This counterbalances the other influence. On the local market there is very little activity in this grain, dealers having only small stocks to fill orders. A year ago the price for No. 3 corn was 66 1/2c per bu. Quotations for the week are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	61	63
Friday	61	63
Saturday	61	63
Monday	61	63
Tuesday	58	61

Oats.—Oats show a tendency upward. A fractional advance in the price is noted in local quotations. The strength of wheat, no doubt, favored this change, although the grain itself probably warrants an improvement in prices. The local granaries are not too well supplied and the demand is active. Standard oats sold at 50 1/2c per bushel one year ago. Quotations for the past week are:

	Standard.	Oct.
Thursday	34 1/2	33 1/2
Friday	34 1/2	33 1/2
Saturday	34 1/2	33 1/2
Monday	35	34
Tuesday	35	34

Beans.—This product is firm and active. It seems impossible to get the legumes away from primary elevators because of a scarcity of hands for picking and cars for transporting. Quotations are:

	Cash.	Dec.
Thursday	\$2.35	\$2.20
Friday	2.35	2.20
Saturday	2.35	2.20
Monday	2.35	2.20
Tuesday	2.35	2.20

Clover Seed.—Firmness characterizes this market. An advance of 25c in the leading grades was made Monday. There is a scarcity of clover seed supplies in all grades and the offerings at the leading markets show this shortage. The demand is fair. Quotations are as follows:

	Cash.	Dec.
Thursday	\$10.75	\$12.75
Friday	10.75	12.75
Saturday	10.75	12.75
Monday	11.00	13.00
Tuesday	11.00	13.00

Rye.—Rye continues to decline, the present value being 6c below the reduced quotations of last week. The International Institution of Agriculture reports the rye crop in the northern hemisphere 22.2 points above the crop for 1911. No. 2 rye is now quoted at 63c per bu.

Flour, Feed, Potatoes, Etc.

Flour.—The market is active with all grades steady.

Straight	\$5.20
Patent Michigan	5.60
Clear	4.90
Rye	4.80

Feed.—Steady. Carlot prices on the track are: Bran, \$23 per ton; coarse middlings, \$24; fine middlings, \$29; cracked corn and coarse corn meal \$29; corn and oat chop, \$22 per ton.

Hay and Straw.—Market steady and firm. Quotations are: No. 1 timothy, \$16.50@17; No. 2 timothy, \$15@15.50; clover, mixed, \$14@16; rye straw, \$11@11.50; wheat and oat straw, 9@10 per ton.

Potatoes.—The general situation of the potato deal is steady. The offerings are more restricted in volume than earlier and the trade would indicate an improvement in values later on. Detroit quotations remain unchanged. Local prices for car lots on track are 53c in sacks and 48c in bulk.

Provisions.—Family pork, \$23@24; mess

pork, \$19; clear, backs, \$22@24; hams, 16 1/2@17 1/2c; brisquets, 11 1/2@12c; shoulders 14 1/2c; picnic hams, 14c; bacon, 18@20c; pure lard in tiers, 12 1/2c; kettle rendered lard, 13 1/2c per lb.

Dairy and Poultry Products.
Butter.—This market continues firm with prices unchanged. The markets of this country all show considerable strength and many have advanced prices during the past week. Local quotations are: Fancy creamery, 35c; first creamery, 32c; dairy, 22c; packing stock, 21c per lb.

Eggs.—The usual shortage for this season is here and values are gradually advancing to higher levels. The past week witnessed an addition of 1c to local quotations, fresh receipts, candled, cases included now being quoted at 30c per doz.

Poultry.—Thanksgiving trade has augmented the demand for poultry and prices show considerable firmness in spite of the increase of offerings of all kinds. Quotations: Live.—Springs, 12@13c per lb; hens, 10 1/2@11 1/2c; No. 2 hens, 8@9c; old roosters, 8@9c; turkeys, 16@18c; geese, 12@13c; ducks, 15@16c per lb. Dressed.—Hens, 12@13c; springs, 13@14c; ducks, 18@20c; geese, 15@16c; turkeys, 21@22c per lb.

Veal.—Steady. Fancy, 12@13c per lb; choice, 10@11c.

Cheese.—Michigan flats, 16 1/2@17c; York state flats, 18 1/2@19c; limburger, 17 1/2@18 1/2c; brick cream, 18 1/2@19c; domestic Swiss, 21@22c.

Fruits and Vegetables.

Pears.—Keiffer, 75c per bu.
Apples.—Deal is not satisfactory to the grower. Local prices: \$1.75@3.25 for fancy, and \$1@1.50 for common; poor, 75c@1 per bbl. Snow apples, \$2.25@3. Good apples by the bushel are selling around 50@75c.

Honey.—Steady. Choice to fancy comb 16@17c per lb; amber, 14@15c; extracted, 9 1/2@10c.

Onions.—Per bu., 45@50c.

Cabbage.—\$1@1.25 per bbl.

OTHER MARKETS.

Chicago.

Wheat.—No. 2 red, 1.03@1.06; Dec., 85 1/2c; May, 91 1/2c.

Corn.—No. 3 old, 52@53c; new, 46@46 1/2c; Dec., 47 1/2c; May, 48 1/2c.

Oats.—No. 2 white, 34 1/2@35c; Dec., 31 1/2c; May, 32 1/2c.

Butter.—Receipts last week showed a fair increase over the previous week but were still about 14,000 tubs below those of the corresponding week last year, and this week opened with a gain over last week's opening. Strictly fancy fresh goods in urgent demand with sufficient call for under grades to keep stocks well cleaned up. Extra creamery in light supply and 1/2c higher, being quoted at 34 1/2c; extra firsts, grading 90 or better, in good demand at 33c; firsts in fair demand at 31c; seconds moving well, owing to light offerings, at 29c. Dairies in moderate supply and meeting a fair demand at 31c for extras, 28c for firsts and 26c for seconds.

Eggs.—With offerings running ahead of this period last year the market is holding up well. Fresh, graded stock moving readily at former values; poor lots slow and irregular; storage eggs easy and fractionally lower. Quotations: Firsts, 27c; ordinary firsts, 24c; at mark, cases included, 22@25c; storage, 20 1/2@21c per dozen.

Poultry.—Too large a proportion of mediocre and poor stock brought a decline of 2c on turkeys at this week's opening. Other kinds practically unchanged but somewhat irregular, owing to wide range in quality. Now quoted as follows: Fowls, 10c per lb; springs, 12c; ducks, 12@13c; geese, 12 1/2c; turkeys, 10@15c.

Potatoes.—Firm and active with some grades showing slight gains in values. Receipts continue moderate. Now quoted as follows: Michigan, 50@53c per bu; Minnesota, 48@52c; Wisconsin, 48@52c.

Beans.—Little doing in this market. Pea beans again slightly lower. Quotations are: Pea beans, choice, hand-picked, \$2.55@2.65 per bu; prime, \$2.45@2.50; red kidneys, \$2.25@2.35.

Hay and Straw.—Both hay and straw continue steady under increased offerings and a moderate demand. Clover \$1 lower and oat straw slightly higher. Quotations are: Timothy, choice, \$19@20; No. 1, \$16.50@18; No. 2 and No. 1 mixed, \$14@16.50; clover, \$7@12. Straw.—Rye, \$8@9; wheat, \$6.50@7; oat, \$7@7.50.

New York.

Butter.—All grades of creamery butter are firm at advanced figures. Demand steady and receipts lighter. Quotations: Extra creamery, 36c; first, creamery, 33@35c; seconds, 29@32c; process extra, 27 1/2@28c per lb.

Eggs.—Trade steady. Receipts are small and demand good. Fresh gathered extras are quoted at 38@41c per dozen; extra firsts, 34@37c; firsts, 29@32c; western gathered whites, 33@42c.

Poultry.—Dressed.—Chickens and fowls are about steady with values for turkeys higher. Fresh killed western chickens are quoted at 11@18c; fowls, 13 1/2@16 1/2c; turkeys, 24@25c.

Elgin.

Butter.—Market firm at 34c per lb., which is an advance of 1/2c over last week's quotation.

Boston.

Wool.—Wool brokers are very much pleased with the situation of the market. They bought their supplies early, but at figures which caused them a little concern. However, the demand later called for such large quantities that dealers have been gradually advancing quotations and at the same time disposing of their holdings, so that even at this date the crop of 1912 is practically cleaned up so far as desirable offerings are concerned. The sales of the past week while considerably below those of the former week, aggregate a large number of small orders. The demand for fleece

wool is from fair to good. Michigan delaine sold last week at 25c. One-half blood combing is quoted at 28@29c; 3/4 blood combing at 29@30c; 1/2 blood combing, 29@30c. Dealers are not shading prices.

THE LIVE STOCK MARKETS.

Buffalo.

November 25, 1912.

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

Receipts of stock here today as follows: Cattle, 303 cars; hogs, 130 double decks; sheep and lambs, 145 double decks; calves, 1,000 head.

With 303 cars of cattle on our market here today, and 20,000 reported in Chicago, our market was anywhere from 15@25c lower than last week. Western markets being considerably lower the past week and a smaller number of buyers on our market from the outside today, together with this being Thanksgiving week, trade showed a considerably lower basis, the decline, in most cases on butchering grades. Canners were from 10@15c lower. Bulls were steady. Fresh cows and springers steady.

