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Supplementing a Short Hay Crop.

FARMERS and stockmen face an acute and possibly disastrous scarcity of hay. Half-filled hay barns mean half-fed cattle, horses and sheep unless ample provisions are made to make the most efficient use of every ton of roughage produced on the farm. Such conditions awaken stockmen to a realization of the necessity for providing other means of carrying their animals safely through the winter. Fortunately in many sections where the hay crop is a failure there is an abundance of corn fodder. This can be made into palatable hay. In this form it can be cheaply and conveniently stored for feed. The modern shredder transforms the coarse, bulky stalks into a more compact form that may be easily handled and fed in the manger, while it adds more than one-fourth to the intrinsic value of the fodder, both for feed and bedding.

The practice of shredding makes greater gains in years of hay scarcity, but once the practice is established in a neighborhood it is seldom abandoned when hay is plentiful. It brings much of the disagreeable winter's work into the barns and feed yards and prevents the fodder from being ruined or left in the field. It costs quite a sum to shred a large acreage of corn fodder and the initial outlay for equipment will cause many men to hesitate before making so large an investment. However, every neighborhood should have a shredder; several farmers co-operating in the purchase of a machine and changing work at shredding time may reduce the cash cost to a minimum and save many hours of dreary work wallowing in the snow and mud while chopping out frozen cornstalks and moving them to the barn and feed yards in the winter. The saving of labor as well as the increased value of the stalks must be considered, together with the expense of the machine in getting at a just conclusion as to the profitable side of the initial investment.

The cost of husking and shredding depends upon the proximity of the corn field to the barns and feed yards and the cost of labor in the different localities. Ordinarily the cost of the machinery and crew of three men, if hired, amounts to about the cost of husking the corn by hand. It costs as much to husk the corn by hand as preparing it by way of the husker and shredder. Therefore, if a man places any value upon his own labor he will find it more profitable to hire a shredder than to husk the stalks by hand, besides he will have the satisfaction of knowing that his fodder is insured against bad weather; the improved quality of the feed is a direct gain for making hay of the fodder. These considerations are sufficient to make shredding pay when the corn is to be husked, but, perhaps, the greatest advantage comes from the use of the waste fodder for bedding material. Many stockmen are convinced that it is worth almost as much for bedding as for feeding, especially when they have plenty of hay and silage. Shredded fodder has all the pith exposed to the immediate action of the urine in the gutter, and the general fibrous character of the whole mass gives it an advantage over common short cut fodder to use on hard floors. As a general proposition, it is more profitable for stockmen to grow corn fodder for bedding than to depend upon small grain crops primarily to furnish straw for bedding. In the laboratory tests at the Maryland station it was found that 2.8 pounds of corn stover per day would be sufficient and equal to the following amounts of other bedding

material used: Wheat straw, 3.3 pounds; sawdust from green logs hauled direct from exposed out-door piles and quite moist, 8.3 pounds, and shavings from dry pine, three pounds. Anyone who has forked and spread manure full of long cornstalks will surely appreciate the value of shredded stover in facilitating the work of cleaning up about the barns and feed yards and applying the manure to the land. The animals bedded with the refuse fodder will keep clean and their hair will not be stained as much as when straw is used for bedding.

In November and December before the extremely cold weather comes it is possible to haul the corn shocks from the field to the barn and feed yards much faster than in late winter when the butts are

favorable shredding may begin in November as soon as the stalks are well cured in the shock. As a rule, the stalks will be ready for the shredder as soon as the ears are dry enough to store safely in the crib. The leaves and husks should be neither brittle nor damp. The improved machines separate the shelled corn from the fodder, thus preventing it from heating in the mow and spoiling. This shelled corn must be stored where it can be watched, if necessary, to prevent heating. It contains a large share of small and cracked corn but can be fed safely to poultry, sheep and hogs if mixed with other grain feeds.

In many sections of the country the idea seems to prevail that corn stover has comparatively little feeding value,

average weather conditions affecting both crops we find that the stover will furnish almost as much food value as the timothy hay from a similar area. If the above figures are correct it is clearly to our interest to prepare the corn stover so that we may realize its maximum feeding value. A few years ago the Wisconsin Experiment Station conducted an experiment with milch cows. The cows were fed a grain ration and in addition all they would eat of cut and uncut stover. The corn was cut in inch lengths in a cutter which also shredded the coarse stalks. The first two experiments were conducted with Pride of the North, a medium dent variety, and the last with Stowell's Evergreen, planted thickly. It was found that the cutting saved 36 per cent of the stover in the first experiment, 31 per cent in the second, and nine per cent in the third. From the above experiments it is safe to assume that shredding increases the value of the stover fully 25 per cent.

In feeding shredded stover experienced feeders of dairy cattle prefer that not over one-half of the total roughage ration should consist of the stover. Fed in such quantities the animals do not tire of the ration and it will give nearly, if not quite, as good results as an equal quantity of timothy hay. If possible to feed the stover along with silage it will be greedily consumed by the cattle and produce correspondingly satisfactory results. The following daily rations containing shredded fodder are suggested for milch cows. Of course, these rations must be regulated to meet the various needs of the cattle which the practical feeder always understands. The amounts stated are per head daily.

Rations Containing Corn Stover.

