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ALMOST every spring when corn planting time arrives, a very considerable proportion of farmers find themselves without an available supply of seed corn which will give a germination test suitable for planting, with a reasonable expectation of securing a good stand of corn. These men are then confronted with the necessity of going into the market and securing a supply of seed corn for planting, which may not be sufficiently well acclimated or suited to their local conditions to give promise of a good crop, or with the less desirable of the two evils of planting corn of poor germinating quality, which is certain to give an imperfect stand of comparatively weak plants. There are some seasons in which it is difficult to get a supply of home-grown seed, but there is no season in which this cannot be done upon most Michigan farms, and there is no excuse for not doing it in a season like the present, when there is a fairly good crop of well-matured corn available from which to make selection.

As has been oft repeated in these columns, the best time to select the seed corn is undoubtedly from the standing plants, before the corn is harvested, but where this has not been done, a fairly good selection can be made at husking time, or even when the corn is drawn from the field. Of course, at this time it is impossible to select the seed ears as scientifically as could be done when the characteristics of the plant upon which the ears grew could be closely observed, but ears of very good type can be selected and cared for in such a manner as will insure an available supply of good seed of high germinating quality for next season's planting, as well as some to sell to the neighbor who does not take the precaution to so select and care for his seed corn, or better yet, to hold over until another year when it may not be possible, owing to less favorable conditions, to select as sound and well matured seed as is available this year.

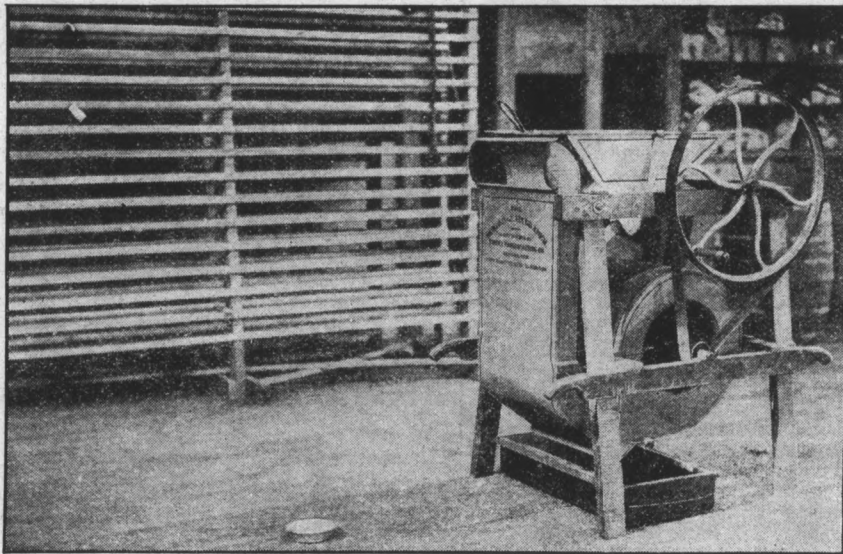
As a matter of fact, most farmers do take the precaution to select a supply of fairly good seed corn in the fall, but too often the corn so selected is not cared for after selection and stored through the winter in such a manner as to secure a high percentage of germination. Formerly, when hand husking was universal and labor was more plentiful, it was customary to select the seed corn when husking, leaving a few husks on the seed ears, which were later "traced up" and hung away either in the garret of the house or in some airy place in the corn crib or about the farm buildings where there was a free circulation of air, which would aid in drying out the corn before freezing weather occurred. In ordinarily favorable years this resulted in a fairly good supply of seed corn which would give reasonably good germination tests. Owing to the changed labor conditions, however, this plan is no longer followed on most farms, the quite general procedure now being to pick out the seed ears, put them in bushel crates and depend upon the corn drying out properly in these crates. This, however, is not a safe procedure and very often corn so handled will give poor germination tests. Where corn in crates is piled about

Storing the Seed Corn.

the kitchen stove or in the basement where the furnace is located, it will dry out much better, and danger from freezing while it is in a moist condition is obviated, but even under these conditions, it will sometimes mold and much of it will be of doubtful germinating quality.

Probably the best method of storing seed corn is in some form of corn rack. A very good rack and one which is recommended by our Agricultural College, is illustrated in the accompanying cut. It is constructed by nailing narrow slats on

cob. This can be hung up in a convenient place or set on a standard, as may be desired. Trays may be arranged in the furnace room or garret in such a way as to permit the storing of the corn in thin layers, but this does not give as good results as are obtained where provision is made for a free circulation of air about every ear. Perhaps one of the most convenient methods of drying out the seed corn is by weaving the ears between two strands of binder twine in such a manner that the completed string may be



Portion of Store Room, Showing Seed Corn Rack in Background.

upright two by fours so that the slats are parallel to each other with space enough between to allow a free circulation of air. These racks may be made in a permanent location, or two built together in such form as to make them portable and yet just as serviceable. Another form of rack which has been favored by a number of Michigan corn growers is made by simply driving nails into a pole, cutting off the heads to facilitate sticking the ears of corn on them by simply grasping the ear and pushing it on so as to drive the nail into the pith of the

hung on a hook about the kitchen stove until dried out and later hung away in some dry place until planting time. A large amount of seed corn can be easily cured out in this way, and with less objection from the housewife than in any other manner in which it can be fire-dried in the average farm home. If there is an attic above any of the living-rooms, this will make an excellent place to cure it by simply hanging the strings of ears on nails driven into the rafters for the purpose. The writer has seen many bushels of seed corn cured in this way,

and it always results in corn of high germinating quality. The cuts appearing in another column illustrate this method of stringing corn up so plainly, that the farm boys and girls can easily accomplish the task.

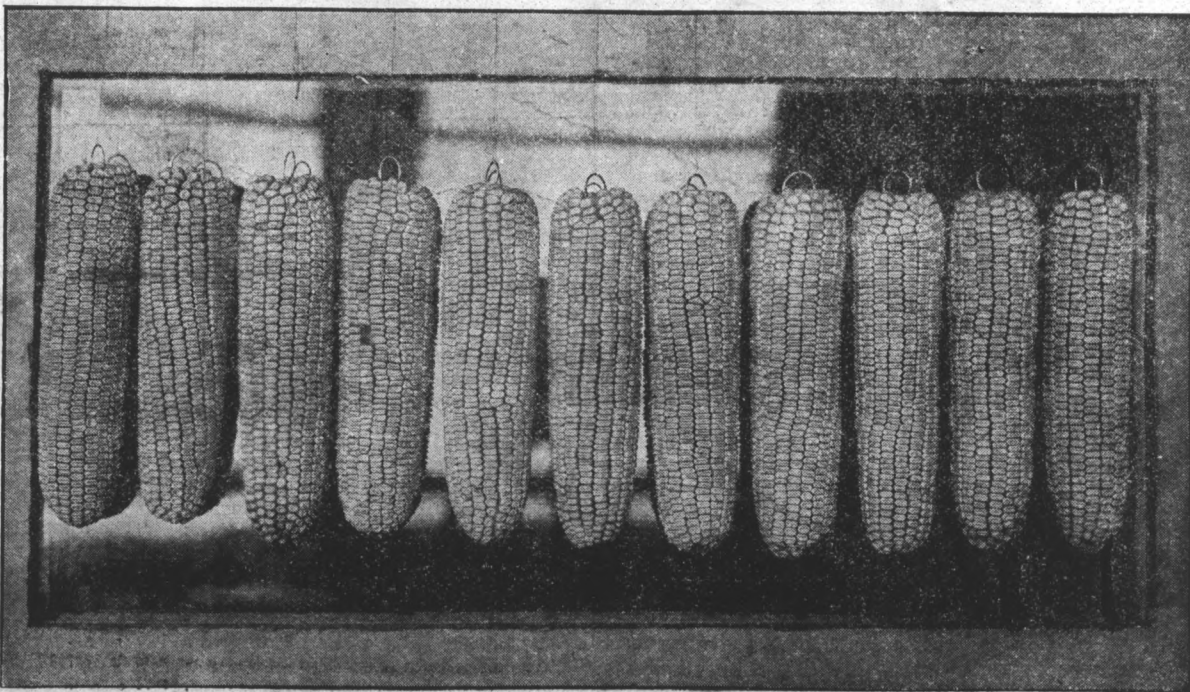
Of course, if one has a storage house arranged so that the seed corn can be fire-dried in quantities either in racks or trays, it would be the preferable way to accomplish the desired result, and would at the same time prove a profitable investment on any farm, since seed corn of high germinating quality always commands a high price on the general market, and ordinarily will find ready sale at good values in the home community.

But it does not matter what method is taken to secure this desired result, so long as it is accomplished, and any farmer who devotes a little attention to this task, will be able to devise a method which will be best suited to his own conditions. The essential thing is that seed corn of suitable characteristics be selected this fall, and the sooner the better, since for best results it must be selected before severe freezes occur. It is well to have the ideal in mind in making this selection of seed ears and approach it as nearly as is practicable during this important work. After the grain has been thus selected, it is quite as essential that it be stored in such a manner as will insure its high germinating quality, and there will be no difficulty in accomplishing this result upon any farm where the matter is given the attention which it merits.

THE SEED POTATO PROBLEM.

While we are continually learning to better appreciate the importance of planting well-bred seed in order to insure a maximum production of any farm crop, yet the importance of this factor in the growing of maximum crops is not yet fully appreciated, as is evidenced by frequent examples. Perhaps there is no crop which better illustrates this fact than the potato crop, and there is rarely a season when the illustration is more plain than in the case this year. The writer has in mind a field of potatoes in this county, the owner of which secured a new and virile variety of seed to plant a portion of the field, planting the balance with the seed from his previous crop, which was of a variety that had been grown upon the farm for a number of years. These potatoes have just been harvested and that portion of the field on which the improved seed was planted yielded nearly twice as heavily as that portion where the old variety was grown.

Other illustrations equally as striking could be cited to prove the same point, that as ordinarily handled, the varieties of potatoes which are grown on the same farms for a number of years deteriorate to an extent which makes it unprofitable to continue their use. This has been the history of the potato industry since it was developed on a commercial scale in this country. The old varieties which were leaders a generation ago have passed almost from memory, and even those which later supplanted them are now little



Selected Ears of Dent Corn Representing the Ideal Type to Keep in Mind in Choosing Seed Corn.

new varieties introduced into his community, and where these are superior to the yields which he secures, to get at least a small quantity of the seed and try it out under his own conditions next year. This



Holding the Twine to Receive the Ears.

is a means of increasing the yield which involves comparatively little expense, and which should not be neglected on any farm where potatoes are made an important factor in the crop rotation.

Oakland Co.

A. R. FARMER.

THE BUILDING OF CONCRETE SILOS.

I was surely amused at Mr. Josiah Emory's criticism of Mr. Little's use of "old junk" in reinforcing concrete silos, in the issue of September 20. As his article gives me the impression that he does not know all there is to know about building concrete silos, I will try to tell what little I know along that line.

If I had to build a nine-inch wall and reinforce it with wire fence, I would surely look around some before I undertook to build my own silo.

There are made in this county two different types of concrete stave silos. The staves are two and a half inches thick by about nine or ten inches wide and three feet long. These staves are set up and reinforced with a half-inch hoop every three feet, or about that, and are then plastered on the inside to make the joints air tight. These silos are sold at about \$8 per foot in height for a 14-foot silo, making a 40-foot silo cost about \$320, besides hauling the material, staves, hoops, etc., from place of manufacture, also boarding the men while they erect the silo. As the cement needed in these stave silos only costs some 50 cents per vertical foot, it seemed to me that a solid concrete silo could be constructed with a three or four-inch wall for a great deal less money, that would surely be as strong as a stave silo only two and a half inches thick.

A year ago I put up my first silo, using No. 26 iron, 28 inches wide, for the outside form and No. 20 for the inside form. (Why does Mr. Emory use two inside forms?) My forms were supported by two three-quarter inch gas pipes, bent to a true circle and passed around the outside form, one three inches from the top and the other about six inches above the bottom. Also the inside form was supported the same way, except that the gas pipes were placed on the inside of it, leaving the space between the forms clear. The forms were of such length as to make the space between them about four inches, or a little more than that.

I dug my first pit about six feet in depth, which placed the bottom of my wall on sand all the way around. My silo was built 38 feet in height, with the wall the same thickness all the way, and with no foundation under it, nothing but the four-inch wall resting on the sand bottom. People asked me if I was not afraid it would settle. Well, suppose it did settle three or four inches, as it probably did before I got the 38 feet in height?

We put up only one form each day, loosening the forms and raising them about 24 inches, letting them lap over onto the wall already constructed about four inches. The outside form was raised first, clamping the bottom edge of it tightly onto the top of the wall while the inside form was yet in place, which would help support the top edge of the wall, which of course is not very strong when only 24 hours old. The inside form was then raised and clamped against the wall. The forms were then filled to within about two or three inches of the top, when we laid in some old fence wire that was new about 25 years ago when it was built into a picket fence. The wire was quite kinky but we took that out of it by

hitching a good team to one end. The wire was cut long enough to go around and lap three or four feet, and the ends were hooked so as to hold in the cement. I presume this was unnecessary but it was little trouble so we did it. Care was taken that these wires did not touch either form as we finished filling, and we also aimed to shove these to the outside as close as we could.

Note that these wires are placed in the top of each form, so that in clamping form to top of wall next day it will be strengthened just where needed. We used six wires in each form at the bottom of silo, five at the middle and four in the last five or six forms.

We placed a two-foot door in every other form, so the doors are two feet apart. By making the doors a little shorter or using a little wider forms a door could be placed in each form. The wire reinforcement should run between the doors and must be covered with cement or it will rust off.

We found our iron was pretty light, as it was difficult to get a nice smooth wall, and I would use No. 18 for outside form and No. 16 for inside form. The sheet iron (these latter weights) would cost in Chicago about \$12 for a 14-foot silo with the forms 28 inches wide.

We knock out the doors after getting up two or three forms, leaving our door jams of solid concrete, against which our



Weaving the Seed Ears in the Twine.

permanent doors rest when we fill the silo. After filling we seal each door around the edge with pulp plaster, which is very quickly done and makes an airtight job.

We built our second silo this fall just like the first, except that we made the wall about three and a half inches thick and 40 feet high. They are now both full and we are looking around for something to feed it to. Neither of them are cracked or checked the least particle in any place.

During the construction of the silo I think it a very essential thing to wet the wall every day. This is most easily done by elevating the water to top of wall and pouring on the wall, both inside and outside, until the wall is wet clear to the ground.

We constructed our scaffold upon the inside of silo by erecting four columns made of 2x4 scantling doubled, nailing boards from one to another about every six feet to support the scaffold boards.

One thing should not be forgotten, and that is to make provision for attaching a chute to the silo. We placed our last silo four feet from the barn and will make our chute four feet wide, so it will be four feet square. About every four feet in height of our silo, and one foot from each door, we put a section of corn cob just long enough to reach through the wall, or from one form to the other, and after completing the silo, and as we were taking down the scaffold, we knocked out these corn cobs and plastered up the hole, at the same time inserting the head of a half-inch bolt in such manner that it will project two and a half to three inches on the outside of silo. Thus the 2x4 scantling used in building the chute can be bolted solidly against the silo. Of course, care must be taken in inserting the cobs in silo wall to get them directly above each other, so that the chute will be plumb when finished.

I designed a small cement mixer and elevator, to be run with a two-horse gasoline engine, that will mix the cement as fast as one man can shovel the gravel from the wagon. The little engine mixed all the cement and elevated it for both silos on five gallons of gasoline, while the mixer and elevator cost me less than \$2.50.

We fill our silos with our own filling outfit—a five-horse engine made in this county, and a 16-inch cutter, taking three men and two teams 13 days to complete the two silos.

My last silo cost \$134, including the digging of pit about five and a half feet deep and 24½ barrels of cement, but not including the chute. This amount does, however, include the cost of forms and all other expense, with labor at \$1.50 per day.

It took about 27 or 28 acres of corn to fill both silos.

Cass Co.

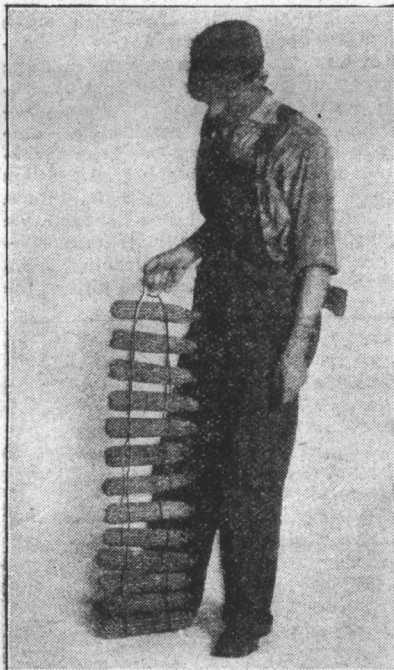
F. E. SMITH.

CAPITAL REQUIRED TO BEGIN FARMING.

How much capital would a man require to start on 40 acres of virgin land after the house and barn were built. The land is sandy loam, in Manistee county. It will not be hard to clear and is intended for truck farming and small fruits. I could have at least 10 acres cleared the first spring. Also, what crops would you advise to be planted first to bring it into rotation? Would you advise oats mixed with peas or potatoes and beets. I have had considerable experience in truck farming but not on virgin land. Will be much obliged for an answer from you as I am a constant reader of your paper.

A. D.

The amount of capital required to start on 40 acres of virgin soil, after the house and barn were built, all depends on the prices that would have to be paid for such stock and tools that are actually necessary; prices for which vary somewhat in different sections. A. D. will need a span of horses and double work harness, a plow, a wagon, disk harrow, a 15-tooth lever spike-tooth harrow, one double or riding cultivator and one single cultivator, a hoe and hand corn planter. The above outfit will cost probably about \$450. To the above must be added the cost of whatever seed is planted. The grain or root crops can be sown and planted and harvested by hand, if A. D. is a hustler and wishes to get a start as cheaply as possible. There is a great variety of sandy loam soil in Michigan. But taking it for granted that the soil A. D. describes is of fairly good quality, it will perhaps pay him to plant two or three acres of potatoes, two or three acres of corn, and sow the balance of the 10 acres say about half, to peas and oats mixed, and half to clear oats, which could be sown quite thick, and if cut green when the grain is in the milky stage, it will make a good quality of hay for the team. After the oats and peas are ripened and harvested, if this land is thoroughly worked with the disk harrow and made into a fine seed bed, and when conditions were favorable in August, alfalfa was sown, a good catch crop would probably result, and if such should be the case it would be a very paying investment. If



Completed "String" Ready to Hang Up.

the alfalfa should be a failure, the land could be planted to sugar beets in the spring, if there is a good market for this crop in that vicinity. If the potatoes are planted in rows one way, between the hills in every other row, red and black raspberries, blackberries, and for variety, some currants and gooseberries could be planted, which ought to do well and make such a growth as to come into bearing early. These plants will not interfere with the cultivating or growth of the potatoes. And in the spring, if so desired, a row of strawberries could be planted in the middle between the raspberry and

other vines, and still leave room for cultivating, if the potatoes are planted at least three feet 10 inches apart. On the land where the corn is planted, fruit trees, such as cherries, plums, peaches or apples could be planted between the hills of corn at the proper distance according to the variety. Strawberry vines could also be planted in every row between the hills of corn. This, of course, would require more hand work with the hoe. Mr. A. D. must use his own judgment in regard to what kind of fruit and vegetables will be the most profitable to grow, as much will depend upon the market to be supplied. I have tried to throw out such hints, if followed, as will give as quick returns as possible for labor and investment.

Ottawa Co.

JOHN JACKSON.

EXTERMINATING THE GRASSHOPPER IN KANSAS.

Many localities in Michigan have suffered from the ravages of grasshoppers during the past season, as some localities do every season. The farmers in these infested localities will be interested in the methods adopted to subdue this pest in Kansas, where it is an ever present menace to farm crops. A news bulletin recently issued by the University of Kansas gives the following advice on this subject:

After a study of seventeen years on the Kansas grasshopper problem, Dr. S. J. Hunter, State Entomologist, and head of the University of Kansas Department of Entomology, was able today to forecast a victory over the pests. Within two years, the native grasshopper will be reduced to a harmless quantity in the southern half of the state, the section under Dr. Hunter's charge.

Discing the ground in the spring to destroy the eggs and distributing the poison in the summer to kill the insects is the dual program outlined for the campaign. Poison used since July on southern Kansas farms cut down three out of every four hoppers by actual count.

This final war of extermination was made possible by the Board of Administration of Educational Institutions, which approved Dr. Hunter's plan last June and appropriated funds to see him through to the end. The board recognized the fact that the elimination of the pest would mean a saving of millions to the farming interests of Kansas, and it was anxious to use the State University machinery in this work of salvage.

With the approval of the board, the university opened fire by sending P. W. Claassen, H. T. Emery, H. B. Hungerford, E. W. Mallory, and D. Isely, assistant entomologists, to the various counties to have the commissioners authorize the purchase of poison for use in their district. The majority readily co-operated.

Observation since 1896 had convinced Dr. Hunter and his assistants that the grasshoppers that were injuring Kansas crops did not migrate, so the attack centered on the one idea that the farmer who killed the insects on his own farm would be safe for all time.

"The grasshoppers that do the damage are native," says Dr. Hunter. "That is, they develop and perpetuate themselves on one farm; they do not move about."

In the counties that provided the materials, poison was spread on the farms. The formula used was the following, obtained after years of experimenting: No. 1, 2½ lbs. paris green or white arsenic; 50 lbs. bran, (mix these dry). No. 2, six oranges, or lemons, chopped up fine, rind and all, four quarts syrup, five gallons of water. (Mix these three together thoroughly. Mix No. 1 and No. 2, then add sufficient water to make a wet mash).

The lemon and orange mixture attracted the grasshoppers who found it irresistible and deadly. A scientific count completed this month of the insects on the farms that had used poison showed that from two-thirds to three-quarters had been killed, that is, there were from two to three times as many on farms where poison was not used.

"If the hoppers are found now attacking the young wheat or the fall growing alfalfa, the bran mash should be used as directed," Dr. Hunter advises. "Every female grasshopper killed now means 100 grasshoppers less next year."

"The alfalfa should be disced and cross-harrowed early in the spring as soon as the frost leaves the ground. This throws out the eggs of the grasshoppers to be destroyed by the weather and eaten by the birds. This method of culture, first advocated by the University of Kansas, not only lessens the number of grasshoppers, but also has been proven to increase the yield of the alfalfa fully one-third."

THE UPPER PENINSULA INSTITUTE
TRAIN.

The "Cloverland Farmers' Special" has just finished its tour of the Upper Peninsula over the Duluth, South Shore & Atlantic lines. The special was run under the auspices of the extension department of the Michigan Agricultural College, which is endeavoring to carry the knowledge of better agriculture into every part of the state. Over 711 miles of road were covered and long stops were made in 23 towns, in which between 7,000 and 8,000 people visited the train.

The special carried eight cars, two of which were devoted to live stock and poultry exhibits and a third to displays of grains, grasses, fruit, vegetables and mounted specimens of pests of orchard, garden and field crops. In addition the cars carried models of poultry houses and barn frames, as well as farm machines, spraying outfits and pruning tools.

One interesting feature of the train was a flat car which was equipped for outdoor demonstration of cattle. Farmers of the Upper Peninsula are very much interested in stock and in nearly every town a crowd would gather on the flat (as shown in the illustration) and listen with interest to Mr. W. F. Raven, while he pointed out the characteristics of a good dairy cow.

The breeds represented in the cattle exhibit were Angus, Hereford, Shorthorn, Holstein, Guernsey and Jersey. The Rambouillet, Hampshire and Shropshire breeds of sheep, and Tamworth, Berkshire, Yorkshire and Duroc Jersey swine attracted great attention throughout the trip. Professor J. O. Linton selected a number of hardy breeds of fowls from the flocks at the College for the train, and by the number of requests for eggs, breeding stock, bulletins and all phases of information on poultry which he received during the trip, it is easy to see

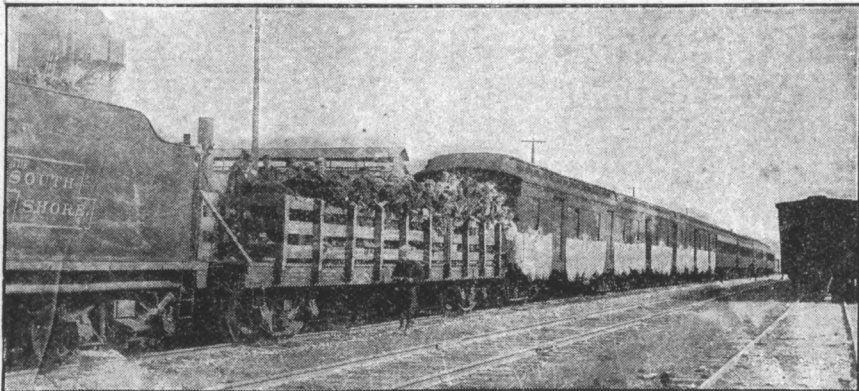
growth as was experienced in the Lower Peninsula after the timber gave out. Men who once were lumbermen are acquiring good lands and are beginning to get over the idea of "going to the woods for the winter." These are the men that most need help and the Michigan Agricultural College is doing what it can to help them get started right with good stock, good seed and a knowledge of how to manage a farm profitably. More farmers to develop the millions of acres is all that the Upper Peninsula needs to make it a great center of agricultural wealth.

Mich. Agri. Col. R. J. BALDWIN.

SEEDING ALFALFA IN EMMET
COUNTY.

While passing through a neighbor's meadow recently, the question of alfalfa growing was brought prominently before my mind, because of the scattering stalks of this plant which were to be seen, here and there, over the field, growing in luxuriant greenness and towering far above the second growth of June grass, timothy, and the few stalks of red clover that had maintained a foothold in the sod. The thought at once suggested was, why will we farmers not spend a little time and energy in getting alfalfa established on our farms, when by this means we might just as well as not be making use of a plant several times as productive and which will answer every purpose of the other forage plants which we grow for hay. In place of cutting one or two tons of hay per acre, four or five might just as well be secured, to say nothing of its superiority as a soil renovator.

There are several reasons why farmers have been so slow in taking up the growing of alfalfa; ignorance of its value, ignorance of the nature of the plant, and so on; but one very important factor is this: a misapprehension as to the matter of obtaining a seeding. True, the plant



Cloverland Farm Special which Recently Toured the Upper Peninsula.

that "Cloverland" is a great poultry region.

Mr. A. R. Potts gave lectures on grains and forage crops, making a special feature of the introduction of alfalfa. Many farmers of the Cloverland region have already demonstrated the adaptability of alfalfa and the Special did much to extend knowledge of the virtues of the crop.

One great surprise of the trip was the number of school children that came to the train, with their notebooks, eager to learn the names of all the breeds of live stock and poultry and what each was for. The secret of the interest proved to be the fact that many of the grades are now studying agriculture in the schools and both teachers and scholars welcomed the train as a wonderful chance to really see the things that they had studied about in books.

At L'Anse the train was joined by Emil Hautala and Johanna Mitchell, who acted as interpreters in the Finnish settlements, of which there are a large number in the western part of the peninsula. The interpreters translated the lectures to their countrymen, and the Finns proved willing listeners, eager to learn the better methods of American agriculture. The wide, fertile areas of Ontonagon county are attracting hundreds from the lumber camps and mining towns to make their living by farming.

A new venture was attempted this year in providing a lady to lecture on home topics. Mrs. Emma Campbell, of Ypsilanti, was given charge of the work, and a separate car was set aside for her lectures. Feeding, care and dressing of children, and other topics, such as fruit canning, butter-making, etc., were discussed. Many women came distances to meet Mrs. Campbell, and to talk over their problems.

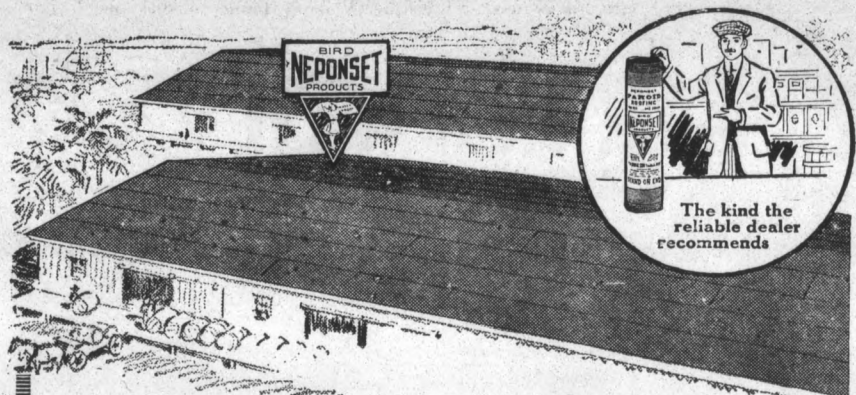
In many respects the Upper Peninsula is going through the same stages of

is not adapted to all soils equally as well, nor to every condition, nevertheless, it strikes the writer that this matter of getting a seeding has been made too much of a stumbling block. For several years back, the writer has had the growing of alfalfa in view, but one thing and another prevented. Most of all, was the thought that we must make some special preparation in order to get a seeding that would amount to anything, anyhow. This season, however, we succeeded in getting a start.

In one place we have about an acre that was seeded with a garden drill. The idea in mind was to be able to keep down the weeds, and conserve moisture by cultivation. Canada thistles and mustard have a good stand here. The field was gone over several times with a horse hoe, a wide sweep only being used in the center. The weeder and spike-tooth harrow were also used to stir the soil after showers. Not knowing just where to set the gauge on the drill, the seed was not distributed as evenly and thickly as I intended it should be. However, the plants that came up are still in evidence, and have made quite a satisfactory growth, considering that the soil of that field is pretty well run down, and no fertilizer used.

Another field of about two acres was sown broadcast and harrowed in with a spike-tooth, the ground being plowed early and worked till the first of June. The seed germinated quickly, and the plants grew nicely till we mowed them off when about a foot high. After this but little growth has taken place. Though the plants are still alive, they do not show a rich green as do those in the plot that was cultivated, except at one end of the field. A small plot drilled in, to supply humus for some garden land, shows up best of all; this plot was cultivated twice and hoed once.

In another field, comprising about two

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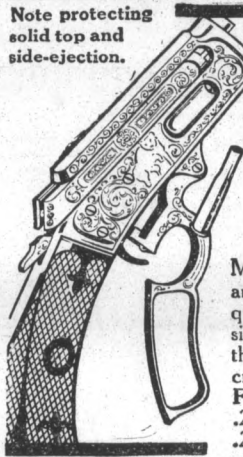
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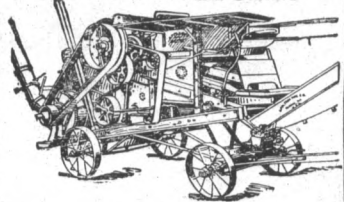
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R. F. D. — Town —

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acres, mammoth red clover and alfalfa were used in about equal quantities with buckwheat as a nurse crop, the buckwheat being sown rather thinly to give the other plants a chance. There is a good catch of plants here; but the alfalfa plants have the best of it. Before the buckwheat was cut, these plants stood knee high, in places. There is a good even stand of both clover and alfalfa plants, and as the buckwheat stubble will hold the snow and protect them from winter injury, there should be a good showing on this piece next summer. Several farmers in this locality have used this plan of seeding this season, some using one crop and some another, and with quite satisfactory results. However, I should say that we have been quite fortunate in the matter of precipitation this season, and with less favorable moisture conditions, there would, of course, be a different story to tell.

Regarding inoculation, I will say that I took the precaution to send to the Department of Agriculture at Washington, and secure inoculation material. This was applied to the seed in the manner set forth in the instructions. Some of the seed was sown directly after, and some was held over a few days. In none of these plots, however, have I found any evidence that there are nitro-fixing bacteria present in the soil. No doubt these will come in time, and once introduced their multiplication will be sure and rapid. Just how this alfalfa will turn out next season can not be foretold. Anyhow, I have a start in alfalfa, and have no fear but that these plants will yield more hay than would clover.

Emmet Co. M. N. EDGERTON.

PRUNING SHADE TREES.

Our house is surrounded by about 25 trees of natural second growth, consisting of maple, beech, elm, ironwood and basswood. The basswood have attained quite a size, measuring from six to nine inches through, and are also growing very tall. One cluster of basswood, especially, that we prize very highly and grows quite close to the house on the north side, has attained a height of about 30 feet and consists of three trunks growing from one common center on tripod only a foot out of the ground. I am afraid, owing to the tall, heavy top, that a hard wind might split the trunks apart and ruin the tree, and I would like to ask your valuable opinion as to whether it would be safe to cut the tops off down some 10 or 12 feet, and would this be the proper time of year to have it done? Will the wood bleed and should the wound be painted or sealed with something? I would like to trim some of my maple trees; is this a proper time to do it? I trimmed some of them in the spring and it killed part of them. They bled badly.

Presque Isle Co. W. B. G.

In the above letter, Mr. Gregg mentions that he has 25 or 30 second growth trees of maple, beech, elm, ironwood, and basswood surrounding his house. These trees have a diameter of from six to nine inches and are growing tall. He especially mentions the basswood growing north of the house as having a height of 30 feet or more, and speaks of the extreme danger to this clump from wind.

I wish to say in the first place, that the reason why his trees are growing tall is that there are too many of them and that they are not able to throw out the proper side limbs, and consequently are increasing in the height growth. For the best effects for shade trees, there should be plenty of side light and open space about each tree. Where the trees are growing in close stands, the inevitable result is forest form rather than shade tree form.

Regarding the danger from split on the tripod basswood, I believe it would be safe for him to cut the tops of the tree and cover the wounds with pure white lead. Fall is the best time for this work. The cutting back should be done in two operations a year apart, rather than excessive cutting back in one season. Great care should be taken in the cutting itself to prevent peeling of the top. Maple trees may be trimmed at this time also.

It is poor policy to do trimming or pruning in the late spring, or, in fact, at any time during the growing season. The bark peels more readily and the tree is more liable to injury than in the dormant season. Those trees which grow sprouts readily from their stumps may easily be top-pruned with safety, since they throw forth their new growth from dormant buds.

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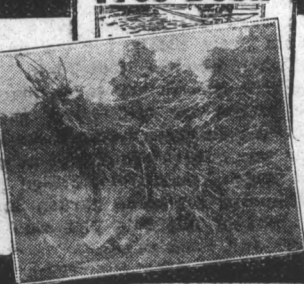
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Live Stock.

Winter Management of Breeding Hogs.

COMFORT and sanitation are important factors in the winter management of breeding hogs. Hogs that are comfortable require less food to maintain them in a vigorous and thrifty condition until they are ready to be turned out in the yards and pastures in the spring. Every advantage that we can give the breeding sows during the winter makes for the development of strong and vigorous pigs in the spring. Drawing the line between comfort and sanitation is a rather difficult problem. Quarters that make the breeding sows comfortable do not always conduce to their good health. Fattening hogs intended for the market may properly be deprived of every contact with natural conditions, but breeding animals should experience less of the artificial life. Fence corners and straw stacks are no more inimical to health on the hog farm than hot, poorly ventilated houses. Breeding hogs will thrive during cold weather if they have dry sleeping places and plenty of clean bedding. Extremes should be avoided. Neither the hot, stuffy house or the cold outdoors in stormy weather is a fit place for breeding hogs.

Make Short Work with Filth and Vermin.

Nothing is more detrimental to the general thrift of hogs than lice and filthy surroundings. If the breeder wants to get the best results he must clean up his premises. Old piles of straw and manure breed disease and vermin, and this stuff must be removed or the hogs kept away from it if they are kept healthy and free from lice. One lousy hog will soon have the rest in the same condition if they sleep in the same quarters.

By keeping the houses clean, white-washing the side walls and ceilings, applying lime on the floors, it is an easy matter to hold filth and vermin in check. In the absence of a dipping tank, a hand sprayer is the most effective means of applying the house remedy to the hogs. Some breeders saturate old gunny sacks or blankets with the remedy and wrap them around posts in the yards and allow the hogs to rub against the posts and apply their own remedy. They soon learn the trick and will keep free from lice if given this opportunity to make their own toilets. Though these remedies will destroy the lice they will not keep the eggs from hatching. Therefore, second and third applications are necessary to kill the lice that have not hatched at previous applications. One should go over the herd every few weeks with some remedy which will destroy the lice for the time being, at least. It is much better if the infested bedding or litter can be cleaned out previous to dipping or spraying the hogs. In order to develop vitality and promote the general good health of the hogs during the winter one should provide means for the hogs to exercise every day when the weather is favorable. Of course, in severe weather they should be kept indoors, but in all other cases outdoor exercise and fresh air is very beneficial to the animals.