We quote: Best 1,350 to 1,500-lb. steers \$8.75@9.25; good to prime 1,200 to 1,300-lb. steers, \$7.85@8.50; good to prime 1,200-lb. steers, \$7.50@7.75; coarse, plain, 1,100 to 1,200-lb. cattle, \$7@7.25; medium butcher steers, 1,000 to 1,100, \$6.40@6.85; butcher steers, 950 to 1,000, \$6@6.75; light butcher steers, \$5.50@6; best fat cows, \$5.50@6.25; butcher cows, \$4.75@5.25; light butcher cows, \$3.75@4; cutters, \$3.30@3.50; trimmers, \$3@3.30; best fat heifers, \$6.50@7.25; medium butcher heifers, \$5.50@6; light butcher heifers, \$4.50@5.10; stock heifers, \$4@4.25; best feeding steers, dehorned, \$6@6.50; common feeding steers, \$5@5.25; light common stockers, \$4.25@4.50; prime export bulls, \$6@6.25; best butcher bulls, \$5.50@5.75; bologna bulls, \$4.50@5; stock bulls \$4.50@5; best milkers and springers, \$65@75; common to fair kind, \$40@50.

With 130 loads of hogs on our market here today, we had a steady trade on all grades, but the close was rather tame and some late arrivals went over unsold. Was generally a one-priced market for all but roughs and stags; pigs, yorkers and good weights selling generally at \$7.75@7.80, generally the latter price. Roughs, \$6.75@6.90; stags, \$6.25@6.50; 10 to 15 double decks going over unsold, and the late market very dull.

The sheep and lamb market was fairly active today, with prices steady with the close of last week, most of the choice lambs selling for 7c; yearlings, \$4.50@5; look for about steady prices the balance of the week.

We quote: Choice lambs, \$6.90@7; cull to fair do., \$5.50@6.75; yearlings, \$4.50@5; bucks, \$2.50@3; wethers, \$4@4.50; handy ewes, \$3.50@3.75; heavy do., \$3.50@3.60; cull sheep, \$2@3; veals, choice to extra, \$10@10.50; fair to good, \$7.50@9.50; heavy calves, \$4.50@6.

Chicago.

November 25, 1912.

Cattle. Hogs. Sheep.
Received today18,000 42,000 48,000
Same day last year. 29,384 46,396 30,665
Received last week. 70,311 164,855 184,362
Same week last year. 62,496 194,631 131,342

Country shippers, warned by the expectation of a bad market this week, shipped in very few cattle for today, and prices were largely 10c higher, some lots selling 15c better, despite the limited trade wants. Among the offerings was another shipment of Alberta range cattle by the owner of the cattle that sold recently at such high prices. Early this morning the hog receipts for today were estimated as much smaller in volume than later arrivals showed the supply to be, and prices ruled higher, sales being made up to \$7.90, with rumors of a sale at \$8. Later the market weakened all along the line, dropping back to last Saturday's figures. Hogs received last week averaged 224 lbs., compared with 211 lbs. a year ago and 230 lbs. two years ago. Sheep and lambs averaged weak to lower because of the large receipts so near Thanksgiving, following last week's generous supplies. The day's run was estimated at from 45,000 to 50,000 head. The best lambs brought \$7.25, and wethers were lower. The run from Montana ranges was unexpectedly large.

Cattle were marketed last week in such greatly increased numbers that buyers were in a position to hammer down prices for the greater part of the offerings, and even good fat beefs were purchased on decidedly easier terms, although the proportion of strictly choice beefs was very small. Such steers as were not offered, and the better class of such steers as came to market found buyers at \$9.50@10.65, while light-weight grass-fed steers sold at \$5.30@7.65. Short-fed steers sold at \$7.50@8.50, and there was an outlet for the better class of little yearlings at \$9.50@10.60. The greater part of the steers went at \$7@9.50, grassers and short-feds greatly predominating. Butchering cows and heifers sold freely at \$4.35@7.25, and there were a few scattering sales of extra choice ones at \$7.50@9.75, while cutters brought \$3.85@4.30, canners \$2.65@3.80, and bulls \$3@7. The canner end of the market has been the strongest of any branch for some time past, with nowhere near enough offered to meet the demand, packers having been obliged to buy stock in other markets for converting into canned meats. The consumption of fresh beef is still greatly below normal because of its unusual dearthness, and demand is running much more on the lighter cuts and on the lower-priced grades than heretofore. The stocker and feeder trade has undergone marked improvement, with many orders from sections where corn, hay and roughage are abundant, and sales were made of stockers at \$4.25@6.50 and of feeders at \$6@7.50. Calves were in much poorer demand than usual, and

prices averaged lower, with sales at \$4@10 per 100 lbs. The nearness of Thanksgiving checked the demand for beef and veal. Milch cows were firm and active at \$40@110 per head. The week closed with prices for cattle 25@40c lower than a week earlier.

Hogs were marketed freely last week, and all that prevented bad breaks in prices was better buying on some days by eastern shippers and by local speculators. There were rallies in prices at times on good buying, followed by sharp breaks due to larger receipts, although it was obvious that the packers wanted all the hogs they could get hold of. The character of the demand was not greatly different from that of recent weeks. With choice barrows of strong weights the highest sellers, these being wanted by shippers to eastern packing points. Pigs from cholera sections arrived in considerable numbers and sold at a wide spread in prices. Hog cholera is prevailing extensively in Iowa, and it is announced that the state veterinarian needs more money to cope with the disease. It is certain that the ravages of the malady will cut heavily into the future supply of hogs, and it is frightening many farmers in infected districts into abandoning the industry. Meanwhile stocks of provisions are decreasing rapidly, necessitating the slaughtering of large numbers of hogs to restore holdings. The close of the week saw hogs selling at \$7.25@7.80, being a shade lower than a week ago, pigs bringing \$4.50@7.50.

Sheep and lambs were marketed freely last week, with fed flocks from feeding districts of the middle west greatly predominating in numbers. Montana again furnished most of the range consignments, and these were chiefly made up of feeder stock, which came in very acceptably to meet the large demand for thin stock to feed. Feeders averaged higher for the better class, but live mutations were apt to show weakness, although the average grade of the offerings was much poorer than heretofore, so that prime lots had on the whole, a good outlet. The nearness of Thanksgiving was a disturbing factor, as the demand at that time always centers much more on turkeys and other poultry than on mutton, beef or pork. Many complaints were made regarding poor railroad service, trains arriving frequently late in the day. During the latter part of the week prices broke badly under poor buying, leaving lambs 35@50c lower than a week ago and a limited break in sheep of the best grade, while ewes were off fully 25c. Lambs closed at \$5@7.30, yearlings at \$5@5.75, wethers at \$4@4.40, ewes at \$2@4 and bucks at \$2.75@3.25. Breeding ewes brought \$3.50@5, and feeders bought lambs at \$5.25@6.80 and wethers at \$3.50@4.15.

Horses were in very small demand for still another week, and it was unfortunate that the receipts were larger, as it meant weak prices in many instances. The cheaper animals went for \$75@95 per head, with drivers slow at \$100@180, while delivery wagon horses were quoted at \$135@250 and drafters at \$160@300.

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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.
November 28, 1912.
Cattle.

Receipts, 2,062. Market strong at Wednesday and last week's prices.

We quote: Extra dry-fed steers, \$7.50 @8; steers and heifers, 1,000 to 1,200, \$6.50@7.25; do. 800 to 1,000, \$5.50@6; do. that are fat, 500 to 700, \$4.50@5; choice fat cows, \$5.50@6; good do., \$4.50@4.75; common cows, \$3.75@4.25; canners, \$3@3.50; choice heavy bulls, \$5.50@6; fair to good bolognas, bulls, \$4.75@5; stock bulls, \$3.75@4.50; choice feeding steers, 800 to 1,000, \$5.50@6.25; fair do., 800 to 1,000, \$5.25@5.50; choice stockers, 500 to 700, \$5@5.50; fair stockers, 500 to 700, \$4.50@4.75; stock heifers, \$3.50@4.25; milkers, large, young, medium age, \$4.50@6; common milkers, \$3@4.

Roe Com. Co. sold Sullivan P. Co. 2 bulls av 1,340 at \$5.25, 9 butchers av 531 at \$4.12 do av 690 at \$4.45; to Kamman B. Co. 11 do av 661 at \$5; to Newton B. Co. 10 cows av 930 at \$3.75, 7 do av 933 at \$3.60; to Goose 5 do av 1,034 at \$4.25; to MoMore 9 stockers av 562 at \$4.50, 3 do av 483 at \$4.50; to Mich. B. Co. 5 cows av 884 at \$4.75; to Bresnahan 10 stockers av 563 at \$4.50; to Newton B. Co. 13 cows av 900 at \$3.70; to Parker, W. & Co. 25 steers av 862 at \$5.75, 9 cows av 926 at \$3.75; to Mich. B. Co. 8 do av 1,062 at \$4.50, 10 butchers av 701 at \$5; to Kamman B. Co. 1 bull weighing 1,400 at \$5.50, 12 butchers av 808 at \$5.60; to Roscrans 6 do av 630 at \$4.75, 18 do av 652 at \$4.75; to Newton B. Co. 3 cows av 953 at \$3.50, 4 do av 1,050 at \$3.85; to Goose 11 do av 913 at \$4; to Sullivan P. Co. 2 bulls av 675 at \$4.

Spicer & R. sold Sullivan P. Co. 4 bulls av 1,190 at \$5, 1 heifer weighing 910 at \$6, 1 cow weighing 830 at \$3.50; to Bresnahan 2 cows av 980 at \$3.60, 2 do av 760 at \$3.50, 7 do av 883 at \$3.60, 16 do av 875 at \$3.60, 3 do av 910 at \$4.50; to Kamman B. Co. 1 do weighing 1,130 at \$4.50, 7 steers av 846 at \$6; to Thompson Bros. 6 cows av 995 at \$4.25, 12 butchers av 681 at \$4.25; to Sullivan P. Co. 2 cows av 900 at \$4.75, 2 do av 830 at \$3.50; to Bray 4 canners av 695 at \$3.60; to Goose 9 butchers av 350 at \$4.25; to Fry 2 steers av 570 at \$4.75, 16 do av 700 at \$4.75.