1. Wheat bran, 3 lbs; gluten feed, 2 lbs; linseed meal, 2 lbs; shredded stover, 9 lbs; hay, 9 lbs.

2. Brewers' grains, 3 lbs; corn meal, 3 lbs; wheat bran, 3 lbs; corn stover, shredded, 8 lbs; oat and pea hay, 10 lbs.

3. Wheat bran, 6 lbs; gluten meal, 3 lbs; silage, 30 lbs; shredded corn stover, 8 lbs.

4. Brewers' grains, 4 lbs; cottonseed meal, 2 lbs; stover bran mash, 30 lbs; hay, 6 lbs.

Many farmers and stockmen have had more or less trouble in storing shredded corn stover. Care must be exercised to do the work when the weather conditions are favorable. The writer has practiced cutting straw and second crop hay along with the corn stover to mix with the shredded fodder in the mow and on the barn floor. This is a great help if the corn fodder is a little damp, and the whole mass is a very desirable roughage and helps to clean up the odds and ends of roughage before beginning to feed from the larger mows of hay. It is better, whenever possible, to get these feeds consumed early so that the cows may have the better roughage later in the winter and during the freshening period.

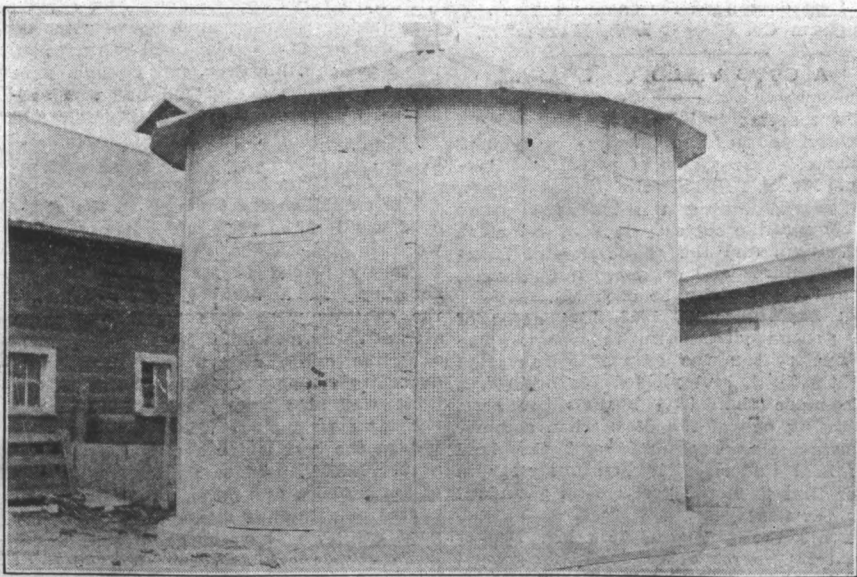
For several years we have refilled our silos with shredded stover after feeding out a few tons from the top. This makes fairly satisfactory roughage and reduces the loss to a minimum. We run the shredded fodder through the regular cutting machine and keep an inch stream of water running into the machine so that the fodder will pack more firmly in the silo. This enables us to store considerable of the fodder where we know it will be safe. By cutting the other stalks in with the oat straw and second crop clover we usually have enough such roughage to carry the cows along until



A Good Crop of Grain—Oat Stack in Foreground is from 10½ Acres. Three Wheat Stacks from 22½ Acres Threshed 758 Bushels. (See Page 262).

frozen fast to the ground. Even when the weather is favorable one man can not work to good advantage loading and hauling corn from the field to the feeding place. The time required to harness a team and hitch on to a wagon or sled, and to open and close the gates and barn doors means a big loss of time and energy. Then, too, there is a saving of time in feeding shredded fodder if the mows or stacks are close to the feeding place. It cannot be pitched as easily as other hay, but a man can handle it very rapidly where it can be pushed with a fork along the barn floor and in the feeding alleys. If the weather conditions are

but experiments show that the quantity of digestible ingredients in one ton of well-cured stover with 20 per cent of water, and in one ton of timothy hay are as follows: Corn stover, fiber, 353.7; fat, 13.5; protein, 53.1; nitrogen-free extract, 544.6; timothy hay, fiber, 296.1; fat, 33.1; protein, 55.4; nitrogen-free extract, 553.6. Figuring on this basis if an acre of land planted to corn will yield, in addition to the ears, two tons of stover, and an acre of timothy on equally productive land will produce two and one-fourth tons of hay, we find that the stover will contain about 1,930 pounds and the hay 2,111 pounds of digestible ingredients. Considering the



Perforated Galvanized Metal Rat Proof Corn Crib Used on "Lillie Farmstead."

nearly the first of January. A little frost caught during the early winter will save a vast quantity of good roughage for winter and spring when the cows need the

very best hay the farm affords. Then, too, such feeds are never so good as they are immediately after they are harvested. New York. W. MILTON KELLY.

Characteristics of An Ideal Seed Ear.

THE chief purpose of selection of seed corn is to increase the yield of shelled corn to the acre. It is of first importance, then, to know what characteristics indicate the most productive ear. Field selection, (outlined in a previous article), enables the farmer to see the mother plants and the environment from which his seed ears have come, but its complete success demands a knowledge of the conditions which are the most likely to give the seed ears vigor and great productive power. In order to do this, the person making the selections must have a keen appreciation of the ear characters which indicate seed of high yielding power.