Feeds for Pregnant Sows.

Inasmuch as fully half of the pigs farrowed in the country come during March, April and May, every effort should be made to have the sows well nourished during the winter. I have never been able to make up a winter ration for brood sows that would give better results than equal parts of ground oats and middlings which are fed in the form of a slop in connection with warm water and skim-milk. This is supplemented by the use of clover and alfalfa hay and a small amount of ear corn. Some feeders prefer to cut the clover and alfalfa and mix it with the slop, but I have never been able to see the advantage of this method, except that it induces a larger consumption of the stalks and stems of the forage plants. The clover and alfalfa is fed in racks placed so that the hogs can have access to these feeds at all times. The ear corn is supplied alone at a noon feed in order to induce the sows to come out and exercise during the warmest period of the day. These feeds constitute an almost ideal ration for the sows that are carrying pigs.

Avoid Constipation.

One of the most dangerous things we find it necessary to guard against is con-

stipation. This trouble is often common when we are feeding a properly proportioned ration. It may be overcome in different ways. A slop of bran and oil meal will frequently give the necessary relief. Sometimes epsom salts are required. It is very important that the pregnant sows should be in a rather laxative condition. In many instances constipation is caused by lack of exercise. The average sow that is in vigorous condition will secure a sufficient amount of exercise, if given the liberty of a large yard. If the sows are old and sluggish it is often necessary to do the feeding in the yard farthest from the sleeping quarters in order to induce them to take exercise. If the sows exercise every day there is little danger of their becoming constipated. The addition of roots, vegetables and waste fruits is another safeguard against this ailment, unfortunately these feeds are very scarce on the average hog farm during the late winter and early spring months. Corn silage is used by some feeders, but it is my judgment that it is not fit feed for breeding hogs.

Feeds that Save Pigs.

For five or six weeks previous to farrowing I like to feed tankage as a part ration to the brood sows. We have never yet had a sow that ate her pigs if she was fed tankage as a supplement to her grain and roughage rations. It is best to somewhat change the ration and modify its proportions by reducing the concentrates and increasing the amount of bulky and succulent foods. It is not advisable to reduce the bulk of the ration, as it has a tendency to cause the sow to be up and looking for something to eat. The sow that is prompted by hunger to be restless is quite likely to trample on some of her pigs immediately after farrowing.

New York.

W. MILTON KELLY.

JUDGING MERINOS AT AGRICULTURAL FAIRS.

A year ago I decided that I would not show my sheep at any fair where they would not let the exhibitors know who was to judge the sheep. The result was that I made a show at only two fairs.

I believe that all exhibitors of live stock have a right to know who is to pass judgment on their stock. Some fairs in their premium lists say the judge is an "expert." Let the name of that expert be



E. N. Bissell's 2-year-old Ram, No. 1571.

at the head of the premium list and then the exhibitors can judge whether he is an expert or not.

There is a growing tendency with some fairs to have a college professor judge not only the coarse wools, but also the fine wools. While I have seen splendid work done on the coarse wools, they always "fall down" when they judge fine wools. Merino sheep have more points than any other animal that I know of, both good points and bad points; and only a breeder of Merinos can distinguish which is good and which is bad. I was a looker-on at one fair where a college professor was judging Merinos—Class A rams two years old and over. He made the awards without asking the exhibitors to turn their sheep down so he could see their under sides. When asked why he did not have them do so, his reply was that he could tell what they had on their under sides without an examination. I asked him why he did not ask them when their sheep were shorn (as I knew there was several months' difference in the time they were last shorn); his reply was that he did not care to hear them lie.

When a society in their premium list say that all Merino sheep shown in classes A, B and C must be sheared close, and even on or after January 1st of the year they are exhibited, if the judge has any doubt about their being shorn within the year he should require the exhibitor to furnish proof to the society before he can draw his premium money. Also, in a pen of four lambs, get of one sire, the exhibitor should show a certificate of registration from the secretary of his association.

I am satisfied that there are more good sheep ruined of their usefulness by being over-fitted for the fairs than by neglect, as I know of one exhibitor who begins fitting his sheep several months before the fair season opens. They are oiled and singed and blanketed at all times except when they are being judged. They must have the best of alfalfa hay, roots and cabbage, and blankets hung up in front of them if it is an open pen, so the wind cannot strike them.

After a year or two of such treatment if they should be sold to go to a foreign country and should be turned out on the plains without any care, they will be of no value to the purchaser. At a meeting of the American and Delaine Society at Columbus a few years ago, after the business meeting was over we had what the old soldiers call a "smoke-talk," and among other things I was asked how I fitted sheep for the fairs. My reply was, that when it was time to take sheep to the fair I got them up in the barn, backed my wagon up to the barn, went in and picked out such sheep as I wished to show, loaded them into my wagon and started for the fair; when the fair closed the sheep were returned to the farm and put in with the flock. This statement was received with derisive laughter by the young men of Ohio, who are used to treating their sheep different. But my statement was true, nevertheless.

I never used a blanket on my show sheep except one year, and these sheep being shipped by express to the different fairs, I used cotton-olled blankets on them, and the weather proving very warm the sheep seemed to suffer much more than without them; and for this reason I have discarded blankets.

Vermont.

E. N. BISSELL.

WINTERING STOCK WITHOUT HAY.

According to reports, there is an unusual shortage of the hay crop in the United States when taken together, and in some extensive districts the shortage is alarming. The consequence will be that the price of hay will be higher in the markets for a year to come, and it will be to the interest of farmers whose mows are full, and some stacks out of doors, to sell some, if not all, of it and keep their stock on cheaper fodder.

The farmers in the drouthy zones whose hay crops have been shortened one-half or more, shouldn't worry. They need not sell stock, nor buy hay. They have abundant means of keeping their stock in as good condition as ever, and at less cost. I have had experience in the matter, and know whereof I affirm. One season in the latter part of June there came a flood in the Susquehanna river, the water overflowing the banks, the current swept down our grass in the meadows along the river, covered it with mud and sand, and did not leave us enough to make hay for visitors' horses, to say nothing about our own two horses, 11 cows, eight steers, to be fattened, and some younger cattle.

Previously we had kept our stock mostly on clover and timothy hay and cornstalks. The momentous question was, how to get our stock through the following winter until grass grew in the spring. To buy hay for that number of animals was a calamity not to be thought of any more than buying an elephant, or the state of Michigan. We had wheat, rye, and oat straw bright and abundant, which had been pitched back into the barn as soon as the grain was threshed, and before it was rained on. We had about 16 acres of corn, which was cut up as soon as the kernels were glazed, and before the leaves had been bitten by frost. It was stood up in small shocks and bound tightly so they could not bow down, and when husked great pains were taken to bind the stalks in small bundles, set them up and bind well. As soon as dry enough they were drawn to the barn. Early cutting does not injure the grain, and makes the stalks of greater value for feeding. The nutritive value is lessened by being cut up late, and the quality is reduced by long exposure to the wind and rain.

When fed in the stable, stalks should be run through a stalk cutter, or shredded, as they are difficult to handle in the manure when fed whole. Not only this,



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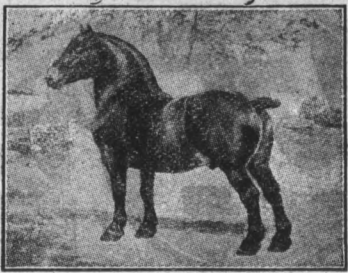
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but cattle will eat more of the butts when cut into half-inch lengths.

There is more feeding value in straw than some farmers are aware of. Prof. Armsby gives the digestibility of the three straws as follows: Oats, 47.3; rye, 41.1; wheat, 39.9. These straws contain all the elements of horse and cattle foods but are deficient in the one which the chemists call "protein."

If animals would only devour the straw and the grain that was grown upon it, the ration would be all right, and, in the case of oats, fairly well balanced. This they will not do. If you give a horse a bundle of oats he will eat the grain and leave the straw until he is nearly starved. To make animals eat straw greedily, they need not be starved to it. All that is necessary is to cut the straw into half-inch lengths, moisten with water, and thoroughly mix with it the fine meal of ground grain which may be partly corn, but must also have some meal of rye, or oats, to stick it fast to the straw. Each piece of straw should have a little meal sticking to it lest the animal will try to reject the bread that has not been buttered.

The winter following the flood our cattle and horses were kept entirely on corn-stalks, cut straw and meal, and were never wintered cheaper, nor looked better in the spring. The meal was made from corn, rye, and oats ground together in about equal proportions. The mixing was done in two or three different batches so that the amount of grain I desired to feed each class of animals could be regulated. Animals love salt and need it. A little salt put into the cut feed makes it more palatable. Some uncut straw was placed before each animal for them to pick at and left for bedding. The steers were well fattened, the cows in milk gave a good flow, and all the animals, old and young, kept healthy and looked well in the spring. I never wintered stock at less cost.

Pennsylvania. J. W. INGHAM.

SHEEP MEASLES PARASITE.

The sheep measles parasite has recently been found to be of common occurrence in the United States. It is of importance not only because of its more or less injurious effects upon sheep but also because of its location in the parts of the body used for human food, namely, the muscles. Fortunately, cases of heavy infestation are rare and comparatively few sheep carcasses are condemned in their entirety by meat inspectors on account of measles, the carcasses in most cases being fit for food after the removal of the affected portion.

The sheep measles parasite has been conclusively proved by an investigation of the Bureau of Animal Industry to be the intermediate stage of a dog tapeworm, and not the intermediate stage of the armed tapeworm of man. Sheep become infected with the parasite as a result of swallowing its eggs which are scattered over the pasture in the excrement of dogs harboring tapeworms, and dogs in turn acquire the tapeworm as a result of eating the carcasses of infested sheep. The preventive measures are, first, the systematic treatment of dogs to keep them free from tapeworms, thus removing the source from which sheep become infected; and, second, the proper disposal of the carcasses of dead sheep and the complete prohibition of raw mutton as an article of food for dogs.

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

COST OF FEEDING STORE CATTLE OR STOCKERS.

I wish to know how much per head per week I can feed these cattle for. They will range in age from three to six years old, and will be cows not giving milk. My feed will consist of corn silage, wheat and oat straw, bean fodder and corn fodder. My aim is to feed this up on the farm rather than to sell it off. I wish to know the lowest figures that I can feed these cattle for. I will feed some grain but I think not until the cattle have been on feed for a while. The grain that I intend to use will be cottonseed meal, oil meal and corn meal.

Van Buren Co. E. L. C.

It would be impossible for one to tell exactly how much it would cost per day to feed store cattle. Some cattle eat more than others and do better. That isn't the way to figure the proposition. The proposition is to feed the cattle so that you will get the best gains possible. That can only be done by feeding them all they will eat up clean. That's what an animal wants. No matter what the cost is. Supposing it costs twice as much to feed one animal than it does another, there is no loss there, providing this animal makes twice the gain. It is the

gain that you are after, and you can't afford to see how much you can scrimp these cattle to get them through the winter. They ought to be fed a good wholesome liberal ration to keep them gaining. Again, I think it will pay you to feed some grain, even though grain is high, in connection with all this roughage. They won't make a satisfactory gain on roughage alone, as they will if they have some concentrated food in connection with it. One could afford to pay a pretty good price for grain even though you feed only a small quantity. It would be a very profitable investment to feed in connection with the roughage. It is all right to make them consume this roughage, and they will do it and relish it, but you don't want to have them come through spring poor, you want to see how much you can make them gain.

COLON C. LILLIE.

FEEDERS' PROBLEMS.

Buckwheat as a Feed for Live Stock.

Please give the feeding value of buckwheat as a grain ration for pigs and other live stock.

Wayne Co. SUBSCRIBER

Buckwheat has a fair feeding value, although its content of nutrients is somewhat lower than that of the leading cereals. At the Ottawa station buckwheat was fed to pigs in comparison with ground wheat, both alone and in combination with other feeds, the result showing that buckwheat does not quite equal wheat as a feed for pigs, six per cent more grain being required in buckwheat mixtures than in the wheat mixture for 100 pounds of gain.

Buckwheat middlings, on the other hand, have a high feeding value. They contain something over 20 per cent protein and are considered a valuable cow feed by dairymen. The buckwheat hulls are low in feeding value and these are sometimes mixed with the middlings and sold as buckwheat bran. This feed contains only 7.4 per cent of protein, as compared with 21.1 per cent of protein in buckwheat shorts. Either buckwheat or buckwheat shorts should preferably be fed with other grains in order to secure best results.

Feeding Young Pigs.

What is the comparative value of sweet and sour separator milk for feeding young pigs?

Oakland Co. SUBSCRIBER.

With regard to feeding sweet or sour milk to young pigs experimental data shows comparatively little difference in the gains secured, not more than might occur from other causes. In two trials at the experiment station sour milk gave little better results with one lot, while sweet milk gave better results with the next trial lot. Where separator milk is available for feeding young pigs, it is probably the better practice to feed it direct from the separator. It will then be warm, and warm feed is undoubtedly better than cold, especially during cold weather. So far as a supplementary grain feed is concerned, corn meal will balance skim-milk better than middlings, and the better way would be to feed about one pound of corn meal with three to four pounds of skim-milk and add middlings to make a slop of the right consistency. Middlings contain about the right proportion of the different food nutrients to make a well-balanced pig feed, while the corn meal and milk will make a well-balanced feed. It would be better to begin with a comparatively small quantity of corn meal, increasing the amount gradually as the pigs attain more age.

Feeding Beans and Rye.

Am feeding cooked beans to hogs; is it well to feed them after they have soured? In feeding rye in the form of a slop should it be made thick or thin?

Wayne Co. SUBSCRIBER.

In feeding cooked beans to hogs it would be much better to cook only such an amount as could be fed before the feed began to sour. In feeding ground rye or any other grain in the form of a slop it is better to make it of medium consistency than too thin, as by the latter course the pigs are apt to drink too much water in the ration. It is better to provide water for the pigs to drink than to feed slop which is too thin.

Nutritive Ratio of Beans.

Will you please give me the nutritive ratio of beans? My text gives almost everything but that.

Osceola, Co. W. W. P.

A chemical analysis shows ordinary beans to contain a total of 22 per cent of protein, 3.5 per cent of crude fibre, 50 per cent of nitrogen free extract, and 1.5 per cent of fat. These food elements are accorded a high rate of digestibility, the digestible nutrients being given as follows: Protein, 20 per cent; carbohydrates, 42.5

per cent; fat, 1.4 per cent. It will thus be seen that beans have a very narrow nutritive ratio as compared with other available farm grown feeds.

LIVE STOCK NEWS.

The Price Current has received reports from its correspondents showing startling reductions in the numbers of cattle and hogs in various feeding sections of the country. The worst showing is that made by Kansas, Nebraska and Missouri, this being accounted for by the serious shortage in the corn crops grown in these states. Ohio reports 88 per cent as many cattle on feed as last year and 97 per cent as many hogs, while Indiana reports 84 per cent of cattle and 88 per cent of hogs as compared with a year ago. Illinois reports 83 per cent of last year's cattle feeding and 88 per cent of hogs, while Iowa reports 83 per cent as many cattle and 75 per cent as many hogs. Kansas reports 24 per cent as many cattle and 43 per cent as many hogs as a year ago. Nebraska has 51 per cent as many cattle and 62 per cent as many hogs as were held last year. Oklahoma reports 76 per cent as many cattle and 85 per cent as many hogs as a year ago, while Missouri has 45 per cent as many cattle and 62 per cent as many hogs as last year.

The packers in Chicago and in other prominent packing centers are outbidding country buyers of high-class feeder cattle carrying considerable flesh, and for this reason no large shipments of such stock are made to the corn states for finishing. A few farmers are paying the prices for the best feeders, with a view of giving them a quick feed and returning them to market in a comparatively short time. On sharp declines in prices such cattle have a good sale.

Fluctuations in prices for pigs in the Chicago market have been highly sensational for several weeks, and speculating on what prices they will bring when offered on the market is a big gamble.

Strictly prime business horses of heavy weight are selling as high as ever in the Chicago market. A big red roan brought \$325 the other day, and the same day a pair of big roans brought \$800 in the auction ring. There is no apparent danger of producing a surplus of such horses.

Around Billings there will be a great many sheep and lambs wintered, but in a large part of Montana, flockmasters have been crowded out of the range sheep industry through the rapid settling up of the country by settlers. One big sheepman, J. E. Lang, is reported as selling off his entire flock of sheep and lambs, numbering approximately 45,000 head. Already he has sold many young ewes to go to Idaho, Dakota and Montana breeders.

Late advices from Colorado say that many former feeders of lambs will not do much, if any, feeding, the coming winter season, as they expect to make surer profits by selling their big crops of alfalfa hay, sales being made at \$13@14 per ton. They think this course is a safer one than that of feeding it to lambs. Corn costs twice as much as a year ago in that country, it is stated. In the Fort Collins district of Colorado sheepmen are hoping to induce the railroads to furnish a very low freight rate for bringing in barley from California, so as to cheapen sheep feeding.

A letter from Mineral, Illinois, says, "I took a trip by automobile of about 30 miles today, south and west of Neponset. I never before heard reports of hog cholera so bad. A farmer I am acquainted with lost his entire herd, 140 hogs, and another farmer lost 118 hogs. They say around there that very few hogs will be left by the first of November."

W. P. Anderson, of Chicago, who has two traveling men in Iowa, says that his reports on hog cholera from each of these men show that it is prevalent everywhere and losses are severe. One Iowa traveler says that in a recent weed every station at which he called had the same story, that farmers have lost all their hogs by cholera. The other, that the losses have been especially severe.

Because of the wide-spread prevalence of hog cholera, enormous numbers of little pigs are being hurried to market from neighborhoods infected, and the future supply of matured hogs is certain to be greatly curtailed thereby. Many thousands of perfectly healthy pigs are being shipped out by their owners, who fear the pigs may become diseased shortly.

A Chicago live stock paper says: "Money must be tight in the west, as local commission houses are receiving many applications for financial assistance from hay owners who are desirous of putting in cattle and sheep and find local banks unable to finance such operations."

States lying east of Chicago are going to do a good deal of cattle feeding the coming winter, being in good condition for doing so, as farmers have plenty of corn and rough feed, whereas in the southwestern states, including Kansas, Oklahoma, Missouri, and Nebraska, the corn supply is largely extremely short. Chicago has been shipping thousands of stock cattle of light weights eastward, Pennsylvania getting very fair numbers, and considerable numbers have gone to Maryland, the Virginias and other eastern sections, while thousands of Ontario stockers have gone to Pennsylvania. Many of the stockers shipped to feeding districts will be merely roughed through the winter and finished on grass next summer. The distribution of stockers and feeders in recent weeks has been unusually wide, Montana and Texas having been purchasers in the Kansas City markets. Among the recent good buyers of thin stockers in the Chicago market for several weeks may be mentioned stockmen from Illinois, Indiana, Ohio and Michigan.

Dairy.

CONDUCTED BY COLON C. LILLIE.

FINISHING OFF A COW STABLE.

I wish to construct a sanitary cow stable. I have a space 28x16 feet, that I wish to use; will you tell me how to make it most convenient for caring for the cows? Give the proper distance between the stanchions and the edge of the gutter.

Tuscola Co. F. H.
Sixteen feet for feeding alley, platform for cows, and space behind cows, is hardly enough to make the handiest kind of a cow stable. The handiest kind of a cow stable is one wide enough so that you can drive in behind the cows with a wagon or a manure spreader and load the manure directly into the spreader. Space is more economically used when you have a building wide enough so that you can have two rows of cows. Thirty-six feet, for instance, with two rows of cows standing facing the outside, with a driving alley between the rows, is sufficient room to make a handy stable. With your sixteen feet of space you will want four feet for the feeding alley next to the basement. For the platform and the manger one cannot tell accurately because cows are not all the same length, and the platform ought to be just long enough so that they will stand on the platform. It should not be so short that the cows get in the habit of standing with their hind feet in the gutter and, on the other hand, this platform must not be so long that the droppings drop on the platform. They should drop in the gutter to keep the cows clean. Many do not have the row of stanchions and the gutter parallel, but have the platform longer at one end of the stable than at the other. Then the large cows are put to one end of the stable and the shorter cows at the other. In this way you can take care of a herd of cows quite satisfactorily. The platform then will vary in length according to the cow. But for an average you will need from four to six feet for the manger and the platform. Then you want a gutter from a foot to two feet wide, suiting your own fancy. Then back of the gutter there must be a platform for convenience in doing chores. This platform must be large enough to be easily kept clean, and in good condition.

It goes without saying that this 16x28 feet should have a cement floor and a cement gutter and a cement manger. Everything should be cement. You can't afford to build any of the floor of the cow stable now days out of lumber. It isn't as cheap, as lasting, nor as sanitary.

The stable not being wide enough to drive in with manure trucks or a manure spreader, the most convenient way of disposing of the manure would be with a litter carrier behind the cows. This is simply a receptacle that rides from a trolley overhead and can be filled with manure, pushed outdoors and dumped into the manure spreader. This is ahead of attempting to wheel out the manure. Of course, the old-fashioned way was to have manure holes back of the cows and then when the stables were cleaned out it was thrown outdoors and left against the side of the barn, but this isn't sanitary. The manure ought to be hauled out to the field at once, not only because of sanitary conditions but because it is the most economical way to have it. I would have only windows, but plenty of them. You ought to have at least four square feet of window glass for every cow you keep in the stable. This is none too much.

Then some provision should be made for ventilating this stable. Lean-toes are the worst stables in the world to ventilate. But if it is a lean-to on the barn, as I suspect it is, you can have the ventilating shaft run up the side of the barn from in front of the cows. It could reach well above the barn roof so that there will be a good draft. You can have your pure air intakes all around on the sides of the stable. In this way a very good system of ventilating can be secured. With a cement floor, proper lighting and ventilation, and with well-constructed platforms and stanchions you can have a good sanitary stable, one that is comfortable in every way. But as I say, this narrow stable is not as handy in taking care of the manure as it would be if you had it wide enough so you could load the manure directly from the gutter to the manure trucks, or the manure spreader

and get it out of the way with a minimum expenditure of labor.

WHAT FEEDING STUFF TO BUY TO BALANCE THE RATION.

I am milking five cows. For the winter's feed I have clover hay, cornstalks and bean pods, and for grain I have oats and corn to grind. What shall I get to balance up the ration, and how feed it?

SUBSCRIBER.
With clover hay, cornstalks, and bean pods for roughage, and corn and oats for grain, you have a ration that is entirely wholesome and withal entirely practical. However, to secure the greatest economy a little more protein should be added. The clover hay and the bean pods contain a fair amount of protein, but the cornstalks are quite deficient in protein. Then your grain, consisting of corn and oats, are not very rich in protein. Now either cottonseed meal, gluten feed, or brewers' grains, would supply this additional protein. I would purchase the one in which I could buy a pound of digestible protein the cheapest. I should let the cost of a pound of protein determine the selection for me. The analysis of cottonseed meal, for instance, is about 40 per cent protein, or in a ton you would have 800 lbs. of crude protein. Now if you have to pay \$35 a ton for 800 lbs. of crude protein, one pound of protein would cost a little over four cents, nearly 4½ cents. In the case of gluten feed the analyses vary. But from the analysis of the one you buy you can figure what a pound of protein will cost in that. Then take dried brewers' grains, or whatever concentrated food you can find on the market, and figure in the same way. Then purchase that food which gives you a pound of protein for the least money. Feed this in connection with your home-grown feed and you will have a balanced ration. I would suggest that you mix 200 lbs. of oats, 200 lbs. of corn meal, and 100 lbs. of cottonseed meal.

The amount of grain to feed in connection with the roughage depends very much upon the cows. Well-bred dairy cows will, on an average, take a larger amount of grain and make more profitable use of it than will scrubs or poor dairy cows. If you have good dairy cows one pound of grain per day for every pound of butter-fat produced in a week will be a good rule to follow. For instance, if a cow produced eight pounds of butter-fat in a week you should feed her eight pounds of grain per day.

DAIRY NOTES.

Beef vs. Butter.

The idea is becoming prevalent that many people who are now milking cows will turn their attention to feeding steers if the present price of beef and dairy products continue as they are. A man who has a good herd of cows that he has been breeding up for a number of years can ill afford to do anything of this sort. I will admit that when you take the labor problem into consideration sometimes a man will think seriously of doing this very thing, and yet when he reflects upon the matter seriously he sees that he cannot afford to do it. He loses a lot of energy which he has used in building up a good profitable producing herd of dairy cows, and he can't afford to dispose of them and feed steers.

On the other hand, the labor problem and the continual grind of dairying is discouraging and perhaps some people will be forced to stop milking cows and fatten steers. A few years ago there was practically no money in feeding steers. When good beef steers sold for five cents and even less, one had to figure the thing down fine to find any profit, but with the price they are selling for at the present time, and with the silo to use, I am of the opinion that there is a good fair profit in producing beef today.

I am still of the opinion that a man can't afford to keep a fattening steer out of doors any more than he can afford to so keep a dairy cow. I believe good thrifty steers should be put into the barn, tied in stalls and fed a ration of corn silage and other grain in connection with clover hay. It will take a little more labor to do this but not nearly as much as it will to take care of a herd of dairy cows. In this way he will get all out of his feed that there is in it without any waste. I never could figure out how it is profitable to feed steers in the open lot with shocked corn when practically all of the cornstalks are wasted and a whole lot of the corn is not eaten or digested, even though the hogs are following up the steers. The steers won't do as well as they will if they are sheltered in the winter time. And you can't make anywhere

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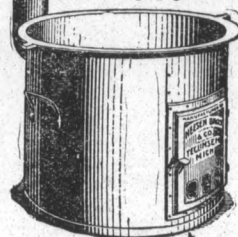


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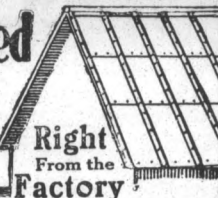
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near the growth on steers when fed in the open in all kinds of weather as you can when put into the barn.

Not only that, but you get enough more out of the manure to practically pay for the labor, if you can get the labor to do the work. Now with the silo and clover, or alfalfa hay, I believe there is profit in beef today at present prices, even if grain is high, and I have no doubt that some people will turn their attention from dairying to steer feeding. But there isn't the profit in beef that there is in butter or cheese, if you can get the labor, or you are able to do the work. There isn't any question about that. If you can't get the labor then the work cannot be done and you are practically forced out of dairying. If this happens then the price of dairy products will go still higher and it will be all the better for the man who can do the labor on the dairy farm.

Registered Dairy Cows vs. Grade Cows.

The question also arises, are grade dairy cows as profitable as registered ones? When you take the sale of registered stock into consideration they are probably not. A good high-grade will produce practically as much in a year as a registered animal. I mean on the average. There are good grades, there are good common cows, and naturally there are good registered cows. No one can afford to use anything but a pure-bred sire as a male. On the other hand, everybody can't afford to have pure-bred cows.

If a man is in the milk business or the ice cream business and must have a given amount of cream or milk continuously he is handicapped by having a registered herd; because, when a cow goes dry naturally that she may make preparations for the next year's work, the owner must get another cow to take her place. If she is a registered cow he has got so much money tied up in her that he cannot afford to sell her for beef or dispose of her in any other way except for breeding purposes, and buyers are not always at hand. So the man must go and buy a new cow, and since he couldn't buy another registered cow anyway, he would have to get a grade cow. And so, unless he figures on a large surplus of milk at certain times of the year he is better off with grades than he is with registered cattle, because when a grade goes dry if he needs a constant supply of milk in his business and must have it, he can dispose of this grade for beef and go out somewhere and buy another fresh grade cow to keep up the volume of milk.

On the other hand, somebody must have the registered stock in order to produce these good grades that are profitable milkers. At any rate there are not enough registered cattle to go around at the present time and probably won't be in the near future, and the average dairyman must have grades. What he wants to do is to breed them up as well as he can by using the best of pure-bred sires. Then when he has more females than he needs in his own herd he can get a good price for them. Good grade cows are selling around here now for from \$60 to \$85 per head.

Protein in Silage.

As I have stated in farmstead notes, this year we put a lot of lima beans and soy beans into the silo in connection with the corn. We certainly have silage richer in protein than it would be if made from corn alone. Now the question is, how much less protein can we feed in the grain ration than where we used pure corn silage? There isn't any question but what we won't need as much. The soy beans were well loaded with pods and just right to put into the silo. They were not ripe enough to harvest for seed, but they were mature. The silage is very palatable. The soy beans are fit to eat and so are the lima beans, for that matter, and both are rich in protein. There isn't any question but what the cattle will get some of the protein from the silage that they necessarily would have to get from grain if your silage was all corn silage. I certainly shall work on the theory that it won't take so much protein in the grain ration this year and shall compound my grain ration accordingly.

Whether it would pay to raise soy beans and mix them with the corn as they go into the silo every year, or not, I am not prepared to say. You can't produce as many tons to the acre of soy beans as you can of corn and it is some bother to harvest these soy beans in a separate field, and it takes extra help when you put them into the silo. Whether they are enough better to pay or not, I am not prepared to say. I will know

more from experience later on. My experience with soy beans so far is that our seasons are a little bit short. I have raised them two years now in succession. This year was a warm year and a good long season and yet they did not ripen sufficiently so that one could save the seed. Perhaps I got a late-maturing variety. I planted them the first of June. Perhaps I ought to have planted them in May, but my idea was that they shouldn't be planted until after corn, until the weather was warm.

NATIONAL DAIRY SHOW.

That breeders of dairy stock in this country are holding on to their heifers is one of the most interesting early developments of the dairy show now being held in Chicago. Extended inquiry shows that no female, with even only a cursory examination during first days after it has been dropped, is sold at any price. Breeders at least keep a heifer long enough to breed her once and thus make a test of her fat-producing qualities.

Another feature that comes with the opening of the show is that the men who are keeping considerable herds of pure-bred stock are working along more economic lines in disposing of the milk that comes from such high-class animals. They are disposing of it at much better advantage but in a great variety of ways. Most of them seem to be using the separator, some are shipping the cream but there are big operations in converting the cream into butter and disposing of it in that shape. One of the breeders showing a Jersey herd churns 1,000 lbs. of butter a day, and has contracted his entire product at 40 cents a pound.

An Oregon man who is showing 15 head of Jerseys, and who keeps 100 head on a 1400-acre farm, separates the cream and sells it to the creamery trade, feeding the skim-milk on the farm. A New York man who has a herd of Ayrshires in which there is one animal with a test record of 23,700 lbs. of milk in one year, bottles the entire product of 100 head, and sells it in one market. Another breeder, who milks 400 Jersey cows in one barn, sells his milk to railroads and to big buyers in New York. He also makes butter, and he milks in a separate barn a foundation herd of 100 animals.

Some big farming and dairying operations are represented at the National Dairy Show. A Jersey man with 20 head at the show has 2,500 head on his home farm in Texas. He has 20,000 head of beef cattle, and the total acreage of his land holdings aggregates 350,000 acres. Another Jersey man had 1,280 head of the same breed on the home farm besides 2,000 head of grades.

One of the most interesting talks with the men with herds was that with a man in charge of a herd of Jersey cattle from the Willamette valley in Oregon. This fertile stretch of land is fairly dotted with creameries. This man has a 1,400-acre farm on which he has 100 pure-bred animals. He disposes of his cream to the creameries and he sells the increase of his herd in territory radiating 1,000 miles from the home farm.

The Cattle.

At the show are 51 herds of the six breeds. The stock comes from 13 states and Canada, the territory ranging from Oregon to Massachusetts and from the British possessions to the big Lone Star domain in the Southwest.

The best way to describe these cattle is to say that they form a show of the winners. Most of the have come off a circuit that took them to the best dairy and state shows in this country. The champions, grand champions and royal champions are here, for this is the round-up of the whole contingent. The losers have gone home; they stood no chance at Chicago where a ribbon is worth more than any other given out in this country. So that everything that goes to show the highest mark in perfection in advanced methods of breeding and handling is to be seen here.

At no other show, perhaps, has there been such an aggregation of young stock of all breeds. This is another bit of evidence that the breeders are keeping their heifers on the home farm. They are selling the bull calves in a wide field. One of the exhibitors here has \$30,000 worth of bulls and there are only three of them. He sells the males from these sires as fast as they are produced and fabulous prices are offered for the females.

Dutch Belted.

There are only two herds of the Dutch Belted, but what they lacked in quantity was made up fully in quality. It devel-

ops that there is largely increased inquiry concerning this breed, the history of which is said to go back to the Hollanders of several centuries ago, when belted cattle, belted goats and even belted poultry were in style. Both of the belted herds came from Michigan.

The Black and Whites.

Of course, the Holstein breeders were in considerable evidence. They stand second in point of number of animals of any one breed at the show. These cattle are attracting the usual attention, not only of the curious and the novice, but also of the practical breeders who are there from every dairy producing section of the country. Much publicity has been given the breed by the splendid records made by some of its individuals during recent years.

The Ayrshires.

There were three herds of Ayrshires, one of them from Canada, another from New York, and the other from Wisconsin. The latter exhibitor keeps 80 head on two farms of 277 acres. His exhibitor's herd consists of 24 animals and makes an extremely interesting display. This man claims greatly increased inquiry from the west, northwest, Michigan and Illinois. The New York man who showed Ayrshires keeps 100 head on 187 acres of land. He sells whole milk and markets the whole of it in Rochester. He says that 50 per cent of his sales go to the west and middle west.

The Brown Swiss.

Almost the whole floor space of one wing of the building was taken up with the Brown Swiss. Wisconsin, Illinois and Ohio furnished the stock. There is a great deal of talk at the show on the dual-purpose subject. Some of the breeders want an animal for dairying that may be made to carry a goodly weight in meat and be slaughtered as soon as possible.

Jersey Cattle.

Although other dairy breeds have been highly advertised during the past decade and as a consequence have secured considerable attention, the fact cannot be overlooked that the little Jersey is quietly going forward with her host of admirers gradually increasing because of the actual merit of the breed. This truth cannot be better substantiated than a survey of the large exhibits of Jerseys at this show, for not only were there many excellent animals, but the crowds were about them offering voluntary words of praise and admiration.

Dairy Machinery.

The machine display was a magnificent lesson in itself. Machinery enclosed in glass cases and driven by steam showed conveyors carrying on many different processes in the milk production of 100 farms. Some of these big glass cases take up a large section of an entire wing, and the operations were in plain view of great throngs of interested onlookers. A great multiplicity of other creations have to do with pasteurization, including the cooling and heating processes, the manufacture of butter and of ice cream, including the flaky cone in which a five-cent drop of cool stuff is contained, and then on down through a veritable maze of creations until one stands over a little galvanized iron stool on which the ruddy-faced maid seats herself in a working engagement with Bossy.

There never has been a more extensive and educational display of that machine that by this time has a powerful sway on the dairy farm. We mean the cream separator. The different makers showed their types of machines in a way that the users may be instructed in the principles involved and how best to operate.

Demonstrations.