Bishop, B. & H. sold Bresnahan 15 cows av 945 at \$3.85; to Sullivan P. Co. 10 steers av 933 at \$6.50, 9 butchers av 900 at \$4.50; to Newton B. Co. 4 steers av 1,075 at \$7.50, 2 cow and steer av 1,010 at \$4.50, 5 cows av 906 at \$3.75, 8 steers av 700 at \$5, 1 bull weighing 1,630 at \$5, 25 butchers av 705 at \$5.25, 5 steers av 1,150 at \$7.50, 5 do av 924 at \$6, 24 stockers av 556 at \$4.50, 13 cows av 970 at \$4.25, 19 do av 880 at \$3.90; to Saparo 10 do av 928 at \$4.10; to Sullivan P. Co. 6 butchers av 825 at \$4.50, 5 do av 766 at \$5.35; to Hammond, S. & Co. 18 cows av 954 at \$4.20; to Parker, W. & Co. 4 do av 885 at \$3.75, 15 butchers av 562 at \$4.25, 1 bull weighing 1,070 at \$4.75; to Jerome 2 stockers av 630 at \$4.85; to Newton B. Co. 4 do av 642 at \$5, 7 cows av 886 at \$3.75, 4 do av 940 at \$3.75, 1 bull weighing 1,580 at \$5.50, 6 steers av 670 at \$5, 10 cows av 982 at \$4, 7 do av 887 at \$3.75, 2 do av 1,010 at \$4.50, 3 do av 827 at \$3.70, 4 do av 945 at \$4.50, 18 do av 920 at \$3.70, 4 do av 950 at \$3.75, 3 heifers av 713 at \$5.25, 8 cows av 1,125 at \$4.90.

Haley & M. sold Breitenbeck 20 cows av 883 at \$4.10, 18 butchers av 820 at \$5.70; to Bresnahan 10 do av 614 at \$4.85, 10 do av 478 at \$4.20, 2 cows av 820 at \$3.50, 6 do av 860 at \$3.60, 3 do av 826 at \$3.50; to Sullivan P. Co. 11 butchers av 550 at \$4.20, 3 do av 570 at \$4.50, 3 do av 500 at \$4.35, 3 steers av 750 at \$5.25, 4 cows av 985 at \$4.10; to Hammond, S. & Co. 4 do av 960 at \$4.15, 3 steers av 800 at \$5.25; to Snow 2 stockers av 515 at \$5.25, 4 do av 575 at \$5.25; to Nagle P. Co. 3 cows av 1,087 at \$4.65, 5 do av 1,166 at \$4.60; to Schlischer 4 do av 977 at \$4, 13 butchers av 560 at \$4.60; to Wyness 14 cows av 980 at \$4.20; to Marx 2 heifers av 705 at \$4.25, 3 steers av 590 at \$5; to Hammond, S. & Co. 9 butchers av 573 at \$4.40, 7 do av 590 at \$4.50; to Nagle P. Co. 6 cows av 1,903 at \$4.80, 4 do av 1,145 at \$4.50; to Lachal 3 steers av 750 at \$5.25, 2 cows av 900 at \$4.25, 8 butchers av 871 at \$5.20; to Laboe 3 do av 783 at \$4.75; to Goodwin 5 cows av 908 at \$4; to Bresnahan 11 do av 863 at \$3.60; to Sullivan P. Co. 9 do av 860 at \$4, 4 steers av 822 at \$5.25.

Downing sold Bresnahan 3 cows av 980 at \$3.85, 20 stockers av 272 at \$3.85. Sandall sold same 8 cows av 860 at \$3.40.

Haddrell sold same 12 cows av 940 at \$3.75.

Johnson sold Hammond, S. & Co. 35 butchers av 700 at \$4.15.

Sandall sold Mich. B. Co. 31 butchers av 660 at \$4.35, 9 cows av 980 at \$4.50.

Weeks sold Rattowsky 13 cows av 1,050 at \$4.30.

Veal Calves.

Market 50c higher than last week. Best \$9.50@10.50; others, \$4@9; milch cows and springers strong.

Roe Com. Co. sold Nagle P. Co. 23 av 140 at \$10; to Newton B. Co. 1 weighing 170 at \$10.50; to Goose 6 av 225 at \$4.75; to Newton B. Co. 2 av 105 at \$8, 2 av 150 at \$10.50.

Haley & M. sold Newton B. Co. 3 av 140 at \$8; to Goose 9 av 225 at \$4. Bishop, B. & H. sold Sullivan P. Co.

4 av 130 at \$8, 14 av 145 at \$10; to Hammond, S. & Co. 5 av 155 at \$10, 3 av 115 at \$8.50, 2 av 115 at \$8, 3 av 125 at \$10, 2 av 120 at \$8.50, 5 av 125 at \$9, 2 av 150 at \$10; to Goose 4 av 135 at \$9.50; to McGuire 7 av 150 at \$10, 1 weighing 120 at \$10, 4 av 150 at \$10, 3 av 150 at \$10; to Kull 8 av 130 at \$10; to Hammond, S. & Co. 1 weighing 130 at \$10.50, 4 av 325 at \$5.50, 4 av 300 at \$5.50; to Parker, W. & Co. 4 av 145 at \$10, 2 av 190 at \$7, 10 av 135 at \$9, 9 av 150 at \$9.50.

Sheep and Lambs.

Lambs 25@35c higher than last week; sheep steady. Best lambs, \$6.75@6.80; fair to good do., \$6@6.50; light to common lambs, \$5@5.50; fair to good sheep, \$3@3.75; culs and common, \$1.75@2.75.

Bishop, B. & H. sold Nagle P. Co. 10 sheep av 99 at \$2.50, 106 do av 115 at \$3.50, 53 do av 105 at \$3.50, 101 do av 120 at \$3.50, 42 lambs av 70 at \$6.50, 21 do av 80 at \$5, 99 do av 80 at \$6.50; to Bray 56 sheep av 90 at \$2.75, 13 do av 78 at \$3.50, 12 lambs av 75 at \$4.25, 51 do av 75 at \$6.75, 10 do av 56 at \$5.50, 17 do av 55 at \$5, 19 sheep av 65 at \$2.75, 17 do av 110 at \$3.25, 21 do av 100 at \$2.25, 60 do av 83 at \$2.50, 21 do av 105 at \$2.75, 13 lambs av 60 at \$3.50; to Hammond, S. & Co. 24 sheep av 105 at \$3.50; to Mich. B. Co. 52 lambs av 70 at \$6.25; to Hayes 14 do av 60 at \$5; to Georgia & S. 38 do av 70 at \$6.60, 35 do av 60 at \$6.50, 48 do av 75 at \$6.80, 61 do av 75 at \$6.65; to Harland 30 do av 50 at \$5, 17 do av 85 at \$6.50; to Mich. B. Co. 21 do av 55 at \$5.50, 43 do av 50 at \$5; to Nagle P. Co. 35 do av 65 at \$6.25, 35 do av 60 at \$6.25, 33 do av 75 at \$6.80, 14 sheep av 110 at \$3.25, 24 do av 100 at \$3, 51 lambs av 75 at \$6.60, 183 do av 75 at \$6.50; to Mich. B. Co. 64 do av 47 at \$5; to Sullivan P. Co. 10 do av 74 at \$6.65, 14 do av 75 at \$6.75.

Haley & M. sold Bray 20 sheep av 100 at \$3.50, 79 lambs av 75 at \$6.70, 95 do av 75 at \$6.25; to Costello 49 do av 55 at \$4.25, 13 do av 50 at \$5; to Nagle P. Co. 10 sheep av 98 at \$3.50, 49 lambs av 70 at \$6.25; to Hayes 23 do av 65 at \$5.25, 27 sheep av 100 at \$3.50; to Newton B. Co. 109 do av 90 at \$3.75, 8 do av 77 at \$2, 15 lambs av 50 at \$5, 75 do av 65 at \$6.25.

Roe Com. Co. sold Thompson Bros. 28 sheep av 90 at \$3.50, 15 do av 100 at \$3.25, 24 lambs av 67 at \$6.25, 36 do av 75 at \$6.50, 12 sheep av 100 at \$3.50; to Rattowsky 15 do av 100 at \$3.50; to Bray 67 lambs av 70 at \$6.25; to Nagle P. Co. 7 do av 100 at \$6.50.

Spicer & R. sold Mich. B. Co. 41 sheep av 90 at \$3.25, 9 do av 85 at \$2, 50 lambs av 50 at \$5, 8 do av 55 at \$5.25, 49 do av 50 at \$5.50; to Bray 20 sheep av 65 at \$2.25, 34 do av 85 at \$2.25; to Mich. B. Co. 69 lambs av 75 at \$6.65, 73 sheep av 105 at \$3.50.

Hogs.

Market 10@15c lower than last week. Range of prices: Light to good butchers, \$7.40@7.50; pigs, \$7@7.25; light yorkers, \$7.25@7.30; stags one-third off.

Friday's Market.

November 22, 1912.

Cattle.

Market steady at Thursday's prices. We quote: Extra dry-fed steers, \$7.50 @8; steers and heifers, \$1,000 to 1,200, \$6.75@7.25; do. 800 to 1,000, \$5.75@6.50; grass steers and heifers that are fat, 800 to 1,000, \$5.75@6.50; do. 500 to 700, \$4.25@4.75; choice fat cows, \$5@5.50; good do., \$4@4.75; common cows, \$3.50@4; canners \$2.75@3.25; choice heavy bulls, \$5@5.50; fair to good bolognas, bulls, \$4.50@4.75; stock bulls, \$3.75@4.25; choice feeding steers, 800 to 1,000, \$5.50@6.25; fair do., 800 to 1,000, \$5@5.50; choice stockers, 500 to 700, \$4.75@5.25; fair do., 500 to 700, \$4@4.50; stock heifers, \$3.75@4; milkers, large, young, medium age, \$4.50@75; common milkers, \$3@4.