Which will produce the more shelled corn per acre, the short or long ear, the heavy ear or the light ear, the one with the well-filled tip or the one with a bare tip, the cylindrical or tapering ear, one with rough or smooth indentation? Since no ear is ever found which is strong in all points, we must find out which of these characters should be the most sought after, good butt or a good tip, a good kernel or a symmetrical ear? The score card attempts to answer these questions but in so far as we have been able to ascertain, the score card only points out and calls our attention to a good ear rather than showing us which ear will produce the greatest yield when planted. The ear whose weight is the greatest, good symmetry, and a high shelling percentage will not necessarily produce the highest yield when planted in the field. The ideals of the score card are those of the market rather than the farm, and are only estimates.

Shape.

Every score card for corn which has been submitted calls for an ear which is as nearly cylindrical as it is possible to get it. That is, the ear should not be decidedly tapering, but should carry about the same thickness from tip to butt. Prof. C. G. Williams, of the Ohio Experiment Station, seems to be the only experimenter who has worked very extensively with corn trying to ascertain which will produce the greater yield, corn from cylindrical ears or corn from tapering ears. Eighteen tests were made and during the first and third years the cylindrical ears led slightly in yield but during the second and fourth years, the tapering ears produced a greater yield. The combined average shows a difference of 0.87 bushels per acre in favor of the tapering ears. However, one of the greatest arguments for the cylindrical ear is that the kernels are nearly of a size and will drop more evenly in the planter. A tapering ear will always have deep kernels at the butt and shallow ones at the tip and this makes it impossible for a planter to drop such corn evenly.

The best length of an ear depends very much upon the diameter. Some authorities lay it down as a rule that the length of an ear should be to its circumference as four is to three, or a ten-inch ear should be seven and one-half inches in circumference, measured at one-third the distance from butt to tip. One should be careful to avoid selections of the longest or shortest ears because those of about medium length have proven to be the best. We do not wish a seed ear which is long and slim, nor do we want one which is short and thick. The rule given above will give an ear which is well proportioned. Of course, it would not be advisable to measure each ear but three or four might be measured and this would give a good idea of the general size of a seed ear.

Size.

Although the size of an ear of seed corn is very important, it is not all important. The largest ears are seldom the most desirable because they are apt to be coarse, irregular, and show poor quality. Small ears are no more desirable than large ones. Experience seems to indicate that ears slightly above the average in size will produce the largest yields. We must not confuse size and weight. The heavier seed ears may usually be depended upon to give higher yields. The total weight of an ear seems to be a better criterion by which to judge the productive power of an ear than the weight of shelled corn, provided this weight is due to reasonable length, circumference, and amount and density of grain and cob and is not found in a large immature ear.

Tips and Butts.

Professor Williams has also found that by the continued planting of corn from ears having bare or exposed tips, the yield is lessened and such seed produces ears with bare tips. Therefore it is essential that the tip of an ear is filled out to the end and if possible, completely covered with kernels. It is better to have an ear of good size and length, properly proportioned and bearing deep kernels well out to the end, than a short ear with a completely covered tip. A show ear has a completely covered tip combined with the right size, shape and quality, but such ears are very rarely found.

The butt of an ear should be well rounded out with deep, regular kernels, evenly and compactly arranged around a cup-shaped cavity, whose diameter should be in the vicinity of an inch. We should look for an ear which shows the scar where the ear was fastened onto the mother stalk to be about three-fourths of an inch in medium varieties. If the cob is too small, the ear may be blown off; if too large, it will be hard to break off at husking time. It is a safe assumption that clean butts mean careful selection and coarse, wide butts, poor selection, because the quality of corn is strongly indicated by the butts.

Relation of Cob to Kernel.

What corn growers aim to do is to produce an ear of corn whose cob is just the right size to mature all its kernels in the season for the given locality and it is figured that each ten miles one goes to the north diminishes the growing season by one day. The size of a cob is a good indication of the quality and refinement of the corn and the character of the kernels. A good kernel is one that is wedge shaped but not of the shoe peg style, which is common in dent corns which are produced on a large cob. A general rule is that each kernel should be about one and one-half times as long as it is wide at its widest part and an ideal kernel is the same thickness throughout. As to the germ what is desired is one showing great vitality. A germ which is badly discolored, black, blistered, wrinkled, or roughened does not show the proper vitality and may be more profitably fed to the stock than saved for breeding purposes. These kernels should use up all the available space on the ear and at the same time present a closed exterior appearance. Many times we see seed ears which are very open and further examination of such ears invariably discloses the fact that all the available space on the cob is not utilized. The cob should be medium-sized—not too fine or too coarse. A large cob indicates poor quality and poor selection. Such an ear usually dries out slowly and hence the vitality of the corn is often injured by freezing during the winter. On the other hand, the undersized cob either bears kernels which stand out fan-like, thus being easily shattered, or it has pointed kernels with narrow, wizened germs, the vitality of which is usually very low and questionable.

The ideal seed ear should have well-filled butts and tips, and a cob of medium size, well filled with kernels which show a healthy, vigorous condition. If an ear has a cylindrical shape, together with the above characteristics, it is also the type demanded for show purposes.