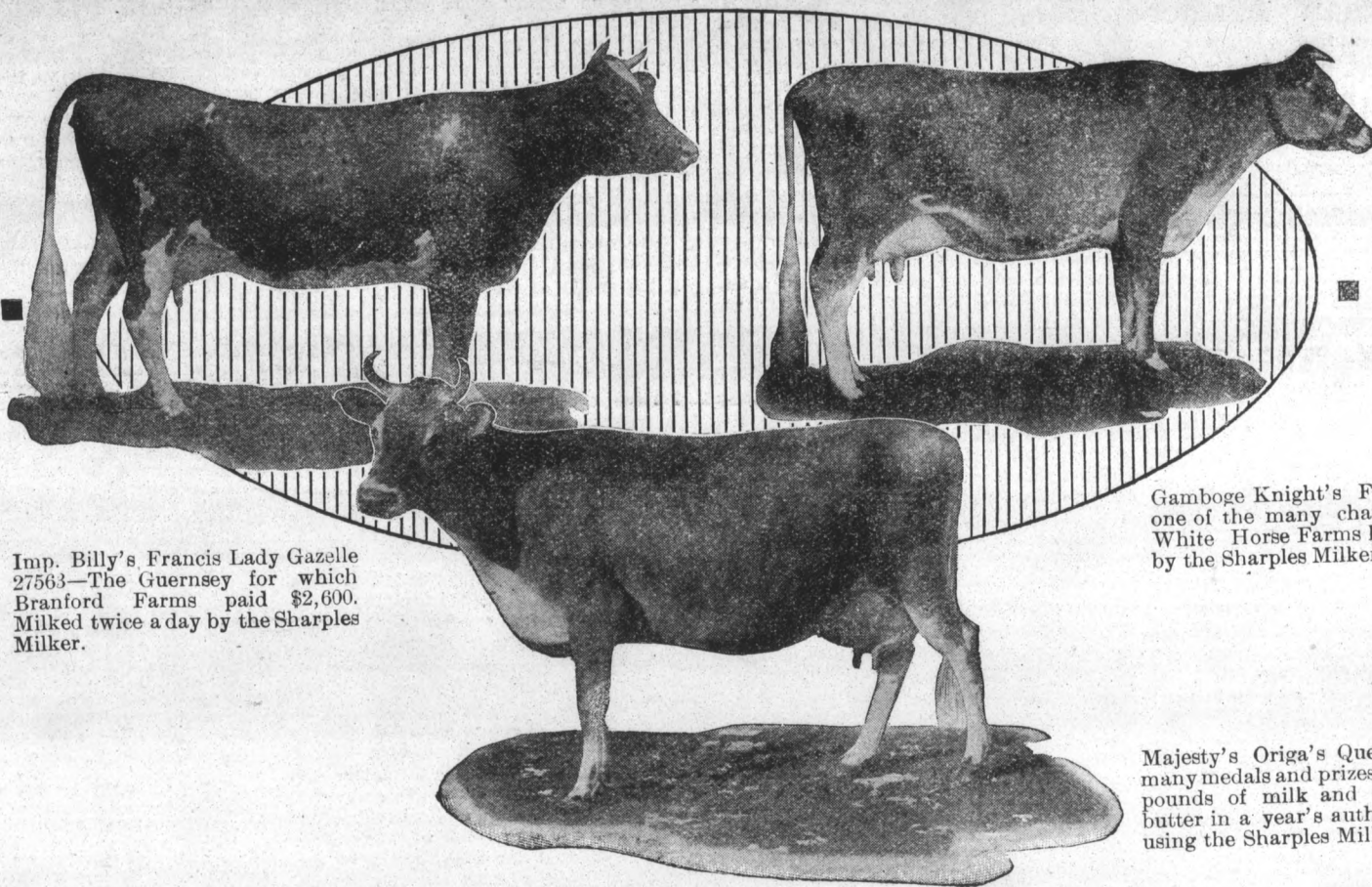
There are more demonstration herds at this show than at any of the others. The animals are staged high where the milking process, by hand or by machine, is easy to see by large numbers. A big improvement is the size and arrangement of the lecture room. At other shows it has been little or no trouble to get good audiences to listen to good talks. There were times when standing room was a premium. The show this year has a good force of talkers and an abundance of room in which to seat interested listeners comfortably.

Students' Judging.

Students from 16 competing agricultural colleges judged cattle on October 24 and dairy products October 25. W. A. Rhea, of Missouri University, won first place in the judging; L. W. Wing, Jr., of the same institution was awarded second place, and Harry Thomas, of Nebraska, secured third.

Illinois.

J. L. GRAFF.



Imp. Billy's Francis Lady Gazelle 27563—The Guernsey for which Branford Farms paid \$2,600. Milked twice a day by the Sharples Milker.

Gamboge Knight's Fancy Princess one of the many champions in the White Horse Farms herd. Milked by the Sharples Milker.

Majesty's Origa's Queen—winner of many medals and prizes. Tested 14,141 pounds of milk and 824 pounds of butter in a year's authenticated test, using the Sharples Milker.

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It is a fact that the Sharples Milker is used on some of the leading dairies in the country—dairies in which are cows of national reputation; dairies whose methods and results place them easily first among American milk and butter producers.

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Branford Farms of Groton, Connecticut, uses the Sharples Milker daily on their superb, pure-bred Ayrshires and Guernseys.

The well-known Pohl herd of Holsteins, familiar to every New York dairyman, is milked by the Sharples Milker.

And so on—the list of Sharples users embracing dairies in every part of the United States and many sections of Canada.

These dairies, owned and managed by men of keen ability, have adopted the Sharples Milker because of its cleanliness, its great saving of time and labor, its wonderful economy, and its general uniformity and durability.

The Sharples Milker is quickly and easily cleansed after each operation. Its parts that come in contact with the milk are few and simple. This means milk that is almost entirely free from contamination, as no stable air or dirt can get into the Sharples Vacuum Can.

With the Sharples Milker, the force of hired milkers can be reduced two-thirds. One man does the work of three, and does it better. The slow, tedious, disagreeable,

drudgery of hand milking is eliminated. Employees are more contented. And the saving in salaries alone will pay for the installation of the milker in a short time.

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There is a satisfaction in the possession of a Sharples Separator whose source is other than its close skimming ability and economy of operation. It lies in the conscious knowledge of superiority—in the certainty of lasting goodness.

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WE GUARANTEE to stop THE MICHIGAN FARMER immediately upon expiration of time subscribed for, and we will pay all expenses for defending any suit, brought against any subscriber to The Michigan Farmer by the publisher of any farm paper, which has been sent after the time ordered has expired, providing due notice is sent to us, before suit is started.

DETROIT, NOV. 1, 1913.

CURRENT COMMENT.

Getting the Most for the Money.

Many people are possessed with the gambling instinct to an extent which prompts them to take a "long chance" in the hope of gaining a large reward, but few are so credulous as to be strongly attracted by a bait of "something for nothing." Experience has taught the average man that an offer of this nature always has "a string tied to it." But thrifty people are always, and rightly so, seeking for opportunities to purchase necessities where they can get the most for their money. About one year ago, in recognition of this fact, the publishers of the Michigan Farmer reduced the subscription price of this paper from \$1.00 to 50 cents per year, with liberal discounts for three and five-year subscriptions. In this connection no claim was made that the reader was being given something for nothing. In fact, the step was taken as a means to the end of avoiding even the appearance of offering our intelligent clientele any such discredited bait. In former years keen competition among publishers of farm papers incited many of them to offer premiums of merchandise, of uncertain and not generally known value, as an inducement to get the "prospect" to subscribe. Notwithstanding the fact that this had become almost the universal custom, the publishers of the Michigan Farmer decided to abandon it and offer the paper to the farmers of the state solely on its merits and at a reduced price which would make it easily "the most for the money" ever offered in the way of a farmers' trade paper, and the regular subscription price was made 50 cents per year.

In an attempt to make it appear that they were still giving the subscriber "something for nothing" in the premiums offered, agents of would-be competitive publications could only advance the claim that the Michigan Farmer would be cheapened in quality at the new price. But the files of the paper for the past year constitute documentary evidence and prima facie proof that the paper has been improved, rather than cheapened, and thus made still "more for the money." The first volume of the Michigan Farmer for 1913 was larger than any of its predecessors, showing that the constant growth of previous years has been maintained, while several new features have been added during the year which have added materially to the cost of getting out the paper as well as to its value to the subscriber. Among these innovations is the publication of a magazine section in every issue, instead of twice a month as formerly, thus affording the readers of every issue a pleasing degree of entertainment to balance up the educational features of the paper. And a "balanced ration" is just as much a mental as a physical need. The scope of our new Farm Commerce department has also been broadened and our special crop reporting service extended to include all

the more important agricultural states of the country. In order that one member of our staff may be able to devote practically his whole time to this work, we have added another editor to our staff who is a horticulturist of repute, as announced in another column of this issue.

Another new service offered the subscriber this year is an opportunity to have free butter-fat tests made of milk and cream in our laboratory, under the supervision of Dr. Floyd W. Robison, who conducts our Practical Science department—the only one of its kind in an agricultural paper.

In fact, all of the above enumerated features are to be found in the Michigan Farmer alone, and can not be offered by any of our would-be competitors who depend upon a premium, rather than the merits in their publication itself to secure subscriptions. And just by way of emphasizing this latter fact we will send to all who may desire it a list of merchandise, including practically all of the premiums which are offered by would-be competitors, which can be secured in connection with the Michigan Farmer at values which, added to the subscription price of the Michigan Farmer will total less than the cost of the would-be competitive paper with the premiums included.

But aside from this item of cost, the Michigan Farmer offers "the most for the money" as a trade paper for the farmers of Michigan. Restricted to a definite territory, with every item of matter selected with a view to local needs and conditions, it is the only weekly trade paper published especially for the farmers of Michigan, and its regular departments added to the special features enumerated above do make it seem almost too good a value for the money at less than one cent per issue. But the paper speaks for itself! Read it and form your own opinion.

We hear much in these days about the "back to the land" movement. In most cases the argument for changing the cityward trend of humanity and redirecting it to the land as a means of livelihood, comes from the pen of some economist or writer who thinks he sees in such a movement the general betterment of humanity. Occasionally, however, comes an echo from the routine tired city workers who were country born and bred, which reflects the same sentiment. Just the other day came a dispatch from Cleveland stating that steps had been taken looking toward the permanent organization of an employment agency whose business it would be to find places for the old young men, gray-haired, yet in the prime of life, who have been crowded out of the city industries by the sturdy young men who came from the rural districts to seek their fortunes in the city. This class of young old men made up the larger portion of the gathering called for the above mentioned purpose. Among them was one man who took the initiative in sounding the "back to the land" note, which was so enthusiastically taken up by many others, and it was suggested that some plan be formed whereby provision could be made so that men who no longer found it possible to obtain remunerative employment in the city might have an opportunity to again gain a livelihood from the soil.

This news item contains food for profitable thought and reflection by the country young man who is considering the proposition of his future, and, with contempt bred of familiarity, is inclined to turn his back upon the land as a means of livelihood, and seek to carve out a competence for himself in some city industry. This is indeed an age of young men, and the sturdy young men from the country do not find it hard to secure an opening in the city, which offers a livelihood, if not a great opportunity for saving. But these old young men feel more keenly the other side of this proposition of the young man's world. Not so with the country young man who stays on the land; his earlier years' work for himself may be more strenuous and his pleasures fewer, but he does not find himself crowded out of the running while yet in the prime of life, as many city workers do, and as is forcibly illustrated by the above mentioned news item. While all boys are not temperamentally fitted for the farm, no country bred young man should abandon the land as a means of livelihood without carefully considering this phase of the problem.

THIS IS A GOOD RULE.

When you buy a plow or a harvester or a wagon, do you choose one you have never heard of, or do you pick one of the

well known makes with which you are familiar?

In all probability you choose a make that has become favorably known to you through years of advertising, and which you know must have given satisfaction or it would not be so popular.

It is good business to do likewise in purchasing good clothes, your shoes, your furniture, your carpets and rugs, etc. In each line there are always a few enterprising manufacturers who are making unusually good articles and who are telling the world about them.

MICHIGAN FARMERS' CO-OPERATIVE ASSOCIATION.

I have been requested by several parties who are interested in the matter, to make inquiry through the Michigan Farmer as to the actual existence of the so-called "Michigan Farmers' Co-operative Association." If such an organization is in existence the fact ought not to be covered up but their methods of doing business should be known by all who may be interested in the advancement of the farmer's business, especially that part which has to do with marketing the farm produce.

In the early part of the season a man who professed to be working in the interests of the above mentioned association, traversed the northwestern part of Wayne county, and the southwestern part of Oakland county, soliciting members by selling one share each of the stock of the association for the sum of \$10. From some he secured the cash, and from others he secured a note for the amount, which soon turned up for collection at the local bank.

The solicitor promised the members that there would be erected and in working operation a warehouse in the village of Northville, and a "principal office" in the city of Detroit within 60 days from the time the shares were sold and delivered to the members of the association.

I have a copy of the "rules, regulations and by-laws" of the so-called "Michigan Farmers' Co-operative Association" in booklet form. I have looked over the "rules" and "by-laws," all of which read pretty well, but have failed to discover the names of the officers of the association, or mention of a place where those who are responsible for the doings of the association can be found. The statement that the "principal office shall be in Detroit" seems to be too indefinite for practical purposes.

If this solicitor of membership fees for a single share at \$10, is a bona fide organizer, and has a responsible set of officers back of him who will assist the farmers in selling their produce at the highest market price in Detroit and other cities at the low commission of 2½ per cent, the fact ought not to be concealed, but should be known by all who may be interested. It would be a move in the right direction. But on the other hand, if the so-called Michigan Farmers' Co-operative Association has no substantial backing, the fact ought to be made known to every farmer in the country, in order that they might intelligently decide as to whether they ought to invest their money in shares of the association and take the chances on reaping any benefits from this association.

I have been credibly informed that the same solicitor who worked the territory mentioned, has been selling shares recently in other parts of the county.

Definite information in regard to The Michigan Farmers' Co-operative Association, if such an organization has an actual existence, will be gratefully received by many anxious members.

It certainly seems that there is no other class of people that are "worked" in so many ways as the tillers of the soil—the producers of the wealth of the nation. On one side there are the actual friends of the farmers, the instructors at our agricultural colleges, the investigators at our experiment stations and the agricultural press, all doing their best to assist the farmers in the many and varied ways in which they can give assistance and beneficial information as to their best interests, free of charge. On the other hand, the pretenders who devise schemes by which they can "do the farmers'" and wring from them some of their hard-earned dollars in return for glowing promises of great benefits. It may be a good time to choose whom ye will serve, the actual friends or the pretenders.

Wayne Co.

N. A. CLAPP.

The above communication was received just before the last forms for this issue were closed and too late to make possible

any investigation of the matter, the result of which could be published in this issue. We have, however, started an investigation relative to the status of this "association," regarding which the above is our first advice, the result of which we hope to publish in a future issue. In the meantime any further information relating to same, which any of our readers can supply, will be gratefully received.—The Editors.

HAPPENINGS OF THE WEEK.

National.

Affairs in the strike section of upper Michigan remain unsettled. The possibility of a settlement of the differences between the miners and the operators seems as remote as when the strikers walked out. Reports of disorder have been more or less frequent. Last week attacks were made on mail trains, and fights occurred between the strikers and strike breakers. At a mass meeting held Sunday, a resolution petitioning Governor Ferris to call a special session of the Legislature to investigate the trouble, was unanimously adopted. The resolution also contained a section calling upon Congress to make a federal investigation.

A general battle between strikers, mine guards and deputy sheriffs occurred at Ludlow, Colo., Sunday, lasting for over 12 hours. One mine guard was killed and one striker is missing. The situation was critical Sunday night, as 700 armed strikers were reported to be in the field against the mine guards.

A declaration by Secretary of the Navy Danes, shows that the government at Washington is in accord with the international movement now on foot which seeks to suspend work on battleships by all nations for a definite period of time. If such an agreement can be reached, the saving will be enormous. The economy to this country would amount to about \$140,000,000 yearly, which amount is but a bagatelle compared to that saved by the European powers and Japan.

Seven firemen were killed by falling walls during a fire in a rubber company's building at Milwaukee, Sunday night. During the course of the fire an explosion occurred which wrecked the building, causing the walls to totter.

Forty-six survivors of the ill-fated trans-Atlantic steamship Volturno, which burned at sea several days ago, arrived in New York on the steamer Carmania.

The football team of the Michigan Agricultural College again demonstrated the necessity of considering the team a contender for the championship of the central west when they defeated the University of Wisconsin eleven at Madison, Wis., Saturday, with a score of 12-7.

A convention of delegates of the Methodist Episcopal church is being held at Indianapolis, Ind., this week for the purpose of promoting the distribution of missionary intelligence.

The annual chrysanthemum show of the agricultural department at Washington opens Wednesday of this week, and will continue two weeks. More than 1,800 plants, including many unusual varieties will be on exhibition.

Six persons were killed last Friday when a gas tank exploded on the sixth floor of a factory building in Canal street, New York.

An explosion in a mine at Dawson, N. M., resulted in the death of 263 miners. By Saturday morning only 54 of the bodies had been taken from the death pit. The work of rescue is being carried on under the supervision of government experts.

Jefferson Butler, president of the Michigan Audubon Society, was run down by an automobile on Woodward avenue, Detroit, last Thursday night and killed.

Foreign.

The result of the Mexico elections was uncertain at the time of our going to press. No rioting or any unusual incidents have been reported in connection with the elections. It is announced that the voting was very light. The meagre reports received indicate that Gen. Felix Diaz is leading in the contest, while Federico Gamboa is running second. In the state of Chihuahua, the election was postponed because the military governor believed the general disorder in that state to be so great as to materially interfere with balloting.

That the rumors of coolness and unfriendly relations between Germany and Austria may be cleared, Emperor William of the former country is now in Austria as the guest of Emperor Francis Josef. This will probably put an end to the war talk which has been in evidence recently.

The salmon industry of British Columbia is reported to be damaged many millions of dollars, through the construction work of railroad companies. The matter is now being referred to the Fisheries Department of British Columbia and also at Ottawa.

On Oct. 26 the new electoral law of Italy, which provides for almost universal manhood suffrage, was given its first trial. It is estimated that fully 8,000,000 voters balloted. The government is practically assured a victory in the election, although there will be many re-ballots on Nov. 2 in districts where no candidate obtained the requisite proportion of the total vote cast.

A review of the British press leads to the belief that a compromise between the Irish Home Rule advocates and the Ulster district of the island cannot be effected. Considerable bitterness has already developed following the suggestion in the British Parliament that Ulster be separated from the remainder of Ireland and not brought within the provisions of the Home Rule Bill.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

Queer Farming Methods in Latin-America.

By E. I. FARRINGTON.

WITH the finest of soil and a most favorable climate, the farmers of most Latin-American countries raise hardly enough crops to feed their own people. Mexico and all of Central America have been much in the public eye of late and it is interesting to get a glimpse of these countries apart from politics and revolutions. In the near future, when the canal has been finished, business relations are certain to bind the Latin-Americans much closer to us than has been the case in the past. As it is, we ship great quantities of food supplies to Panama, the farmers of Central America having made no attempt to profit by the great market opened up to them. In fact, even before work on the canal was started, the republic of Panama did not raise enough vegetables to supply its own people.

There are certain crops which are highly profitable, and which constitute the chief exports. Among them are coffee and bananas, but the plantations on which they are raised are controlled mostly by foreigners and even worked in part by foreign laborers. Americans hold the balance of power in the banana industry, while the Germans are the coffee kings. The great difficulty in operating these plantations is in getting men who will work with a fair degree of steadiness. The needs of the lower classes are but few and are met with the money received for two or three days' work. Why, then, they argue, should they work any more?

The climate is partly responsible, no doubt, for the lassitude of the natives. It is so genial in the lower sections that life is made very easy. Only the simplest shelters are required and there is no reason for heating them. Fruit grows abundantly and there is enough for all. Rice, corn and beans are raised with but little effort. Pigs and chickens practically find their own living, even if they have to come into the kitchen and pick up the crumbs from under the table. In the higher altitudes, the weather is colder and there is often much suffering. These people of the lower classes are entirely illiterate and there is much blindness among them. In some parts of Mexico poverty and wretchedness of the most extreme character exist.

Of course, conditions differ in different countries. In most of them, Mexico being a conspicuous example, the land is owned by a few families, the great mass of people in the country districts being virtually slaves. The one shining exception is Costa Rica, in which the land is



Primitive Method of Grinding Corn Practiced by Mexican Housewives.

divided into small holdings by the government and sold or rented to the people who actually live on and work these holdings. As a result, that country has made much greater agricultural advancement than its neighbors, and is more settled and prosperous than most of them. It is purely a country of farmers, and it

imports great quantities of manufactured articles from the United States.

In Mexico all the land is in the hands of less than 6,000 individuals, although the population is about 15,000,000. Moreover, many of these land-owners are non-residents. It is this condition which is responsible in large measure for the polit-

ical unrest and the series of revolutions in Mexico. The peons have nothing to lose and possibly something to gain, for if a change of administration which shall remedy these intolerable conditions is not secured, the chances are that in the end the United States will have to interfere. Sometime, it seems certain, the farmers must have the opportunity they crave of owning and working their own farms.

There are many different climates in Mexico, giving a wide range of products. The lowlands grow the fruits of the tropics and great quantities of bananas are produced. The state of Tabasco alone sends a million bunches to this country. A little higher up coffee plants thrive, while still higher the crops of the temperate zone are grown. Some soils will produce two crops of wheat in a year and the grain is pulled from the ground, root and all. No manure is used or needed, the way the land is worked. Fruits of both the tropics and temperate climates are grown in abundance. Peddlers sell strawberries for a few cents per quart at Christmas time. Sugar, corn, cotton and tobacco are grown and the agricultural products of the country, including meat, are valued at \$200,000,000 a year.

It is possible that there will be a great increase in stock raising in the next few years. The growing scarcity of meat in this country has been noted and already many cattle have been shipped across the border. The cattle are low-grade animals, not to be compared with those raised in this country. Shorthorns, Herefords and other breeds are being imported, but the pasturage is very poor in the dry season and it is necessary to travel long distances for water. About 200,000 head of cattle are being exported annually, but it will be a long time before the Mexicans are able to take great advantage of their geographical situation to raise beef for this country.

If peace could be established all through Mexico, it is quite possible that great improvement in farming conditions might be made. There is an agricultural school under government control in Mexico City and plans have been laid for experiment stations in various parts of the republic. It will take many years, though, to bring the rural sections up to anything like the standard of this country. Think of a farmer who prepares his corn land with a wooden pronged plow which just scrapes the surface! Yet that is the way thousands of native Mexican farmers work their land. Many of them, indeed, employ even still more



A Typical Street Scene in a Quiet Mexican Village.

primitive methods, using no beasts at all. They sharpen a stick to a point, make a hole in the ground and drop in the seed. The seed sprouts and the corn grows, too. Indeed, two crops of corn in a season are common in some sections.

It is interesting to note American influence on agricultural conditions in Mexico. For some distance south of the Rio Grande the use of improved farming tools, made in the United States, is common and the methods followed are similar to those on this side of the river. As the distance from the border land increases, fewer tools are used until finally only the wooden plow is seen. In many cases it has been very difficult to get the native Indians to use steel-pointed tools when they have been brought in by the owners of large ranches or haciendas.

In remote sections of Central America the antiquated carts with solid wooden wheels are to be seen. The wheels are made from single sections cut from very large trees, with a round hole in the center for the axle. Naturally they are very heavy and very cumbersome; oxen are commonly used to draw them. The cart in general use would seem primitive enough to an American farmer. They are springless and have but two wheels. The tongues are wide enough to serve for a table, as seen in one of the accompanying illustrations.

The principal diet of the farming class, apart from fruit, is corn and beans, supplemented by eggs, chicken and pork. Corn and beans, indeed, are eaten by all classes of people all over Mexico and in many parts of Central America. Some of the poorer people have little else the year around. The corn is ground into coarse meal, often by means of two stones, the lower one being hollowed out to receive the grain. The meal is then made into what are termed tortillas, which answer for bread. These tortillas are very thin cakes, resembling our buckwheat cakes, although thinner. They are prepared by rolling them between the hands and contain very little but meal and water. They are baked quickly and laid one on another until, if the family is large, there is a tall pile of them. Commonly several are taken in the hand at once when they are eaten.

Strangers who travel through the rural sections put up at private houses as a

matter of course and eat the family fare. They are not likely to approve of the corn cakes, however, unless the cook is an exceptionally good one. In many cases the cakes are burned on both sides, but hardly touched by the heat in the center.

The beans are likely to be more palatable. Sometimes the beans are placed between two cakes to make a sandwich. This is the daily food, year in and year out—corn and beans. In favored sections there are other articles of food and the people of means have a much more varied dietary as a matter of course. Bananas are very cheap in some parts of Central America, while oranges, pineapples and other fruits are plentiful. In Nicaragua there is a tree known as the chocolate tree, the seed from which is made into a beverage quite as delicate and satisfying as the cocoa of commerce. Sugar cane grows luxuriantly in many places and is given to the children in place of candy.

The most common beast of burden is the burro, which has remarkable powers of endurance and is surprisingly agile. Farmers who live in the more remote sections, or in the highlands, make no attempt to use carts, but bind their burdens on the backs of the burros. Often the little animals are used to transport lumber from the forests, which are too inaccessible to be reached by railroads. A long piece of timber is tied to the side of the animal and allowed to drag behind. A burro can make its way safely along trails which seem almost impassable.

Many burdens are carried from town to town on the backs of men who have been trained to this kind of work and who can carry enormous weights on their backs, although they are not especially strong in their arms. It is no great feat for two of these men to march down the street balancing an upright piano in its wooden box. Traveling through the country they are able to make twenty miles a day while carrying a load of perhaps a hundred pounds. Much of the ore from the mines is carried to the surface on the patient backs of these laborers. Oxen and horses are also seen on the farms.

Of course the wealthy landowners are able to have plenty of horses and cattle, but even they work their land in a primitive fashion, if they work it at all. Under present conditions labor is cheap and

man power is depended upon to a large extent. The landowner usually gets the peon in his debt and keeps him there. The system is the same, whether in Mexico or in Guatemala. The keynote of the system is this: a laborer may not leave a plantation if he is in debt to his employer. He gets in debt very early, as a rule. There is a wedding, or a funeral, or a feast day, and a little extra money is needed. This money is borrowed from the master of the ranch and the system is in operation. The master keeps the accounts, and if the laborer dies his offspring inherit the debt. If that is not slavery, it certainly is the next thing to it.

As usual, there are two sides even to this question and the landowners are not backward in declaring that it would be impossible to get their work done under any other system. Having no incentive to work, the Indians shirk if they can, and with a constant succession of feast days and family affairs they have many excuses. With a firm hand on the reins, it is possible to keep the affairs of the plantation in running order. Yet this does not excuse the iniquitous plan of letting a few families control the land. With the country dotted with small farms, the Indians would be independent and free. They would have an object to work for and probably would gain a certain amount of ambition. In former days the land was divided up in this manner, and the people smart under the feeling that they have been robbed of what rightfully belongs to them. The greatest problem Mexico and most of the Central American republics have to face is this one which concerns the native farmer and the land.

Properly governed, Central America would be an Eden, and the lot of the farmer would be an enviable one. The situation in Costa Rica, with its equable distribution of the land, gives a glimpse of what might be expected, but revolutions have been all too frequent even in Costa Rica and there is great lack of school facilities. In much of Central America, the children get little or no education at all. What schoolhouses are seen are likely to be only thatched-roofed huts. Now the farmer wears the poorest of clothing and usually goes barefoot, except, perhaps, for a piece of leather bound to the sole of the foot. His wife "totes"

her baby in a little cradle on her back, with a band across the forehead to ease the strain. Her one bit of splendor is a bright-colored shawl draped across her shoulders. Some of the younger women are likely to be quite pretty, but they get old and fat very quickly. In some sections the women make a practice of carrying water pots and other burdens on their heads and so acquire a grace of carriage which would be the envy of an American debutante.

Throughout Mexico are Indians who specialize along certain lines. Some are poultrymen, others trappers, while still others roam the woods in search of marketable wild products or carry pulque to town. This pulque, it may be explained, is the juice from a cactus and is the national beverage, corresponding to the beer of other countries. It is extracted by means of long tubes, the tube being sucked full of juice, which is then allowed to run into a bottle or jar. There are shops all over Mexico for the sale of this beverage, which is very cheap, and there are strict regulations regarding its sale, for it is not good after it gets to be a few days old. The marketing of all rural products is usually done by the farmer, who carries his products on his back, unless able to own a horse or a burro.

It is worth noting that before the coming of the Spaniards there was not a horse, cow, mule, ox, cat, chicken or domestic sheep in any part of the American continents. All these animals have been introduced in a comparatively recent period, as time is reckoned. The North American Indians, expert riders though they became, knew nothing of horses until after the coming of the white man. There were native turkeys, and in the mountains were wild sheep and goats. It is interesting to consider that the profitable use of imported live stock has become much more wide spread both north and south of the region in which the animals first trod on American soil. Yet, as has been said, the future must see a great development of the agricultural resources of that part of Latin-America near our borders. With the growing population of this country, expansion is necessary, and the opening of the canal will prove a powerful wedge in breaking up antiquated systems and giving new and modern methods an opportunity to raise the standard of Central American agriculture.

Cabbage Vs. Stars and Other Things

By ANNA GIRMUS.

IT had been a miserable night. I had used up all the uncomplimentary terms at my command and used them on myself. Why, oh, why, had I allowed Bob Cummings to entice me to accompany him on this fool expedition, cruising in the Caribbean, in Bob's two by twice insignificant yacht?

Of course I had had the rest prescribed by the doctors, plenty of it, until that most inconvenient storm (Bob called it a squall) struck us. The sea was still rolling and tossing our miniature ocean liner although the sun was shining brightly and the sky was free of clouds. Bob and I were silently clinging to the railing.

"I think, sir, that we shall be compelled to put into port somewhere to make repairs," the captain announced to Bob.

"Can we make her go until we reach a port?" Bob inquired, a trifle anxiously. "There is land to the west of us, but I'm not certain what it is. We seem to have lost our bearings, for I can't imagine what land it can be in this region. However, we shall have to try for it. There, you can already see it with the naked eye!" The captain pointed to a spot on the horizon.

"Will it take long to fix her up?" Bob inquired.

"Mr. Sims says that it will take about two days."

Bob sighed. I smiled. Two days on land would be such a relief. If only it might be the mainland, somewhere near civilization, so that I might journey home on a train. All such hopes, however, were soon gone, for even my inexperienced eyes perceived that it was a small island.

The captain found a landing and Bob and I went on shore while the repairs were being made.

"This looks a mighty lot like a road laid out by man," Bob reasoned as we reached a broad path leading back from the beach. "Maybe we shall find a Modern Crusoe."

We followed the path which wound in and out among the palms. Now and again we caught glimpses of magnificent flower

beds, and in one place a tiny spring bubbled over some rocks. Surely the hollow in the stone where the water sparkled was not entirely the work of nature. As if to corroborate this view, we found a cup on a shelf in the rock. We tasted the water. It was cool and good, so we ate our lunch, for it was noon, and rested awhile.

I wanted to camp there but Bob was determined to find the islanders. If we had only two days on land, I argued that it would be better to enjoy ourselves in resting.

Bob laughed. "How you do hate the sea," he mused. "I don't see why. I always have the best rest on the yacht. We'll go forward another mile or two and then if we don't find the man of the island we'll return. I'll have the men bring us a tent and our supper. Once more, poor fellow, you shall sleep on the nice firm land."

I did not mind his jeering. What did I care if I only could get away from those moving, insecure cabins and have a good night's sleep. It would be bad enough to have our beds so near the water.

We had trudged the two miles into the interior and another full mile on top of that before Bob remembered that we were going to give up the search. "We'll just go to that next curve and then turn," he decided at last.

It was time. I have not kept up my athletics as well as he has and the walk was growing more than tiresome. I hated to think of the number of miles back to the landing. I finally began to count the steps to that curve.

Suddenly the trees separated and before us, at our very feet, there appeared a tiny village. We had found the object of our search in so unexpected a manner that we gazed upon it in astonishment. Not ten rods from us stood a low, commodious building surrounded by a broad verandah whose roof was supported by graceful white columns.

In a shady corner a man was busily

engaged in carefully weighing some substance. He discovered us almost at the same instant that we had become aware of his presence. Leaving his work, he descended the low steps to meet us.

"Shipwrecked or disabled?" he inquired, genially.

We gave him an account of our accident.

"I knew that you had not come voluntarily," he smiled. "The only ship that visits us is 'The White Wings,' and it's not time for her yet."

Bob was gazing at the little white buildings which dotted the lawn. "How did you get here?" he finally inquired bluntly. "And how have you managed all of this? It surely is beautiful."

By this time we were comfortably seated on the verandah drinking some cool stuff which the man had brought.

"We were wrecked," he answered, simply. "There were six of us when we started, Mills and Mrs. Mills, Mrs. Johnson and myself, Hathaway, and Miss Robinson."

"Hathaway had invited us out for a two-months' cruise. One night a storm, something like that of yesterday, struck us. There is no use to go over the details. The next morning Mills, Mrs. Mills, Mrs. Johnson, Miss Robinson and myself found ourselves alone in a boat."

"Not one of us knew much about managing anything above a small rowboat, but in some manner the waves landed us here. I don't like to think of that experience."

"For the first hour we were simply content to feel the firm land, to be able to rest, but gradually we were forced to think of other needs. We were thirsty. We were hungry."

"Mills and I searched the boat, for we remembered that some provisions and water had been put in it. There was enough, by practicing strict economy, for about two days, and that meant half rations."

"After we had finished our first meal

the two of us started to explore. Of course, we had not told the women how scanty our stock really was. They understood that we must practice economy while we waited for rescue."

"The second day we found the spring, and that was a great relief for we were already suffering for the want of plenty of fresh water. We moved the women up to it and then dragged some boxes and stuff that had drifted in on the beach to our camp. So far we had not been able to find anything to eat. There were some palms and grass, but no animals, no vegetables that looked fit for a human being to eat."

"The third day, noon, the provisions were all gone. The women were resting in a tent. Mills and I were trying to muster up courage enough to tell them our exact plight, although I rather think that they suspected it."

"Now, if this was something to eat instead of all sorts of costly apparatus," Mills growled, kicking at a box, "we'd be all right for a time at least."

"What apparatus is it?"

"We both jumped. Neither had noticed that Miss Robinson was standing near. None of us knew her very well. We had met her for the first time on board the yacht and had wondered why Hathaway had invited her to join us on the cruise."

"She peered into the boxes which we had opened. In a moment she commenced tugging at the stuff in a sort of nervous haste. 'Mr. Hathaway told me that he had this apparatus on board,' she explained. 'He intended to form a laboratory on the yacht so that he might enjoy being at sea and not be deprived of experimenting. We had intended to use this on our present voyage.'

"In a few moments we were following her instructions and putting the machinery together. The other women joined us and all five worked busily, although four of us had no idea why we were hurrying. Miss Robinson constantly watched the sun and the nearer it approached the horizon the more she hurried us."

"That will do for tonight," she sighed

at last. It was time, for we were about exhausted and the prospect of but a cup of cold water for supper was not very cheering.

"She set a small motor to work and poured some stuff which she had found in one of the boxes on pieces of boards. A small belt began to move, some wheels to buzz and in a little while she was catching fine white grains in a basin.

"There," she announced, as the last rays of the sun disappeared, "That is better than nothing. We'll make taffy of that. Tomorrow we'll try more substantial things, but we must wait for sunlight."

"We tasted the grains. It was sugar all right. That taffy sure was far ahead of just the cup of water.

"Most of that night she was busy about the machinery and preparing stuff to work with in the morning from material

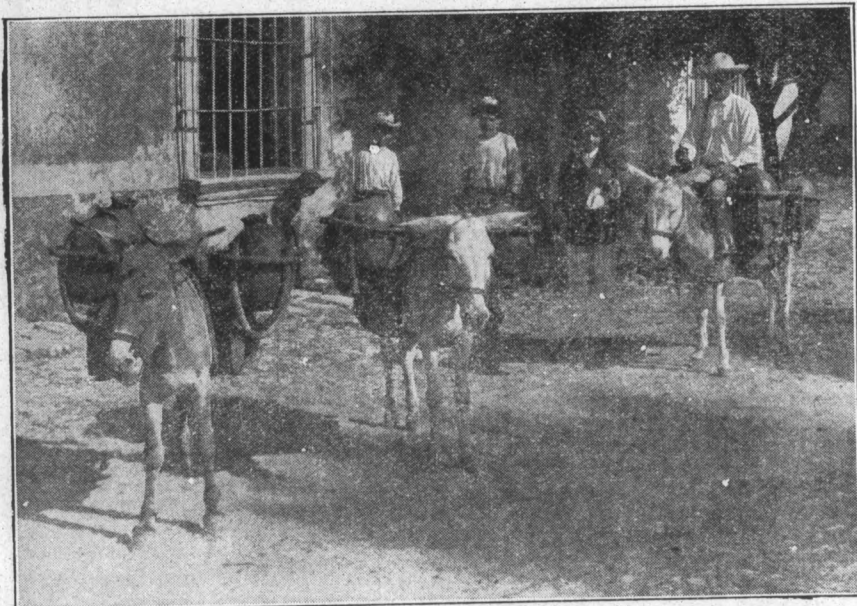
find us, not one cared to return and as it was a yacht whose owner was an old friend, we prevailed on him not to reveal our whereabouts. Since then he visits us each year, bringing such material as we can not obtain here, and sometimes a few friends come with him. Quite a number have decided to remain a year and but few have cared to go back at the end of that time. We make most of our vegetables and a good assortment of fruits. The climate is ideal."