Veal Calves.

Market steady at Thursday's prices. Best, \$9@10; others, \$4@8.50; milch cows and springers steady.

Sheep and Lambs.

Market steady at Thursday's prices. Best lambs, \$6.50@6.60; fair to good lambs, \$5.75@6.25; light to common do., \$4@5.25; fair to good sheep, \$3@3.50; culs and common, \$1.75@2.75.

Hogs.

Market strong; 10c lower than Thursday. Range of prices: Light to good butchers, \$7.50; pigs, \$7@7.20; light yorkers, \$7.25@7.40; stags one-third off.

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HOME AND YOUTH

CULTIVATING THE ANCESTRAL TREE.

BY JOHN A. SIMPSON.

It is an understood fact that ancestors exert a tremendous influence upon their descendants. The chief difficulty in connection with ancestors is that they are selected for us, and as long as people are prevented from choosing their own ancestors there is bound to be dissatisfaction. Philosophically, it's the principle of taxation without representation; and, practically, it's buying a pig in a poke. It's hard to get around, when one considers the laws of nature, and yet it's directly opposed to the Declaration of Independence.

If one belongs to a family that boasts good ancestry he should not rely on that fact to keep him, but he should get out and hustle for himself. Only one president of the United States had a son for a successor.

Genealogy is an entertaining study, and a paying one—sometimes. It is utterly impartial. It follows the line of fact, and never wavers for love or money. You can no more chase an ancestor out of his ancestral line than you can strain the Milky Way into a cream crock. This fact contributes many surprises, and is at once the charm and the bane of the genealogical hunter.

If one were to climb his genealogical tree to the topmost branches, or, to the lowest roots, for he would really have to climb downwards, he would doubtless find out a-plenty, more than once. Idlers and workers, dreamers and doers, builders of cities and drawers of water, churchmen and infidels, statesmen and lawbreakers (both separate and combined), saints and scorners, field, forest and desert, palace, dungeon, and cave, all commingling in the product of the present day.

It is a pleasant experience no doubt to gaze into the branches of one's ancestral tree, and to find, perched on a bough, or snugly ensconced in some ancestral crotch, an unimpeachable noble, or a well-authenticated king. And if one should find along the way the record of one brave heart that dared to stand in some dread spot alone, or to lift up, in some dread crisis when every other fled, strong hands of protest, of warning, or

of cheer, he could be forgiven for a shout of joy.

And there would be the wicked, the ignorant, the inefficient, who had poured into the pool of life streams to make it, not a fountain of virtue, but a dismal swamp of corruption.

Yes, genealogy, like most human pursuits, has its unfortunate side, and, while it sometimes leads the investigator into the radiant starlight of some ancient glory, it is apt to beckon one within the gloomy caverns of merited oblivion, or to lift the curtain from some wretched scene of infamy or some haggard skeleton of unpardoned sin. In the long run about half of our ancestors would rather put us out if they should unexpectedly drop in to dinner.

I one time had a friend who was a crank on genealogy and the genealogical tree. By some fate he stumbled upon the fact that one of his paternal forbears had married a lady whose father was a cousin, once or twice removed, of a nephew of a grand niece of one of the wives of Henry the Eighth. After making this gratifying discovery he spent the remainder of his days in heralding this knowledge to his wife (who was of common stock), and making numerous further voyages upon the genealogical sea.

It became after awhile such a mania with this man that he wrote to the leading nurserymen, asking for catalogs of their trees, and especially for any of the genealogical kind. He offered big prices for new ancestral trees, and spent days going to places where he heard of any for sale. He planted rare seeds, and set out peculiar specimens, and once the hired man found him, in an unusually insane spell, earnestly laboring to graft a copy of "Thomas' Genealogical Notes" on a promising example of the Damson plum.

This true and significant tale should teach us that the study of genealogy, if carried to an extreme, will very possibly lead one into a state of bewilderment and mental eclipse. It is enough for a man to keep the peace in the bosom of his family, without reclining in the lap of every forefather. He should be thankful to get along with his present relations, and not attempt to lug in all the entangling alliances of the past. If I had as many ancestors as a crown prince, and enough genealogical trees to rehabilitate the Black Forest, I should gently, yet firmly, wave them from my mind as though they were the vague and shadowy figures of a dream.

BRAMBLE HILL.

BY ROBERT CARLTON BROWN.

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Synopsis of Preceding Chapters.—Nathaniel Edgeworth, eccentric, hard-headed and well-to-do, is passing his declining years upon his 400-acre farm on the outskirts of the village of Turtle Creek. His household consists of Mother Hubbard, housekeeper, and Brigadier General (by courtesy) Hornbill, a fellow veteran; Zeb Wattles, an aged musician who, with his daughter Jerusha, occupies a cottage (rent free) upon the farm, also spends much time with his venerable benefactor. Estrangement and finally death, robbed Nathaniel of his only son some years previous, following which, bitter remorse induced him to grant the means of a liberal education to his sole descendant and grandson, Sidney Edgeworth. In like manner he had befriended his sister's adopted daughter, Susan Dunlap. The story opens with Susan's return from boarding school and her full appreciation of quiet Turtle Creek as she views it from her own motor car. Sidney Edgeworth has completed his course at Harvard and rented an expensive apartment in New York where he is searching for a position as diligently and sincerely as his grandfather's allowance of \$500 per month will permit. Among obstacles encountered are two college chums—Doodle, a typical case of "more money than brains," and Jim, of an altogether better sort, who has found a job in Yonkers. Jim's last night in the big city is made the excuse for an all-night celebration. On their assembling in Sid's quarters in the early morning they find a telegram announcing the death of Nathaniel Edgeworth of Turtle Creek, who, in a heated argument with Brigadier General Hornbill burst a blood-vessel and immediately passed away. After the funeral of his grandfather Sid yearns to get away from Turtle Creek but remains for the reading of his ancestor's will, only to find that the conditions imposed by that document promise to indefinitely delay his return to New York. By the terms of the will Sid inherits the farm at Turtle Creek, and valuable securities in addition provided, that he lives upon the farm, with the exception of two weeks' vacation each year, for a period of four years and during that time acquires, by gift or purchase,

an adjoining strip of rough land known as Bramble Hill belonging to the foster father of Susan Dunlap; or, in lieu of acquiring Bramble Hill, he must make the farm earn \$100,000 during the four years. Otherwise, the entire estate reverts to Susan Dunlap. On serious reflection Sid decides to accept the conditions imposed and considers the possibilities in bee-keeping as a start toward his hundred thousand dollars. The profitable production of wine from the wild grapes going to waste in fields and roadsides is also considered. He wires Doodle and develops a determination to make the best of his new environment. Jerusha points out the folly of overlooking little things and as a result Sid offers a site for the Old Settlers' Reunion, which is accepted, and prepares to earn a small sum by supplying refreshments for the occasion.

Chapter VI.—The Runaway.

The Old Settlers' Reunion came off regularly once a year, like the snake's skin, the circus, or Good Friday. It was placed in Indian summer because harvesting was then over and 'most everybody had money to spend for a good time.

It was at hand again. It had come. Sid was on the grounds early, ready for his harvest; the ice cream and lemonade prepared in advance, thanks to the efforts of Brigadier General Hornbill, Mother Hubbard, Jerusha, Wattles and Sid, who had directed Oley (the Swedish gentleman who flirted with a hoe regularly, by the month, on the Edgeworth farm) and two husky helpers, also of Swedish birth.

Yes, everything was in readiness. Sid watched it all; the decoration and games committees were on hand, and the sun hardly up yet! Finishing touches were being laid on by deft and busy fingers; some lugging ropes to make swings for the children, others laying out the base-

ball diamond and planning a potato race course.

Over at the end of the grove, where the trees grew thick, Sid found Susan Dunlap busying herself, with a score of devoted followers, hanging lurid Japanese lanterns in a little social spot, the ice cream headquarters, which would be unusually active after the strenuous day's sports.

"Improving on Nature?" said Sid, as he watched Susan hang a screaming red lantern with a green glare about its border on a soft brownish oak bough.

"Yes, aren't they awful!" she exclaimed, catching his spirit. "The declaration committee said we'd have to make last year's ones do. But we'll make it so inviting people can't stay away. You'll sell lots of ice cream to the folks who seek this shrine."

"I hope so," replied Sid. "Why don't you bank up some of those boughs in that nook over there and make a sort of cozy corner of it, a sweetly sylvan nook, you know, where they can sip their ice cream and come back for more."

"Oh, that's an idea," she answered, fluttering off to impart the scheme to her lantern-bearers.

Sid looked absently at the bevy, clad in white, giggling and happy-faced. It was rather nice, that picture. "Too bad Jerry Wattles don't go in for that sort of thing," he mused. "I'll bet she'd enjoy it."

Jerusha had kept a promise to Sid that she would surely be at the picnic. She shyly sought her own element and found it in the midst of a crowd of shouting, laughing children, early comers around the swings.

Sid, at a distant lemonade stand, saw a swing soar through the air with its burden of tickled, squealing pink gingham, and finally, at the far end of the pendulum's sway, saw the laughing face of Jerusha; it was she who was furnishing the motive power.