Ingham Co.

I. J. MATTHEWS.

A GOOD YIELD OF GRAIN.

There seems to be a prevailing opinion that it is out of the question to get any of the old-time yields of wheat in Michigan. Mr. F. L. Becker, of Wayne county, has proved during the last few years that by a thorough system of intensive cultivation, and the application of barnyard manures and commercial fertilizers, bountiful crops can be obtained.

On September 25, 1912, 22½ acres of oat ground were sown to wheat. The present season the crop was harvested and threshed, and yielded 758 bushels, a little more than 33½ bushels per acre, reminding one of the days when summer fallowing was practiced, and the land was held under cultivation one year in order that it might produce an abundant crop the next year.

During the spring of 1913 Mr. Becker sowed 10½ acres of corn stubble ground to oats. The seed had been treated with formalin for smut. He harvested and

threshed 543 bushels, an average of 52¼ bushels per acre, which is a remarkable yield for the year 1913.

Mr. Becker practices a regular system of rotation. Clover seed is treated to a coat of manure evenly spread with a manure spreader. Corn follows the clover in the rotation and is well cultivated. Oats follow the corn. The ground is plowed and well fitted. About 200 pounds of a high-grade commercial fertilizer is applied to the acre. The ground is again plowed as soon as practicable after the oats are harvested, and worked thoroughly until seeding time. A high grade of commercial fertilizer is sown with the wheat in September at the rate of about 200 pounds to the acre. The soil is what we call a heavy soil, the clay loam prevailing to a considerable extent.

It will be seen that the practice is one of soil feeding and not one of soil robbing. The results certainly ought to be satisfactory. It proves that intensive farming with a liberal treatment of barnyard manure, and a generous application of plant foods in the form of commercial fertilizers, insures a large yield of grain.

On this farm a good deal of live stock is kept. Large quantities of manure are produced and applied to the fields at a time of year when it will do the most good. The manure carries with it to the soil a good deal of vegetable matter taken away in the grasses and grains grown from the soil, but there is some waste. When animals are sold off the farm they carry phosphoric acid in the bones. When wheat or other kinds of grain are sold from the farm, considerable quantities of phosphoric acid are carried away. When a high grade commercial fertilizer is used, plant foods, such as have been previously wasted or carried away, are returned, and the production of crops goes on after the same manner as when the land was new, and abundant crops of grain are the result.

Wayne Co.

N. A. CLAPP.

THE STATE FAIR.

The Michigan State Fair for 1913 was one of the most successful from the standpoint of exhibits of any which has ever been put on in Michigan. The grounds were improved by the laying of many hundreds of yards of new concrete walks and by the making of new permanent roads where needed to accommodate the vehicle traffic. The completion of the new dairy building also made that portion of the grounds more attractive, while well kept shrubbery, closely cut lawns and blooming flowers in artistically placed beds everywhere lent a scenic effect to the State Fair grounds which has not before been approached. With the completion of the general plan of the grounds and the experience of previous years to guide them, the management was able to place the exhibits to better advantage so far as the general landscape effect was concerned this year than ever before. The arrangement of the different departments was such as to facilitate the convenience of fair patrons without in any way marring the landscape effect, and we have no doubt that patrons will agree that the Michigan State Fair grounds have been developed into an admirably attractive and well adapted place for staging this big show.

With every other factor favorable to making the State Fair of 1913 most successful from every standpoint, favorable weather conditions would undoubtedly have brought out a record attendance. The week, however, was very unfavorable with hard rains on two days, and cloudy, threatening weather almost every morning during the week. Notwithstanding this handicap, however, fair officials have announced that the attendance was ample to meet the expenses of the fair and wipe out the association's floating indebtedness.

The Departments.

The exhibits were fully up to the standard in all of the various departments and were in practically every case advantageously placed to make an attractive showing. In a number of departments the exhibits were both larger and more attractive than in most former years, notably the cattle department, which was exceedingly fine. The horticultural exhibit was also very good indeed, while the farm products exhibit was generally judged the best which has ever been seen at the Michigan State Fair. The exhibit of automobiles was large, as might be expected at a Detroit fair, and there was a good exhibit of harness goods, but not a large vehicle exhibit other than automobiles. The farm machinery exhibit was large and attractively placed, with a num-

ber of new developments along this line which have not before been seen at a public exhibition.

The educational exhibits were more plentiful than ordinarily and included exhibits by the soils and horticultural departments of M. A. C. which were calculated to furnish practical instruction along several related lines. The Food and Health special train which was run over various Michigan railroads during the summer was stationed on the grounds so that fair patrons might receive the benefit of the instruction which it afforded. Also many of the exhibits in the main building were of an educational character, although not primarily made for this purpose.

Cattle.

The cattle exhibits at the State Fair were probably the best from the standpoint of quality which have ever been seen on those grounds, while the number of entries compared favorably with the best of former years. In beef cattle classes particularly, some of the best show herds in the country, and which have graced international show rings, were found among the exhibits, while leading Michigan herds were also in evidence. Fair patrons certainly had a grand opportunity to see the best in type and finish in individuals of the Shorthorn, Angus and Hereford breeds. The general purpose breeds, including Red Polls and Brown Swiss, were also well represented, while the dairy breeds were strong, including besides the leading breeds in Michigan fine representatives of Ayrshires and Dutch Belted cattle, the Holsteins, Jerseys and Guernseys, of course, being most prominent. Altogether it was a splendid exhibition of cattle and one which the fair patrons could profitably spend the whole week studying.