"This Miss Robinson, is she still on the island?" Bob inquired after a short silence.

"Yes. She is constantly busy in the laboratory. She makes the most of our inventions or suggests how to make them."

"Could we see her?" was Bob's next question.

I remembered that he had cared for



A Mexican Water Carrier and his Faithful, Sure-footed Helpers.

which she found in those boxes that Mills had condemned.

"As soon as the first rays of the sun struck our camp we heard the motor begin to buzz, and you may be sure that we were right on the spot. The prospect of having enough of something to eat was far more enticing than any morning nap.

"In a short time she filled a small pan with a white powder. 'There is flour,' she announced. 'Here is salt and baking powder. You can make cakes for breakfast while I make more sugar.'

"I think that was the best breakfast I ever ate, although we make whiter flour now, for the experiment was new then.

"That settled the question of starvation. At first we all expected to return

such things in the old days. Now I never liked a chemical laboratory. I found the odors insufferable. When I had to study chemistry, because it came in my course, I was always most unfortunate. Substances would explode if I touched them. Acids had a habit of getting all over my hands and blistering them. The Bunsen burner made great holes in my sleeves. You may imagine how I felt when the man answered, 'She is busy now, but if you care to go to her laboratory, I think that she would see you.'

"That would suit us exactly," Bob affirmed. "We would like to see her at work."

When the man returned, announcing that Miss Robinson would receive us, I



Starting for Market with a Load of Bananas in Mexico.

home when opportunity came and kept careful watch for ships. Miss Robinson continued her experiments and we helped her. Gradually we began to make combinations and watch for results as earnestly as she did, and we forgot ships for days at a time.

"When, after three years, a ship did

felt a strong desire to refuse seeing her. The memory of the distance to the landing was all that forced me to follow them.

I don't see why I failed to recognize her in the man's description. It was characteristic enough. She had always

(Continued on page 395).

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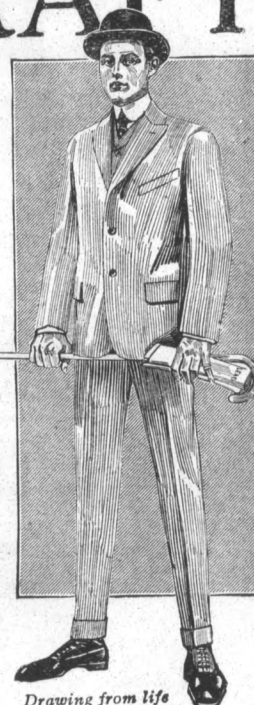
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Some Hints for Young Trappers.

By H. F. GRINSTEAD.

Wait till furs are prime, which is never before cold weather. You lose half the value by trapping too early.

Don't trap for mink or muskrat along old fence rows, nor for skunk along water courses. Learn first where the animals you are after are likely to be found. Traps set along a spring branch, near a pond, or in drifts are likely to catch a raccoon, mink or even a fox. Rocky places on the prairie are the favorite haunts of the skunk.

Don't grease traps, although you may have been told to do so by old trappers. It leaves a foreign odor, something that most animals will detect. If traps are new give them a dull color by washing in water in which oak bark or walnut hulls have soaked. Oil only the hinge.

Stand as near in one place as possible while setting a trap. The fact that you have passed along a trail will not arouse the suspicion of an animal—he is accustomed to the scent of man—but when you stop and leave indications of disturbing the surroundings, right then he becomes suspicious.

When a fox smells bait he will get on the highest mound or stump in the neighborhood to get a view of a possible trap. This ought to suggest placing traps on heaps of stones, mounds and stumps, with the bait several yards away.

The raccoon has a fondness for passing between stumps and stones. This suggests a place to set trap for him.

The chief value of making water sets lies in the fact that there is no scent left behind to betray the presence of man or of cold steel. Mink will follow along in shallow ditches where spring water is flowing after large streams and ponds freeze over. Set traps in these shallow ditches where narrow and put stones or logs on each side to force him over the trap, which should be set under water. If the water is clear, cover with leaves and mud.

Not only the raccoon crosses streams on logs, but traps set on a crossing log have caught both mink and wild cat. Over the deepest part of the branch cut a flat place in the log; herein set the trap so that when it has been covered with rotten wood it will be about the same height as the surface of the log. Slip the chain over a stake driven alongside the log. The spot over the pan of the trap should be left smooth, and on each side, about the length of a step of the animal you are trapping for, lay a chip or billet of wood. The animal in crossing will step over the obstruction and land on the trap. No bait is used.

After you have caught a fur-bearing

animal do not spoil by improper skinning. Mink, fox, rat and all small animals should be "cased." This is done by cutting around each hind foot, slitting the skin down the back of the leg to the vent, and pulling off over the head. A long slender board to fit is inserted to stretch the skin, which must dry in the shade.

Lastly, do not expect to catch a mink or fox in every trap you set. Get plenty of traps, for the more you set the better your chance. Use No. 0 for muskrat and No. 1 for mink. It will require No. 2 for fox and raccoon and No. 3 for wolves.

PAPER FURNITURE FOR LITTLE FOLKS.

BY LURA W. CALLIN.

How many of the boys and girls know of the delightful playtimes to be had with pictures of furniture and furnishings cut from the big catalogs which are now so common in nearly every farm home? Get several pasteboard boxes—shoe boxes will do. With scissors and catalogs and a little paste set to work furnishing an establishment of just as many rooms as you can, cutting out pieces suitable for a bedroom or parlor or dining-room and pasting the pictures around the inside of the boxes. Some catalogs have the most beautiful rugs and curtains in colors, so

that the floors of the rooms can be covered with the "real things," and pictures of draped curtains can be pasted over windows cut in the sides of the boxes.

After the different rooms of the house are furnished, barns and chicken coops and garages may be fitted out, and then when you have fitted up everything you can think of you can empty the boxes and, with a new catalog, start all over again and make different kinds of stores. There is no end to the things you can do. Then again, you can furnish your rooms with mission furniture or with Circassian walnut (a little water color from your paint box will make it more realistic), or quarter-sawn oak, or Flemish oak, and all this elegant furniture is to be had for the cutting, only. When you are through playing, which will not be at the end of the first day, all the play furniture can be put away in the boxes until the next time.

A DESPERATE CHARACTER.

BY WALTER G. DOTY.

Just 'cause I built a bonfire in the cellar,
Just 'cause I busted Nellie's roller skates,
Just 'cause I licked young Jones an' made him beller
An' scart Aunt Josie stiff with my pet snakes—

They've made me go to bed right in the daytime,
An' Mother told me I'm a naughty lad.
They've gone an' busted up Sat'day play time.
If this keeps up, I'm goin' to the bad.



Caught in the Act, by a Camera, were these Youngsters, Children of J. W. Webster, Clinton Co., Mich. Needless to say they had a Good Old-fashioned Halloween.

CABBAGE VS. STARS AND OTHER THINGS.

(Continued from page 393).

been inclined to rule, but I suppose that I had not thought of her in so long that she had passed entirely from my mind. However, as soon as I saw her I recognized Mary Robinson. So did Bob. I am not sure that he did not suspect her identity before we entered the laboratory.

She had such disagreeable ways. I remembered them from the old days when she was continually harping on my awkward mishaps. In fact, she took opportunity to remind me of them at once. "Watch out," she warned, almost before we had shaken hands, "there is sulphuric acid in that bottle."

Now I was not within six feet of the bottle.

Bob laughed. "That's right. He still dwells in the heavens."

"Well, the heavens certainly is a cleaner place than this," I defended myself.

Miss Robinson did not look overly pleased. "I suppose that you have discovered all sorts of planets, stars and comets by this time?" she jibed.

Just as if the discovery of a planet is an everyday affair. "I certainly have not wasted much time in pouring together substances to produce vile odors," I retorted.

"Oh, pshaw," Bob interposed. "You two don't want to renew your old hostilities at this time of life. What is this that you are trying to produce?" She had just touched a lever and stopped the machine.

The this was a heap of whitish green stuff bearing some resemblance to excelsior.

"That is a failure," she admitted, "and about the fiftieth."

"What should it be?" he persisted. "What had you intended it to be?"

Miss Robinson is caustic, but I'll admit that she has some sense of humor. "That was expected to be cabbage. All the elements are there and I am sure in the right proportion. Why in the world it's not cabbage, I don't see." She looked at the stuff defiantly, yet she laughed at the same time.

"Can't you grow it here?" I asked innocently.

"Grow it!" There was such contempt in her voice that I felt myself shriveling. "Why should we grow it when we can make it so much easier?"

I inflated enough to assert, "but you say that you can not make it."

"I don't say that we can not make it. We haven't succeeded in making it yet. That's all."

"Why make it at all?" Bob asked. "If I remember right, you always objected to it when they served it at the old Dorm."

"Some of the others like it. We have succeeded in producing most of the other vegetables and can not afford to let it baffle us."

I noticed that she received Bob's remarks in a much better spirit than she did mine.

"You'll stay to dinner?" she invited. We had breakfasted at eight and had nothing but a light lunch since. It was now far in the afternoon and really it appeared to me that this was the most welcome remark I had heard since landing on the island. The distance back to our boat had begun to assume miles and miles. I hoped that the dining hour was an early one.

As if answering my mental question, Miss Robinson looked at her watch and announced that we still had an hour. Would we like to visit the various labor-

atories and see the inhabitants preparing the meal?

Bob was very willing and of course I had to trail along. She was very enthusiastic and took pains to explain and show all the arrangements to him, but the only time that she appeared to be aware of my presence, except if I addressed her, was when I started to examine a generator of peculiar construction. "Don't touch that," she screamed. "You might receive a shock."

I jumped back. That scream was enough to frighten an Indian. I was angry, of course. No one likes to be treated like a fool.

Bob asked all sorts of questions. Not because he knew or cared more about such things than I but because he always had the knack of asking questions. I have heard him, Dick Sproul and one or two others keep Prof. Wormer answering questions the entire recitation hour when they were not prepared to recite.

"Why does your corn not have cobs?" he inquired.

She smiled. If I had asked such a question she'd treated me with scant ceremony. "The cob is only a waste," she explained. "We have no reason for wasting material in such a manner."

We saw men taking away potatoes already pared from one of the machines. They looked so natural that I involuntarily remarked, "surely, you did not manufacture those?"

"But we did," she asserted, curtly.

There were apples without cores, peaches without stones, plums without pits. As the seed was no longer necessary, all such waste was avoided.

At dinner hour we were assured that everything on that table had been manufactured directly from the elements and the process of growth had been entirely

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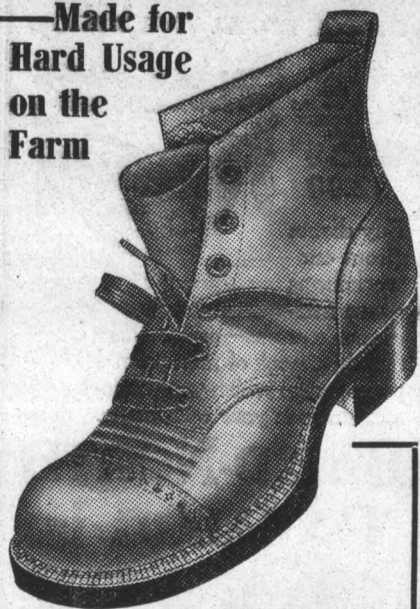
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eliminated. Even the cloth on the table had been made directly from a fiber manufactured from elementary material.

The meal was excellent and Miss Robinson snubbed me only four or five times. In fact I was so busy enjoying good vic-tuals, on solid ground, that I gave her scant opportunity to vent her spleen on me.

She was pleasant during the rest of the evening. Bob at last suggested that we return to the yacht.

"There really is no need of your going back," she argued, genially. "We have a little cottage here fitted expressly for the stranger within our gates, and as you can be of no use on the boat you might as well stay."

"I suppose that'll suit Harry well enough," Bob laughed. "He's been trembling in his berth every night since we started, and after that storm I suppose he'll be worse than ever."

Bob knows that such talk is pure slander. It's not that I am afraid of the water that causes me to turn in my berth, but because I dislike it. I hate that rolling, insecure feeling that it gives one. I knew there was no use to try explanations. She'd never listen a moment and would only say worse things than he."

"Harry can stay and I'll go back," the rascal added after a pause. "Mr. Smith would not like us to leave in such a manner."

"I have already sent word that you are here and will probably stay all night. He will not be uneasy about you," our hostess assured him.

So it happened that we were shown to a tiny white cottage which contained several small sleeping rooms done in white. Bob persisted in disturbing the peace with his inconsequential remarks, but the solid firm feeling of that bed sent me to sleep at once. When I got up I was ready to forgive Miss Robinson all her little sneers. I had not realized how much I wanted a good night's rest.

When I looked at my watch it was ten o'clock. A half hour later I stood before the open door of the room Bob had occupied. He was gone. I had scarcely passed out through the cottage door to look for him when our old classmate stood by my side.

"Mr. Cummins has been called to the yacht," she explained. "He left word that you are to stay here if you wish. He will come for you when they are ready to leave. Breakfast is waiting at my cottage."

I was glad of the last part of the information. The fruit, breakfast food, toast and nuts were all excellent.

The meal being finished, I began wondering what to do with the time before dinner, as the lateness of the hour made luncheon unnecessary.

"Would you care to walk about the grounds or do you think that you could stand the laboratory," inquired my hostess. Evidently she was determined to sacrifice herself on the altar of hospitality. I, being under the influence of that breakfast, fell into a snare.

"If you think that you can trust me among the bottles, test tubes and evaporating dishes," I ventured, "I think that I should like to visit the laboratory." I knew that was what she wanted.

"We'll find you an apron and, with reasonable care, I think that you'll not do any harm," she encouraged.

In due time I was encased in a thick, long garment that touched the toes of my boots. I remembered that I wondered vaguely if she would produce some sort of a slipper to protect my footwear. I felt as if I were again in my sophomore year listening to or at least sitting before Prof. Stone in the old college laboratory.

"Here is our analysis of a head of cabbage," announced my entertainer as she handed me a copy of a card tacked above her table. "Do you care to try for it?"

I looked at my card. It contained symbols of a phosphate, water and other substances all harmless enough. "I'll help you," I answered, cautiously. "In a few moments I was busy with mortars, tubes, basins and all sorts of utensils, while my companion explained the apparatus for separating the proper sun rays with which to obtain cabbage.

The afternoon passed rapidly and it was near dinner time before we were ready to set the dynamo in motion.

"Phew! What a smell!" We jumped guiltily and turned toward the door whence came the ejaculation. There stood Bob, holding a handkerchief to his face.

Truly the stench was powerful. It resembled the smell of a cabbage field late in fall, only it was more penetrating.

We gazed helplessly on the heap of

shavings which bore some resemblance to cut cabbage. Then Miss Robinson stopped the machine, grabbed the stuff and flung it into a tiny furnace.

The yacht was not ready to sail the next day so we tried it again, and the following day, and the day after that until the fifth day, when Bob announced that all was ready for the continuing of our trip.

"Could there be any mistake in the analysis?" I suggested that evening at dinner, for by this time the experiment and cause of failure formed our principal topic of conversation.

"We were as careful as possible, but one is always apt to make mistakes," admitted our hostess. "If I had a head of cabbage I would make another analysis."

For several moments we were silent, each thinking of some way to overcome this difficulty. "We'll run across to some port on the Gulf and bring you a head," Bob promised. "We are only cruising and may as well go there as anywhere."

"Would you?" She looked her thanks. "Really, I think that is all that will help us. It will not take long?"

"We'll hurry. I think that we can be back in a week. We can start tonight or early in the morning."

I was thinking busily. "There is no use of my going along," I protested. "We can keep right on with the experiment."

Bob laughed that foolish, indulgent, big laugh of his. "The same old hate of Neptune's realm," he cackled when his mirth had subsided enough to make his speech intelligible. "Well, stay if you wish. I am afraid, however, that Miss Robinson will find you more of a hindrance than a help. Just turn him loose on the island if he bothers too much," he advised. "We'll pick him up when we get back."

I did think that she might acknowledge my help of the past few days, but she never uttered a word.

The yacht left that night, and the next morning we were in the laboratory at work. We tried other rays, and decreased the speed of the motor, but the results were the same, with the possible exception that the odor was more insufferable.

On the second day my leader suggested that we clean the laboratory and prepare for the reception of the cabbage head.

I dusted bottles, washed flasks and scrubbed evaporating dishes until my hands felt like a professional dishwasher's. We swept down cobwebs, scoured windows and ended up by pouring pails of water on the tile floor and sweeping it all out. When dinner time came I was ready for a bath and general clean-up of myself. But it really was worth while, for that little room certainly needed the scrubbing.

"Let's just rest today," my hostess said the next morning as I started to put on my chemistry shroud.

There was a comfortable reed lounge in one corner. I had not realized how tired I was until I lay full length upon it.

Miss Robinson drew up a rocker and we were soon living over the old college days, with the exception that what had been very serious then, was very laughable now.

The following day we spent in the same manner, with the exception that we talked more of our work since the good old days. I had never known that people could find so much to talk about, and that it might be so pleasant a recreation.

I was comfortably stretched on the lounge and Miss Robinson occupied her place in the rocker one afternoon when the door opened unceremoniously and in tumbled Bob with two heads of cabbage. "Here you are," he announced cheerfully. "I brought two."

Then he turned to me. "I guess, old man, that we'll have to leave at once for I want to get to Havana as soon as possible. There are serious complications in the Door case and I must hear from New York." Now I had not even considered the possibility of so sudden a return to the old busy life. I must have looked helpless.

"You can come at once, can you not?" he inquired. "We want to start in three hours."

My wits began to work. "But why should I go? I don't care about the Door case. I know nothing about it."

"You don't want to stay here?" "I'm not ready to go back. I want another try at that cabbage."

"You! I thought you hated chemical research? Of course you'll have to go with us. How would you get back? We shall probably have to give up the rest of the trip."

Someway the getting back did not worry me. I wanted to stay, that was all.

"The 'White Wings' will be here in six months. He can go back in that if he wishes," interposed Miss Robinson.

"But he can't stay that long. He is to be back by the last of August."

"Well, I'm going to stay now, anyway," I insisted. "It will not matter if I do not get back until September."

"Of course, if you are determined to stay, perhaps I can come for you in September, or send Smith for you, but I thought that you were in a hurry to get back."

"This is my year off and I am not bound to be back by any particular date." That was only a part of the truth. The university had granted me the year of absence, but I had virtually promised to devote a part of the time to astronomical research.

Fortunately Bob knew nothing about this or I would not have come off so easily, for he is one of these capable beings who insist on managing the affairs of all who are fortunate enough to come under their protection. "All right, stay, then," he acquiesced in his ignorance. "You will really have a good rest here."

That afternoon we started our analysis. We worked slowly, carefully, and it was several days before we were ready to try to manufacture the vegetable.

Miss Robinson insisted that as it was my vacation I must rest afterwards. I was determined to be in the laboratory, therefore she had to occupy the rocker while I took my old place on the lounge and we resumed our visits.

It was two weeks before we completed our first trial and the result, if possible, was worse than ever.

We went over the work with extreme exactness and tried again and still again. A month passed and we had achieved nothing but failure.

"I don't think that cabbage was fresh enough," I ventured one afternoon as we were discussing our latest failure.

"That may be possible," acquiesced my companion. "If we could get some, roots and all, direct from a garden—but I don't see how we can."

"If Bob had realized the importance of getting it fresh he would probably have exercised more care," I criticised.

"It was very kind of him to bring this," she defended. "If he were here perhaps we could prevail on him to bring us a perfectly fresh head."

As if in answer to her wish, there came a rap on the door and in stalked Bob. He greeted Miss Robinson pleasantly.

"I met Prof. Ludlow," he began, as soon as he had taken my hand. "He wanted to know where he could find you. He said that he has an important engagement with you and must see you at once, so I have come for you."

"That engagement can wait," I assured him. "We have not yet succeeded with the cabbage," and we both began to tell him our latest difficulties.

"Pshaw! let it go," he advised. "It's not worth the trouble."

"Oh, but it is!" Miss Robinson was up in arms at once. "You see, if we acknowledge failure in this it will weaken all our other achievements. It would never do to give up."

Bob never would argue with a woman. I believe he'd drop the most promising case if the opposing advocate was a woman. "That may be," he acquiesced. "But," he turned to me, "it's not necessary for you to stay. You are not such a chemical expert."

"He is very exact in his work and has helped me wonderfully," defended my fellow worker.

Of course after that I would not leave. Bob stormed, argued and reasoned, but for once he found that I possessed a backbone. He claimed that it was a part of my anatomy further up, and that said part was cubical instead of spherical as it should be.

It ended by his making another trip to the mainland, far enough north to procure a fine fresh head of cabbage directly from a farmer's garden. He took the precaution to have it carefully spaded out with all the soil attached to its roots and packed it in a box.

On his return he announced his intention of waiting until we should have performed our experiments and then carrying me back with him if he had to tie me with a rope. "Ludlow says that you promised to lead that expedition to Kilimanjaro, and you are not going to back out like this. I'd look like a fool going back and telling him that you'll not go because you were trying to make elemental cabbage."

Of course, our comfortable afternoons were gone. We had to work every min-

ute, for he was apt to stumble into the laboratory at any time.

We finished our analysis and went at the putting together process. The result was rotten. That word describes it thoroughly.

"We'll start early in the morning," Bob announced at dinner that evening.

"I think that I shall go back with you," Miss Robinson said carelessly, as I was about to protest. "That is, if you have room?"

"But what will the island do without you?" I inquired idiotically.

"That's not my affair," she snapped with a touch of her old disagreeable manner.

Suddenly I realized that I did not want to stay on the island without her. I did not care if there never was a head of cabbage of any kind or what became of the little colony. Bob gave me a look, grinned that silly grin that he calls up on occasions, and left the room.

I think that I am not entirely lacking in courage, but the knowledge of my real want had come to me so suddenly that I was entirely unprepared. I stared at Miss Robinson for I don't know how long before I realized that I must say something.

"There are no women on board," I began lamely. "I am afraid that it will not be pleasant for you."

There was a long pause. "Maybe, if you would marry me, it would be better," I blurted.

For a second she looked real serious, then her lips began to quiver and jerk. She leaned back in her chair and laughed most inordinately, and really I did not feel offended.

"So you think that it would be well for me to marry you so that I may have a chaperone," she interrupted her mirth long enough to ejaculate, "but suppose that I insist that I do not need a chaperone."

Then I resorted to other arguments which seemed to be more convincing, for we were married the following morning on board the yacht.

Since setting up housekeeping, Mary has never said a word about a laboratory or synthetic experiment. She appears to be entirely too busy for anything of the kind, and is spending a large proportion of her chemical knowledge, or knowledge obtained from her grandmother, in preparing all sorts of good things to eat. I have gained twenty pounds in the last year and have discovered too planetoids.

A reputation is a good thing to have if it is a good one; if it is a bad one it is a bad thing to have.

Said Edward Everett Hale: "Some people have three kinds of trouble—all they have had, all they have now, and all they expect to have."

Do not fear to be silent in company. There are many persons who are eager to be heard, and they will love you as listener, whereas they might envy you as a talker.

DON'T WAIT FOR LUCK.

BY CHARLES H. MEIERS.

Don't wait for luck! That which you name as such,
You ought not to rely upon so much;
For, thinking that good luck will come some day,
You let the precious moments glide away
And fail, sometimes, to do your very best;
Expecting luck, you stop and take a rest.
Meanwhile, the time goes dashing swiftly on,
And soon, alas, another day is gone,
While darkness finds you with your work undone
And still without the prize you might have won.

Don't wait for luck! It may not come your way
For years; and when it does it may not stay.
So don't sit down in life as if to fish,
Expecting luck to bring you what you wish.
Too often those who rave about "hard luck"
Are troubled with a chronic lack of pluck.
Get out and hustle while the time is ripe!
Don't sit there idle, puffing at your pipe
And watching for a lucky ring of smoke
Until you realize that you are "broke."

Don't wait for luck! Just go ahead and try
To do your duty as the days go by.
And then if luck should enter in the game,
'Twill find you if you're working, just the same.
As if you waited idly day by day
And threw your opportunities away.
What you call luck has changed men in an hour
From toilers into millionaires with power;
But more times have men suffered grief and shame
Who waited for the luck that never came.

Breaking Up a Great Ranch

A cowboy said to his mate riding alongside:

"What do you reckon Mr. Post bought all this here land for?"

"Well, I'll tell y'u, Jake, y'u know I heard it confidential, he's goin' to plant it all out to Grape-Nuts."

This cowboy chatter happened years ago just after C. W. Post, the man who makes health foods and Postum at Battle Creek, Mich., bought up several adjoining tracts of land in Garza and Lynn Counties, Texas.

The whole Post ranch is now about 220,000 acres. Until lately it has been used for grazing cattle. A short time ago the County seat of Garza county was located on one of his sections, and he proceeded to build a town, for the people.

It is named Post City and can be found on the map of the St. Fe Ry. about 250 miles nearly due west of Ft. Worth, Texas.

It is a beautiful and clean little city, with many miles of shade trees, splendid water works, schools and churches. A modern Sanitarium and various industries, including what is said to be the highest type of Cotton Mills in the world.

This development made a demand for farms, so a part of the grazing land was laid out into about fifty farms with neat, well built houses, out buildings, orchards, wells, etc., etc.

These have been conducted under Mr. Post's managers until a practical method of successful farming could be decided upon.

It proved that wheat, oats, and Indian corn could be raised, but not successfully, year by year, for, while in some years the rains would come at seasonable times, other years they would not, and the average was not enough to make these crops dependable for a living. Therefore the crops now raised are those adapted to the country, Kaffir corn and milo maize, (splendid grains for cattle and hogs), peanuts and cotton, and Egyptian wheat.

A carload of Mr. Post's hogs took the first prize at the National Fat Stock Show at Ft. Worth one year and the second prize another year. These hogs were fed on Kaffir, Maize and peanuts and won over the competing hogs fed on Indian corn.

The most of this large body of land lies so level and smooth that a plow could be run for miles without lifting it; the soil is a dark reddish loam and very rich and fertile.

It has been decided to open this tract to settlement at from \$15.00 to \$30.00 per acre, payable \$2.00 an acre down and \$1.75 per acre each year thereafter until paid for. The interest four per cent. Improvements extra except the fence around each farm which is supplied free by Mr. Post.

It is natural to suppose that when this tract is settled the land will advance in value as it has in other parts of America where many families have become rich by the increase in the value of land.

There are a few men in Garza Co. who have farmed for ten to twelve years and their experience is worth attention. Included in the number is the present County Judge Boren.

In handling 160 acres a farmer is recommended to put in thirty to forty acres of cotton which yields around a

half bale to the acre, but in cases goes over a bale, and under poor cultivation drops below a half. It brings varying prices. At this present time, Oct. 4th, 1913, it sells at thirteen cents per lb. at Post City, which is \$65.00 per bale of 500 lbs. In addition the seed from a bale generally sell at about \$10.00. Therefore, if one-fourth of a bale was raised per acre the crop on 40 acres would bring \$750.00. If one-half a bale \$1500.00 and at this rate one can figure the larger yields himself.

About 50 acres should be put into Kaffir corn which yields anywhere from 25 to 80 or 90 bu. to the acre, (over 100 bu. per acre have been raised). It is usually headed and either threshed or fed in the head. It sells at 50 to 75 cents a bu. and the stalks, which are sweet, somewhat resembling sugar cane, and yielding about 15 tons to the acre, are put into silos for winter feeding. Nearly always there is a heavy second growth after the crop of Kaffir is cut and this second growth makes tender ensilage, or cattle can be turned in on it growing.

This kind of farmer should keep 40 or 50 cows, some hogs and a few mares, for horse or mule colts.

At present pasture can be rented at 12 to 20 cents per acre per year. After the Kaffir is cut, rye should be disked in and usually furnishes a fine feed through the winter.

They figure from 80 to 90 per cent of a calf crop which should bring say 40 or more calves from 50 cows.

Calves at this time are worth \$22.50 to \$25.00; 40 would bring \$900 to \$1000.

The right kind of men can borrow money on cattle they want to breed or fatten. If a farmer has more ensilage than he can use he should arrange with some large cow-man to take some steers to feed on shares. The farmer should put out 5 or 10 acres of peanuts, a profitable article to sell or feed hogs.

Splendid pure water lies almost all over the place at from 60 to 100 ft. and a windmill will store enough to irrigate a garden and orchard at times when water is needed between rains. This last year on a tract of about an acre and a half garden truck was sold for from \$150.00 to \$200.00 a month for several successive months.

The soil is very rich and when properly worked and with water sufficient yields most remarkable quantities of all kinds of vegetables, melons, etc. The rainfall averages about 21 to 22 inches which, if it comes in seasonable showers, insures a heavy crop, but some years it falls so irregularly as to cut the crop down. That is true of many sections of America, however. Still in this part we always see the crops grow enough to supply quantities of ensilage and therefore the farmer with silos and cattle, hogs and mares can secure a living if he is thrifty.

Cotton is one of the hardest dry weather plants and in fact all these articles are—Kaffir corn, Milo Maize, Egyptian Wheat, and Peanuts.

The apples, peaches, plums, grapes and melons thrive; wild plums and grapes show this section is a fruit country.

Fruits have a marked and especially fine flavor and thus far seem free from insect pests, and cotton is free from

boll weevil. Spraying of trees is unnecessary and hence unknown.

It will be observed that the selection of crops and the method of mixed farming and stock raising comes from experience with the country and its conditions and is recommended so that a thrifty man can not only make a living but make a profit year by year, and also a round profit in rise of the land.

This country is most healthy—with-out malaria. It is about 3,000 ft. elevation and mild the year around with only occasional cold days in the winter.

A man can plow almost every day the year through.

There are days in the mid summer when it is hot, but the breeze is almost never falling and the nights cool, while the dry air quickly evaporates the perspiration and produces a cool skin even when the thermometer is high.

This country pays a thrifty worker but we don't hold out much encouragement to the lazy kind, although there are lazy men in the district who make a living, but it is easy to understand that only successful, thrifty men can build up a community, and that Mr. Post needs such men to settle on his lands and thus increase the size of Post City, and the surrounding land, consequently his instructions are to tell every prospective settler all of the facts that years of experience have shown about the country and its undesirable features as well as its practical and splendid possibilities. It is important that the newcomer avoid costly experiments in raising wheat, corn and oats. Mr. Post has already paid for these experiments and demonstrated that sticking to the things the climate and altitude are fitted to, means success—Cotton, Kaffir corn, Milo Maize, Egyptian wheat, Peanuts, Apples, Peaches, Plums, Grapes, (no pears), Melons, Potatoes, garden stuff in great quantities, when irrigated, or when the rains come just right. Cattle, Hogs, Horses, Mules, Chickens and Turkeys. Turkeys thrive in a remarkable way and the young don't die in anything like the proportion they do in a damp climate.

All these things can be raised on this low-priced land in a splendid and unusually healthful climate and the man with a little money and a good record can get a start, for the payments on the land are small, and for the right kind of man Mr. Post will build silos on extended payments and either sell cattle on part time or loan money on them or arrange for loans at bank.

It is easy to understand that the prosperity of the country and city in which he is so heavily interested depends on the prosperity of the settlers, he therefore proposes to make terms so easy and the conditions so well understood that thrifty men can succeed and become well to do.

Farms will be sold only to men who can show a good standing among the people where they come from.

The A. T. & St. Fe Ry. sells round trip land seeker's tickets at very low rates at various towns along the line from Chicago to Post City. Address C. W. Post Land Dept., Post City, Texas, or come and see the land and crops without waiting for correspondence. You will find things as described and a splendid opportunity for worthy men and their families.

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Fertile Farms and unimproved lands in Delaware. diversified farming, live stock, delicious fruits and ideal homes. For information address, State Board of Agriculture, Dover, Delaware.

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Ogemaw Co., Mich., Cut Over Hard Wood Lands.
Adjacent to Rose City on D. & M. R. R. for sale cheap. For particulars address.

JACOB SCHWARTZ, Saginaw, Michigan.

For Sale—In whole or part, 320 acre Southern Michigan farm. Good soil, buildings and fences. \$80 per acre. O. S. Schaefer, 214 Dewey Ave., Swissville, Pa.

Beautiful Little Poultry & Truck Farms
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C. A. WILSON, Agent, Morenci, Michigan

Woman and Her Needs

At Home and Elsewhere

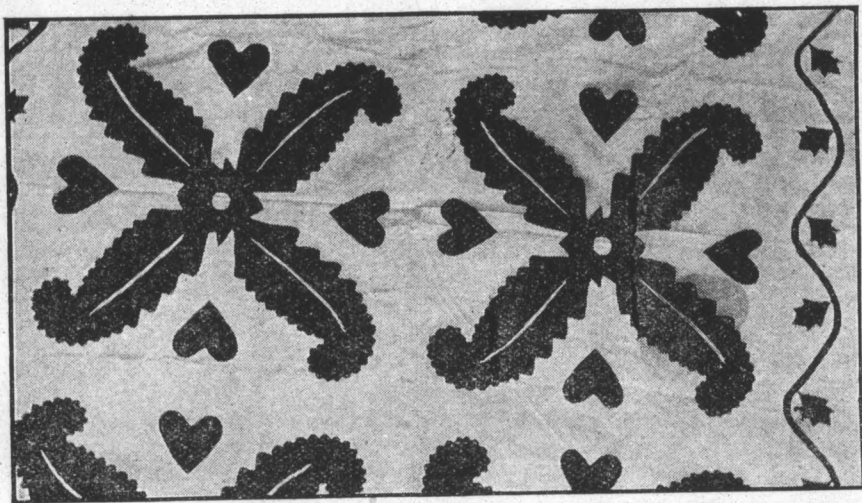
A Revival Of Applique Quilts.

By MAE Y. MAHAFFY.

A LONG with the summer cottages, bungalows, Colonial furnishings and the like, comes a revival of numerous arts and handicrafts of our grandmothers, which for a time had been very nearly lost sight of in the constant clamor for "something new." One of the quaintest of these old-time accomplishments is the applique patchwork quilt, and its appropriateness to the modern homes and furnishings has forced its no-

grandmothers usually limited themselves to the reds, blues, buffs and greens, these being the most reliable colors at their disposal, but a wider range is opened to us in this generation, thanks to the successful efforts of our manufacturers.

The illustrations picture portions of two quilts of this character, fashioned before the Civil War, and hidden away unquilted through all the years of their lack of prestige, now yellowed with age, but re-



A Quilt Design that was Popular Before the Civil War.

tice upon those who are interested in harmonious combinations and attractive settings.

Patchwork of the usual variety has always demanded a certain amount of attention, but the charming applique work on an all-white or solid colored background has held its own only among the cherished heirlooms stowed safely away in some trunk or attic. But nature is not the only cycle-rolling item with which we have to contend; fads and fashions return with the years, too, and now the time has come when the applique quilt, restored to its normal usage, is found flaunting its varied hues and exquisite stitchery from the newest and most approved beds of the day.

White muslin seemed the most satisfactory background for this work in the past, but now that so many handsome white materials are to be had there is no reason why the plain muslin should not give way to the charming madras, piques, and similar fabrics. It seems needless to suggest that the designs to be appliqued should be cut from absolutely fadeless materials, no matter of what variety. Our

ceiving their full quota of delayed praise and admiration. The one is called "Washington's Plume," from the feather-like shape of portions of the design. Some give it a little longer title, "Washington's Plume in the Heart of his Country," though this seems rather ambiguous, since we know that it was the man himself rather than his plume that has been held so dearly by his countrymen. However, the patterns of long ago were fruitful in odd titles, making them all the more interesting today. This quilt has red hearts, and the centers of the quartettes of plumes are also red, while the plumes themselves, and the vine-like border are of green. The neatness with which the small curves of the plumes are overcast to the background puts to shame any claim the seamstresses of today may make for unsurpassed stitchery, these self-same stitches being so tiny that it seems almost as though the pieces were glued invisibly to the background.