He waved to her, but just at that moment she grasped the heels of the pink gingham bundle in the full career of its swoop and ran under, pushing, with a triumphant, impelling jump at the end of the rope's course, sending the tight-clinging, shrieking, breathless child far toward the nodding leaves of the treetop. Then a dozen shrill voices clamored for their turn. Two dozen insistent hands tugged at her skirt.

Sid was arriving and saying hello. She was busy having the children, quarrelling over "first turns" and "next turns," draw cuts with long and short grasses, and her greeting was more brief and otherwise occupied than Sid wanted.

"Can't you play with a fellow nearer your own age?" he interceded for himself as she lifted a little Norwegian lad into the swing. "You're altogether too popular."

Susan Dunlap and a Miss Bettes (from Bayview) were walking near and looked at each other with meaning smiles as they caught only the last few words. Miss Bettes said something about a kindergarten to her friend. Then they stood still with their backs innocently turned and heard: "You know, you make a fellow forget he ever grew up and knew cities and chorus girls and silly society damsels and Broadway belles. I wish I were the little Norsk in his first blue overalls—if it would make such a difference—" Sid stopped, conscious of other eyes than Jerusha's, and saw Miss Dunlap and her friend retreating.

Jerusha colored hotly under her tan, and when she could recover her self-possession, turned to the children and called out with less gaiety, "Now, whose turn next?"

Sid turned away to the portable merry-go-round. It was run by a gipsy family and brought into the grove at dead of night in parts, wrapped in canvas and carried in two wagons; one, a huge old prairie schooner, driven by the owner, Bango, a low-browed Italian, his blowsy wife asleep among five of her swarthy young ones between two ornamental horses and the crank shaft, which Rosa, the old mule in the lead of the procession, propelled by following her fly-bitten nose in a prescribed circle.

A confused, jumbled picture that group presented, like circus-day morning, like a band of Saracens striking camp. Everything was so unordered that Sid could not tell whether the thing was in the process of construction or destruction.

"If Jimmie were only here I suppose he'd know soon enough whether this gang is doing construction work or not," smiled Sid. "Poor old Jimmie, I dare say he's still stewing away in Yonkers over bolts and things. Wonder what he'd



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think if he could look in on me now? The ice-cream man! The Coney-Islander of Turtle Creek! I wonder what Doodle'd think?"

Sid jerked himself back to the line of duty, hunted up Oley and his two futile looking Swedish hunkies, directing them as though they were members of his diplomatic legation. "And I say, you gentlemen might take those tin cups down to the creek and wash them." Or, "Would you really much mind removing that salt you just knocked into the ice cream. It's best to let the customers salt it to their own tastes."

By ten o'clock the grove was filled and Sid found himself, ice-bespattered and dripping, ladling out ice cream to those who couldn't refrain till lunch time. Rich country cream it was, fresh from the cow and hen, at five cents a plate. Think of it! Sid recalled that one time in Venice, seeking shade in the San Marco Piazza, he had ordered a plate of neapolitan ice cream and paid about forty cents for it, exclusive of the tip.

Mother Hubbard was helping with the lemonade, two glasses for a nickel, and Sid was called to relieve her while she made a flying trip to the house for more sugar.

Among his first customers was Mr. Stimpson, who marched up and glared at him like an owl blinking at a succulent beetle, ordering a drink and grandly treating hovering Old Watties to the second glass.

"Warm! Too gol durned warm for me," remarked Mr. Stimpson casually, when he had finished, making a mouth like a sucked lemon and leering at his empty glass. "But guess I'll have jest a drop more of it to take the taste out of my mouth. Only don't put none of that gol blame mint stuff in it, I ain't no d—d cat."

"I was thinkin' that was what made the drink," put in Old Watties mildly. "We used to make mint juleps down south and the mint was much more to my likin' than the whiskey. But they were splendid drinks, splendid," his tongue rolled over the last word lingeringly.

"Liquor in 'em!" demanded Stimpson with a glare. "No wonder you can't work like the rest of folks. That gol blame liquor's incapacitated yeh—injapacitated yeh, I say." Sid was thankful for the explanation; the word sounded much as though he had sneezed it.

Later on, Susan Dunlap breezed up with Ewer and patronized the lemonade booth, introducing Sid to a very nice young couple from Bayview, who acted as though they were on a slumming party. They asked him to be a third judge, with Mr. Ewer and the young man from Bayview, at the sports that afternoon, suggesting that he could get Mother Hubbard or Jerusha to tend the stand for him.

Sid accepted out of civic pride and was rather pleased that Susan Dunlap had shown him this attention; evidently it was only her foster father who really disapproved of him. He hoped it augured something for the future, and he was glad he had remembered Jerusha's injunction and hidden his cigarette at the approach of Stimpson and Miss Dunlap.

The games began in the middle of the afternoon. Sid was so busy running about, arranging potatoes for the boys' races and pacing off distances, that he did not notice a retiring little person winding in and out, unobtrusively, her eyes down until the attention of the people was riveted on a race or some contest, when she had a chance to look without being looked at.

Her dress was almost white. It was carefully darned and laundered to look something more than calico, and there was a nice little pattern embroidered down the front; original, and not inartistic. But at the seams the cloth showed a dullish blue, as though that had once been the prevailing color of the habit.

She looked sometimes toward Sid, and when he glanced her way she smiled happily.

Fifty yard dash for girls from sixteen to sixty," cried the facetious manager, the type of man who is always lending a hand with Marcelline futility at such functions.

Part of Sid's work as judge was to hunt up eligible contestants. Miss Dunlap and Miss Bettes (from Bayview, high heels, high hat and all) came forward as entrants at Sid's solicitation, thus removing all doubt as to the propriety of the thing and attracting others by their initiative.

In drumming up trade to make the event worth the prize, Sid walked along

the line of grinning lookers-on, his manner quite easy as he called on the young ladies of Pike county to show the boys how fast they could run, that being the injunction laid upon him by the manager.

He saw suddenly a little figure dart behind the pompous and perspiring form of Mr. Dunlap. In an instant he was after her. It must be Jerusha. He hadn't thought of her before. She was surely seventeen, though she didn't look it, and quite eligible. Old Hornbill caught Sid's purpose, saw the girl darting past him and reached out with his stick, blocking Jerusha's escape and holding her with his free hand as though she was an escaping rebel.

She was flushed and defiant when Sid rushed up and insisted that she enter the event.

"If you run as fast as you did tryin' to get away you'll win the race, all right," said Hornbill, shaking his cane emphatically.

"Please do," urged Sid; "it's so hard to get anybody to run. You won't disappoint me."

She faltered a moment, glanced away and then answered with a tight little smile. "Why, yes, I'll run if it's as important as that. But I'd rather stay out here."

She took her place with Miss Dunlap and Miss Bettes (of Bayview) and the few others who had been attracted, standing a little to one side as she saw Miss Bettes look at her with a languid smile and say something to Miss Dunlap, who immediately made her keep quiet and turned to Jerusha with a greeting.

Jerusha was very uneasy, uncomfortable. She didn't like to be before so many people. It was the first time she'd ever participated in any of the Old Settlers' Reunion events.

"Now, girls," the sports manager pushed his dripping, grinning face into the group and called them to order, "take your places on this line here. You want to run to that there string those handsome fellers are holdin' up. Run as though you was after a husband. There's a be-oo-tiful prize for the lady that wins. Run, now, girls, when I shoot the pistol."

Elbowing and giggling, the girls found their places on the line, Jerusha among them, trying to laugh like the rest.

The manager stood aside. "Now, ready!" he cried. An instant later he fired the gun.

Off went the pack; Jerusha, standing dazed for a moment by the report, found herself far in the rear. Then her feet suddenly bit into the ground and she was running swiftly—running like a boy, not mincing along nor holding her skirts and jogging her hat back to place continually, like Miss Bettes of Bayview.

Like a fawn she sped on, passing the lagging ones; some, out of fear, were hanging behind, others out of respect for the Misses Dunlap and Bettes who were toddling in the lead, elbows flapping like wings, helping each other and changing their dress-holds with the celerity of professional wrestlers.

Jerusha wasn't awed. Now that she was running she didn't care, she didn't think of anything but how glad she was to be going somewhere, to be on her way out of that sea of laughing faces.

The finish line suddenly appeared, only a leap ahead; the Misses Dunlap and Bettes were hat and hat, about to cross the tape. Jerusha gave a bound, shouldering Miss Bettes in her eagerness to get past and win—at least to get away. Somehow she dashed in between them and cleared the line amidst a maze of cheers from the rooting farmer boys.

But instead of slackening speed she dashed on, through the holiday crowd, stepping on Aloisious Stimpson's cornish toe in her flight and leaving behind her a trail of curses from that worthy gentleman. She didn't hear them for she had cleared the crowd. It was very much like stage fright. Jerusha didn't dare stop and go back. She was making for the woods and freedom.

It was a plain case of runaway. The old farmers turned and gazed after her; one old fellow, purple with laughter, yelled, "Stop that there young colt. Why, gol darn it! She's goin' a mile a minute."

At that moment Jerusha leaped through the ice cream bower, hurdled the cozy corner of boughs and disappeared among the trees.

Aloisious Stimpson, his face a puzzle picture, turned on the garrulous old farmer exploding over the runaway and chopped off these words bitterly: "Damn it! Quit yer swearin'! Can't yeh see there's ladies present?"

Over in a secluded spot Miss Dunlap

and several wild-eyed matrons were aiding Miss Bettes, for she had lost her balance when Jerusha shouldered her and had fallen to the ground, permanently injuring her proud hat. She sat tear-and-grass-stained among her helpers who were readjusting the ribbons, plumes and puffs of false hair, very disheveled and indignant.