Horses.

The horse exhibit was not as large as in some years, but made up in quality what was lacking in quantity. The big exhibit of the show was that of Bell Bros., of Ohio, whose magnificent Belgians and Percherons attracted general attention for its size as well as quality. Other exhibits of Michigan breeders were, however, very creditable to our draft horse industry, while in harness horses and ponies there was a very good showing, the former including both trotting bred horses and hackneys.

Hogs.

This department was fairly well represented by Michigan herds, the show rings being filled by animals in exceptionally fine condition. The general purpose and lard hog breeds were most numerous represented, showing that this class of hogs still lead in favor, or that their breeders have more enterprise than the patrons of the strictly bacon breeds so far as putting up a fine show was concerned. While more hogs have been seen at Michigan fairs, it is doubtful if a better average quality was ever exhibited in the show ring.

Sheep.

In the sheep classes the middle wool breeds were the most numerous, with excellent representations of type and quality, while the coarse and fine wool exhibits were less numerous. Michigan-bred stuff made a good showing in comparison with the show flocks of imported stock which were seen in the classes for some of the middle wool breeds.

Horticultural Exhibits.

In this department the showing was particularly fine, the Oceana county show occupying the place of honor and earning general recognition for its extent and attractive placing. Midland county was second in the awards, and Berrien third. Many other counties, however, made a most creditable showing, including Jackson and Oakland counties, from which counties fruit exhibits have not heretofore been notable. The individual exhibits were equally attractive and so extensive as to properly maintain Michigan's reputation as a fruit producing state.

Agricultural Products.

This department of the show was the best that has yet been seen at the State Fair. It was much enhanced by the placing of Western and Eastern Michigan development exhibits on opposite sides of the hall, while different county and many individual exhibits made up the balance of the show. Certainly no man could view this collection of products without an inclination to take off his hat to Michigan for the variety and quality of the products produced upon Michigan farms.

Agricultural Implements.

This department of the show was well filled with a great variety of exhibits, many of which were shown in operation.

(Continued on page 266).

LILLIE FARMSTEAD NOTES.

Sowing Wheat when the Ground is Dry.

If one happened to meet a farmer in this section during recent weeks and got into conversation with him, the question always asked was, "When are you going to sow your wheat?" Almost invariably the reply would be, "After it rains." One man said he was going to sow it on the 15th of September, rain or no rain, but nearly everyone says that it will be too risky to sow before it rains, and that would be my judgment. A good many years ago when I first began farming, we had an extremely dry September, and August, too, for that matter. The ground plowed up dry, there was no rain, it took an immense amount of tillage to fit the ground, it was dry as dust down as deep as plowed, and deeper. It came time to sow wheat. I sowed my wheat along in September. We didn't have rain enough all through October so wheat would germinate. Most all of the wheat was molding in the ground and never came up at all. Some of this sowing that fall was on corn ground and I remember drawing some cornstalks off late in the fall after they were husked, and digging into the ground with a pitchfork and finding wheat that was just sprouting then, but it was weak. Some of it had molded.

Now the consequence was that we had no wheat the next year that would pay for harvesting. And with this experience still in my memory I shall not sow wheat this fall until after it rains, and the ground is worked up well after that, and if the rain does not come until it is entirely too late to sow wheat I shall not sow any wheat at all but leave it to put into spring crops, because I know that one time during my lifetimes we had such a dry fall that it didn't pay to sow wheat. Now, of course, the old saying is that there are never two seasons alike, and I may get fooled this time. It might be that the man who sows his wheat without waiting for rain, will hit it just right. But, on the other hand, after such a dry spell as this we are liable to have when the rain does come, a regular downpour that will turn all of this dust in the fields into mud and form such a crust that it will be almost impossible for wheat to germinate and come up at all. It will hammer the air all out of the ground and make it almost impossible for wheat to germinate. I have seen it do that. And not knowing what it is going to do, my judgment would be to wait. The probability is that we will have some time this month a sufficient amount of rainfall to wet the ground so that wheat will germinate. Then it won't take long to harrow the ground over with a spring-tooth harrow, loosen it up, and then put the wheat in. My observation is that it will make a more rapid growth, will be much more liable to make a good crop than it will if it is sown before the rain.

It might look as though one lacked faith who argued that if rain didn't come in the proper time that he would sow no wheat, but I think that my observation and experience will bear me out in this as nature does sometimes do things that are very much abnormal. There is not really a lack of faith. Nature takes heavy tolls sometimes, and if we can in any way avoid this it is our business to do it.