The other quilt is supposed to be of Mexican design, and is known as "Tailor's Fancy." It is carried out entirely in tur-

How The Motherless Housewife Keeps Busy.

HAVE you, busy mothers, ever wondered how the childless woman found work enough about the house to keep her busy? I've wondered it often and often, when I have asked my childless friends why they never get around to visit me, and they told me they "Just never got time." The other day I wanted to visit one of them, and I found out why it was she never got time to get away from home or to read a book or a magazine.

I got to the house about half-past two; thinking to find her all through with her work and sitting down with folded hands. Instead I found her in the kitchen polishing her whole supply of silver.

"I always do this on Wednesday every week," she apologized, "but I had company yesterday on the regular day and had to put it off. Now I am thrown out of my schedule for the whole week." There was a deep wrinkle between her eyes and I saw she wished to goodness I had stayed at home so she could get her silver polished and her schedule into working order again. I offered to help her finish it up, but she said, no, I prob-

ably didn't work the way she did, and we would go in the parlor and sit down. She had some sewing to do.

Of course I needn't tell you that the parlor was immaculate. Everything was in its place and not a speck of dust nor a spot of dirt was to be seen. You could even see yourself in the polished floors. Need I add that it also had that stuffy air which shows that the windows are never opened for fear of flies and dirt from the street? I thought of my own living-room, the floors scratched with much tramping of small boots, furniture rather the worse for having served as horses and street cars, magazines and children's books piled on the table, and for one fraction of one second I wished for this fine order. Then I thought how much more comfortable we are, and how much sweeter the air is for having two or three windows open, and I was content.

My friend produced her sewing, and what do you think she was doing? Drawing threads in a piece of toweling so she could cut dish towels even.

"Why do you go to all that trouble?" I innocently asked. "If they are just

dish towels, why don't you just tear 'em across and save time."

She gave me a reproving glance and said stiffly that she couldn't bear to see them all skewy on the line.

"Isn't there something I can help you do?" I hastened to ask. "If you have much sewing I might help you out?"

"I have plenty to do," she sighed, "but I guess I won't bother you. No two people ever work alike, you know," she added, and I could see that my methods were of too inferior a quality to do in that household. "I have a lot of dust cloths to lay hems in when I finish these, but I'll get through somehow," she added.

"Hem dust cloths!" I said. "Why do you hem them? Or if you want them hemmed why don't you run them through the hemmer on your machine?"

"The ends never finish up nicely on the machine," she explained, "and besides I like them best hemmed by hand. I do so like nice handwork. I've got a quilt to finish piecing, too, this winter," she continued, "I had so many little pieces around I couldn't bear to see them wasted. Don't you want to see it?" and she brought forth a pile of blocks built up of pieces about an inch and a half square, and all sewed together by hand with tiny stitches. "I do this evenings while John reads the paper."

"When do you read?" I ventured.

"Oh, I never get time to read, and besides my eyes are too weak to let me," she explained.

I looked again at the tiny stitches and could believe that her eyes were bad. "But this fine sewing," I suggested, "Doesn't this hurt your eyes?"

"This is necessary," she said severely. And as she knew my propensity to read

some orphaned child, or in reading about what the rest of the world is doing. But what's the use? Some women can't be happy unless they are uncomfortable, and making their family miserable. So I suppose we must let them busy themselves over nothing while we "slack" housekeepers squeeze in a few hours for a good time.

DEBORAH.

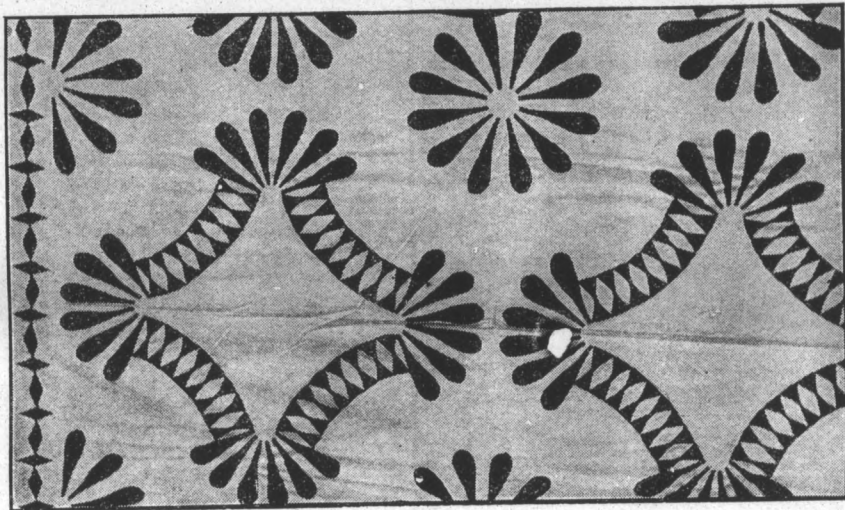
THE COMMON MIRACLE.

By HILDA RICHMOND.

From the age of sixteen to thirty a young man had been away from home and when he returned to the parental roof he proudly brought with him his wife and three children. They had counted on visiting a number of months with his parents, but when he discovered that a miracle had taken place in his absence he told his wife in alarm that they would have to cut their stay short in the hospitable farm house.

The young man had been carefully brought up by a sensible mother who gave personal attention to her children's diet, pleasures, instruction and clothing, and her somewhat rigid rules had seemed very severe to the growing youngsters until they were old enough to see that love and justice had governed every act of their mother's life. They often laughed about having to "toe the mark" but in their hearts they were glad that they had been taught habits of neatness, self control and obedience by so wise a teacher.

But now he was amazed to find that every rule had been thrown to the winds, and the grandchildren were allowed liberties that amounted to license in everything. They could scatter playthings without ever having to pick them up,



An Old Quilt of Mexican Design, Known as "Tailor's Fancy."

when she thought I should be piecing quilts I was again squelched. To cover my embarrassment I snatched up a book which lay on the table. It was Olive Schreiner's "Woman and Labor."

"Oh, how lovely," I exclaimed, "I am ashamed to say I've never read this. Isn't it fine you have it?"

"Only one more thing to dust," she groaned. "I've 300 books in that book case to go over every Tuesday afternoon. I wish folks wouldn't give me books. I never get time to read them."

"Why don't you read them instead of dusting them so often?" I said. "Now I'd read every Tuesday afternoon, and go through the book case about once in three months."

"I simply can't be slack about my housework," she remarked severely, and after that I thought it was time to leave and let her finish the silver.

But I know now how the childless woman keeps busy. It is by putting with non-essentials. It seems too bad when life is so full of really big things, and we have so little time to enjoy them that so many of us will insist on spending our time and energy on pulling threads and sewing up scraps of cloth which might better go to the rag man. The time spent on these senseless tasks might better be given to visiting the sick or in caring for

they could eat anything and everything at any time and in any place, they could and did bring their pets into the rooms hitherto reserved for human beings only, and they were allowed to spend unlimited pocket money on the sly, handed out by their doting grandparents. And, more than all else, when the alarmed parents attempted to enforce a few laws the grandparents were loud in their protests against such cruelty and that before the children. The firm young mother who had quoted "Spare the rod and spoil the child," only a few short years before was now, as a doting grandmother, chiding her son for being too strict and petting the small culprit and pitying him when he received the punishment her indulgence had brought on. By day and by night the bewildered young man exclaimed over the great change in his mother, but she only smiled and said she was sure her children exaggerated the stories they told of her firmness when they were small.

If the young man had not been isolated from society on a ranch he would have learned gradually that the common miracle of all times is the wonderful change a few years brings in the matter of parental discipline. The first child in the rare family of eight or ten gets enough discipline for the whole tribe, while the fortunate or unfortunate last one has ev-

everything his own way. The grandchildren listen with open eyes and mouths to the stories told by their parents of what happened when they were young, and in their hearts they feel sure that father and mother must be mistaken. Grandpa and grandma are so easy to deal with, so gentle and so delightful that they surely never sent small boys to bed and deprived them of pudding for table troubles. Such things surely were impossible! Whether it be wisdom or something else that prompts the lax methods of dealing with grandchildren is a debatable question. Certain it is that grandparents give their sons and daughters much trouble along this line when the latter take their little ones home to visit. The years bring many marvels, but among them all none is greater than the swift and sure change in the attitude of men and women toward children, particularly those fathers and mothers who brought up their own families by set rules and who once placed discipline above everything else in child government.

THAT GREATEST HOUSEHOLD PEST.

BY BESSIE L. PUTNAM.

Someone asks how to get bed bugs from a wall. That depends a little upon the nature of the wall. We once knew of a plucky woman who ridded them from a house the chamber of which was not plastered, but rough boards and exposed rafters. It cost work, but it paid; for her success was complete.

Her remedy was boiling alum water, using all the alum the boiling water would take up, and applying it as hot as possible to all cracks in the beds and surrounding walls. She gave two or three applications every week, for the eggs are encased in a protecting coat, too strong to yield to any solution, and so the newly hatched must be dealt with as they come. The nature of the pest is to insinuate itself into a crack, and so into the cracks must go the antidote.

If the walls referred to are plastered, a new coat of paper might solve the problem, first filling the cracks with plaster paris moistened with a little water. Or if there is a suspicion that some may be harbored in the cracks of the floor, get a package of prepared crack filler; or make one by soaking bits of newspaper to a pulp and then stirring them into flour paste until thick. This will harden after it is pressed into the cracks.

Varnish is an excellent finish where it can be applied, at once, and completely sealing the small cracks which may harbor mischief. Once get the hiding places closed, and the alum water will do the rest. It takes hard work for the first few weeks, but it pays, especially now that science has proved this little pest to be not only a destroyer of peace but a disseminator of tuberculosis, leprosy, and infantile paralysis, as surely as is the common housefly a breeder of typhoid.

HOME QUERIES.

Household Editor:—Will you kindly tell me what will remove red ink from wool serge? What kind of cloth would you suggest for a young girl's party dress, and what color would you advise me to get for a young girl? She is light and quite tall. It is her first party dress as she is very young.—M. M.

Try soaking in luke-warm water and a little ammonia. It is hard to advise any chemical, as whatever will remove the ink will also probably take out the color. If water and ammonia does not remove the stain, soak in milk, sweet or sour. This will often remove black ink. I would buy a blue silk for the party dress, unless she is tired of blue. White, pink or any of the light shades known as evening shades, are pretty. There are also extremely pretty challies shown this fall in all colors. They sell for from 40 to 50 cents the yard, and make up very prettily.

Household Editor:—How do you candy sweet potatoes?—Maybelle.

Cut cold boiled sweet potatoes into small pieces, put a layer in a baking dish, sprinkle generously with sugar, dot with butter and add a dash of salt and pepper. Arrange layers in this way until the dish is filled, then add two tablespoonsful of water and put in a hot oven until sugar and butter have melted and thoroughly "candied" the potatoes. Or you may make a thick syrup of sugar, a little water and butter in a basin on top of the stove, pour in the potatoes, cut up, and cook 10 or 15 minutes, stirring to avoid burning.

Household Editor:—What is "black butter"? I have seen the expression on a French menu card?—Curious.

"Black butter" is cooked butter served

with fish. To make it, cook the butter in a frying pan until it is dark golden color. Then skim it, cook a few minutes longer and pour off the top, being careful to get none of the sediment.

Household Editor:—Will you please tell me how to stop the hair from falling out? Will kerosene oil answer the purpose?—Reader.

Massaging the scalp will do as much to stop the hair falling out as anything. Put the thumbs on the sides of the head and with the four fingers of each hand rub the scalp all over with a rotary motion. Kerosene is said to be beneficial, but the odor and oily condition of the hair counts against it. Others recommend sage tea. However, the rubbing does more good than the lotion you apply.

Household Editor:—I would like directions for using citron, preserving and also candying it for cakes in the form seen in stores for holiday trade.—Mrs. T. B.

Preserved Citron.—Peel the citron and cut into pieces of uniform size. Cover with cold water, allowing a teaspoonful of salt to every quart of water and let stand over night. In the morning drain and cook in boiling water until tender. Weigh the melon and for every pound of fruit allow three-fourths pound of sugar, a half cup of water, half an ounce of ginger root and one lemon. Make a syrup of the sugar and water, then add the fruit, lemons sliced, and ginger, and boil a half hour. Remove the citron to jars, boil the syrup until thick, pour over the fruit and seal.

Candied Citron.—Cut the citron in large squares and boil one hour in water to cover. Then add equal weight of sugar and cook down thick. Spread on platters and dry in the oven. This must be watched closely while cooking down to prevent sticking and burning.

Watermelon rind may be preserved and candied the same way.

Household Editor:—How do you make rice water?—Nurse.

Boil two tablespoons of washed rice in one pint of water until it is tender. Put through a strainer, season with salt and dilute with boiling water. You can dilute with hot milk if the patient can take milk.

Household Editor:—Can you suggest a nourishing hot drink for a convalescent?—M. L.

Beat the white and yolk of an egg separately as for egg nog, add one cup of hot broth to the yolk, season with salt and a dash of pepper and fold in the white. Serve as hot as possible.

Household Editor:—In a recent issue, a lady asked for a recipe for canning elderberries and apples. We used the following this year with success: They are excellent for pies and, by adding a little sugar, when opening, make a delicious sauce. Cook nine pounds of elderberries, after they are picked from the stems, three pounds of tart apples, pared and quartered, three pounds of sugar and one pint of vinegar. Can the same as any fruit.

Household Editor:—How do you make tarragon vinegar?—L. I.

Pour one quart of white wine vinegar over three ounces of tarragon leaves. Cover, let stand 20 days and strain.

Household Editor:—What is a "tea-ball"?—Curious.

A hollow, perforated silver ball with a chain attached, in which the tea is placed, put in the tea pot, or cup, and the hot water poured over it. When the liquid is of the right color, remove the ball.

Household Editor:—I spilled some medicine down the front of a good white dress and it made a dark stain. Can you tell me how to get it out?—Mary B.

As I do not know what was in the medicine I could not tell you, with certainty, what would remove the stain. Soaking in clear cold water will often remove stains. I would try this first, and rub the spot gently between the hands every half hour. If this does not remove it try soaking in alcohol. Alcohol removes a great many stains.

Household Editor:—What is Javelle water and how do you use it?—M. K.

To make Javelle water thoroughly mix one pound of sal soda, one-fourth pound chloride of lime and two quarts of water. Shake well together, let stand two or three days, then pour off the clear liquid into bottles, cork and set in a cool dark place. It may be used to remove stains on white garments, porcelain sinks and other white lined dishes. To remove a stain on a garment stretch the spot tightly over a dish and rub the water in with a brush. Then rinse thoroughly in ammonia water. Some use it to clean silver. The silver must be dipped in and out again immediately.

Household Editor:—Can someone give me directions for making a baby's crocheted sack or jacket?—Mrs. T. V. W.

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NON-SCIENTIFIC DIET SYSTEMS.

The United States Department of Agriculture has issued the following statement covering this matter of diet systems:

"In view of the wide spread of literature and advice of so-called 'diet experts,' it seems desirable to warn people against adopting dietary recommendations without real scientific standing. Some of the advocates of freak diets are sincere, but are themselves deluded; while others are fakers, who seek to make monetary gain by advising peculiar systems of diet. One of their methods of reasoning is to use isolated and often unrelated facts of science as evidence that their peculiar system is of value. As an example, someone tried to raise rabbits wholly on cooked food. The rabbits did not thrive on such a ration, nor could it be expected that they would on a diet purely artificial to such animals. From this the 'pseudo' expert draws the deduction that because the rabbits could not live wholly on cooked food, human beings should confine themselves to raw food. Raw food is natural to rabbits, and this is perhaps a fortunate provision of nature, because the average rabbit would probably have a good deal of trouble lighting a fire or a gas stove to cook food; but it does not follow that man, who has proved cooked food wholesome by uncounted centuries of use, should give it up because of someone's theory.

"There is no objection to anyone's eating raw food if he likes it, but man's chances of health are best when he eats with moderation a diet made up of clean, wholesome, ordinary foods, well prepared in the usual ways. Such a diet will include some articles to be cooked and others to be eaten raw, such as bread, cereals, fruits, vegetables, meat, fish, milk, butter, cheese, eggs, etc.

"In some of the literature circulated by the advocates of raw food their correspondents are urged not to eat animal foods because they say meat is filled with bacteria. This is not true. The surface of meat is not sterile, but the interior is, except in rare cases. We do not eat raw meat, except dried beef, or something similar, but cause it to be cooked, and this sterilizes it. In most cases where people have suffered, or think that they suffer, from eating meat or any other normal article of diet, the trouble lies not with the actual article but either in the imagination of the consumer or in the fact that the food has not been kept clean, or properly prepared and properly handled after it is cooked.

"Several of these food experts base their argument for a raw food or other specialized diet on the theory that raw food supplies the body with necessary enzymes; or that a certain food, such as whole wheat bread, supplies lime or some other special substance. The body, however, normally supplies all the ferments (enzymes), it requires, and the average mixed diets of Americans give them all the raw food that they require. Similarly, if the American people ate nothing but wheat, it might be necessary to advise them to eat whole wheat rather than fine wheat flour in order to get some of the substances excluded from the flour by bolting. Recent investigations indicate that there is a valuable substance in bran which is lacking in the interior of the wheat kernel. This substance, called by some vitamin, is, however, present in many other foods, and there is every reason to believe that an ordinary mixed diet supplies all of such material which the body needs. Whole wheat bread is wholesome and palatable and affords an easy way of securing variety in the diet, which is desirable as well as pleasing. The average American who usually gets plenty of the food constituents he needs in his other articles of diet, need not feel compelled to eat whole wheat bread exclusively, simply to supply one peculiar element.

"In the case of the people who decry polished rice, most of them base their assumption that Americans ought not to eat it, on investigations made in oriental countries where rice forms one of the chief staples of a very limited diet, and practically the only starchy food. Americans do not live on a diet limited to rice, so there is, therefore, no logical reason why they should not eat polished rice if they like it; or should not use the unpolished rice if they prefer it. Both are wholesome and valuable.

"Many of the people who offer dietetic advice for sale undertake to recommend a diet that will cure diseases without ever seeing the patient. The average man

talking about his own illnesses frequently imagines symptoms, or describes them so inaccurately that they are not absolute guides to the physician. In many cases, incipient serious ailments or local troubles which give no indication of their presence by pain or discomfort, are discovered by the physician in his laboratory, and relief can be given them which could not be promised later. Very few people indeed would be able to describe their symptoms in words so accurately that the conscientious physician would feel safe in making a positive diagnosis or laying down a method of treatment.

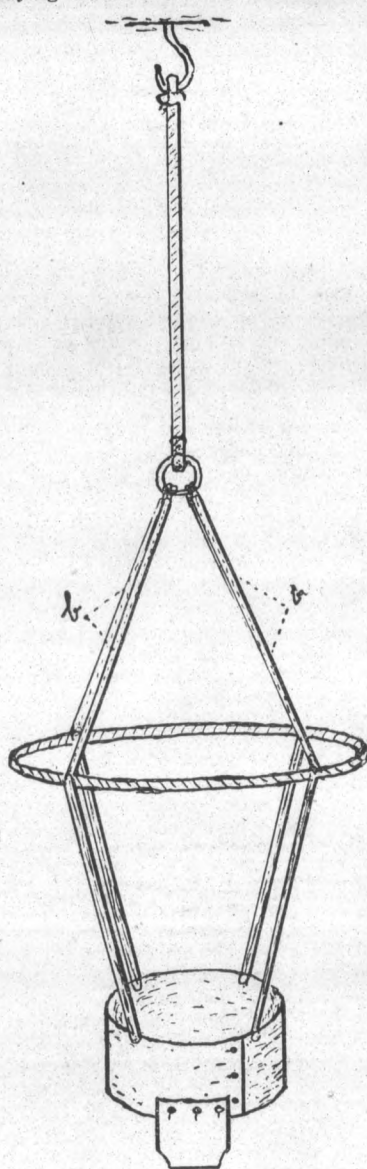


Fig. B.

Many of these sellers of food information, however, undertake to diagnose trouble and advise a complete remedy purely on the patient's own description of what he believes is a serious condition.

"In many cases, people on beginning a radically new diet, gain, or think they gain, a benefit. Any marked change in diet or cooking would produce the same effect, because change itself is often a benefit. The man or woman undertakes will help some real or fancied ailment, the new diet, feeling convinced that it and expects results so strongly that imagination supplies them. Most of the feelings of discomfort quickly pass by themselves, if we do not dwell upon them and worry about them; but if the person tries a new diet, he is very apt to attribute all improvement to that diet. In cases of serious digestive disturbances, sufferers should consult a physician of known ability and known standing in their community. To submit such cases for treatment by mail is as foolish as it would be for a man having a complicated and highly specialized business trouble to ask someone who had never seen his factory, and knew nothing about the business except the data he could supply in answer to a set of questions, to supply him with a positive remedy at long-distance.

"Much of the advice on diet which has passed from individual to individual, and much of the supposed scientific advice now being sold for a price by some of the food advisers, is really little more than folk lore. A great many of the statements which are used as arguments by the experts for their diets have been traced by the government specialists, and found to come from works on diet written so long ago as to be no longer considered of value except to the student of the history of dietetics, or else they have been separated from qualifying statements which would make the interpreta-

tion given them by the commercial users wholly unwarranted.

"These circulars of misinformation about diet find their prey principally among people who are always fancying that they have some complaint. If people remain in good physical condition year after year, and observe no marked change in weight, seem in good health and spirits, and are eating any simple and normal mixed diet, they have no need to worry about their food. People can expect to be lighter in weight in summer than in winter.

"If you like raw food better than anything else, eat it. If you like bread and milk twice a day, eat it. The main thing, as one grows older, is to eat in moderation and then, as always, to see what you eat is clean and that the cooked food you eat is originally in good condition and that it is well cooked. If you eat raw vegetables and fruits and raw milk, take precautions to see that they are clean before they enter your system. If something really disagrees with you, and the fault lies actually with the article rather than with the method by which it has been kept or cooked, stop eating that kind of food. If you experience serious discomfort which persists, consult the best physician you can discover.

"As a general proposition, be wary of people who offer to give you advice or to cure you without ever seeing you. Finally, bear in mind that each human body has individual characteristics, and that a diet which admirably suits one man who lives in a certain location and does a certain kind of work may not be adapted to another individual living in a different climate and doing a different kind of work.

"No advice is better than the old 'Moderation in all things.'"

A BABY JUMPER.

BY PEARLE WHITE M'COWAN.

There are people who object to the baby jumper, claiming that the exercise therein is too strenuous for the wee one's good. However, if the jumper is properly fitted, and used for an exerciser merely and not as a "baby tender" its benefits will be found to far outweigh its faults, besides proving a never-ending source of delight to the small youngster from the time he is six months old until he can walk, and sometimes even longer.

Of course, no child should be left in a jumper until he is tired out, and only the mother's judgment, formed by watching the clock and noting the signs, can tell how long that will be, for the little one is usually too interested and excited to know how tired he is before he reaches the point where he is "all in." However, from 15 to 30 minutes is long enough for the average child.

A jumper that is more satisfactory than those bought at the stores, because, while it braces and sustains, it yet conforms to the movements and special form and size of the little youngster himself, is made at home in the following manner:

The materials required are one yard of heavy denim or canvas, one-half dozen good stout pants buttons, three or four

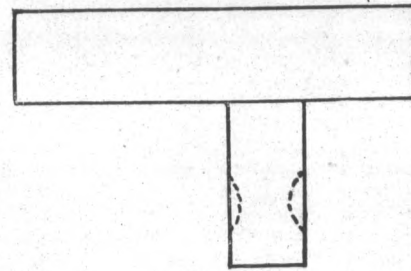


Fig. A.

screen door springs, a small barrel hoop, several feet of good stout clothes line, and a large hook to be screwed into the ceiling.

First cut a piece of the denim six inches wide and long enough to go about the baby's body and lap a little. This last as the child will grow and the buttons may have to be set over later. A second piece will need to be long enough to reach from the lower edge of the back of this down between the little limbs and up again in front to button there on the lower edge of the first piece. This second strip will need to be cut wide enough to form a good comfortable seat for the baby and yet not wide enough to chafe his little limbs, or to tend toward bow leggedness. Indeed, many mothers prefer to bind the edges of this instead of hemming, and thus be enabled to narrow it somewhat just where the little limbs push through, as shown by the dotted lines in Fig. A. This piece is sewn to the other a little to one side.

of the center in order that the front buttoning may be at the side and thus give a neater appearance than when buttoned in the middle.

The buttons and buttonholes throughout must be securely made and fastened in order to withstand the violent strain to which they will be subjected.

Four straps of the same material, one inch wide, extend upwards from the upper edge of the portion that goes about the child's body to the barrel hoop, which is wound with strips of the same material. From the hoop upwards, at equal distances apart, are four more strips of cloth, or if preferred, pieces of clothesline, to which are attached in a group the three or four door springs (the number will need to be determined by the weight and strength of the baby, and above those a piece of clothesline, the whole to be suspended from the hook in the ceiling.

Some prefer to sew the door springs fast to the hoop in place of the straps B, and use one long piece of clothesline to draw them together at their upper ends and suspend the whole from the ceiling. Either way is satisfactory.

The special thing to remember in its construction being to make the whole very strong and durable.

RECIPES.

Baked Apples.

Remove the cores and fill the space thus left with honey and broken butter-nut or walnut meats. Bake and serve with a teaspoonful of rich cream added just before they are brought to the table.—L. M. S.

Chocolate Icing.

Two cups sugar, half cup sweet cream, half cup butter. Mix together and boil 20 minutes, then add cocoa or chocolate to suit the taste.—Mrs. S. A. C.

Mother's Coconut Cake.

Three eggs, one tablespoon butter, five tablespoons sweet milk, one cup sugar, two teaspoons baking powder, one and a half cups flour. Reserve two whites for frosting. Beat the yolks and one white, then add the butter, melted, also the milk and sugar, lastly the flour with the baking powder. Bake in layers. Beat the two whites to a stiff froth and add half a cup of sugar and shred on cake. Sprinkle coconut on thickly and dry on top in oven.

Princess Pudding.

Take a pint of whipped cream, two ounces of butter, a pint of stale cake crumbs, one orange, three eggs, three ounces of sugar and a half cup of jelly. Blend the butter and cream, and pour it over the cake crumbs, add the beaten yolks of the eggs, the orange juice and the sugar. Bake in a hot oven. When it is done, remove, spread with the jelly, beat the whites of the eggs as for frosting, and spread over pudding. Sprinkle with shredded coconut, and bake to a golden brown.

Warm Bread.

In the south one seldom, if ever, sees cold bread upon the table. In the north warm breads are becoming more and more popular. These small loaves are light, crisp and easily made. To half a pound of flour add a scant teaspoonful of baking powder and a pinch of fine salt. Pour in a cupful of milk, stirring as you do so, with a silver fork instead of a spoon. Divide this dough into six pieces and shape them like miniature loaves of bread. Dredge a shelf in the oven with flour, place the loaves on it and bake from 10 to 15 minutes.—L. M. F.

Sugar Cookies.

Two cups of sugar, one cup of shortening, one cup buttermilk, salt, soda and nutmeg. Mix medium, roll and cut with cookie cutter and bake in hot oven. Do not use too much flour.—V. W.

Pork Cake.

Two cups sugar, one cup sour milk, one cup of molasses, one pound, or two cups, minced fat pork, one pound raisins, four eggs, half a nutmeg, one teaspoon cinnamon, one teaspoon soda, flour to make a stiff batter.

Here is a dish for lunch which we call salmon patties. Mince left-over canned salmon with a fork. If you have just a little take only two slices of bread, soak in milk, and cut into bits. Beat an egg into the bread, stir in salmon, dust with parsley, salt, shape into flat cakes and fry in spider, turning to brown each side. If the first one falls to pieces dust them over with flour before putting in spider. For cupful or more of salmon use more bread and another egg.

The Bureau of Chemistry has found that freshly pressed apple juice, not cider, cooled immediately after preparation, can be kept for a period of from six weeks to three months, at 32 degrees F., before it

begins to ferment, after which the fermentation is very slow and the flavor of the juice maintained.

THE GREEK BATH.

An ancient remedy looking to the softening of the skin is the Greek bath, now being revived by modern specialists.

Mix seven tablespoonfuls of pure olive oil and one of lavender water and rub it well into the entire body. Apply a little at a time and rub in well with the palms of the hands, using circular motion.

To get the best effects from this bath the body should be kept very warm during the rubbing. If hot cloths are applied first to open the pores more of the oil will be absorbed.

Take the baths three nights in succession, then stop for a week and take the series again as necessary. The skin quickly improves under this treatment.

SHORT CUTS TO HOUSEKEEPING.

The fat from geese is an excellent remedy for colds and if properly prepared is not unpleasant to the taste. In dressing the goose cut the fat into small pieces and place them in an iron kettle, covering with cold water. Set this kettle on the front of the range and cook until the water has all evaporated, then remove to a cooler place and let the fat try out slowly. When there remain only small pieces of shriveled gristle remove from the fire and strain through a piece of clean cheesecloth, into an earthen dish. When it is nearly cold bottle for use, but always keep in a cool place.—L. M. T.

A simple cough remedy for children is made by beating the white of an egg, adding one teaspoonful of sugar and eight drops of oil of tar. Take one teaspoonful every two hours. Simple and effective.—M. A. P.

To prevent chocolate settling, mix a little corn starch with the grated chocolate before boiling.—E. L. R.

To extinguish fires keep a pail of common dairy salt in some convenient place on the upper floor of the house and another in the barn. In case of fire from an overturned lamp or lantern throw the salt upon the flames and it will instantly extinguish them. Water does no good on burning oil.—L. M. T.

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Our large Fashion Book—containing 92 pages illustrating over 700 of the season's latest styles, and devoting several pages to embroidery designs, will be sent to any address on receipt of ten cents.



No. 7681—Child's tucked dress, 1, 2 and 4 years. With or without shirrings at long waist line.

No. 707—Embroidery design.

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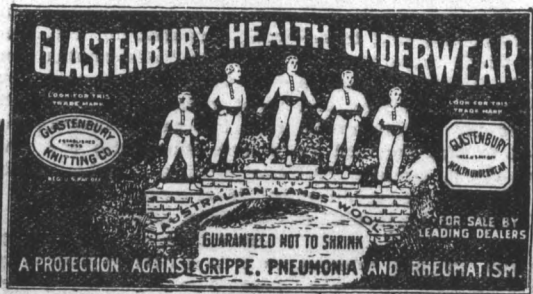
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Farm Commerce.

Markets Outside the Large Cities.

A Suggestive Presentation of the Facts too Frequently Overlooked by Farmers who are Seeking Better Markets for Their Products.

TAKING an automobile from the garage for the purpose of carrying a few quarts of milk from the barn to the house located but a few rods away, was commented upon by the neighbors as the final act in the expression of a dislike for work by a married man of central Michigan; but when reduced to its last analysis it is, nor can be, no more unreasonable than the system of marketing so frequently used to supply many of the demands for necessities by the smaller towns and cities of the state.

True it is that the large cities take the bulk of the surplus products of the farm, and naturally all roads of travel and com-

munication tend thitherward, but those cities do not consume all of such products. Taking the figures of our last federal census, we find that Michigan has within her borders, 106 cities with an aggregate population of 1,329,623. Of this number of persons 628,847 live in cities having over 50,000 population, and 839,929 live in cities of over 25,000 population. Putting it in percentages, 53 per cent of the city population of our state is found outside of the cities of over 50,000 and 36.8 per cent live in the incorporated municipalities of less than 25,000 persons.

Now besides the smaller cities there are about 1,200 villages whose people are not producers of agricultural products, and if these villages have an average population of 100 persons, which we believe to be a conservative estimate, then we have 120,000 additional people lying outside of the large centers who must be fed, clothed and housed. That is, of the people of Michigan who are not producers of agricultural products, and who consequently must buy such of these products as they may need, nearly one-half live outside of the cities of over 25,000 inhabitants.

To still further add to the contention that the territory outside of our great cities should be not altogether disregarded when considering the possibilities of marketing farm products, we need to inquire into the source of many of the products used on farms other than those on which they are grown. Strange as it may seem, there are hundreds of farmers in Michigan who use potatoes that are grown elsewhere, butter produced by neighbors, or the creamery, eggs from stores, and apples, vegetables, meats, milk, etc., from outside. Farmers are specializing. They are trying to grow the things their farms are best fitted to produce, and these crops are sold to secure an income with which the other products required may be bought. Thus we see that the farmers themselves may, and do, furnish a market for certain crops, which demand, added to that provided by the towns and small cities, offers a real opportunity to the wide-awake producer of agricultural products, who has ability as a salesman.

This last conclusion is not without foundation. In fact, instances are constantly coming to notice of farmers who have found choice markets for certain products without even moving them from

their premises where they were produced, while others individually and through co-operative organization have turned their attention from the closely watched and toll-burdened markets of the cities to those in out-lying sections with very satisfactory results.

A few years ago a wide-awake Calhoun county farmer who, among other things, grew from two to four carloads of apples annually, learned that the well-to-do farmers of central Illinois wanted this particular kind of fruit and would buy it regularly, providing they could be assured that it was well grown and packed. He began by sending a few bushels,

sible. These "Badger State" producers are now finding it easy to sell direct to the truck growers of the south, and a premium is paid for their tubers.

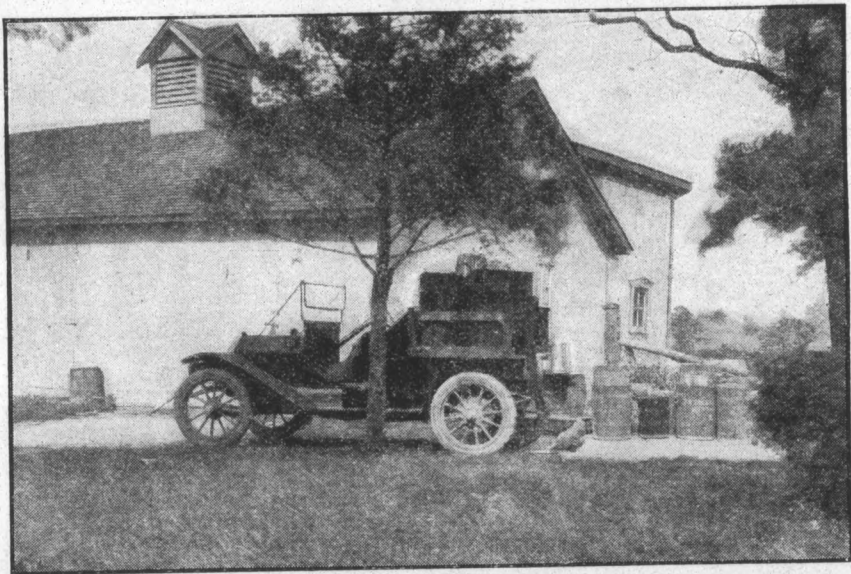
We have still another example in Oakland county, of a farmer who has built up an excellent market for his milk by manufacturing it into ice cream. A number of years ago this farmer started with a little hand freezer and disposed of the output to his immediate neighbors. As time went on the neighbors wanted more and their friends were induced to buy, until now the business has assumed considerable proportions and keeps two power freezers busy making cream sufficient to keep up with the increasing market. In the summer season the automobile truck shown in the illustration is on the road from morning till night, supplying ice cream parlors in the small towns around about, families, parties, socials, resorts, hotels, etc. A recent inspection of his premises and a discussion of cost of production and the prices received for the ice cream showed that the farmer was getting splendid returns for the labor required, money invested, and raw material used. This man studied his home market and found a product in demand that he could make and sell to better advantage than outside parties could. So long as he can manufacture that product economically in quantities to the size that can be marketed in that community, he will be successful in com-

peting with the large ice cream concerns, for his milk supply is fresh and close at hand, and his ice cream is consequently of superior quality, besides he is not to the expense of transporting the milk to the city and the ice cream back again, as are the large manufacturers. Moderate prices and good cream have aided in the development of an enviable market, right out in the open country.

These examples are merely suggestive of what is being done by wide awake farmers in taking advantage of the demand for farm products from people outside of the large cities. The possibilities are significant to the thoughtful and self-reliant person.