"She's simply ruined it, and it cost twenty-five dollars," wailed Miss Bettes. "I'd like to get ahold of that girl. Oh, I'd like to get my hands on her. I'd show her how a young lady should behave." She slipped off into self-sorrowing with accomplished ease once more and ended up: "Pretty mess! Think of the disgrace, Susan; think of sliding on one's ear before half the male population of the county! Oh, I wish I had never seen Turtle Creek!"

Sid walked home alone late that night after it was all over. It had been a happy day. He had enjoyed the action and everything. In his pocket he carried the prize that Jerusha had failed to come for—an elegant gold bracelet, the kind that turns green three months after Christmas. He chuckled as the picture of her runaway returned. In the morning he would take the prize over to her and she would laugh embarrassedly and explain her fear.

He had reached home and was just going in when a form resolved itself from the gloom and Old Watties came up, putting a faltering hand on Sid's shoulder.

"Is—is Jerry back there? Did you see her?" he asked with a timorous quaver.

"Why, no!" cried Sid, surprised. "I haven't seen her since the race. Didn't she go straight home? I've got her prize here."

"I guess not; she ain't there now. There's no sign of her."

"But nothing could have happened!" cried Sid.

"I don't know," the old fellow shook his head slowly. "She's been actin' mighty queer lately; talkin' about New York an' Paris an' all that. I don't know."

Chapter VII.—Jerusha in Wonderland.

Bango swung his long whip with the sweep of a lariat; it cut through the Indian summer haze and cracked against the shingly sides of the mule with the fly-bitten nose. With a lurch the caravan started, a crazy old wagon, over-crammed, like a Christmas stocking. Two horses and the mule—old Rosa, whom the children loved so well, the rosette on her forehead and all—were required to drag it along.

Behind came a smaller van, bulging in pitiful imitation of the chief wagon. Only one horse was attached to that, and Bango's grown-up son (already thirteen) dozed on the seat.

At the crack of the whip both vehicles lurched crazily forward and Bango sent ahead one of his younger boys with a red-eyed lantern, to be path-finder through the deserted picnic grove; until the Edgeworth private road was reached. Then he would crawl into the big wagon, climb over his mother and a few sisters, shove his little brother out of the way and drop on the jouncing wagon bottom.

As they nosed out of the picnic grove Bango cracked his whip many times with great gusto. It had been a good day. He had counted the profits; forty-seven dollars, mostly in nickles and dimes, reposed in a munched and mildewed feed-bag, used as a pillow for the frowzy head of Zara, his wife.

It had been a good day. Bango could always count on much money at the Pike County Old Settlers' Reunion, which he attended every year, being informed of the date by a letter to a saloon in Chicago, on the outskirts, infested by his tribe and run by a relation. But there was paint to buy for the inanimate horses and oats for the others. Life is not all one merry whirl with the merry-go-round man; there is the winter without work to live through, and all that. Still, forty-seven dollars is not bad day's work.

Bango cracked his whip again; old Rosa scrambled up a grassy slope and swung into the Edgeworth private road. Her hoofs dragged a bit, but she couldn't complain; there had been the rest from four in the morning, when they had arrived, until ten, when she took her place at the windlass crank to propel the merry-go-round. Then, too, she had had her hour off at different times during the busy day, being "spelled" by less able animals.

Bango greeted the clear road with another exultant crack of his whip. Then he snatched the demon-eyed lantern from



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his second son, scuffed him smartly on his scarred head, and growled like a dog thanking some kind endower for a chunk of poisoned meat.

He called back to his grown-up son, propping his eyes open in the little wagon behind until they should reach the main road when the drudge of a horse would follow her dispirited nose without driving, to look sharp.

Bango seldom traveled in any such haste. He liked to loiter and spend the night on the road. But this was the end of his season. Winter was drawing in, and he had another engagement for the day after tomorrow, twenty miles past Bayview and only a long day out from Chicago, his winter quarters.

So Bango's ark, piled with pairs of wooden animals (some even Noah had never seen) jounced along the Bayview road (passing through the proud city after which the road had been named) the night long. Bango himself cocked the square, block-built mass of his body on a rude bench up in front of the main wagon, after the caravan was well under way. He slept with his eyes half open; it was habit with him, and only occasionally did the eyes deceive him and close tight. It happened four times that night, and at each occurrence wise old Rosa felt the slack on her lead lines and stopped abruptly to snatch off a few poppy-eyed dreams for herself, standing in the road, setting a pattern for the jaded pair behind. But Bango always awakened and curled that cracking whip against Rosa's sides and under her bony body, where it still bit. Then the caravan would roll monotonously on.

At seven o'clock Bango awakened permanently, drove into a thicket close to the road, jumped down and walked back to the little wagon. There he silently cuffed his eldest son into shocked wakefulness and walked sullenly to the rear of the wagon, where he jerked down the back-board and pulled out a burlap bag of dry bread, broken meat and a scattering of vegetables. As he reached far in for a frayed old horse blanket (Rosa's one comfort in life) and a bag of oats, he caught a sudden movement in the dim interior. Being a phlegmatic, incredulous sort of person, Bango felt quite certain that it wasn't one of his wooden animals come to life, so he reached in quickly and grabbed the moving thing. Dragging it to the light with much difficulty, for the thing resisted, he twisted it in his hard hand and found it to be a human foot, with a leg attached.

"Let go!" came a smothered scream from within.

Bango pulled all the harder in recognition of the request. His wondering son rushed to his aid, blink-eyed and open-mouthed. A second foot shot out and kicked Bango in the jaw. His hold loosened, he clapped both hands to his face and mingled Italian and gypsy oaths in a striking melange!

With surprising celerity a wiry little body wriggled over the end of the wagon, dropped to its feet and made a dash for the woods where the trees stood thick nearby.

But Bango had recovered. He reached out a thick, heavy hand, with black splotches sprawling over it, and his fingers sunk into the shoulder of the fleeing form. There was a ripping of rotten cloth, but Bango's grip held. He swung the person around and stared into piercing black eyes aflame with fire and fury. A tight brown fist shot out, landing harmlessly on his heavy chest.

Bango peered into the face and laughed a long, low, calculating laugh, of surprising cadence, at which the son beside him winced.

"Sooooo—" he exclaimed in prolonged scrutiny, "eet's a nica leetle girl, nica leetle girl. She steal da ride. Give me for pay one kick in da jaw. Eet ees nica leetle girl."

"Let go!" the voice was firm, but Bango's ears were quick to catch the tremble in it.

"Stay an' have breakfast, leetle girl," he mocked. "You have come long way. You mus' a be hungry."

Before the girl could answer a mop-like head was thrust through the canvas curtains of the wagon in front and Zara peered out. The woman asked a quick question in a garbled native tongue. Bango replied in elaborate English: "Eet ees nica leetle girl. She ees hide like da kitty-cat in da hole by da museek box an' da lion, so soft—vera nica da place."

Zara shifted her bulk and clambered over the end of her wagon like an easy-going bear; several of the cubs followed and stood clinging to her red petticoat. She waddled up to the girl, who had

ceased struggling and stood tense and combative, and looked her over with a very shrewd eye for so slow a person.

Then Zara's brown lips parted in a toothless grin as she questioned: "Gotta no home?"

"Yes, I've got a home, and if you don't let me go to it this—"

"No; nica leetle girl," Bango cut her off by twisting the slender shoulder in his cruel hand. The girl turned and shot a penetrating glance at him, but she did not wince. "You lika da merrie-go-around, you come along maybe to ride some more?"

The girl still looked into his glinting eyes; there came a hurt, animal, hunted look into hers and she turned toward the woman; "I only took a ride," she said. "I can pay for it. I will pay for it."

At the mention of money Zara came closer to the girl, so that she stood guarding her on one side, opposite Bango, five children effectively filling in the gaps and completing the circle. At a significant glance from Zara Bango became most affable and suddenly released his hold on the prisoner.

The girl shook back her shoulders, endeavoring to suppress the relief which would express itself in the escape of a pent-up breath. One of her brown little hands went into her blouse, groping about in fumbling haste.

Bango improved the moment by summing up her physical beauty and remarking: "You are nica leetle girl. You pay monie for da ride. You are preetle leetle girl, so black, lika da blackberry, da blackberry dat grows by da road. Almost black like a gypsy." His simile seemed to please him very much; he shrugged his shoulders delightfully, but it was evident Zara did not have the same fondness for it. Her eyes were watching the movement of that little hand within the blouse. Yes, it was direct, as direct as possible under the circumstances. The girl would bring out all her money. She would hide nothing. One's thoughts are always writ on one's face.

The hand came out, clutching a black purse, old and worn, as though the girl's mother before her had carried it.

"How much is it? How much do you want?" she asked, looking at the woman. "How far you come from, leetle girl?" put in Bango, drawing nearer.

"How much you got?" cried Zara, shooting him one of those looks of understanding so common to wedlock.

"But how much is the ride? What does it matter about the amount of money I have?"

Zara's fortune-telling had developed just one flaw in her method of divination; she always counted on the credulity of her customer. Somewhat startled, Zara fell back on the one disarming tool in her kit. She became sullen and insolent, as only a gypsy can.

"Where you come from? How we know you did not steal da monie? Maybe you like to go back where you come from, yes?"

"Oh, no!" the girl's grip on the purse loosened the least bit.

"You come from Toortle Creaaak?" queried Bango, with a sudden flash of thought. "I no see you on da merrie-go-around at da peecneec."

The girl swung about and looked at him squarely.

"No. I crawled into the wagon near Bayview. I don't come from Turtle Creek." Her very vehemence was convincing. Even Zara couldn't be certain; had she had a pack of cards to finger thoughtfully for a moment she might have figured the thing out.

"Where do you want to go, then?" Zara asked sharply.