I know it sets a farmer back, there is no question about that. It looks as if we had lost our seeding all through this section this year, and if we have it is a serious blow, but nobody can help it. Farming is a sort of gamble, anyway, and we have got to take chances. There is no other way to it. And certainly I would rather see the seed wheat in the bin and the fertilizer and wait until next spring and put it into spring crops rather than to sow the wheat in this dry ground at the present time with no indications of rain. Not only this but the long distance weather predictions predict a dry September, none too much rain in October, and a very cold November. If these predictions should come anywhere near like this it will be a sorry time for wheat this year, anyway. But neither do I put much faith in these long distance weather predictions. I have faith yet that there will be a good rain this month, that we can work the land up and get it in good condition to sow the wheat, that the wheat will germinate and come up, and make a good crop for next year, and I am going to work on that theory.

Clover Seed.

Last year we had a wonderful second growth of clover. In many instances it would cut a ton and a half to the acre. I should have cut mine for hay but I had the barns full of the first crop and had no place to put it. I knew it was poorly

filled but I thought I might get enough out of it to pay for saving it for seed. I made a mistake. Taking everything into consideration it would have been better for me had I left this growth on the ground to have been plowed down. But we don't know this. Anybody can look back and see where they made mistakes, but the thing is to look ahead and avoid them. That's where we are all lame. And the man that can do this best is the man that makes the greater success out of farming or out of anything else. The man who has the clearest vision of the future, or in other words, the man who has the best judgment, is the man who makes the most. The most of us haven't got this insight into the future so that we can avoid, many times, serious mistakes, and we have to put up with losses. Of course, there is a great deal of satisfaction in knowing that there are other people in the same boat, that is, other people lack this judgment the same as we do.

This year, however, the second growth of clover is almost nothing. I have just been cutting one field for seed and it is so short that I don't believe we can rake it up so that we can save any great amount of it. The heads are fairly well filled with nice plump bright seed, but the straw in some places is not over six or eight inches high. We put on the clover seed attachment which leaves it in windrows so that the horses won't step on it and the machine run over it, and we haven't got far enough along yet so that we have raked it up into windrows, but I am afraid that we are not going to get enough this year to pay for the trouble any more than we did last year. Last year we had too much, this year too little. Of course, there is no use in whining and finding fault. Probably next year we will have a happy medium and a good second growth that will fill well and we will get a good crop. Nobody can bet on farming for a single year. We must take an average of several years.

The New Seeding.

The new seeding of red clover this year in this vicinity is the poorest that I ever saw on my own farm. On some of the higher, drier portions of the field one can scarcely find any red clover at all, and then you have to look very closely. There is a little there. When we get the fall rains, which undoubtedly we will, I am in hopes that a sufficient amount of these small plants will come on so that we will have a fair stand or a partial stand at least, of red clover. If it doesn't we may have to put in cowpeas or soy beans or peas and oats in portions of the field next spring in order to have a sufficient amount of roughage. If I lose my clover seeding this year it will be the first time in the history of my farming, and I haven't given up entirely yet, although it looks pretty doubtful, and certainly if I have lost the red clover seeding it will be quite a setback and will be a serious loss, and I will have to try and have a substitute of soy bean hay or cowpea hay, or peas and oats. Of course, if my 20 acres of alfalfa that I seeded this year does well, and it is alive now, this will help out very much. If it should happen to be a favorable year for the growth of alfalfa next year and I could get three cuttings on 20 acres, it would be equal to 60 acres of hay, which would help me out wonderfully, and I may come out all right, but it makes one worry now. Here it is the very last of August and no rain. We have had two or three moderate showers this summer, but the ground is as dry as dust at the present time and no signs of rain.

SUCCESS WITH SEEDING ALFALFA IN OATS.

The writer saw a direct contradiction to the general idea about alfalfa seeding recently, on the farm of James Wood, in Green township. He sowed oats last spring on a piece of good heavy clay loam soil, seeding the same with alfalfa just the same as one would seed June clover. He had a good crop of oats, and has a fine stand of alfalfa, the most even seeding I ever saw around here. On another piece of ground sowed the same way he has a poor stand, but only used half as much seed and the ground was poorer.

Mecosta Co. G. W. DIETDERICH.

WANTED.

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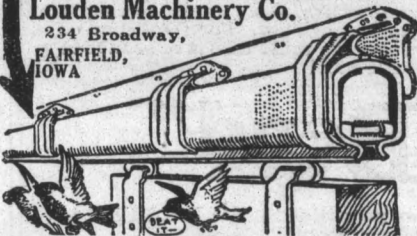
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DAIRY NOTES.

Canning Factory Waste for Cows.

One trouble in growing crops for the canning factory is that they have to be hauled to the market during the busy part of the year when one has much pressing work to do on the farm. We have just finished harvesting our sweet corn for the canning factory. It was a light crop. On the best corn land for normal years there was scarcely any ears at all. The corn grew up about four feet high and never had an ear on it. I had the same condition in my garden with sweet corn. The ground was plowed early, it was well fertilized, both with commercial fertilizer and stable manure, and with a normal season I should have had a splendid crop, both in the garden and in this field. One portion of the field runs down onto lower land on the creek bottom, and there I had pretty good sweet corn. Another portion of the field held the moisture better and I had a fair crop there. I picked about \$20 worth of corn per acre and I have got the cornstalks left. Where one hauls sweet corn to the canning factory he can haul the husks and cobs back if he can utilize them.