The most economical way of supplying the class of people of which we are speaking is to secure the supply from the nearest farm that has a surplus for sale. It is expensive and foolish to send apples, potatoes, butter and eggs and other products to the cities, and then have the same or similar products returned for consumption.

It not only amounts to a lot of expense but the products are usually of less value to the consumer after they have been handled so much. You can't make an apple or a potato any better by storing it in a railroad car for two or three weeks. It involves an uncalled-for expense and injury to the quality of the products to send them to the city wholesaler and then have them returned to the country.



Auto Delivery and Ice Cream Plant of F. R. Sleeth, Oakland County.

A Warning To Shippers Of Fruit.

In as much as a few shippers of apples have gotten themselves into trouble by attempting to sell apples that were not packed in accordance to the provisions of Act No. 207 of Public Acts of Michigan, 1913, we deem it well to again bring the attention of our readers to this statute by publishing the same in full. And more than ordinary is the need of getting its requirements before growers because the practice or shipping from the farms directly to consumers is more common. The law reads:

The people of the state of Michigan enact:

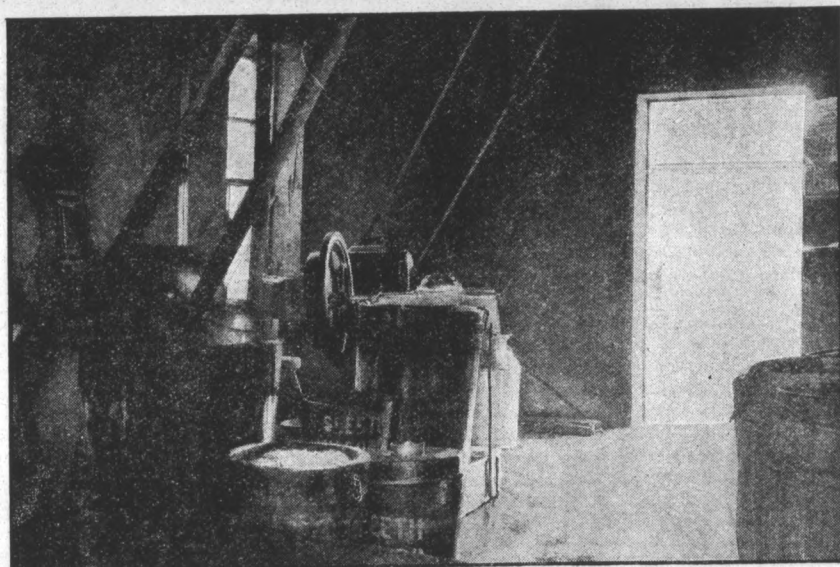
(Sec. 1).—In this act, unless the contents otherwise requires, the term "closed package" shall be construed to mean a barrel, box, basket, carrier or crate, of which all the contents cannot readily be seen or inspected when such package is prepared for market. Fresh fruits or vegetables in baskets or boxes, packed in closed or open crates, and packages covered with burlap, tarlatan or sate covers shall come within the meaning of the term "closed package." None of the provisions of this act shall apply to other than Michigan grown fruits and vegetables.

(Sec. 2).—Every person who by himself, by his agent or employe, packs or

(Sec. 3).—No person shall sell or offer, expose or have in his possession for sale, in the open market, any fresh fruits or vegetables packed in a closed package and intended for sale, unless such package is marked as is required by this act.

(Sec. 4).—No person shall sell or offer, expose or have in his possession for sale, any fresh fruits or vegetables packed in a closed or open package upon which package is marked any designation which represents such fruit as "No. 1," "Finest," "Best," "Extra Good," "Fancy," "Selected," "Prime," "Standard," or other superior grade or quality, unless such fruit or vegetables consist of well-grown specimens, sound, of nearly uniform size, normal shape, good color, for the variety, and not less than 90 per cent free from injurious or disfiguring bruises, diseases, insect injuries or other defects, natural deterioration and decay in transit or storage excepted.

(Sec. 5).—No person shall sell or offer, expose or have in his possession for sale, any fresh fruits or vegetables packed in any package in which the faced or shown surface gives a false representation of the contents of such package, and it shall be considered a false representation when more than 20 per cent of such fresh



The Large Freezers Used by an Oakland County Farmer who Sells Milk by Converting it into Ice Cream.

repacks fresh fruits or vegetables in closed packages intended for sale in the open market, shall cause the same to be marked in a plain and indelible manner as follows:

First: With his full name and address, including the name of the state where such fresh fruits and vegetables are packed, before such fresh fruits or vegetables are removed from the premises of the packer or dealer.

Second: The name and address of such packer or dealer shall be printed or stamped on said closed packages in letters not less than one-quarter inch in height.

fruits or vegetables are substantially smaller in size than, or inferior in grade to, or different in variety from, the faced or shown surface of such package, natural deterioration and decay in transit or storage excepted.

(Sec. 6).—Every person, who by himself, his agent or employe, knowingly violates any of the provisions of this act, shall, for each such offense, be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding \$10, or by imprisonment in the county jail for a period not exceeding 30 days, or by both such fine and imprisonment in the discretion of the court.

Crop and Market Notes.

Michigan.

Mecosta Co., Oct. 19.—October has been a very warm month to date, only three hard frosts. The potato tops were green until about a week ago. Potatoes are a peculiar crop here this year. All depending upon the time they were planted. If planted about the 5th to 10th of June they yield from 100 to 200 bushels per acre, if earlier or later planted the yield is in most instances around 50 to 70 bushels per acre. They are now quoted at 50¢@55¢. Corn is a very good crop and much of it is already in the crib. Taken as a whole, the farmers of this section have had a very good season.

Gratiot Co., Oct. 23.—The first snow of the season began falling about five o'clock Wednesday p. m., and continued until nearly noon Thursday the 23rd. At no time was there more than half an inch on the ground and it was all gone by Thursday night. At this date the farm crops are about secured. There are a few potatoes to dig and corn to husk. Both crops were good. Beans did not yield as well as was expected in most cases, 12 to 15 bushels on the average, while they ranged from five and eight to 25 bushels. They are going on the market at \$1.75@1.80. Wheat was sown early for the most part and is getting a good growth. Sale apples are scarce and market dull. Very few consider it worth while to pick more than they wish to put down for their own use. Cider apples are plentiful. Cattle and hogs are selling at enormous prices at auction. Shoats weighing 75 to 100 lbs. range from \$8@12, while brood sows with litters sell for the price of a good cow, \$60@75. Young cattle are in good demand at prices ranging from \$15 for a spring's calf to \$25 for a yearling. Roughage of all kinds is selling at good prices. Eggs 25¢; butter 22¢@26¢.

Lapeer Co., Oct. 22.—Snow and rain fell today. Hardly any corn husked as yet and lots of potatoes yet to dig. So much rain of late that the crop of cloverseed cannot be secured, nor are apples all gathered yet. Beans not all threshed in this part of the county and they are yielding light, from three to 15 bushels per acre and bring at our local elevators about \$1.80 per bu. More rye than wheat was sown this fall. Pastures are as yet quite good. Hay selling at present at about \$10@13 per ton. The sugar beet industry was knocked out by free sugar. Potatoes bring 50¢ on our local market. Auction sales are few. Stock of all kinds bring good prices.

New Jersey.

Morris Co., Oct. 20.—We have had a nice warm fall with several nice rains. Fall seeding and threshing buckwheat is nearly all finished. Farmers are busy cutting and husking corn. A few have not finished cutting on account of scarcity of farm labor. Apples are a fair crop and most growers have gathered their crop. Most of the dropped apples go to a local distillery where they sell at 40¢ per 100 lbs. Wheat 90¢; old corn \$22@25 per bu; butter 35¢; eggs 40¢.

Monmouth Co., Oct. 20.—Corn about all cut. Farmers well along with sowing wheat. Some husking done. Early planted corn hurt by drought while the later planted yields much better. Weather has been fine for fall work. Some pork has been marketed at 12½¢ per lb. dressed. Very little frost as yet.

New York.

Chautauque Co., Oct. 21.—Weather cool and rainy. As yet there has been no frost. Silos are about all filled. Corn husking has started with crop good. Potatoes mostly all dug and crop is very light. Buckwheat is a fair crop; grapes and apples about all picked. With crops about one-fourth the average. Not much plowing done as yet. Corn 74¢; oats 43¢; wheat \$1; potatoes \$1; apples 90¢@1 per bu; butter 38¢ and scarce; eggs 41¢; timothy hay No. 1, \$14; oat straw \$8. Cattle are very scarce and high.

Niagara Co., Oct. 21.—Cold, windy weather prevails. Fruit nearly all gone. Apples very scarce. Greenings \$2.60 per bbl; Baldwins all of good quality and finely colored, \$3@3.30. Orchards where there are some Kings and Twenty Ounce sold for \$3.40 bbl. total crop. Driers dropped from \$60@50¢. Keifer pears rose from \$1.75 firsts and \$1.25 seconds, to \$2 and \$2.10 firsts and \$1.35 seconds. Smock peaches fell from 30¢@20¢ a basket. Cabbage is a luxury. Seen only in a few gardens. Corn is poor crop. Hay \$13 ton; wheat 90¢; oats 40¢; beans \$2; rye 70¢; middlings \$29 ton; bran \$37 ton.

Pennsylvania.

Tioga Co., Oct. 20.—All farm products were more or less damaged by a heavy frost on June 10. A killing frost occurred again on Sept. 16, thus giving this locality only 90 days for growth of farm products. We had sufficient rain till about Aug. 10, for growth of crops. From that date up till Sept. 21 there was very little rain. This drought shortened the corn, potato and buckwheat crops. Hay was a full crop; oats fair; corn, potatoes and buckwheat about 60 per cent of a normal crop. Apples and plums not over 15 per cent of a normal crop. Pears a good crop. Dealers are paying following prices for farm products: Pears \$1; corn 70¢; oats 50¢; buckwheat \$1.60 per cwt; hay \$14 per ton. Some fall plowing done. A great amount of rain during last three days which will delay further plowing. Milch cows selling for \$75@100. Butter 34¢; eggs 38¢.

Crawford Co., Oct. 22.—Weather generally fair and work well along. About the usual acreage of wheat, some fall plowing now the order of the day. Threshing all finished. Great demand for buckwheat at \$1.50 per cwt. Potatoes now 80¢; ap-

ples 75¢; eggs 35¢; butter 33¢; four per cent milk \$1.60, 5¢ for each point above. Cows are scarce and high, strippers now bringing \$45@50; springers bringing \$65@85. Hogs selling at 11¢ dressed. Plenty of feed for live stock and pastures are green.

Ohio.

Holmes Co., Oct. 18.—Weather is warm, with showers. Not much damage has been done by frost on the ridges yet. Pasture is good. A few apples have been harvested on the ridges—all gathered at present. Potatoes are about 75 per cent of a crop. Prices 60¢ a bu; apples 75¢ a bu; cloverseed is a light crop. Very little alfalfa is raised here. On account of scarcity of help a good bit of corn was left on the stalk. There is no cribbing of corn yet. Hogs are not very plentiful. A good many farmers are dropping out of the sheep business. Those who are still in it, are keeping the mutton variety.

Carroll Co., Oct. 20.—We are having some wet weather down here. Not much corn husked yet. Most farmers have their potatoes dug. The potato crop was very light this year. Much of the corn got frosted before it got ripe. The apple crop was short, too. Butter 20¢; eggs 28¢; potatoes \$1 per bu; onions \$1 per bu.

Hardin Co., Oct. 20.—We are now suffering a cold rain from the northwest and some snow with it, our first bad spell of weather for this fall. Corn husking going on nicely but has been rather dry. Corn is a fair crop here this season and fall grain is looking very well but is small yet. There are no apples to speak of and very few cider mills started up this fall. Some potatoes are to dig yet and they are a short crop here, and are selling for \$1 per bu. Hogs are 5@8¢ a lb. Lots of cholera here.

Indiana.

Jay Co., Oct. 25.—Several hogs have died in Jay county since the last report. Two or three cases have developed on as many farms. It is hoped the cool weather will check the spread of the disease. Rain, hail and snow visited us seven days the week of Oct. 19. There was widespread distress over this section of the country. Just a slow, feeble rain that wet up the ground but caused no damage. Thousands of acres of corn in the Wabash valley averaging 65 bu. to the acre, is in danger of a flood. Hay \$14; wheat 85¢. No shredding of corn up to date.

Tippicanoe Co., Oct. 20.—We are having excellent weather. The wheat has germinated in fine shape and looks fine. Very few fields are being injured by the Hessian fly this fall. A great amount of apple cider is being made here, due to the injury of the hail last summer. Hog cholera is still prevalent and the serum plant is now six weeks behind their orders; 552,000 head of hogs have been lost this year on account of cholera. Potatoes are a very poor crop and are selling for \$1 per bu; wheat 87¢; corn 65¢; oats 35¢ per bu; butter 29¢; eggs 27¢.

Illinois.

Marion Co., Oct. 20.—The weather has been warm during this month, until the 17th, on which we had a big rain, and it is cooler and cloudy now. Corn cutting all done. Silos are filled. Wheat seeding is done, with a larger acreage than for some time. Apple picking is about done. No. 1 in barrels, delivered at station, are \$2.25@3; Nos. 1 and 2 barreled together, \$2@2.25; bulk stock 75¢@90¢; evaporator stock 25¢@40¢ per cwt; potatoes are being shipped in, selling at 85¢ per bu. from car. Fat hogs and cattle are scarce.

Missouri.

Lafayette Co., Oct. 21.—Wheat sowing is finished and most of it is up fine. The cows have fine pasture again; clover also can be pastured. Some new corn is gathered and fed to the hogs with the old corn. There is very little hog sickness in the county. The roads are made in fine shape by accommodation work of the farmers and town people. Last month the creamery paid 33¢ for butter.

Warren Co., Oct. 22.—Potatoes are almost a failure but good northern stock is being shipped in and retailed at 90¢ per bu. Sweet potatoes are about half a crop, but good quality. They retail at \$1.50 per bu. Apples are a short crop, but of excellent quality where the trees were sprayed. Unsprayed trees bore inferior fruit which fell off too soon. Good apples and peaches retail at \$1; peaches were abundant but only the sprayed trees bore a good quality. This soil is well adapted to pears which were a short crop but of excellent quality, retailing at \$1.50. Corn is about all cut, but on account of the fear of cornstalk disease, which has killed some horses, is not being fed much yet. A large acreage of winter wheat has been sown and is up nicely.

Kansas.

Franklin Co., Oct. 18.—A fine rain last week has greatly helped plowing. Plenty of stock water now. Pastures that have been dead all summer have been revived by the recent rains and in some localities the pastures are good. There are many public sales at this time. Cattle sell well, horses fair. Few hogs are being kept to fatten as feed is so high. Corn sells from 77¢@80¢ per bu; wheat 85¢; oats 45¢; timothy and clover from \$14@16 per ton; alfalfa \$15; potatoes \$1 per bu; eggs 23¢; butter-fat 28¢; hens 10¢; springs 10¢.

Nebraska.

West Central Otce Co., Oct. 22.—Killing frosts occurred on the upland Oct. 19, on lowland much earlier. Wheat is nearly all up. Farmers were late in getting wheat in on account of fall rains. Large acreage sown this fall. Farmers shipping in corn for feed. Apple crop short, apples sell at \$1 per bu. for hand-picked. Windfalls sell at 40¢ per bu. Corn husking will be a short job. Corn making from five to ten bu. an acre. Potatoes a light crop but of good quality. Fall sown alfalfa looking fine. Wheat 73¢; oats 40¢;

corn 72¢; butter-fat 26¢; eggs 20¢; hens 9¢; springs 9½¢.

Cass Co., Oct. 13.—We have had three inches of rain in the past three weeks, reviving pastures and putting soil in good condition for fall work. An increased acreage of winter wheat is being sown. Sowing is later than usual and the work is still going on. Considerable has been sown in the standing corn. Have had light frosts and some are commencing to husk corn, which promises about one-third of a normal crop so far. Wheat 75¢; corn 75¢; oats 40¢; cattle 3½¢@6¢; hogs 7¢@7½¢; butter 25¢; butter-fat 30¢; eggs 18¢ per dozen.

South Dakota.

Mead Co., Oct. 13.—Crops in this new county are all that could be expected as most of the land has but recently been broken up. September was a wet month and so has been October thus far. One rain lasted 36 hours and put the soil in first-class condition. These threshing grain report that wheat is of fine quality and yielding from six to nine bushels per acre; oats about 10 bushels; flax six to 10 bushels. One man, from a half-acre patch threshed three bushels of fine alfalfa seed. Corn is fair and the fields will average from 10 to 35 bushels per acre. The first frost occurred on Sept. 20, and the first hard freeze Oct. 6. Potatoes are not as good as they have been in other years, though the quality is fairly satisfactory. Yield is about 75 bushels. Considering conditions stock is fine.

LIVE STOCK NEWS.

A much weaker feeling has been developed in the Chicago hog market of late, the packers being determined, apparently, upon forcing a lower basis of prices for their winter packing operations, and hogs have been sold at the lowest values recorded in several months. At times when the eastern shipping demand happened to be poorer than usual prices were pretty sure to rule lower, provided the receipts were of the customary proportions.

The continued large marketing of pigs from cholera-infected portions of the corn belt states has been potential in allowing the Chicago packing brotherhood to force numerous sensational breaks in prices from time to time, and even on days when matured hogs were little or no lower, little pigs have slid off amazingly. As the consumption of fresh pork is still on an enormous scale, it has been an easy matter to maintain prices for the meat products of these pigs, and thus the packers have profited most generously, while the farmers marketing the pigs were compelled to sell at great sacrifices in most instances. Of course the cause of these country shipments is well understood, this being the awful ravages of hog cholera in several states. The disease has been most malignant without doubt in the state of Iowa, but it is also raging disastrously in Illinois, while Minnesota has suffered far more than ever before. It has raged also in Nebraska, Kansas and other states, and, unfortunately, the production of serum by the several state manufactories has fallen greatly short of the pressing requirements, legislative appropriations having been much too small. Furthermore, much serum has been administered unskillfully, and many inoculated pigs died after being inoculated. One result of all this is absolutely certain: The future supply of matured hogs is going to be greatly short, and in all probability desirable droves of swine will ultimately soar to much higher prices than have been seen so far this year. This, at least, is the opinion of the oldest dealers in hogs, and owners of healthy growing young hogs should spare no pains to finish off their stock in good shape.

The provision trade is fairly large, with much lower prices for lard and cured hogs than prevailed several weeks ago. Before long the winter demand is expected to develop more activity.

While strictly prime yearling beefs, whether steers or heifers, continue to bring extremely high prices, yet it is noticed all the time that it is much more difficult to maintain prices for the other descriptions of cattle in the Chicago market than some weeks earlier in the year. The only way for owners of cattle to keep the market from weakening is to use great conservatism in sending in their holdings. This is a period when there is general discomfort and complaint resulting from the greatly increased cost of living, and with prices for beef so much above those of five or ten years ago, the average family is compelled to practice rigid economy. All that holds up prices for the choicest heavy beefs and prime little yearlings is their scarcity, for demand centers very strongly in the medium-priced cuts of beef, and light young cattle sell far more freely than other descriptions. Experienced stock feeders are finding it much more profitable to grow fat yearlings on high-priced farms than to engage in long feeding, and the trend of events is in the direction of producing cattle on the yearling order. The demand is very strongly for cattle that weigh 1,200 lbs. or less, and it is often a difficult matter to bring out any bids for very heavy cattle.

Western ranchmen are holding on to their young steers, cows and calves and marketing only their four-year-old cattle as a general rule. Frank Brainerd, brand inspector, stationed in the Chicago stock yards, says: "All we are getting from Montana, Wyoming and the Dakotas is four-year-old cattle. Everybody in that country is a bull on cattle futures, and cattle are being held in confidence that prices will rule high in 1914."

John T. Alexander returned recently to Chicago from a visit to the state agricultural college experiment station at Ames, Iowa, and was enthusiastic over the grand individual cattle to be shown in the coming International Live Stock Exposition. The cattle are being prepared for the great show, and have been used in class work at the Iowa college.

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Markets.

GRAINS AND SEEDS.

October 28, 1913.

Wheat.—A stronger market has prevailed the past week, prices showing an advance of 2c over the low point a week ago. Several factors have influenced the change. Farmers in the northwest are refusing to deliver the grain because they believe prices are lower than they should be. This resulted in a large decrease in receipts at the market centers. Farmers in Canada have quite a large part of spring wheat unthreshed, which means that a considerable portion will have to go until spring in the shock. The visible supply in this country showed a decrease of nearly a million bushels compared with the heavy increase a year ago. Prices have also advanced in Liverpool and Russia is making smaller shipments. India has a crop failure, and conditions in South America are not promising. On the other hand, there is only a fair cash demand, and flour is moving slowly at slightly decreased prices. One year ago the price for No. 2 red wheat was \$1.10 a bu. Quotations for the week are:

	No. 2	No. 1	Dec.	May.
Wednesday	92	92	93	97
Thursday	92	92	93 1/4	97 1/4
Friday	92	92	93 1/4	97 1/4
Saturday	92	92	93 1/4	97 1/4
Monday	93	93	94 1/2	98 1/2
Tuesday	93	93	94 1/2	98 1/2

Chicago, (Oct. 28).—No. 2 red wheat, 95c; Dec., 85 1/4c; May, 90c per bu.

Corn.—The trend of this trade has been upward in harmony with wheat. Demands from feeding sections are increasing. At many points the crop has not been husked and through exposure is being damaged by the storms. The visible supply shows a substantial decrease. One year ago the price for No. 3 corn was 57c per bu. Quotations are as follows:

	No. 2	No. 2	Yellow.
	Mixed.		
Wednesday	72	73	73
Thursday	72	73	73
Friday	72 1/2	73 1/2	73 1/2
Saturday	72 1/2	73 1/2	73 1/2
Monday	73	74	74
Tuesday	73 1/2	74 1/2	74 1/2

Chicago, (Oct. 28).—Dec., 70c; May, 71 1/4c; July, 71c per bu.

Oats.—This market has followed wheat and corn. There is, however, a slightly weaker tone in the market, due partially to the more liberal selling of the grain by farmers. The visible supply shows an increase of over a million bushels. The price for standard oats a year ago was 36 1/2c per bu. Quotations for the week are:

	Standard.	White.
Wednesday	42	41 1/2
Thursday	42	41 1/2
Friday	42 1/4	41 1/4
Saturday	42 1/4	41 1/4
Monday	42 1/4	41 1/4
Tuesday	42 1/4	42

Chicago, (Oct. 28).—No. 2 white oats, 42 1/4c; Dec., 39 1/4c; May, 43c.

Beans.—While farmers are a little conservative in marketing beans, still the offerings have increased the past week at country points, and buyers have been enabled to crowd prices down a nickel for cash beans, the quotations now being \$1.90 per bu; November beans are at \$1.85, while January are \$1.95.

Chicago, (Oct. 28).—There is only a fair supply of pea beans, and they are quotably steady. Prices are: Pea beans, hand-picked, choice, \$2.15@2.20; common, \$1.50@1.75; red kidneys, choice, \$3@3.10.

Rye.—Market is unchanged. Cash No. 2 rye is quoted at 69c per bu. Chicago price for the same grade is 65c per bu.

Barley.—At Chicago barley is quoted at 53@52c per bu., while Milwaukee quotes the malting grades at from 57@80c.

Cloverseed.—Values have advanced, and the trade continues firm. Prime spot is quoted at Detroit at \$8 per bu; Dec., \$8; March, \$8.10. Prime alsike has advanced to \$10.50 per bu.

Alfalfa Seed.—Market is steady, with prime spot quoted at \$7.25 per bu.

Timothy Seed.—Sales were made on Tuesday at \$2.50 per bu. for prime spot.

FLOUR AND FEEDS.

Flour.—Jobbing lots in 1/2 paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.30; second, \$4.90; straight, \$4.50; spring patent, \$5.10; rye flour, \$4.60 per bbl.

Feed.—In 100-lb. sacks, jobbing lots: Bran, \$25; coarse middlings, \$27; fine middlings, \$27; cracked corn, \$31; coarse corn meal, \$30; corn and oat chop, \$26.50 per ton.

Hay.—Condition of deal is unchanged. Carlots on the track at Detroit are: No. 1 timothy, \$16@16.50; standard, \$15@15.50; No. 2, \$14@14.50; light mixed, \$15@15.50; No. 1 mixed, \$13.50@14.

Chicago.—Offerings liberal and demand fair with prices steady. Choice timothy quoted at \$18@19 per ton; No. 1, \$16.50@17.50; No. 2, \$15@16.

New York.—Prices rule about steady. Large baled, No. 1 timothy, 22; standard \$20.50; light clover mixed, \$19@20; heavy mixed, \$16@18 per ton.

Straw.—Detroit.—Steady. Rye, \$8@9; wheat and oat straw, \$7@7.50 per ton.

Chicago.—Quotable higher as follows: Rye, \$8@9; oat, \$6.50@7; wheat, \$6.50@7.

New York.—Steady. New rye straw, \$19@20 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—The market is again on the up grade, values advancing at several

points, notably at Elgin. A fractional advance in the local market was looked for at this week's opening but up to Wednesday had not materialized. The market is very firm, however, at former figures. Quotations are: Extra creamery 30c; per lb; firsts, 29c; dairy, 23c; packing stock, 21c per lb.

Elgin.—Market firm at 30 1/2c per lb, an advance of 1 1/4c over last week.

Chicago.—Meager offerings of the better grades of creamery sent values up a full cent before last week's close. Receipts of strictly fresh, high-scoring stock are light and the market is generally firm. Quotations are: Extra creamery, 30 1/4c; extra firsts, 29 1/2@30c; firsts, 26 1/2@27c; seconds 24@24 1/2c; ladies 23 1/2@24c; packing stock 22c.

New York.—The upward trend at other points has served to steady this market which last week favored buyers. Last week's quotations rule as follows: Creamery extras 31 1/2@32c; firsts 28@30 1/2c; seconds 25 1/2@27 1/2c; state dairy, finest, 30@31c; good to prime 27@29c; common to fair 24@26c; packing 20 1/2@23 1/2c as to quality.

Eggs.—Egg values are advancing everywhere, the local market scoring a 2c advance before last week's close. Receipts of fresh stock light and market very firm. Current offerings, cases included, quoted at 29c per dozen.

Chicago.—Values here show a material gain over a week ago, averaging 2@2 1/2c. Outside quotations are only obtainable for strictly high-class stock but the quality of offerings is gradually improving as shown by the narrowing of quotations on miscellaneous receipts. Quotations are: Miscellaneous lots, cases included, 23 1/2@27 1/2c, according to quality; do. cases returned, 23@27c; ordinary firsts, 24@26c; firsts, 28@29c; refrigerator stock in fair demand at 24 1/2@24 3/4c for April firsts.

New York.—Highest qualities of fresh gathered eggs are very firm, western stock showing a 2@5c advance. Under grades rather irregular. Quotations are: Fresh gathered extras, 34@36c; extra firsts 32@33c; firsts 29@31c; western gathered whites 32@45c per dozen.

Poultry.—Chickens were 1c lower in local market when last week closed, but this week opened with stocks well cleaned up and the market is steady under moderate offerings. Quotations: Live.—Springs, 13 1/2@14c; hens, 13@13 1/2c; No. 2 hens, 10@12c; old roosters, 10@11c; turkeys, 17@18c; geese, 13@14c; ducks, 15@16c.

Chicago.—Supply ample, making discrimination against poorly finished stock possible. Turkeys have regained a part of last week's loss; chickens are 1/2c lower while the poorer grade of ducks are 1c lower. Guinea hens 50c higher. Quotations on live are: Turkeys, good weight, 18c; others 12c; fowls, general run, 12 1/2c; spring chickens, 13c; ducks, 11@14c; geese, 8@13c; guinea hens, \$4.50@6.50 per dozen.

Cheese.—Market rather quiet, values unchanged. Wholesale lots, Michigan flats 15@15 1/2c; New York flats, 17@17 1/2c; brick cream, 17@17 1/2c; limburger, 14 1/2@15c.

Veal.—Rather scarce in the local market. Demand moderate. Quotations are: Fancy 12 1/2@13c per lb; common 10@11c.

Chicago.—Little doing in this market, light receipts meeting an indifferent demand. Quoted as follows: Fancy, 15c per lb; good to choice, 90@100 lbs., 14@14 1/2c; fair to good, 60@90 lbs., 12@14c.

FRUITS AND VEGETABLES.

Apples.—Moving freely at last week's prices. Good grades rule from \$2.50@3.75 per bbl. At Chicago there is a firmer feeling and only moderate offerings. Barreled goods are not in active demand yet, due to the call for bulk goods by peddlers. Values rule from \$2.50@5.25 per bbl., No. 1 Jonathan's selling best.

Grapes.—In 8-lb. baskets sales are made at 30@32. At Chicago the market is firm with receipts small. General quotation, 31@33c for 8-lb. baskets.

Pears.—Kieifers, 75c@81c per bushel.

Potatoes.—As intimated last week values advanced 5c since then with the trade firm at the new position. The steady demand of anxious dealers keeps the outlook bright for sellers, especially since considerable acreage has been caught by recent cold, wet weather. Quotations: In bulk, 65@70c per bu; in sacks, 70@75c per bu. At Chicago trade ruled higher on Monday. Receipts about steady. The demand is good, with Michigan stock going at 70@75c.

Cabbage.—Steady at last week's figures. Good quality quoted at \$2@2.25 per bbl.

PRICES ON DETROIT EASTERN MARKET.

Selling was slow on Tuesday morning, due to the inclement weather which kept buyers away. Fortunately the offerings were also greatly restricted for the same reason so that prices did not suffer. The variety of goods was small, potatoes and apples constituting the bulk. Potatoes were selling steady at last week's values, 70@85c per bu. Apples were more plentiful with a larger proportion of hand-picked and price ranged from 60c@3.160 per bu. Onions, scarce at \$1.50 per bu; pop corn 85c; pears 90c@1; chickens, 90c for large; celery 30@40c, large bunches; loose hay \$15@18 per ton.

THE LIVE STOCK MARKETS.

October 28, 1913.

Buffalo.

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

Cattle.—Receipts, 1,000; market steady. Veals.—Receipts, 125; native, \$6@11.50; Canada, \$3.50@5.50. **Hogs.**—Receipts, 4,800; heavy, \$8.40@8.50; yorkers, \$8.25@8.40; pigs, \$8@8.25; roughs, \$7.65@7.75;

stags, \$6.50@7.50; dairies, \$8.25@8.40. Sheep.—Receipts, 4,400; market unchanged.

Chicago.

October 27, 1913.

Cattle. Hogs. Sheep. Received today 32,000 35,000 65,000 Same day last year... 24,507 39,336 46,970 Received last week... 52,487 131,892 172,754 Same week last year... 61,755 133,063 196,906

Receipts of cattle today were greatly excessive, and at a late hour little had been done, the prospects being that there would be a 10@25c lower market, as do from prime beefs, and even choice lots are likely to go off a dime. About 6,000 western range cattle were received. Hogs are in lively demand at advances of 10@15c, although the best lots fail to show that much improvement. Sales are at \$7.50@8.35. Hogs received last week averaged 210 lbs., comparing with 228 lbs. one year ago, 214 lbs. two years ago, 249 lbs. three years ago and 226 lbs. four years ago. The unusually big run of sheep and lambs causes buyers to hold off for better terms, and it looks like a 10@20c lower market.

Cattle were on the up-grade last week on account of moderate receipts, prices showing an average advance of 25c for desirable offerings. Not very much trading was done in steers lower than \$7.75, the poorer to fair class of light-weight grassy steers going at \$7@8, and there was a very good representation of the choicer to fancy class of little yearlings at \$9@9.70, the top showing a new high record for the year. Quite a number of the best grade of these cattle went at \$9.25 and upward, and in numerous instances the sales comprised steers and heifers mixed, the \$9.70 transaction consisting of 26 head that averaged 875 lbs. Heavy cattle that passed for good went for \$8.75 and up, the best bringing \$9.35, while medium lots sold at \$8.25 and over. Butcher lots of cows and heifers had an outlet at \$4.80@8.75, with scattering sales of fancy heifers up to \$9.35 or even higher, while cutters went at \$4.30@4.75, canners at \$3.25@4.25 and bulls at \$5@8.

Although stockers and feeders were offered at \$25@50c lower than a fortnight earlier, the volume of business was not large, the former selling at \$4.65@7.25 and the latter at \$6.25@7.75, with some selected steers averaging 605 lbs. at \$7.75. Stock and feeding cows and heifers sold fairly at \$4.85@8.75, with some 476-lb. heifers taken at \$7.40. Calves were taken at \$4.50@10.60 for rough, heavy ones to prime light vealers, and milch cows had a fair demand at \$5@110 each, demand centering in the choicer class. Prospects for the future cattle trade appear bright, and many farmers are trying to borrow money for feeding cattle.

Hogs have been bearish, with recent sales at the lowest prices recorded in seven months, packers being bent on making a low level of values for the winter packing season. For many weeks hogs have been shipped to the various western packing centers with much greater liberality than a year ago, but this is due in great part to the enormous numbers of pigs shipped from hog cholera districts, and this is bound to result in a corresponding scarcity of matured hogs at a later period and in much higher prices, in all likelihood. Meanwhile packers are in clover, taking advantage of this influx of pigs to smash prices for them, in some recent instances pigs having declined from 25@50c in a single day. On the same days hogs have either declined moderately or have even advanced. As there is an insatiable demand for fresh pork at steady prices, packers have made enormous profits. Hogs of medium and rather heavy weights are selling the highest, with choice light hogs selling at a marked discount. Lard and cured hog meats have shared in the large declines in prices for hogs, with recent reactions. The week closed with hogs selling at \$7.35@8.30, compared with \$7.65@8.55 a week earlier, stags going at \$8@8.40, boars at

\$1.50@3, throwout packing sows at \$6.50@7.20 and pigs at \$4.50@7.50.

Lambs and sheep have been marketed with fair liberality for a week past, but the range shipping season is drawing near a close, and from now on supplies may be expected to show marked decreases. Such flocks are showing a great deterioration in quality, as is usual at this season, the best sheep and lambs having been pretty well marketed, and lambs are running very largely to a very thin class of low-priced feeders. The feeder demand has continued good, but the spread in prices for feeder lambs has widened out enormously on account of the marked difference in weight. Sheep and yearlings of the better class closed a little higher than a week earlier on Saturday, while lambs were 25@50c higher, rangers advancing the least, their grading being poorer than heretofore. Lambs closed at \$5.40@7.65, yearlings at \$5@6, wethers at \$4.50@5.10, ewes at \$2.50@4.65 and bucks at \$3.25@4. Breeding ewes brought \$5.25 down to \$4, according to quality and age, and feeders bought lambs at \$5@6.75, yearlings at \$5@5.50, wethers at \$4@4.60 and ewes at \$3@3.75.

Horses of superior quality had a larger demand last week, and two cars of drafters containing horses that weighed from 1850 to 2150 lbs. were shipped to New York. The best big drafters sold at \$300@360 per head, a prime Percheron mare that weighed 1800 lbs. bringing \$335, and lighter drafters sold at \$235 and over, with little southern chunks weighing 900 to 1100 lbs. at \$125@160. Livery pairs were salable at \$250@350. Inferior horses were bad sellers at \$75@100.

LIVE STOCK NEWS.


The best hogs have sold recently in the Chicago market at the lowest prices recorded in seven months.

Montana is going into the winter with the smallest flocks of sheep in a quarter of a century, according to reliable advices from that country. This is the fifth year of liquidation in that state, some of the biggest outfits having disposed of their entire holdings.

Owing to the fact that the great bulk of the hogs coming to western packing points are running to light weights and mere pigs, the percentage of heavy hogs has become so unusually small that the production of lard is undergoing a marked decrease in volume. Lard prices have shared in recent weeks in the general decline in prices for all descriptions of cured hog products, and they may go still lower, if the downward course of prices is continued for hogs and products, but leading dealers believe that there will be a rally in lard values later on. It is usual for the packers to use concerted efforts during the months of October and November to place the hog market on a much lower basis for the winter packing season, and these movements have been in evidence this season. This has been easier than usual because the marketing of hogs in Chicago and other western packing places has been materially increased over a year ago, the wide-spread prevalence of hog cholera being the cause of a large part of the increased offerings.