The suddenness of the question caused a tell-tale and awkward pause; but the girl had answered in a moment: "I want to go home. I live right over the hill there. I'll give you twenty-five cents for the ride," she had covertly abstracted some small coin from the worn, black purse.

Bango glanced sharply in the direction of the hill; he remembered two farm houses nestling near together just behind it. Besides, they weren't far from the road, and Bango always felt that what could be obtained by craft should never be taken forcibly. He looked at his wife. There was a sneering laugh on her face; that laugh had caused Bango trouble more than once. His business instinct urged against highway robbery.

"Five dollars. It is worth five dollars to keep still about it, too," he suggested testingly.

"Five dollars!" the girl's fingers clutched the purse still more tightly; she jingled the coins in her hand.

(Continued next week.)



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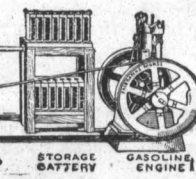
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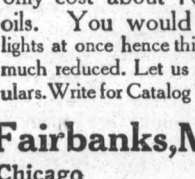
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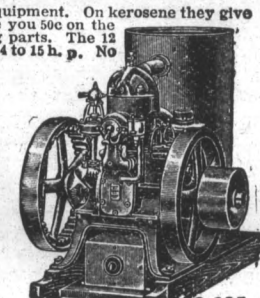
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THE ANNUAL MEETING.

The twentieth annual meeting of the Michigan State Association of Farmers' Clubs, which convenes in the capitol building at Lansing on December 3, should be made the occasion of a grand rally, not alone of the delegates from every local Club in the state, but as well of leaders who are particularly interested in Farmers' Club work throughout the state.

This organization, which begun in a small way twenty years ago, has gradually grown to an increased importance which makes it generally recognized, not only in Michigan but throughout the country. There are important amendments to the constitution of the State Association which will be acted upon by this convention and it is important that a full expression from local Clubs and Club leaders should be given upon the points involved.

Also, the program provided for this meeting is a most interesting and instructive one. It will be time well spent for any Farmers' Club member who is able to do so, to be present at this meeting on December 3-4. Certainly every local Club in the state should be represented by delegates, since they will derive a direct benefit out of all proportion to the cost involved. If delegates have not been elected from any local Club they should be appointed at once by the officers, or the Club should be represented by the officers themselves at this coming meeting.

These delegates or representatives of local Clubs should be prepared to place the views of their respective Clubs before the meeting or the proper committees in concise form in order to facilitate the business of the convention. They should also be constantly on the lookout during the sessions for ideas which would be helpful to their local organizations in the maintenance of interest or the accomplishment of results which would be beneficial to the community.

CLUB DISCUSSIONS.

Question Box a Feature.—The Wixom Farmers' Club held its November meeting at the very hospitable and commodious home of Mr. and Mrs. E. M. Moore, with a goodly attendance. After a sumptuous dinner a fine program was carried out consisting of recitations, music and select readings, after which the question box was opened and the queries discussed. There were 13 questions, among them the one that provoked the most discussion was, "How to keep boys on the farm." By starting them when young to get them interested in the farm work, making them partners in the business and discussing the work with them freely. The Club elected two delegates to represent it at the State Association of Farmers' Clubs at Lansing.—Mrs. R. D. Stephens, Cor. Sec.

Boost County Farm Expert Plan.—A large number of members of the Charleston Farmers' Club, of Kalamazoo county, were very pleasantly entertained at the home of Mr. and Mrs. William Henson, Saturday afternoon, November 9. A fine picnic dinner was served shortly after noon, followed by the business meeting. In the absence of President Hagelshaw, Vice-president Perry occupied the chair. It was decided that Mrs. Floyd Coville should select as many helpers from the senior club as she deemed necessary to assist her in supervising and teaching the girls' department of the junior club. Mrs. L. J. Bradley and Frank McClary, with L. L. Joy as an alternate, were elected delegates to attend the convention of the State Farmers' Clubs, to be held at Lansing, December 3-4. L. J. Bradley gave a brief talk of his meeting in Kalamazoo with the board of supervisors relative to selecting an agricultural expert from the Agricultural College at Lansing to work among the farmers of Kalamazoo county. The lecturer's program was very much enjoyed, it

consisting of several vocal solos by Mrs. L. L. Joy, accompanied on the violin by Mr. Joy, a piano solo by Ferris Bradley, and a song by the Club, "Gaily and Brightly," selected from our new Club song book. A recitation by Alta Fenner and a paper prepared by Carey Rowland, who was unable to be present, and read by Mrs. Floyd Coville were also much enjoyed. Miss Spring, of Gilmore's store, Kalamazoo, gave her last of a series of three lessons in fancy work to the girls and ladies of the Club. The next meeting will be held with Mrs. Sarah Holmes and Miss Merna Holmes on December 14. The topic chosen for discussion was upon the Good Roads question and Frank Griffith, our highway commissioner, was chosen to lead the discussion.—Clara Palmer, Reporter.

A Thanksgiving Program.—The Odessa Farmers' Club met with Mr. and Mrs. Francis Rush, Saturday, Nov. 9. Dinner was the first thing on the program, contrary to the usual order at this time of year. At the call of President Foght, the company joined in singing "America." The roll call was answered by giving Thanksgiving items and proved an interesting number. Mrs. Francis Tucker read a poem, "When Mother Goes to vote," which we doubt not will be partly verified after the next legislature does its work. Mr. Henry Stinchcomb opened the subject for discussion, in the absence of Mr. Augst to whom it was assigned, namely, "What is the greatest blessing the people of the United States have to be thankful for?" The ideas were numerous, one said, "For peace with all nations," another, "For the fact that there was plenty to eat, no famine in the land." "For our civilization which comes from righteousness." "For the Christian religion." "For scientific surgery." "For Christian parentage." "That we are not as the Turks." "For the privilege of the home and this home." Next came the election of officers. The result was as follows: President, M. L. Foght; vice-president, Henry Stinchcomb; recording secretary, Mrs. Rachel Lepard; corresponding secretary, Mrs. Lottie M. Durkee; treasurer, Henry Curtis. Mr. and Mrs. W. S. Augst were elected as delegates to the State Association of Farmers' Clubs, to be held in Lansing early in December with Mr. and Mrs. John Bower as alternates. A vote was taken among the ladies to each take the baked goods for the next year's meetings. Adjourned to meet with Mr. and Mrs. Augst in December.—Reporter.

Woman's Day.—With each November comes Woman's Day and the annual chicken-pie dinner of the Ingham County Farmers' Club. This year the Club met with Mr. and Mrs. James Blakely in Mason. There were not as many present as usual, doubtless owing to the epidemic but the committee were on time, dinner ably served by the men on time, and the program commenced a little ahead of time. President Ives called the meeting to order and as the first business of the day called for a report of the boys' corn club committee. Mr. Robb stated that after all bills were paid from the money collected for this special purpose, there was a deficit of \$2.57. After some discussion it was moved and carried that the secretary draw an order upon the treasurer for the amount. Mrs. Taylor read resolutions from the president of the state association relating to a change in the constitution as regards dues and membership, and said amendments were not endorsed by this Club and the delegates were instructed to vote to reject the amendments. Mr. and Mrs. R. J. Robb were elected delegates with Mr. and Mrs. E. P. Rowe as alternates.

The Children in the Rural Home.—President Ives now turned the meeting over to Mrs. Jewett, the vice-president, who ably presided the rest of the afternoon. After singing "America," Mrs. Beebe offered prayer and the secretary called the roll, the answers being relative to man, and as usual apt quotations were given. After a song, "Harvest Hymn," composed for the occasion, Mrs. Ives read the Club alphabet, which was full of interest, containing the names of all Club members. Mrs. J. S. Hawley sang a solo, after which Mrs. Dora Stockman, of Lansing, gave the address of the afternoon, "Work and Play for the Children in the Rural Home." In part she said she wanted to suggest ways and means to keep the normal child busy. After speaking of the kindergarten in the cities, she said in the country this work must be done by the mother. The first thing a child holds is usually a soft woolen ball, and a ball represents unity, roundness of things, and in later life a ball is essential to foot ball, base ball, basket ball, etc. Next comes the cubes or blocks. It is natural for a child to build up and tear down and if given an expensive toy his first instinct is to see how it is made, and if he takes it apart he cannot put it together again. So, instead of buying things already made, select those that he can use for construction. Great possibilities lie in the potato, apple and beet. Pieces of these with toothpicks will help keep one busy and many lessons can be told about the seeds, the little brown babies, and if one can have a sand table, so much the better. If not, put sand in your dripping pan. It is natural for a child to want to do things and want to own things. A large part of the criminal classes are those who have had nothing to do. So do not make the mistake of allowing the child to be idle. The possibilities of a pair of scissors and paper are many, and after emphasizing the "Do and don't policy," she closed with the familiar quotation from Holland: "We build the ladder by which we rise from the lowly earth to the valuted skies, And mount to its summit, round by round."

The next meeting will be held with Mr. and Mrs. Robert Laxton at the Home—Mrs. Tanswell, Cor. Sec.

GRANGE

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THE DECEMBER PROGRAMS.

State Lecturer's Suggestions for First Meeting.

(Grange Day Program—Forty-fifth anniversary—"Let us close the door behind us and look forward; and with one common purpose strive for the good of all.")—(Oliver Wilson).

Election of officers for 1913.

Roll-Call—responded to by each naming one thing the Grange has accomplished in its 45 years' existence.

Review of a copy of "The National Grange Monthly."

Fifteen minutes of "fun-fest."

Music throughout this program by Grange chorus.

A LEADING FEATURE OF COMING STATE GRANGE MEETING.