Of course, during a dry season like this with nothing green in the pasture and no silage, the corn husks come pretty handy. The cows like them very well indeed, even if they have turned a little bit sour. Last year, however, they didn't like them. There was plenty of good fresh grass in the pasture and good corn silage in the silo, and they didn't want to eat the corn husks. Last year we drew home a couple of loads of corn cobs after the corn had been taken off and the hogs wouldn't eat only a few of them and the cobs spoiled on our hands and we had to draw them out and scatter them as manure. This year we didn't draw any cobs home but we did draw husks.

Other people who got their lima beans in earlier on land that didn't hold the moisture as well as mine were harvesting lima beans at the same time. Many of them didn't take their bean straw home. It had a kind of a rank odor and flavor and many cows don't like them. The canning factory people wanted me to draw some of this straw home and put it into the silo and also feed some to the cows, and experiment with it a little bit, and so when we drew the sweet corn over we drew a load of husks back when we could get them, and when we couldn't get them we drew lima bean straw. Now our cows this year ate the lima bean straw fairly well. At first some of them didn't like it because it was something new, but they finally got to eating it. We put several loads of it in a silo and mixed corn husks with it. The corn husks contain much more moisture and would help settle the straw down.

While we were drawing off the sweet corn, of course, every day we would need a load to feed the cows, and not put it in the silo, and the last day we hauled we left the wagons loaded and fed them out to the cows. Consequently the cows had all they wanted to eat fresh from the factory until today, when that was used up, and we have fed for the first time from the stuff that had been ensiled. This on top of the silo was corn husks. It had commenced to sour a little bit, eventually some of it on top, of course, would decay the same as it does on the top of the regular corn silage, but it hadn't been in long enough yet to spoil. Now the cows are so well pleased with green stuff that they don't turn up their noses at something that is a little bit off flavor if it is only green, consequently they ate these corn husks taken off the silo, and I am confident the balance in the silo will be in such condition that they will eat it up readily.

If this is the case, and it would work this way every year one could afford to raise something for the canning factory because he would have all of his waste products come back to be utilized. He would simply sell the corn and the beans, and have the cornstalks and the corn husks, and the cobs, and the bean straw and pea vines to bring back. I really don't think it would pay a man to go on purpose to haul these things away, even though they were going to waste at the canning factory, because it is a busy time of the year, but when you go down with a load and otherwise would come back

empty, it is a different proposition, and my experience this year would warrant me in saying that it would pay anybody who has live stock to feed when he hauls a load of something to the canning factory to bring back a load of refuse to feed. But I'll know more about this in the future. We have hardly had experience enough yet so that one can say with any degree of positiveness with regard to the value of this stuff.

Dried-up Corn for Silage.

The weather has been so extremely hot and dry lately that much of the corn intended for silos has prematurely dried up. Many people are wondering whether this will make good silage or not. Several have asked. My judgment is that this will make excellent ensilage if only a sufficient amount of moisture is put into the silo at the same time this dry corn is so that it will settle well and pack and ferment or heat. In fact, I know very well it will not take anywhere near as much moisture to make this dried-up corn good silage, as it would if the corn had been cut and allowed to stand and become dry, because the stalks are not as dry as they would be if they had been cut.

Not only that, but this dry corn is of exceedingly good quality. When we have a dry year like this all of the forage crops while they lack in quantity, make up some of this in quality. There are more food nutrients to a ton of food that is grown in a dry year than there are in a ton that is grown in a wet year, of hay or anything else, and there isn't any question but what the proper place to put this corn is in the silo. Don't cut it up and dry cure it when you have got a silo. Fill that silo. Get a barrel of water and elevate it so that you can have a faucet run a little stream into the blower part of the carrier and moisten this and you will have just as nice ensilage as you ever had. In fact, you will have better ensilage than you will have in a wet year when the corn is cut up with a sufficient amount of its own sap, because you have got more food nutrients to the ton of fodder in this fodder grown this dry season than you will have in fodder grown in a wet season, and when you come to feed it to the cows they will respond with a more liberal flow of milk. It is good stuff if it is dry, and it ought to be properly taken care of, and it will pay to do it.

MICHIGAN COW HOLDS WORLD'S MILK RECORD.

Word has been received of the establishment of a new world's milk record for Jersey cows, by Eminent's Boss, owned in Houghton county, Mich. Her yearly record, under the supervision of the Michigan Agricultural College, shows a production of 18,783 pounds of milk, testing 1.132 pounds, nine ounces of butter-fat. The former record, held by Jacoba Irene, was 17,258 pounds of milk.

A GREAT DAIRY EXHIBIT.

The advice of entries of cattle for this year's supremacy is sufficient to enable us to say there will be a "battle royal" in the arena at the Eighth Annual Dairy Show in Chicago. The far east, the southwest, the central west and the west have some great dairy cattle at all of the fairs and although many from different sections may meet at some show or fair during the season, yet the ribbon winners in the different sections of our great country will not all meet until the National and from our mail we learn that owners, managers and herdsmen are girdling up their loins ready for mortal combat; they sniff the battle from afar and are grooming, feeding and coaxing their cattle to look their best. Another battle royal at this year's show will be in the creamery butter exhibit. It is said 600 to 800 creameries are going to exhibit and contest for the gold medal of the year, while the other dairy products exhibit will be much larger than ever before and the competition close and keen. The conventions to be held by the cattle clubs, the milk dealers, the milk producers, the creamery buttermakers, the creamery managers, the ice cream manufacturers, the college men from the dairy departments, the agricultural and dairy press, and the American Dairy Union promise a royal feast and the "Round Table" conference at which delegates from every walk of dairy life will sit, promises great good for the dairy industry. The exhibit conducted by the Dairy Division of the U. S. Department of Agriculture greatly increased in its usefulness, is in itself worth a trip to the show.