JACKSON COUNTY FRUIT GROWERS' ASSOCIATION HOLDS SHOW.

The Third Annual Fruit Show of the Jackson County Fruit Growers' Association will be held at Reid & Carleton's store, Jackson, Nov. 6-7. Premium cards will be given on the first, second and third highest scoring plates of each variety. Every member who can should make an exhibit of ten apples of each variety he has grown. Each exhibit will be marked with the grower's name and variety and will be well taken care of and returned to the owner after the show. All exhibits must be left at Reid & Carleton's store by Wednesday, Nov. 5. A competent judge will score the fruit on Nov. 6. The show will be free to all.



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THE TRINIDAD-LAKE-ASPHALT

Ready Roofing

Armed with "Nature's everlasting waterproofer"

Genasco is ready to combat rain, snow, hail, wind, sun, heat, cold, and fire and to defend your roof with its resisting, lasting life, and keep it weather-tight.

Genasco smooth-surface roofing is supplied with patented Kant-leak Kleets, which make seams waterproof without cement, and prevent nail leaks.

Ask your dealer for Genasco. Guaranteed. Smooth or mineral surface. Write us for samples and the Good Roof Guide Book.

The Barber Asphalt Paving Company

Largest producers in the world of asphalt and ready roofing

Philadelphia
New York Chicago
San Francisco

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.
October 30, 1913.
Cattle.

Receipts, 1609. Market dull and 25c lower than last week on all grades but bulls, canners and feeders, which are steady.

We quote. Best steers and heifers, \$7.50 @7.75; steers and heifers, 1000 to 1200, \$7.25@7.50; do 800 to 1000, \$6.75@7; do that are fat, 500 to 700, \$5.50@6.50; choice fat cows, \$5.75@6; good do, \$5.25@5.50; common cows, \$4.25@5; canners, \$3@4; choice heavy bulls, \$6.25@6.50; fair to good bolognas, bulls, \$5.75@6; stock bulls \$4.25@5; choice feeding steers, 800 to 1000, \$6.75@7; fair do, 800 to 1000, \$6.25@6.75; choice stockers, 500 to 700, \$6.25@6.75; fair stockers, 500 to 700, \$6@6.25; stock heifers, \$4.50@5.50; milkers, large, young, medium age, \$7.50@8; common milkers, \$4@6.

Haley & M. sold Wagner 8 stockers av 675 at \$6.60; to Mich. B. Co. 9 butchers av 876 at \$6.50, 25 do av 977 at \$6.75, 14 steers av 954 at \$7, 6 do av 650 at \$6.10; to Hintz 7 stockers av 494 at \$5.50, 8 do av 600 at \$5.75; to Bresnahan 26 steers av 1128 at \$7.25, 3 butchers av 703 at \$6, 3 do av 823 at \$6.25; to Sullivan P. Co. 2 cows av 1065 at \$5.50, 2 do av 770 at \$4; to Curtiss 8 feeders av 847 at \$7; to Kamman B. Co. 18 cows av 1165 at \$5.95; to Breitenbeck Bros. 14 butchers av 924 at \$6.70; to Parker, W. & Co. 9 steers av 772 at \$7, 49 do av 947 at \$7; to Newton B. Co. 5 cows av 1242 at \$6, 1 do weighing 1000 at \$5.25, 8 do av 1071 at \$5.75, 4 do av 1025 at \$5, 1 do weighing 970 at \$4; to Applebaum 2 heifers av 785 at \$6.30, 4 cows av 1105 at \$4.75; to Rattkowsky 4 bulls av 832 at \$5.25; to Bresnahan 25 butchers av 1053 at \$6.90; to Mason B. Co. 6 cows av 1143 at \$6; to Hertler 15 stockers av 730 at \$6.50, 3 do av 613 at \$6, 12 feeders av 1010 at \$7.10; to Heinrich 14 steers av 974 at \$6.75; to Rattkowsky 6 cows av 1040 at \$5.50.

Spicer & R. sold Gerish Mkt. Co. 27 steers av 1096 at \$7.60; to Slider 16 stockers av 629 at \$6.50; to Newton B. Co. 1 steer weighing 790 at \$6; to Breitenbeck 1 bull weighing 1120 at \$6; to Truesdall 10 feeders av 730 at \$7; to Sullivan P. Co. 3 cows av 863 at \$4, 2 steers av 840 at \$6.70; to Mich. B. Co. 3 butchers av 917 at \$5.75; to Hammond, S. & Co. 1 bull weighing 1650 at \$6.50; to Stadler 4 stockers av 607 at \$6.50; to Sullivan P. Co. 2 heifers av 715 at \$6.75, 6 canners av 900 at \$4, 2 bulls av 1265 at \$6.25; to Rattkowsky 2 cows av 910 at \$5.50, 3 do av 870 at \$5.25; to Bresnahan 24 steers av 1019 at \$7.20, 22 do av 1130 at \$7.20; to Sullivan P. Co. 7 do av 1147 at \$7.10; to Bresnahan 10 butchers av 580 at \$5.75, 7 bulls av 640 at \$5.25; to Grant 17 butchers av 630 at \$5, 2 steers av 975 at \$6, 6 cows av 828 at \$4.90, 4 heifers av 870 at \$6.75; to Riley 5 feeders av 752 at \$6.35, 2 do av 830 at \$6.25; to Heck 9 do av 920 at \$6.75, 10 stockers av 635 at \$6.35.

Bishop, B. & H. sold Sullivan P. Co. 3 cows av 924 at \$4, 4 butchers av 932 at \$6.75, 2 bulls av 1415 at \$6.35, 2 cows av 855 at \$4, 1 steer weighing 830 at \$6.50, 3 cows av 857 at \$4, 2 do av 1065 at \$6, 4 do av 1057 at \$5.50, 3 do av 870 at \$4, 2 do av 1020 at \$4.50, 5 do av 1160 at \$5.50, 4 do av 967 at \$4.25, 2 do av 1025 at \$4.25, 3 do av 1010 at \$5.30, 5 do av 1032 at \$5, 1 bull weighing 1280 at \$6, 1 do weighing 700 at \$4.75, 1 do weighing 1420 at \$6; to Parker, W. & Co. 2 cows av 1070 at \$5.50, 11 steers av 960 at \$7, 24 do av 1012 at \$7.25, 19 do av 1124 at \$7.50, 1 do weighing 930 at \$7, 34 butchers av 640 at \$6, 2 steers av 1100 at \$7.25; to Applebaum 2 cows av 965 at \$4.75; to Kamman B. Co. 1 heifer weighing 1020 at \$7, 3 do av 813 at \$6.60; to Bresnahan Jr. 5 do av 763 at \$6; to Rattkowsky 5 cows av 870 at \$4.75, 2 do av 1095 at \$5.25, 6 cows and bulls av 995 at \$5.60; to Mich. B. Co. 18 butchers av 830 at \$6.25; to Goose 3 cows av 927 at \$4.60, 4 do av 840 at \$4.35; to Hintz 34 stockers av 581 at \$6.10; to Kamman B. Co. 3 cows av 923 at \$5.75; to Rattkowsky 5 cows av 1000 at \$5.25.

Roe Com. Co. sold Breitenbeck 2 cows av 950 at \$4.50; to Kamman B. Co. 11 butchers av 925 at \$6.60; to Sullivan P. Co. 1 cow weighing 910 at \$3.50; to Goose 9 do av 1031 at \$4.80, 8 heifers av 420 at \$6; to Stadler 9 stockers av 600 at \$6; to Rattkowsky 4 cows av 1062 at \$5.30; to Mich. B. Co. 1 steer weighing 800 at \$7, to Mich. B. Co. 2 cows av 950 at \$6, 2 cows av 800 at \$4.50, 11 do av 846 at \$4.80, 9 butchers av 998 at \$6.50, 9 do av 615 at \$5.90; to Grant 1 steer weighing 890 at \$6; to Mich. B. Co. 6 cows av 1008 at \$5; to Sullivan P. Co. 23 steers av 960 at \$6.75; to Kamman B. Co. 20 do av 823 at \$6.60; to Jones 26 feeders av 819 at \$6.35.

Veal Calves.

Receipts, 589. Market steady. Best, 10@11; others, \$7@9.50.

Bishop, B. & H. sold Parker, W. & Co. 4 av 155 at \$10.50, 3 av 170 at \$11, 3 av 140 at \$10.50, 19 av 150 at \$11; to Sullivan P. Co. 1 weighing 120 at \$10.50, 5 av 165 at \$10.25, 2 av 180 at \$9.75, 3 av 150 at \$11; to Nagle P. Co. 3 av 160 at \$11, 3 av 150 at \$10.50, 2 av 125 at \$10.75, 2 av 130 at \$10.50, 2 av 165 at \$11, 4 av 155 at \$10.50; to Parker, W. & Co. 27 av 140 at \$10.50; to Burnstine 1 weighing 280 at \$6.50, 2 av 110 at \$8, 13 av 150 at \$10.

Spicer & R. sold Parker, W. & Co. 5 av 145 at \$11, 7 av 140 at \$11, 16 av 150 at \$10.60, 7 av 140 at \$11; to Goose 9 av 140 at \$10.75.

Sheep and Lambs.

Receipts, 8402. Market, opening dull at Wednesday's prices; think will close trifle lower. Best lambs, \$6.75@7; fair to good lambs, \$6.50; light to common lambs, \$5.75@6.25; fair to good sheep, \$4@4.50; culls and common, \$2.75@3.

Spicer & R. sold Mich. B. Co. 31 lambs av 73 at \$6.75, 12 do av 77 at \$7, 49 do av 65 at \$6.75, 11 sheep av 105 at \$4.

Bishop, B. & H. sold Parker, W. & Co. 72 sheep av 85 at \$3.50; to Sullivan P. Co. 15 lambs av 48 at \$6.25, 16 do av 55 at \$6.50, 37 sheep av 110 at \$4.25, 14 lambs av 50 at \$6.25, 14 do av 55 at \$6.60, 5 sheep av 100 at \$4.25, 22 lambs av 55 at \$6.35; to Thompson Bros. 12 sheep av 90 at \$4, 11 lambs av 65 at \$6.75; to Nagle P. Co. 198 lambs av 80 at \$7, 56 do av 70 at \$6.90, 49 do av 70 at \$7, 185 do av 85 at \$6.75, 29 sheep av 115 at \$4.40, 75 lambs av 70 at \$7; to Hammond, S. & Co. 45 do av 68 at \$7, 44 sheep av 95 at \$4.50, 14 do av 105 at \$4.50, 5 do av 85 at \$3.25, 99 lambs av 75 at \$7, 34 do av 55 at \$5.35; to Nagle P. Co. 86 do av 70 at \$6.90, 175 do av 75 at \$7, 107 do av 85 at \$6.75, 80 do av 80 at \$7, 45 do av 77 at \$7, 14 do av 50 at \$6.20; to Sullivan P. Co. 65 sheep av 135 at \$4.35, 25 lambs av 50 at \$6.25; to Parker, W. & Co. 17 sheep av 90 at \$3.50; to Ratner 25 do av 95 at \$4; to Sullivan P. Co. 45 sheep av 120 at \$4.25, 22 sheep av 90 at \$3.25; to Hayes 27 lambs av 50 at \$6; to Sullivan P. Co. 60 do av 50 at \$6.25; to Nagle P. Co. 21 sheep av 90 at \$4.40, 20 do av 85 at \$2.75; to Youngs 52 lambs av 83 at \$6.75, 10 sheep av 122 at \$4; to Fitzpatrick Bros. 15 do av 85 at \$3.25.

Haley & M. sold Mich. B. Co. 68 sheep av 125 at \$4.25, 15 do av 105 at \$4.25, 17 lambs av 55 at \$6.25, 19 do av 60 at \$6.50, 6 sheep av 130 at \$4, 72 lambs av 58 at \$6.50; to Newton B. Co. 88 do av 75 at \$6.90; to Young 110 do av 88 at \$7, 36 do av 60 at \$6.25, 192 do av 80 at \$7; to Harland 25 do av 70 at \$6.75; to Newton B. Co. 88 do av 75 at \$6.90.

Hogs.

Receipts, 8588. None sold up to noon; prospects 5@10c higher than on Wednesday.

Range of prices: Light to good butchers, \$8.05@8.15; pigs, \$7.25@7.60; mixed, \$8.05@8.15; heavy, \$8.05@8.15.

Spicer & R. sold Hammond, S. & Co. 725 av 190 at \$8.10, 40 pigs av 125 at \$7.50. Haley & M. sold same 750 av 190 at \$8.10, 550 av 180 at \$8.15.

Roe Com. Co. sold Sullivan P. Co. 525 av 185 at \$8.15.

Bishop, B. & H. sold Parker, W. & Co. 3150 av 170 at \$8.10, 1015 av 210 at \$8.15, 1017 av 160 at \$8.05, 540 av 140 at \$8.

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We get the top price on consignments, make liberal advancements and prompt remittances.

Daniel McCaffrey's Sons Co.

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Reference, Washington Trust Company, or any bank in city.

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Potatoes, Apples. We pay highest market price for car loads. The E. L. Richmond Co., Detroit, Mich. Responsible representatives wanted.

2,000 FERRETS They hustle rats and rabbits. Small, medium and large. Prices and book mailed free. NEWELL A. KNAPP, Rochester, Ohio.

FARMERS—We are paying 5 cents above the Official Detroit Market for new-laid eggs shipped direct to us by express. Write us for information. It will pay you. American Butter & Cheese Co., 31-33 Griswold St., Detroit, Mich.

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CATTLE.

Aberdeen-Angus.

Herd, consisting of Trojan, Ericas, Blackbirds and Prides, only, is headed by Egerton W. the GRAND CHAMPION bull at the State, West Michigan and Bay City Fairs of 1912 and the sire of winners at these fairs and at THE INTERNATIONAL, Chicago, of 1912. WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRE CATTLE—Porchon Stallion and Mule Footed Hogs for sale. LEWIS ROBERTS & SONS, Waukegan, Wis.

GUERNSEYS—Reg. Tuberculin Tested. Windsor Farm, Watervliet, Mich. J. K. BLATCHEFORD, Auditorium Tower, Chicago, Ill.

Grade Guernseys—Heifers and Heifer Calves, also a few thorough bred. Good stock. Box 8, MICHIGAN FARMER, Detroit, Michigan.

Guernsey Bull ready for service. Large, thrifty top notcher. Write today for description and price. G. A. Wigant, Watervliet, Mich.

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

FOR SALE—Registered Holstein bull 18 mos. old. Also bull calves. Excellent breeding. TRACY F. CRANDALL, Howell, Michigan.

FOR SALE—Two grade Holstein bulls of service age; 1 Reg. Holstein bull. Born Sept. 12, 1912. 90% white. Sire, Sir Hengerveld Posch 61204, Dam Pontiac Purity 78897. Price right. Address, W. W. Case, cr. Henry Ford Farms, Dearborn, Mich.

A FEW CHOICE Holstein Friesian Bull Calves for Sale. A. R. O. Stock, GREGORY & BORDEN, Howell, Michigan.

For Sale—reasonable prices, choice registered HOLSTEIN STIRES, ready for service. HATCH HERD, Ypsilanti, Mich.

Holstein Bull—Count Bonheur Canary DeKol 3rd. No. 11944. 13 mo. old. 1/2 white. Price \$65. B. B. REAVEY, Akron, Michigan.

REGISTERED HOLSTEINS—Oh there was a wooden man he had a windy leg. But don't you tell any one I said so. Will you? Just keep that under your hat. Hobart W. Fay, Mason, Mich.

Easy on Man and Team
Low Down
Short Coupled

There is no argument as to the value of the Manure Spreader, neither as to the saving in time and labor nor in the increase in yield, resulting from proper spreading of fertilizer.

The most profitable investment you can make is—

The Flying Dutchman Spreader

A Steel Frame, Low Down, Close Coupled, Endless Apron Spreader, of the most modern construction, greatest convenience and lightest draft.

Easy to Load—The top of the Box being only 42 inches high, it is easy and quickly loaded, without that back-breaking lift.

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Wheels Under the Load—Just where they should be to secure the lightest draft—most convenience in turning and plenty of traction power on the rear wheels, without the use of lugs.

Clearance—The Endless Apron has 18 inches between its lowest point and the ground—6 inches more than most others.

Steel Frame, Steel Wheels, Steel Beater, Chain Drive

No other Spreader is so strong and well built. The Apron runs on three sets of steel rollers, safely carries 5,000 pounds without sagging.

Easy to Handle—One Lever operates the entire machine—a boy can handle it as well as a man, with no chance of breaking the machine. Being close coupled, it is convenient around the barnyard.

We also build the MOLINE SPREADER which is of the same general construction, except it has a Return Apron.

Ask your Flying Dutchman Dealer and Write Today for our Handsome Spreader Booklet and 1914 Flying Dutchman Almanac FREE.

MOLINE PLOW CO.

Dept. 26 MOLINE, ILL.

Bigelow's Holstein Farms
Breedsville, Mich.

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

Send for circular.

"Top-Notch" Holsteins.

Choice bull calves from 6 to 10 mo. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices.

McPHERSON FARMS CO., Howell, Michigan.

Bull Ready For Service.

A grand son of Pietertje Hengervelds Count DeKol, and out of Bertha Josephine Nudine. This is an almost faultless individual, guaranteed right in every particular, and "dirt" cheap to a quick buyer. Also 7 good cows, one fresh—the others yet to freshen. The above would make a fine herd for some one. \$1950 will buy the bunch.

L. E. CONNELL, Fayette, Ohio.

Buy A World Record Holstein Bull

NEXT TIME. We have 2 with 75% same blood of 3 world record cows. Great bargains at \$250 each. LONG BEACH FARMS, Augusta, (Kalamazoo Co.) Mich.

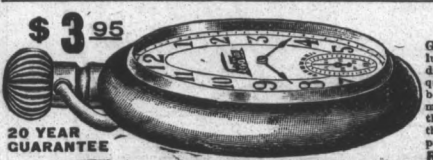
Buy Jerseys

Dollar for dollar invested, the Jersey will earn back the amount paid for her quicker than other breeds because her product brings a higher price per quart or per pound. For the home she is unsurpassed, and her low cost of keep makes her most desirable. Write now for Jersey facts. No charge.

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BUTTER BRED JERSEY BULLS
CRYSTAL SPRING STOCK FARM,
Silver Creek, Allegan County, Michigan.FOR SALE
20 months old Jersey Bull
MEADOWLAND FARM
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JERSEYS—Bulls calves bred for production. Also cows and heifers. Brookwater Farm. R. F. D. No. 7, Ann Arbor, Mich.



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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.

For Sale—Ten or twelve grade Jersey cows, young and to freshen in early winter. 3 1/2 miles East of Lapeer. E. E. OWEN, Lapeer, Michigan.

For Sale—Registered Jersey Cattle, tuberculin tested: bulls and bull calves; heifer and heifer calves; cows with Register of Merit and Cow Testing Association records. IRVIN FOX, Allegan, Mich.

DAIRY BRED SHORTHORNS—Bates bred bull 5-mo. old for sale. Price \$100. J. B. HUMMEL, Mason, Michigan.

9 Shorthorns—Bulls from 8 to 12 months old. Best of breeding. Write for pedigrees. W. W. KNAPP, Howell, Mich.

3 Choice Shorthorn Bulls For Sale. 7 to 9 mos. old. Bates bred. Registered. Call or write to J. E. TANSWELL, Maple Ridge Farm, Mason, Mich.

FOR SALE—6 Shorthorn Bulls, 7 to 12 mos., sired by grandson of Whitehall Sultan, also choice females. W. B. McQuillan, Howell or Chilson, Mich.

SHEEP.

Delaines and Merinos—Large size, long staple, heavy shearers. Stock for sale at greatly reduced prices. S. H. Sanders, Ashtabula O.

OXFORD RAMS AND EWES FOR SALE at farmers' prices. Address B. F. Miller or Geo. L. Spillane, Flint, Mich.

Three-Year-Old OXFORD and SHROPSHIRE Rams For sale cheap. Parkhurst Bros., Reed City, Mich.

For Sale OXFORDS, 30 Reg. Rams, Prices Right. J. A. DeGARMO, Muir, Michigan.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS, "the sheep man of the east." Shropshires, Rambouillets, Polled Delaines and Parsons Oxfords. R. L. Grand Lodge, Mich.

SHEEP FOR SALE IN CARLOAD LOTS. PARKHURST BROS., Reed City, Michigan.

Registered Merino Rams For Sale. OSCAR FROST & SON, Armada, Michigan.

Reg. Rambouillet Sheep, Pure Bred Poland China HOGS and PERCHERON HORSES. 2 1/2 miles E. Morrice, on G. T. R. R. and M. U. R. J. Q. A. COOK.

SHROPSHIRE A few choice rams priced right for immediate shipment. C. J. THOMPSON, Rockford, Michigan.

SHROPSHIRE RAMS. Registered. Sired by Imp. Minton ram. Quality for grade or registered flocks. Also some young ewes. Prices right. WILLIS S. MEADE, Lapeer, Michigan.

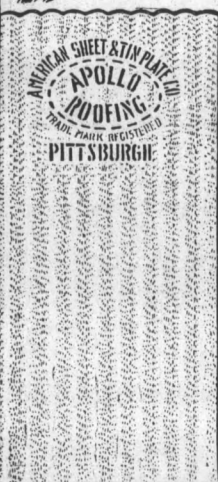
(Breeders' Directory continued on page 407.)

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Genuine eleven jeweled railroad watch worth \$15 to anyone who requires a absolutely reliable timekeeper and a watch that will last a lifetime. Locomotive on dial, stamped and guaranteed eleven jewels, bridget and spring, patent regulator, quick train. Fitted in heavy or medium weight solid case—silver dustproof screwcase, both case and works absolutely guaranteed for 20 years. To advertise our business, make new friends and introduce our great catalogue of Eleven watches we will send this elegant watch to any address by mail postpaid for ONLY \$3.95. Send this advertisement with \$3.95 and watch will be sent to you by return mail postpaid. Satisfaction guaranteed or money refunded. Send \$3.95 today. Address R. E. CHALMERS & CO., 538 So. Dearborn St., CHICAGO.



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Write to-day for booklet "BETTER BUILDINGS." A postal will bring it.

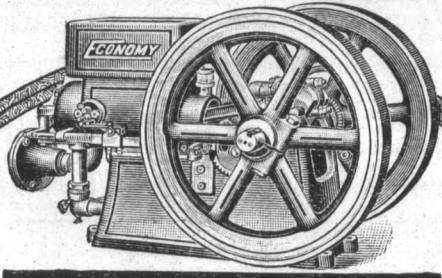
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When it's wet, cold and sloppy around the place remember that "Ball-Band" Rubber Footwear is made for just that kind of weather and just your kind of work. When snow comes put on "Ball-Band" Aretics—keep your feet warm and dry and protect your shoes; and when Old Winter bites down hard there's the snow and cold-excluding "Ball-Band" Coon Tail Knit Boot to slip on your feet.

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The Coon Tail Boot is knit—not felt, and it's shrunk to the last fraction of an inch. It defies wind and weather like a double sheathed wall. 45,000 dealers sell "Ball-Band." Look for the Red Ball in the store window and on the goods. Write for Free Illustrated Booklet.
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Learn how to do your work quicker, better, easier and cheaper. Our Gasoline Engine Book tells you how to do it, tells how high grade Economy Gasoline Engines are made, what they are made of, what they do, and helps you decide on the best size for your work. Write today. Please request Gasoline Engine Book No. 75M26 Address

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HOME MIXING OF FERTILIZERS.

BY FLOYD W. ROBISON.

Perhaps, generally speaking, the greatest advantage (besides the price) to be gained in the home mixing of fertilizers is in the knowledge which the farmer gains of the character of the raw materials used in compounding the fertilizers. It is the certainty of getting high-grade raw materials that makes high-grade fertilizers so much more valuable than low-grade fertilizers. In buying the raw materials the farmer goes but one step further and there is a decided advantage in this, even though there may be no added inducement in the price.

Home Mixing is a Schooling.

We by no means advise the home mixing of fertilizers on all occasions, but if it is done occasionally, the farmer becomes specially interested in trade prices and values, and soon begins to purchase and use fertilizers scientifically and intelligently. The agricultural press and the agricultural bulletins have devoted much space to educating the farmers on the subject of fertilizers. Home mixing of fertilizers is the short cut to the acquiring of much information regarding the character of fertilizers. We think that, aside from the elimination of filler, little can be gained, perhaps, financially in the home mixing of raw materials over the cost of the high-grade fertilizers. The raw materials may be purchased of the fertilizer manufacturers, but the cost will probably not be materially less than is the cost of high-grade fertilizers. After a few experiences in mixing, however, the farmer begins to ask from what materials the fertilizer is manufactured and this is the beginning of an intelligent understanding of the whole subject.

Practical Experiments Demonstrate the Feasibility of Home Mixing.

The Ohio station has conducted a series of experiments covering a period of years to ascertain the comparative effectiveness of a home mixed fertilizer and a factory mixed brand. In selecting raw materials such products were secured as would give in the home mixed product approximately the same amounts of the nitrogen, phosphoric acid and potash as were carried in the factory mixed goods.

Leaving out of consideration the price which we may perhaps assume would ultimately be as great in the raw materials as in the finished factory product, the Ohio station (Bul. 100) showed decided gains for corn in the home-mixed fertilizer.

This gain is quite pronounced in the case of wheat and the station attributes this to the fact that tankage in the home-mixed product was not acidulated, whereas in the factory mixed product it was acidulated. This brings up the question of how far it may be desirable to treat the raw materials in order to make them available.

Should Tankage be Acidulated?

Tankage is obtained from the refuse collected from the slaughter house. Refuse meat, tendons, bone and other portions of the animal carcass which have no other commercial value are thrown into a tank, the fat extracted and the residue dried and ground for fertilizer. It contains a considerable quantity of nitrogen and likewise a good deal of phosphoric acid.

Tankage is an organic fertilizer, valuable for grain crops and the nitrogen is quite readily available although it is not soluble like nitrate of soda and sulphate of ammonia. Tankage readily undergoes fermentation with the liberation of nitrogen in available form and this liberation is slow enough so it makes an ideal fertilizer for wheat and may be put on wheat land just before drilling in the wheat. Nitrate of soda or sulphate of ammonia cannot be used to advantage in this way because their ready solubility makes reasonably certain that they will be washed away before they can be utilized by the crop. If nitrate of soda and sulphate of ammonia are used on wheat, the application should be made in the spring after growth has well started so the crop may get the benefit.

Tankage is valuable because it is an easily decomposed organic manure and can be applied before drilling in the crop. If it were acidulated much of its nitrogen would be made practically as soluble as is nitrate of soda and sulphate of ammonia,

and hence if applied in the fall to wheat much of its value would be lost.

Tankage contains considerable phosphoric acid obtained chiefly from bone. This phosphoric acid being associated with an easily decomposed organic fertilizer need not be acidulated for the decomposition of the organic matter simultaneously makes available the phosphoric acid.

The Acidulating of Phosphate Rock.

Phosphate rock contains no organic matter, hence in the soil its phosphoric acid becomes available very slowly. If it were finely ground and mixed with some organic matter, then its phosphoric acid would begin to become available. Used as an absorbent in the stable and mixed with animal manure, a considerable amount is made available. Bone meal from green bones does not need to be acidulated and if in addition the bones are steamed, for most agricultural purposes the phosphoric acid is thus made sufficiently available. Ground rock, however, not being associated with any organic matter, must be treated in some manner to assist in its availability. This is accomplished by acidulating it with sulphuric acid.

Phosphoric acid should almost always be used in connection with an organic fertilizer. When completely available phosphoric acid is put upon the soil, it is almost immediately fixed or reverted to its insoluble condition. This is shown by the fact that it cannot be washed out of the soil. The chief way in which it is made available again is through the decomposition of organic matter and for this reason organic matter is essential. Farmers would do well to keep finely ground phosphate rock or acid phosphate constantly on hand to use as an absorbent, for in this way it becomes intimately mixed with the barnyard manure. To our minds, by means of the manure spreader is a much better way to put phosphoric acid on the land than by the drill. Bone meal may be drilled and when bone meal is an ingredient of the fertilizer it may be drilled. Here again, however, is shown the desirability of carefully inquiring into the raw materials which enter into the fertilizer for, available or not, phosphoric acid should be associated with organic matter to make its office most effective.

LABORATORY REPORT.

Feed Definitions.

The Association of Feed Control officials of the United States have formulated definitions for some of the more common feed stuffs that come as by-products in the manufacture of other articles. Some of these are:

Oat middlings are the floury portion of the oat groat obtained in the milling of rolled oats.

Rice bran is the cuticle beneath the hull.

Rice hulls are the outer chaffy coverings of the rice grain.

Rice polish is the finely powdered material obtained in polishing the kernel.

Screenings are the smaller imperfect grains, weed seeds and other foreign material having feed value, separated in cleaning the grain.

Shipstuff or wheat mixed feed is a mixture of the products other than the flour obtained from the milling of the wheat berry.

Shorts or standard middlings are the fine particles of the outer and inner bran separated from bran and white middlings.

Wheat bran is the coarse outer coatings of the wheat berry.

Wheat white middlings or white middlings are that part of the offal of wheat intermediate between shorts or standard middlings and red dog.

BOOK NOTICES.

Bailey. This is the eighth edition of a volume designed to meet the needs of the ordinary gardener by answering the questions that arise in daily operations in the garden. The book contains 250 pages, bound in cloth and sells at 50c net per volume. Published by the MacMillan Co., New York.

Hin und Her.—Ein Buch für die Kinder. By H. H. Flick, Supervisor of German, Cincinnati Public Schools. This simple German reader, prepared for classes of young pupils, contains a hundred selections, comprising short stories, anecdotes, verses, etc. Cloth, 12mo, 90 pages, with illustrations. Price, 30c; American Book Co., Chicago.

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 someone else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Barren Cow.—I have a four-year-old Jersey cow that came fresh August, 1911; since then I have failed to get her with calf. She was bred a short time after calf was born, then she went seven months before coming in heat, then three months and has not come in heat for seven months. I am quite sure that she does not abort and she was not sick when she came fresh. She gives the same amount of milk as she did when fresh. R. R. S., Elsie, Mich.—Give your cow 1 dr. ground nux vomica at a dose in feed three times a day and she will perhaps come in heat. If she has no vaginal discharge it will be unnecessary to inject her.

Spinal Paralysis.—I have a pig that weighs 150 lbs. that is sick; at first when feeding it would drop on its fore knees, work backwards until it fell on its side, then appear to choke, and now it lays on its side and keeps moving fore feet most of the time, but I do not believe it suffers pain. J. L. Brethren, Mich.—Give your hog 10 drops fluid extract of nux vomica and 10 grs. potassium iodide at a dose in feed or in a little water as a drench three times a day. Apply mustard and water to back every day or two. Instead of feeding much corn, feed more oats, oil meal, tankage, etc. Are you sure that your hog does not choke while eating?

Conjunctivitis.—I have a cat that is bothered with sore eyes which must be painful and it discharges a watery mucus almost constantly. The cat seems to be healthy except his eyes. Mrs. F. A., Grand Rapids, Mich.—Dissolve 1 dr. boracic acid and 1 dr. borate of soda in 8 ozs. of clean boiled water and apply to eyes three times a day. Drop a little calomel into eyes three times a week.

Curb.—I obtain valuable information from reading your veterinary column and would like you to tell me how to treat curb of about a month's standing. J. A., Saginaw, Mich.—Curb is sprain of a short ligament situated at back part of hock and whenever the animal is much lame he should be given rest and if used at all, never pulled hard and driven faster than a walk. Clip off hair and apply one part red iodine mercury and eight parts cerate of cantharides every week or ten days. In order to soften scabs which form after blistering, use vaseline instead of lard or rancid fatty matter. These blisters should be repeated until the lameness leaves, then apply one part iodine and ten parts lard every two or three days to reduce bunch. An enlargement of this kind is difficult to reduce.

Stocking-Inflamed Foot.—I have a four-year-old mare that stocks when standing in stable over night, but she does not appear to be sick. I also have a six-year-old mare that went lame last spring and the only symptom she shows is inflammation of foot. This lame foot is always considerably warmer than opposite one and she is more lame some days than others. F. J., Goodells, Mich.—Perhaps you are feeding your young mare too much grain and not enough salted mash, besides her fodder may have a constipating effect. Remember, it is a great change from pasture to a stable and dry feed without exercise. The foot should be soaked in warm salt water, then apply a light blister to coronet. Apply one part red iodine mercury and ten parts cerate of cantharides—apply blister all the way around coronet on top of hoof and one and one-half inches high. This treatment should be kept up for some time. This may be a case of navicular arthritis and if so apply iodine ointment directly over navicular joint.

Feeding Colt Skim-milk.—I have a colt five and one-half months old which I bought one month ago when it was weaned; since I bought her have been feeding skim-milk and water, equal parts; but lately have given clear skim-milk and she seems to be thriving. I am told that this kind of food would give her stomach trouble; if so what shall I feed her? W. H. A., South Haven, Mich.—Continue feeding the milk, but put one-half teaspoonful of cooking soda in it and about the same quantity of salt; besides, you should give the colt a pint of ground oats twice a day with plenty of well-cured mixed hay; corn fodder and grass. Evidently the food you are feeding is properly nourishing your filly, or she would show some bad effects from it.

Abscess on Hock—Indigestion.—I have a six-year-old mare that has raised three colts, last one is not yet weaned. One year ago while working her on soft ground she injured hock, an abscess formed that was treated by our local Vet. Since then this leg stocks, but the mare refuses to lay on flesh although well fed. Her teeth appear to be in good condition, but she passes a few worms. G. L., Deckerville, Mich.—Mix equal parts by weight powdered sulphate iron, ground gentian, ginger and fenugreek and give her a tablespoonful at a dose in feed three times a day. Salt her well, and increase her feed supply. Her leg will always stock unless she has regular exercise.

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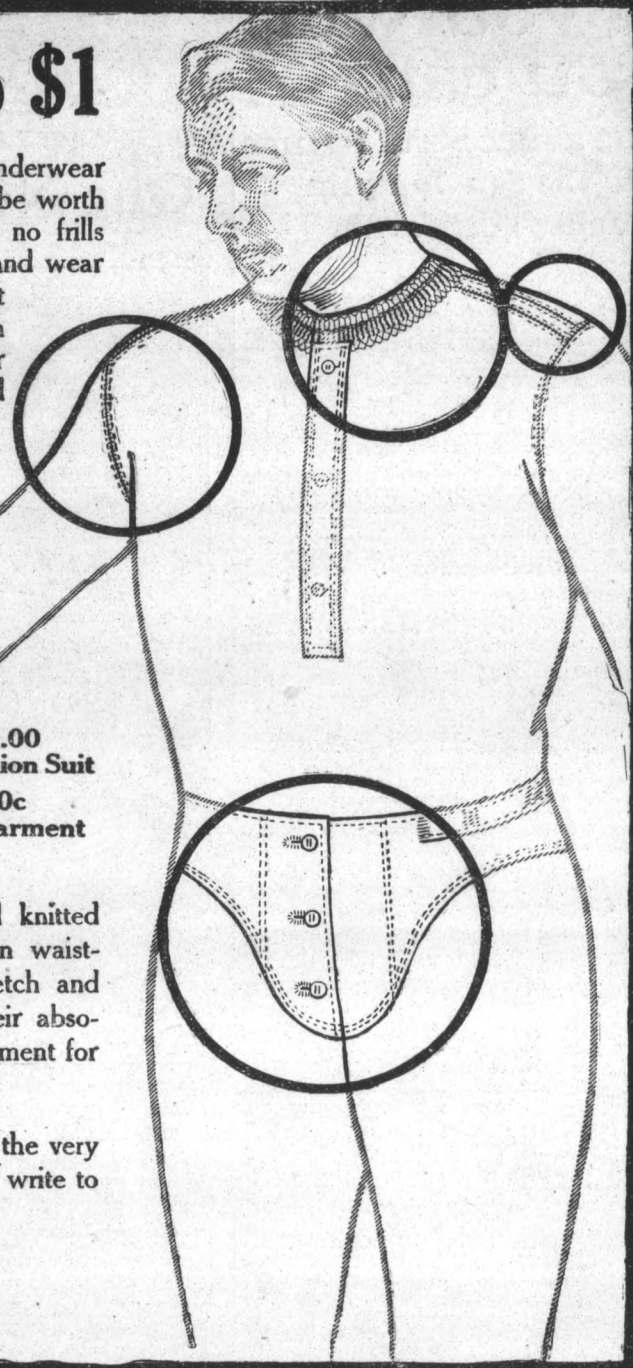
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Horticulture.