Patrons who annually attend State Grange have become accustomed to looking forward to the State Lecturer's program as the most enjoyable and instructive feature of the week. Miss Buell advises us that, at this year's meeting, all of the time allotted to the so-called Lecturer's Conference program, aside from a few supplemental features of an entertainment nature, will be given to the presentation of the question of co-operation, Mr. E. M. Tousley, of Minnesota, secretary of the Right Relationship League, having been secured to deliver the principal address. The league which Mr. Tousley represents is taking an active interest in promoting legislation favorable to the formation of co-operative associations, and in this connection it may be noted that Wisconsin already has enacted a law governing the formation of co-operative organizations and providing for a division of their profits in proportion to the business transacted by them. The salient features of this law are presented in an editorial comment in this issue, since familiarity with this new line of legislative effort seems essential to the fullest and most careful discussion of the topic as it will be presented at the coming Sault Ste. Marie meeting. Miss Buell plans to give ample time for questions and for general discussion, thoroughly believing that the subject is full of possible great things for the Grange.

A BEAUTIFUL NEW WORK.

It will be recalled that the State Woman's Work Committee, early in the year, announced it had found a Grange woman who would represent the committee in calling upon patients who came to the two large state hospitals in Ann Arbor. There is probably no time at which there are not a number of our patron friends in these hospitals, most of them having come from distant parts of the state, often alone, and who have no personal friends to call upon them during their stay. Scarcely a rural neighborhood in Michigan but has had one or more of its members in one or the other of these hospitals. All who have ever been in a hospital among strangers will at once appreciate what it means to have someone take a personal interest in their welfare.

The lady whom the committee found doing this work, and arranged for her to continue it in the name of the Grange, is an ex-lecturer of Charlotte Grange, now here with her son who is in the University. During these months she has spent much time calling from bed to bed through the wards of the hospitals and asking if the patients are from Grange homes, leaving a trail of cheer in her wake, for, of course, her sympathy is not reserved for members of any one organization. Where she finds a member of the Grange she leaves her card so that she may be called upon to write notes or do little errands of kindness for the sick one. Her heart is in this work. "I love to do it," she says. "It takes me three afternoons to make the rounds of one hospital, and two to go through the other, but I find people so appreciative and grateful for being remembered in this way that I am more than glad to do it. I receive words of highest praise for the Grange from many who do not belong to it, and the attendants are glad that their patients are cheered by it."

"I find some such pitiful cases," she went on, "where I wish I might do more. For instance, when patients stay a long time they grow tired of the food, though it is good. I often wish that I had a glass of jelly or a bottle of fruit juice

to add to their meals. And they are so glad, too, if I bring apples, saying that those taste more like home fare than oranges. I divide my own store of these things, but it does not go far."

I wish you might have heard Mrs. Sprague tell of individual cases; one of these was the wife of a Grange member and mother of nine children, who watched so eagerly for her coming. Those who stay long come to know her as a real friend and many are the cordial notes of appreciation that have come back to her on the return of patients to their homes.

Although the Woman's Work Committee suggested, last spring, that we co-operate with this systematic method of cheering afflicted brothers and sisters, we have overlooked it during the busy summer. I am therefore telling you of this work now, when our cupboards and bins are full, so that any Grange or person, who feels inclined, may box up a few apples, glasses of jelly, marmalade or fruit juice and contribute them for this purpose. Send it prepaid, by express, to Mrs. M. Sprague, 632 S. Thayer street, Ann Arbor, or send it by friends who visit there. Every bit of it will be made to go on an errand of sunshine. A further suggestion is that you label each package with the name of the donor and the Grange, thus making more real the bond of fraternal thoughtfulness.

JENNIE BUELL.

AMONG THE LIVE GRANGES.

A New One in Houghton.—Alston Grange was organized at Alston, Houghton county, Wednesday evening, Nov. 13, with 38 charter members. The following head the list of officers: Master, Donald Grant; secretary, Carl Smith; lecturer, Elmer Kirirantaa. The charter will be held open until Saturday, Nov. 30, when the next formal meeting will be held. The new Grange starts out strongly and with brilliant prospects.

Completes its First Year.—Bay Shore, one of Charlevoix county's youngest subordinates, celebrated its first anniversary on the evening of Oct. 30. The organization has prospered during its first year and its prospects seem bright. About 100 were in attendance at the anniversary meeting and an unusually good program was rendered. Bro. D. E. McClure delivering the principal address.

Annual Grange Fair.—South Lowell Grange, of Kent county, held its annual fair in the Grange hall at Alto a few weeks ago. It proved a gala event for both farmers and townspeople. The hall was tastefully decorated with autumn leaves. There was a fine display of fruits, grains and vegetables and in the women's department of quilts, fancy work and baked goods. A chicken-pie supper was served in the basement dining-room. The fair proper was followed by an excellent program of literary and musical numbers, marches, dances, etc.

Galesburg Patrons' Second Annual Fair.—held recently, proved a marked improvement over that of last year, both in quantity and quality of exhibits, due largely to the steady growth of the Grange during the year. The hall was opened to the general public and many visitors pronounced the showing equal to that of a county fair. Prizes were awarded for several kinds of corn, potatoes, apples, turnips, carrots, parsnips, beets, onions, squash, pumpkins, bread, cookies, pie, cake, candy, butter, flowers and various classes of needlework. Among the vegetables was a mammoth pumpkin, the number of seeds of which each one was asked to guess. Walter Flanders guessed 625 and received a box of candy, the correct number proving to be 631.

Coopersville Patrons have accepted an invitation to meet with Nunica Grange for an old-fashioned spelling and singing contest on Saturday, Nov. 30. In preparation for the event the Grange held a spelling match last Saturday evening in connection with its big corn supper at which a prize was offered for the best old-fashioned Johnny cake. At a recent meeting the Grange received its first financial report from its lecture course committee, the report indicating that outsiders have thus far given the course little support. The committee reported 94 course tickets sold, of which 66 were taken by members of the order. The first lecture was given Nov. 6 by Dr. Colledge and showed that the course is worthy of more liberal patronage. At the primary election for nomination of State Grange officers this Grange endorsed Bro. W. F. Taylor, of Oceana county, for member of the State Grange executive committee. The married members of this Grange will strive to outdo the young people in the production of a play during the coming winter.

Charlevoix Grange recently entertained the members of the county normal class, the program including an interesting talk on the meeting of the State Teachers' Association. The class will return the compliment by furnishing the program at a future meeting.

COMING EVENTS.

Michigan State Grange, Fortieth Annual Meeting, at Sault Ste. Marie, Dec. 10-13.

Pomona Meetings.

Grand Traverse Co., with Fife Lake Grange, at Fife Lake, Wednesday and Thursday, Dec. 4-5.

Kent Co., with Grattan Grange, Wednesday, Dec. 13. J. C. Ketcham, state speaker.

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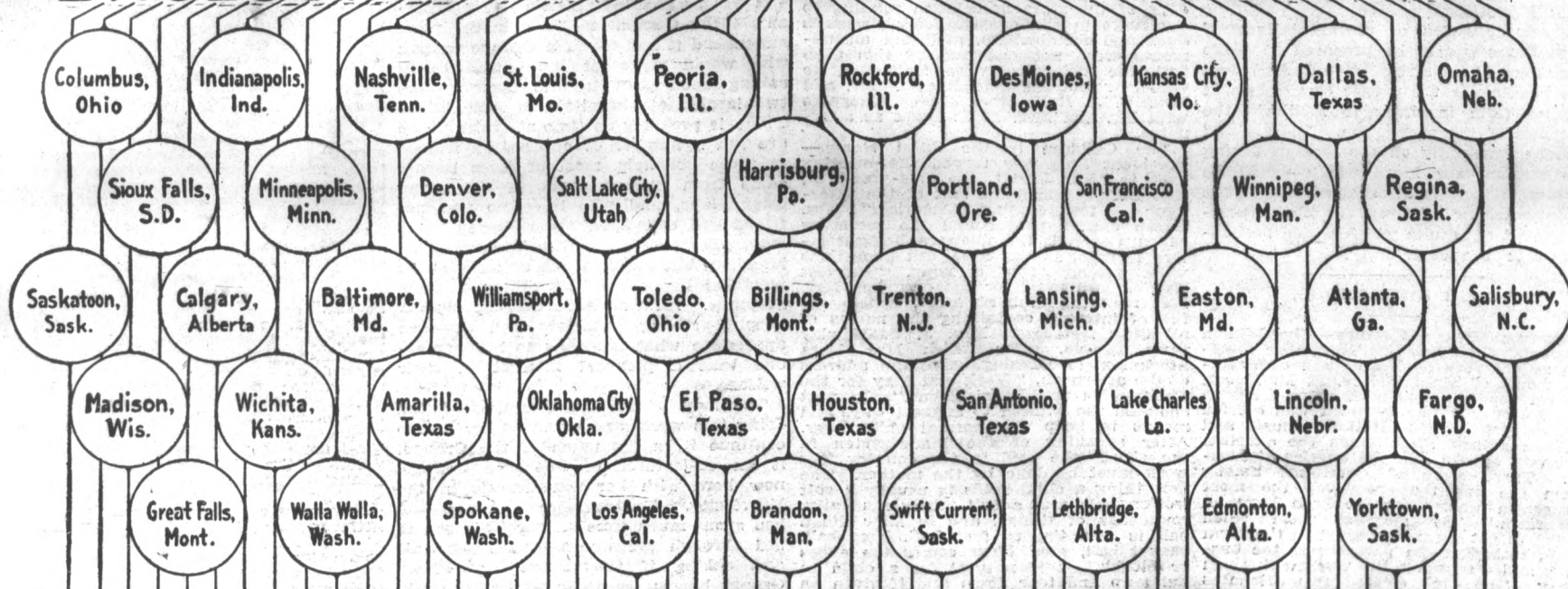


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