Our New Horticultural Editor.



Mr. Wilken's Favorite Photo.

SUPERINTENDENT FRANK A. WILKEN, of the South Haven Experiment Station, becomes editor of the Horticultural Department of the Michigan Farmer and can be addressed at the offices of this publication after November 3.

We do not know where we could find a man better able to direct this important department. Mr. Wilken has had charge of Michigan's Fruit Experiment Station for the past eight years, and in this capacity and through his work as institute lecturer, he has thoroughly acquainted himself with horticultural conditions from Keewenaw to Monroe, and from Oceana to St. Clair counties. Previous to this experience he was fruit inspector in the state of Illinois under direction of the federal government and before that a student at Michigan Agricultural College.

That Mr. Wilken has a broad comprehension of the field of horticultural effort and that he well understands the proper place of the farm journal in the general plan for advancing that work by furnishing information to the thousands of farmers, gardeners and fruit growers, is shown in the following article.

So we feel that the readers of the Michigan Farmer are to be congratulated upon the opportunity and good fortune of having weekly letters from his pen and advice selected or written by so able a man as Mr. Wilken.

The Farm Paper and The Fruit Grower.

By FRANK A. WILKEN.

FRUIT-GROWING is one branch of man's fundamental and most essential occupation, agriculture. It is no more or no less important than dairying, grain farming, stock raising, when we consider the world as a whole. To the individual farmer these various branches of agriculture are more or less important according to the amount of time and attention he gives to them. The fruit grower is a farmer who gives most of his time to fruit-growing and gets most of his income from it.

This has been called an age of specialists. The doctor, butcher, lawyer, street peddler, and banker are specialists. They do one part of the world's work almost entirely to the exclusion of everything else. The man who for years stands at the bench and rubs wood with oil to bring a polish on it, or the man who has spent years in drilling holes in iron castings are specialists of the extreme type.

Farming does not permit of this type of specializing. We rarely see one who is engaged in dairying to the absolute exclusion of all other lines of farming, or who grows fruit and nothing else. The fruit grower has cows and the dairyman has at least a strawberry bed and a few apple trees. For this reason the special farm papers are few and many have been a failure while the general farm paper is common on the farmer's reading table.

A man does himself and his occupation an injustice if he is not continually on the outlook for the best and latest device and information regarding his work. In highly specialized businesses man is constantly in touch with new developments but in the case of farming with its varied interests and its numerous sources for the development of new and valuable things it is hardly possible for even the man who gives most of his time to one branch of farming to keep up to the minute on developments new in his branch. Experiment station bulletins, farmers' extension courses, and farmers' institutes are most valuable sources of knowledge, but too often the fruit grower or the dairyman can not attend the meetings of special

interest to them and bulletins may be out for some time before knowledge of their appearance is received. Can the fruit-grower who has several cows, or the dairyman who raises some fruit expect to keep up to date on their side lines when it is hardly possible to do so on their main lines if it were not for the farm paper?

The general farm paper is the most common and the most cosmopolitan source of knowledge for the farmer. The editors of its various departments have at their hand the findings of experts and the experiences of the farmer himself. Both are placed side by side for your reading and consideration. According to your conditions and experience one may be more important to you than the other; it is hard to tell which.

The farm paper seeks more the experiences of farmers. If your experience has taught you something that has been of value to you and would be of value to others, give it to the world. Secret knowledge is a hindrance to the world's progress; besides, it is selfish to keep a good thing to yourself. The farm paper is your forum; it is where you can teach as well as learn, discuss and be discussed.

Van Buren Co. FRANK A. WILKEN.

IMPROVING THE OLD ORCHARD.

There are many orchards throughout the state which have become unprofitable through misuse or neglect, or by the ravages of some insect or fungous disease. Orchards which have been severely damaged by fungous disorders will seldom pay for a rejuvenation and it will be found best to use the axe on them, but often times, as with the black knot of cherries and plums, where the disease has not too great a hold on the trees, it will be possible and profitable to eradicate the pest. In other orchards, the San Jose scale has been allowed to go on with his work of sucking the nutritive juices from the bark of the tree until the trees are nearly dead for lack of food. If they are not dead, quick and decisive action will

put an end to the ravages of the louse and turn failure and death of the trees to good crops of fruit.

Top-work to Rejuvenate Trees.

In the case of old trees which have a healthy trunk, they may be brought to productiveness again by top-working. It is a common and everyday occurrence to see orchards where the scales of bark on the trunks of the trees show that the trees are very old but healthy. It has been found that when young stock is grafted into these old limbs it seems to revive the tree again and it may produce several good crops of fruit. In other orchards may be found healthy trees but the fruit which they produce is of some unprofitable variety and for which there is no market. Such is the case where some enthusiastic horticulturist has planted, years ago, a large number of trees of some early and poor keeping varieties. It is a settled fact that the early varieties are not profitable on a large scale unless the grower has a very good market at hand, and even then the market is often glutted with fruit at ripening time. The reason for this is that many of these early varieties were planted in the past so there is a great deal of this sort of fruit to be sold. Added to this is the fact that this early fruit will not keep for any length of time and hence it must be disposed of at once. In the past, the late varieties of apples have proven the most profitable because they will keep longer and hence may be marketed through a much greater length of time, thus avoiding the possibilities or probabilities of glutting the market. If the general farmer or horticulturist has such early fruit which he wishes to change to some late bearing variety or some unmarketable variety which he wishes to change to some more marketable variety, top-working of the trees furnishes the easiest and quickest way to get the result desired.

In other cases, in the early days of the orchard the trees have been improperly pruned, the tops have grown high and the cost of production of the fruit is so great that the grower decides that he had better lower the tops if he is to compete with the neighbor who has the low-topped trees and hence is able to produce his fruit at a lower price. There is no picker who can work so carefully when up on a high ladder as when standing on the ground or on a low step ladder. To this is also added the disadvantage of having to handle a long and cumbersome ladder. Top-working is one of the methods employed to lower the tops of excessively high-topped orchard trees.

The same method may be employed to correct one-sided tops or branches that have been injured by cattle, wind, lightning, or other mechanical means.

In many of the best orchards that are perfect in every other respect, an examination will show some limbs to be broken off, or that portions of some of the tops are not well filled. It does not require any thought to show any wide-awake farmer or fruit raiser that if the top of a fruit tree is not well filled out that tree will not be able to produce the maximum amount of fruit, provided the root system is well developed and the soil is fertile. If the soil were fertile and the root system not well enough developed to support the extra growth, the insertion of the cion would act as a stimulus, causing the tree to put out more roots to nourish the added branches. So if your trees have poorly filled tops or places which are vacant, due to the breaking off or tearing away of a branch, you would, no doubt, find it profitable to top-work them.

Ease of Top-working.

Many of us farmers are scared when we read an article, for the operation indicated seems to be very difficult but often proves an easy one when we come to the actual practice. This applies to the practice of top-working.

Cions for Grafting.

A cion in the sense in which it is usually used consists of a portion of the tip of a branch which grew the past year. With a branch in hand it will be an easy matter to tell which part grew the last growing season, as a small ring on the branch marks where the growth began last spring. The buds on the cion should be leaf buds and not flower buds; the flower buds might make a growth but it would not be the kind of a growth which would be desired. The cions are selected from bearing trees of the desired variety and in this connection, it might be advisable to say that, if the grower has noticed some branch on a tree of the variety which he desires to graft, that has borne more fruit than other parts of the tree, it would be a step towards increased production to select the cions from this branch. It is preferable to cut them in

the late fall or early winter but they will grow if cut any time before the buds swell in the spring. If the cions are taken in the fall, they should be tied in bundles, properly labeled and packed in sawdust or sand and may be stored in some convenient place which is cool enough to prevent them from starting into growth before grafting time. Many growers bury the cions just beneath the tree which they desire to graft into, but many times this has proven disastrous, for the cions have been injured by mice or have rotted, due to improper drainage of the spot where they were stored. If the cions are taken in the spring, the same precautions should be observed. They should be of last year's growth, cut into pieces from eight to 12 inches long and stored in a cool place so that growth will not start before they are grafted. The end or terminal bud should be cut off when the cions are taken or at the time of grafting. The cases where it should be allowed to remain are very few because, if this terminal bud is left on the cion, the most of the nourishment of the sap will be thrown into this bud and the resulting branch will be one of those vertical ones on which the fruit will be hard and difficult to pick. It will be found better to cut off the terminal bud and then all the growth will be thrown into the side or lateral buds, and this will produce a low branch and one that has a great bearing area.

Ingham Co. I. J. MATHEWS.

WINTER PROTECTION OF PLANTS.

Natural agencies limit the variety of plants we grow. They prevent the introduction of some plants whose habits of life are so abnormal to our conditions that the question of their adaptability is never raised. These natural agents also defeat attempts to grow other plants with characteristics that suggest the possibility of establishment in this latitude. But coming nearer to our own soil and climatic conditions we find many more plants that can be successfully grown if they be given aid during the more trying period of the year. And the number of biennials and perennials that come within this last class is so large that the subject of their winter protection practically becomes of universal interest due to the fact that almost every farmer, gardener and fruit grower have such plants to look after.

Mulching.

One of the commonest means of helping plants to withstand extreme conditions is mulching. Now it happens that damage results more from sudden changes than it does from extreme temperatures, hence any practice that will retard these changes will serve a useful purpose. And mulching does that. Of course, the mulching material holds back the natural radiation of heat from the earth and thereby aids in maintaining a slightly higher temperature at the surface, but probably its greatest benefit comes from the mechanical retardation of changes in temperature and possibly in moisture.

A number of materials are used for mulching. The supply usually determines the kind that will be employed. Leaves, straw, marsh grass, strawy manure, cornstalks, chaff, etc., are all good. Annual crops like oats or barley sown among the plants in August are frequently made to serve this purpose and sometimes a growth of weeds are so used. One condition is to be avoided and that is a compact mulch. Stable manure with too little straw will form such a covering and should not be added for the plants are apt to smother under it.

The time for applying the mulch is usually just after the soil is frozen, although for the tenderer plants it should be done before this. With strawberries much good may be done by one's adding the mulch in the winter season as the greatest damage usually follows the sudden weather changes of late winter and spring. But variable weather may occur in the early winter and to insure against loss from this danger mulching in November or early December is the best practice for the grower of this fruit.

Frequently one has tender plants about the house that need protection. A barrel with both heads removed is sometimes turned over such a plant and a few leaves or a little loose litter deposited over the plants. A box with two opposite sides removed may be employed in the same manner. The barrel or box may be anchored with stakes driven on two sides. Evergreen boughs or a piece of burlap over the top of either will add to the protection afforded.

A common practice among gardeners is to wrap tender woody plants with straw,

hay, matting, burlap, or cornstalks. The material used is tied about the trunk or stem with twine. In this connection it should be understood that plants may be damaged by being wrapped too thickly with these materials. Another danger to be avoided is the work of mice. Do not use anything about the trees that will attract these pests. They relish tender herbage and bark when other food is scarce and will often do extensive damage to young trees.

Bending Down.

Berry bushes may be bent over and laid on the ground during the winter months. Thus handled the canes will hold the snow, preventing to a large degree, injury from abrupt variations of temperature, and also their position will modify the drying effect of winds, the damage from which cause frequently amounts to considerable in exposed locations.

Mounding.

We should draw attention to the practice of mounding about young orchard trees. This work consists in piling earth in a conical shape about the trunk of the trees to a height of from six to 14 inches in the fall. The benefits to be derived are: Water is not able to stand at the base of the trees and freeze; the earth gives added support to the plant; there is less danger from the drying of the bark and growing tissue, and mice are less bothersome with the mounds, as it is mechanically more difficult for them to gnaw the bark where the soil inclines away from the tree. Before leaving this subject a caution should be given not to leave holes near the base of the trees from which dirt is secured for mounds. Take the dirt from six feet or more of the trees' trunks. The mounds should be leveled in the spring.

Shading.

Our last suggestion is the shading of tree trunks to prevent sun scald. The present method of making the tops of trees low, and of more careful pruning has largely obviated the necessity of protection against this danger but where trees are tall and the trunks and large limbs are exposed to the direct rays of the sun it is wise to use some means of shading these exposed surfaces. Cornstalks are commonly used but perhaps as good, or better, means is to set stakes so they will shade the parts from 12 to three o'clock each day.

If these precautions are taken there should be less of disappointment from the fruit plantations.

Wayne Co.

A. H.

GOVERNMENT ENDS QUOTATION COMMITTEE.

The federal government through Attorney General McReynolds, has abolished the "quotation committee" of the Cincinnati Chamber of Commerce Produce Exchange. The government held that the system used by this exchange was unlawful, subject to abuse and that quotations frequently did not represent the actual basis of transactions.

The Cincinnati dealers were practically the last to establish market quotations through committees. Other exchanges have been prosecuted and discontinued through the law. Among these being the exchanges at Chicago, Kansas City and Minneapolis.

The government position with regard to publishing quotations is that no quotations can be offered unless it represents the prices obtained in an actual transaction. Thus the regulations of the government will demand of exchanges that only sales prices be allowed to be reported. Most exchanges are now merely representing actual sales as they occur at the exchange rooms.

The effect of the ruling has generally been favorable to an increased business through the exchange. For example, since the ruling in the Cincinnati case the number of transactions recorded have been increased materially, while the number of members present at the daily meetings have almost trebled.

HORTICULTURAL SOCIETY MEETS JOINTLY WITH FARMERS' CLUB.

There will be a joint meeting of the Milford Farmers' Club and the Oakland County Horticultural Society at the G. A. R. Hall, Milford, on Saturday, Nov. 8, commencing at 10:30 a. m., standard time. The speakers will include Mr. A. M. Bullock, of Lapeer, who will give an address on "Supplying Orchard Fertility," and Mr. W. D. Flint, who will lead in the discussion of the "Efficiency of the Motor Truck." Mr. P. L. Johnson, president of the Farmers' Club is in charge of local arrangements, and is preparing an excellent program. Everyone is most cordially invited to attend.—S. E. Sly, Sec.



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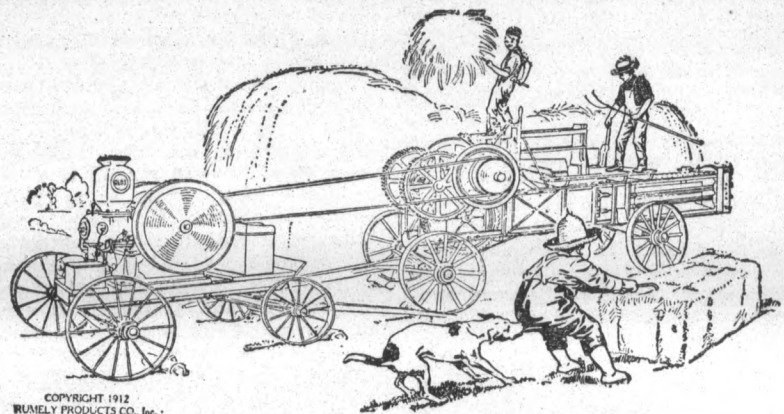
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Poultry and Bees.

SMALL HOUSES. FOR WINTERING LATE PULLETS.

Having given my experience with the open-front poultry house last week, I desire to describe the construction and use of a number of small colony houses, some of which have been built very recently. These colony houses are made of piano boxes, each house requiring two boxes. The backs are first removed, then the two-foot space in the floor is filled in, a window is put in one end and a door in the other. Roosts are arranged with a board beneath, so the manure can not get onto the floor. Doors and windows are fitted with close-mesh netting inside so that the houses can be thoroughly ventilated and will be suitable for young chicks when not being used for other poultry. There is a small ventilator under the roof. Patent roofing material was



Colony Houses, Rightly Constructed, can be Adapted to a Variety of Uses.

used on all the houses. The same material is also being used to cover the floors this winter. When taken off next spring the floors will need very little cleaning before the little chicks are put in.

We are using tarred paper on the outside of these houses. They are to be occupied this winter by the late-hatched pullets. These will probably have to be kept in the houses for a few days until they learn where to go to roost. However, these houses will not be overcrowded, each one being intended to hold about 20 pullets.

The cost of these houses is less than \$5.00 each. Piano boxes cost \$1.50 each, here. Tarred paper is cheap and we are using it to cover the entire outside of a large poultry house which was built of green lumber, some time ago, and was at that time not intended for a poultry house. It has a good roof and floor and will be very comfortable when finished.

Ohio. ANNA W. GALLIGHER.

THE BREEDS OF TURKEYS.

There are seven recognized breeds of turkeys, but the Bronze, the Bourbon Red and the White Holland are the most popular. The Narragansett also prevails in some sections. Where there is plenty of range and the largest birds are wanted, the Bronze is the most profitable breed for the farmer. They are such great wanderers, however, that many people prefer the other breeds because of their more domestic habits.

Though somewhat smaller than the Bronze, the White Holland and Narragansett mature early and fatten easily. The White Holland originated, of course, as a sport from the black turkey. They suffer a little from the prejudice which some people have against white fowls or animals, a superstition that such are more delicate than the colored. This is not the case, however, with respect to white turkeys, at least; they are as hardy, apparently, as any of the other breeds. The hens are good layers and sitters, and the young stock fattens easily. The standard weights for white turkeys are: Males, 16 to 26 lbs; females, 10 to 16 lbs., but the larger weights are

not often approached. The Narragansett is slightly larger, though not so large as the Bronze. The males weigh from 20 to 25 lbs; females, 14 to 18 lbs. The Bourbon Red, which was originated in Kentucky, is growing in popularity, for various reasons. They are gentle, non-rovers, contented wherever put, and can be depended upon to come home at night of their own accord. The Reds are handsome birds with chestnut red bodies, white wings and some white tail feathers. They are about the size of the White Holland.

W. F. PURDUE.

WINTER USE OF COLONY HOUSES.

The colony house has become popular as an economical and satisfactory shelter for chicks in large numbers during the growing season. As employed by most poultrymen who have adopted it, it accommodates the young flock until the time arrives for the separation of cockerels and pullets, after which it serves the pullets up to the time when it seems desirable to transfer them to the winter laying quarters. Then, in most instances, it is abandoned until again needed the following spring or summer.

Where there is ample room for the winter flock in the permanent buildings it may be impracticable to consider utilizing the colony houses in winter, but upon many farms the fact should not be overlooked that such structures can easily be made useful throughout a portion or the whole of the cold season. For instance, colony houses that have been fairly well constructed, when placed in a somewhat sheltered location and banked up with coarse straw or manure, may be made to comfortably accommodate selected flocks of breeding fowls. Or they may be used as shelters for the breeding flocks of ducks or geese, or as feeding pens in which to prepare for market small flocks of these water fowl or the drones and old hens which may from time to time be culled from the laying flocks. Then, again, every owner of a good-sized laying flock should, at the beginning of winter, fit up a place to which ailing fowls may be promptly removed in case of an outbreak of disease. A good colony house could be made to serve this purpose, although provision for supplying artificial heat should be made, as sick fowls must have a warm, dry place. In case a colony house, or any other poultry structure or apartment thereof, is converted into a fowl hospital it must be thoroughly cleaned and disinfected before again being used for its original purpose.

Thus it is seen that the colony house need not be considered a one-season affair but that, through the exercise of a little thought and judgment, it can be made useful at any time of the year and it is certain that the possession of a few of these movable structures, built with a view to making them generally useful, greatly increases the elasticity and adaptability of the poultry quarters.



A Dependable Source of Pride and Profit on the Farm.

The photograph reproduced above depicts an interesting back-yard scene at the home of Mrs. Michael Heemer, of Sanilac County, Mich. Mrs. Heemer takes great pride in her flocks of poultry and realizes a goodly profit from them. In addition to the pure-bred White Wyandottes shown, she raises Pekin ducks and Toulouse geese. The cash returns from these flocks come mainly through the sale of eggs, fowls and feathers in the general markets, but a neat additional sum is derived from the sale of breeding pens at the fairs, as all of her fowls are bred from "blue ribbon" stock.

MARKETING HONEY—SELLING TO LOCAL GROCERS.

The object of this article is to encourage those who have a crop of honey to dispose of to sell it at the groceries in neighboring towns, thus getting better prices and keeping the small shipments from going to city commission men. Now, my reader, you may answer that you are not a salesman; that it takes time and ability to push off your crop a few cases at a time; that you would prefer to take less for it and see it all go at once than to get more in smaller sales. Of course you would if the difference were not too great for you to afford it. Suppose it does take time to sell a crop; if it pays you well for your time, can you not afford to take it?

You probably know all that is to be known about your own home market. You often go to town, and know as well as any man in the community about how much honey your grocers handle, and what the possibilities are for business. As an almost invariable rule you will never make a large sale in the town in which you are best acquainted. Your merchant will say, "I might take one case of you. You are in town often, and I can get more of you almost any time." Therefore I urge you to make a longer drive, getting out of your own immediate community where you will have a better chance of selling several cases to one customer.

Establish your prices for your different grades and stick to them, treating all alike. It is all right to miss a sale occasionally on this account, as it will save you much time and be such a help in making sales to these parties in the future. You can soon tell whether your man is well stocked and whether or not he is supplied regularly, as his trade demands, by some home bee-keeper who is his regular customer and who may be putting an article on the market that compares favorably with yours. If there is no chance at all for a sale, tell him in a pleasant way that you will see him again sometime when he is nearer ready to buy. Make it short, leaving him with the impression that you are out for business and are too much of a hustler to waste valuable time.

At another grocery you see at once that the proprietor is interested in what you have. He has but little honey, or none at all; and when you see there is probably a chance to sell him some you say: "I have just come to town, and have talked to but one man. I am very sure you could do well with the honey I have if I could sell it to you. I am right here with the honey; you can see exactly what you are buying, and if any case I sell you is not as represented I will take it off your hands without any hard feelings on the part of anyone. I sell to everyone alike; and while it is natural for every buyer to want to do a little better, and have a small advantage over his competitor, at the same time I know by experience that it is more satisfactory all around to treat all alike. You can make enough on my honey at the prices I offer and the rebate on the cases, when empty, if you will let me have them back in good condition."

New Jersey.

F. G. HERMAN.



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Grange.

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

THE NOVEMBER PROGRAMS.

State Lecturer's Suggestions for First Meeting.

Song.
Washing day helps, by three women.
Recitation.
Down to date "Question Box" on farm practices. (Members number about the hall and even ask questions for odd numbers to answer).
Recitation, "Brown's Example."
How can we better social conditions for country boys and girls? by a man and woman.
Humorous song.
Harvest march, by young people.
Fruit exhibit, in charge of committee who serve it for refreshments at close of program.
Closing song.

IMPROVING SOCIAL CONDITIONS FOR RURAL YOUNG PEOPLE.

This caption is embraced in one of the topics which the Granges of Michigan are requested to consider this month—in fact it is the most important among those named for the first meeting in November. Its vital import to every Grange and, indeed, to every rural community, need not be argued here. The Grange has always made much of its social side, and it is possible to cite instances in which the educational and financial benefits which should be derived by members have been nearly or completely overshadowed by the more popular social activities. On the other hand, the educational or the financial side, more especially the latter, has frequently been developed at the expense of the social. Some such condition as this exists in far too many Granges and is due not so much to the over-development of the one branch as to neglect of the others.

The widely heralded purposes of this organization, at its inception, were the betterment of social conditions in what were then isolated communities, the encouragement of education and the promotion of the material prosperity of its members. Time has demonstrated that the carrying out of all of these purposes is essential to the highest success of a Grange, and the subordinates which have had a happy and uninterrupted existence have been those in which no one of these three branches of work has been neglected.

It is true that the problems confronting the Grange of today are more numerous and more perplexing than those of a half century ago. The times are constantly changing. The future of the Grange rests upon its young people and they are as eager for better social advantages as were the young people of that generation which brought this organization into being. Naturally the social phase proves more attractive to them than the educational, while it is somewhat difficult to interest them in the material advantages which the Grange offers. And yet these three lines of activity are so closely interwoven that wise Grange leaders will not make the distinction too sharp, a fact which should be firmly held in mind during the consideration of this month's topic, since through the encouragement and promotion of a wider range of social events the Grange may inaugurate movements inuring to the educational and material benefit of itself and the entire community. Better social conditions naturally follow in the wake of increased educational opportunities and a steady, healthful material growth. In short, making the community a better place in which to live invariably improves its social atmosphere, and to this end the Grange must devote a share of its energies to those lines of endeavor which rural sociologists are fond of calling "community service."

In approaching this topic which the State Lecturer has named, then, it would be well for each Grange to take an inventory, so to speak, of its own activities in the direction of community betterment. For example, let some member of the Grange, preferably the lecturer, propound a series of questions something like the following, the members taking up each one and discussing the suggestion contained, remembering that the field thus presented will be productive of many opportunities for interesting the young people in affairs of a character in which the social, the educational and the material go hand in hand: Is this Grange, or any

Grange in this county, either on its own initiative or in co-operation with local forces, performing a community service by striving to improve conditions surrounding public places, such as cemeteries, parks and playgrounds, and otherwise helping to make the community a more desirable place in which to live? Has this Grange ever co-operated with school trustees in making the environment of pupils more satisfactory? Does this Grange invite teachers and scholars to its meetings occasionally or seek their assistance in a public program? Just what is this Grange doing for the schools in its jurisdiction? To what extent, if at all, and in what way are the Grange halls in this county being used as social centers for village or community purposes? Has this Grange interested itself in charitable work, such as contributing to the support of hospitals or kindred institutions? Has this Grange ever co-operated with its county or town fair association and if so in what way? Has this Grange ever held a fair of its own? Does this or any other Grange in the county have any special co-operative connection with any local churches? The lecturer may see fit to submit other equally suggestive questions, questions which clearly bring out the need for certain lines of work which any virile, progressive organization can do with benefit to itself, to its community and to its individual members.

THE GRANGE IN OTHER STATES.

Rural Hygiene in Maine.—A new line of extension work is being planned by the Maine state board of health in co-operation with the Granges of that state. It will consist of a series of illustrated lectures designed to disseminate information touching some of the dangers, from a health standpoint, which beset rural homes. The lectures are being prepared by one of the instructing and inspecting deputies of Maine State Grange, a popular speaker and one who is deeply interested in the improvement of conditions in and about the farm home. The illustrations have been prepared by the secretary of the state health board and will be effectively presented through the aid of a good stereopticon. Giving these lectures before the subordinate Granges in open session has been decided upon as the best means of reaching those who should profit most from instruction of this nature.

Rhode Island's Representative at the coming meeting of the National Grange will be Joseph A. Peckham, chosen State Master on the retirement of Frank E. Marchant. Bro. Peckham is a native of the old Bay state and is 50 years old. With five other members of his family he became a charter member of a Rhode Island Grange more than 20 years ago and his advancement has been due to his strong faith in the efficiency of the order and his activity in urging legislation sorely needed by the rural element of his state. His mother, now in her 84th year is a regular attendant at all subordinate and Pomona meetings, taking an active part, and his father, 89 years old, while not able to attend the meetings, is keenly interested in the work, and is a member in good standing.

Berrien Pomona met in Pipestone Grange hall at Naoml, Tuesday, Oct. 14, and elected Mr. and Mrs. Dean Clark, of Mt. Tabor Grange, to represent this county at the coming State Grange meeting. At the business session in the afternoon it was decided to hold the annual county meeting at Berrien Center, the third Tuesday in January instead of the second Tuesday as heretofore. A splendid program was rendered in the evening, by Pipestone Grange, consisting of instrumental selections, dialogues and recitations. The meeting was well attended and the fifth degree was conferred on nine applicants.

COMING EVENTS.

National Grange, Forty-seventh Annual Meeting, at Manchester, N. H., November 11 to 21.

Pomona Meetings.

Charlevoix Co., at Peninsula Grange hall, Thursday, Nov. 13. Regular biennial election.

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Farmers' Clubs

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

Associational Motto:

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

Associational Sentiment:

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

FROM THE ASSOCIATIONAL SECRETARY.

The Associational year, is nearly closed and we hope each and every Farmers' Club will be represented at the Annual Meeting in Lansing, December 2-3, 1913.

The new amendment provides for the payment of dues in November and the prompt remittance of same by the local Clubs, would relieve the secretary of a heavy burden at the Annual Meeting.

The dues are 20 cents per family with a minimum rate of \$2.00 and maximum rate of \$5.00 per Club, instead of the former flat rate of \$2.00 per Club. The secretary gratefully acknowledges receipt of \$5.00 from one Club already.

The programs, credentials, and report blanks will be mailed at an early date and the local secretaries are earnestly requested to promptly fill out and return the report blanks so the associational secretary can complete her report. Each Club is entitled to two voting delegates and as many visitors as can attend.

A special feature this year will be trolley parties to the several state institutes Thursday, a. m., and we hope many will plan to enjoy them.—Mrs. C. P. Johnson, Secretary.

FARMERS' CLUB FAIRS.

Hold Successful Club Fair.—The Hadley and Elba Farmers' Club Fair was very good indeed, considering the busy season and rush of farm work. The fancy work department was a scene of beauty, with the fine display of needlework, both old and new, curios, etc. The school exhibit was fine and Hugh Nowlin's coffee booth very attractive. A very special feature was an exhibit from Guiles & Phillips' blacksmith shop, surmounted by a fine picture of Mr. Guiles, the senior member of the firm. Mr. Guiles has been in business at the same old stand in Hadley for 44 years, and well deserves his reputation as "the boss" horseshoer. Everyone present declared the fair a success and all indications point toward a "hummer" next year.—Mrs. C. P. Johnson, Sec.

Hold First Club Fair.—The Pittsford Farmers' Club held its first fair at Locust Grange hall, October 15. An ideal day and a good attendance helped to make the day one long to be remembered. After a bountiful dinner was served, at which 75 did their best, the booths were inspected with much interest. When the judges had finished their work and premiums had been awarded an auction sale was held, with Louis Niblack as auctioneer. The pumpkin guessing contest came next, our president, Robert Cousins, receiving first prize and Mrs. John Hills second. A gate fee of five cents was charged at the fair and this and pumpkin contest and receipts of articles sold at auction netted a neat little sum to the Club treasury. The Club adjourned after voting to have for our November meeting a chicken-pie dinner and Thanksgiving program. The invitation of John Hills and wife to meet with them in November was accepted.—S. L. C., Sec.

CLUB DISCUSSIONS.

The Patron and the School.—Peach Grove Farmers' Club met October 18, at the home of Mr. and Mrs. Wm. Kaamrad. Miss Luella Addis, teacher of the school here, read a very good paper on "The Relation of the Patron to the School." She said the relation was too distant, and quoted from the song, "Why Don't the Parents Visit the School," and urged that patrons visit the school, and know what is being done there. The subject of agriculture should be a binding link between home and school. Let the child test seed and plant a piece of land to crops, have the proceeds and deposit same in the bank, permitting him to care for his own bank account. In short, the patron should take a part or rather be a factor in educating the heart, hand and head of the child. Following this was a talk by Mr. D. W. Richardson on "The relation of the teacher to the community." He said he would take a text, and gave out that it was the following: 2+7 are ten, but 3x7 are 21. He said that in the first example the 3 and 7 were only parts, but in the second they were factors and the results were more than twice as much. He said the teacher should be a factor, and not merely a part of the community, if she would accomplish the most. She must care for school, and should be resourceful. She should be quick to grasp new ideas in symmetrical development, men-

tally. Three factors make for success or failure of school. The teacher, who is pilot, the pupil, the motive power, and the board to support the teacher and the patron to back the board. The teacher should be able to work for both sides of any question of advanced ideas of education, that is aggressive in introducing and defensive in upholding it. But the district should be careful not to ask too much; not ask her to support or bolster up every enterprise. Other exercises were roll call, answered by quotations; music and reading a letter from W. H. French, regarding the agriculture reading circle course. Some favorable comment but no action taken.—M. G. Finch, Cor. Sec.

Hold First All-day Meeting of the Season.—A very important and profitable meeting of the Indianfields Farmers' Club was held Thursday, Oct. 16, at the pleasant farm residence of Mr. and Mrs. Castle Taggett. This session was the first of the "all-day" meetings of this year, and although one of the busiest seasons for the farmer, it was an event not to be passed by and a large attendance marked the day. The usual splendid Club dinner was served under the direction of Mrs. Ida Henry, and after a social hour a fine program was rendered. I. N. Taggett led in a talk, "Work on the Farm." Sound, logical points were brought out by Mr. Taggett, who dwelt upon the autumn and winter as the "farmer's time" to prepare for summer's labor, look after the machinery—the field is not the storage house—oil, repair, overhaul, keep harness, vehicles, implements, outbuildings and the woodpile all in proper trim. J. B. Delling wondered just when the farmer's vacation came in, and created much merry badinage by saying he "wanted to go visitin' occasionally" in the winter and fall. "All work and no play makes Jack a dull boy." The Club and Mrs. Taggett are particularly proud of Castle Taggett's reputation as an expert butter maker. He recently completed an agricultural course at M. A. C., and is putting his work in practice. Several good musical selections were rendered, and Mrs. Ellen Purdy gave a reading in her own fine way. The question box proved interesting. On the question, "Would it be advisable to hire a county agriculturist?" the members decided in the negative. "How to avoid the high cost of living." Live within your means; keep something in your pocket-book and granary. A unique and pretty arrangement of autumn leaves and cut flowers made the rooms at the Taggett home very attractive. Club adjourned to meet with Mr. and Mrs. David Andrews, Nov. 20.—Mrs. Margaret Arnold, Cor. Sec.

The Object of the Farmers' Club.—The North Owosso Farmers' Club met in October at "Sunny Side." Mrs. Nettie Willoughby and Mr. and Mrs. J. W. Schultz made the members and friends welcome. At 12:30 a bountiful dinner was served. President Mrs. G. M. Getman called the meeting to order; roll call found every family represented. On the subject, "What was the Farmers' Club organized for, and has it been a success?" Mrs. E. O. Place said their Club was organized November, 1897, for social and educational advantages; that these have been made use of, can be seen at each monthly meeting. The social hour is enjoyed, and a good program is given. When the Club was organized, the number of families was limited to twelve; of these all but three are now represented. The membership is now limited to twenty families. The Club has been prospered, because of the loyalty of the members to each other, each new set of officers has seemed to try to make the Club better, being prompt in attendance, the membership doing the same, when possible. Improvements have been made in many of the farm houses, making them more convenient and attractive in appearance. "The Simple Life, what is it?" Mrs. T. W. Stilen said there are so many duties now that are required of us, so many important things to be done. Just live and do the best we can. Thinks there is more independence and freedom in a rural community. "Paint and how to use it." Some thought a good ready-made mixed paint was best, as one can not mix it by hand as thoroughly. It should be put on when the wood is dry and not too heavy for the first coat. Mrs. G. M. Getman read a fine paper on the subject, "The Boy and his Needs." She said in part: In the first place the boy needs a good mother and a good father. He needs good food, what he likes and plenty of it. He needs affection; let him know in many ways that you care for him. Talk with him, let him know that his rights as a boy are respected, if you respect the rights of others, help him to choose his companions. See that they are boys of good habits, by all means not cigarette users, and if the girls would have nothing to do with a boy who uses cigarettes in a few years there would be no use for cigarettes. Mrs. Getman thinks heredity and environments have much to do with the boy.—Reporter.

Modern Methods of Harvesting Corn.—The Putnam and Hamburg Farmers' Club met at the home of Mr. and Mrs. Wm. Blade, Saturday, Sept. 27. A good number were present. The program opened by singing America, after which Mrs. Geo. Van Horn and Frank MacKinder gave readings, and the topic, "Modern Methods of Harvesting Corn," was taken up by Frank MacKinder, who mentioned several ways of corn harvesting but thought the best way was to put most of the corn in silos and cure the rest in the shock and shred it before much bad weather came. Some did not believe in shredding as they thought it was added expense and no benefit derived. However, this was not the general opinion of the Club. Roll call was responded to with many current events. Committees were appointed for the next meeting and the tables were spread for supper, which was declared one of the best parts of the program.

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