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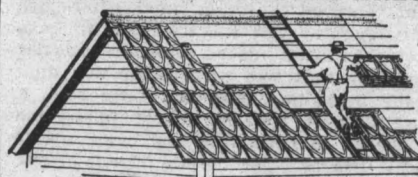
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Live Stock and the Farm.

THE question of the proper economic relation of live stock to our agriculture is ever an important one, but perhaps more important at present than at any previous time in the history of our agriculture. This is true for many reasons, perhaps the most important of which is that relating to the conservation and upbuilding of the fertility of our soils.

Farm Fertility and Live Stock.

While maintaining live stock upon the farm does not necessarily insure that the fertility of the farm will be materially increased, unless the soil management is of the best and supplementary fertilization is practiced, yet it does insure a greater degree of soil conservation than would be possible without the maintenance of the live stock upon the farm. This being true, it becomes a fundamental reason why every Michigan farmer should make live stock production an important factor in the management of his farm. When our soils were comparatively new and supplied with a considerable store of unavailable fertility, which was made available through cultivation, this was not a question of such immediate importance.

At the same time our soils were not only supplied with the necessary elements of plant food in a more or less available form, but they also contained a much larger percentage of vegetable matter or humus and were in much better mechanical condition than is the case at the present time. This is quite as important a factor in soil fertility as is the actual presence of plant food, and one upon which the maintenance of live stock upon the farm and its management has an important bearing. Where pastures are too heavily stocked and every vestige of grass is eaten off in the heat of summer and where the live stock is turned into the meadows after haying, and on the new seeding after harvest, the result may be actual depletion of the humus in the soil and injury to the mechanical condition of the soil, even though the manure which is made upon the farm by feeding the stock is carefully saved and applied to the soil.

With proper management, however, this need not be the case and is not a legitimate reason for failing to maintain some kind of live stock upon the farm in the interest of the conservation of the soil fertility. It is, however, a factor which should be taken into consideration in determining the kind and amount of live stock which will be maintained and in the management of such live stock when this point has been finally settled. When viewed from the standpoint of conservation of soil fertility, then, there will never be a time in the experience of any Michigan farmer when this question of the proper relation of live stock to his general scheme of farming can be more profitably considered than at the present time, since there is need of both conservation of fertility and of humus in the soil of the average Michigan farm today.

The Live Stock Situation.

From an economic standpoint the time is just as propitious for the consideration of this important problem by the average Michigan farmer. Conditions have been such as to reduce the amount of live stock maintained upon Michigan farms to perhaps the lowest relative point in the history of our agriculture. The same conditions have obtained the country over with the consequent effect of a general rise in values for practically all kinds of live stock maintained upon our farms. This, in fact, has in itself operated to decrease the amount of live stock maintained upon the farms of the country, since there is a general tendency to take advantage of a market which is higher than is ordinarily enjoyed, to sell as large an amount of stock as possible, and thus swell the income from the farm.

Undoubtedly, also, prospective tariff legislation has been a further incentive to the selling of live stock which should have been kept upon the farms, while the relatively high price of feed, coupled with a failure of pastures over a large section of the country due to dry weather conditions, have been contributory causes to the depletion of the country's live stock supply to a point which threatens to make the future product fall below the demand for consumption at even an advance over present values. It is the opinion of every well informed student of present conditions that live stock of all kinds will continue to bring higher prices than has ever before been the case in the history of

our agriculture and that from an economic standpoint it can be more profitably made a larger factor in the production of the average farm than has heretofore been the case. Hence with a double benefit in view of conserving and increasing the fertility of our worn soils and at the same time adding to the income of our farms, each and every Michigan farmer has a double incentive for making a more careful study of the proper relation of live stock to his farm.

The Solution of the Problem.

Having reached the inevitable conclusion that live stock should be made a more prominent factor in the products of the farm, which is certain to be reached by the man who makes a careful study of this problem, its solution is but just begun. The special line of live stock production which will be followed is quite as important a factor in the correct solution of the problem as is the conclusion that more live stock should be kept. This is, however, an individual, rather than a general problem to each farmer and must be considered in connection with the other factors of farm management, such as the growing of cash crops, the adaptability of the farm to different lines of live stock production, the available market, etc., to say nothing of the personal tastes and preferences of the farmer himself which are quite important items in this general consideration.

A Fixed Policy Best.

This point in the problem is of greater importance than would be at first deemed by the casual student, since in order to be most highly successful any line of live stock production should be a fixed rather than a transient policy. This is true, not alone because of the fact that a change in lines of production is generally made only when the line abandoned is at the low point in the ebb and flow of its prosperity, while just the reverse is ordinarily true of the new line of production established, but as well because the experience gained along one line is of the greatest value along that line only and the benefit which would be derived from it is lost by frequent changes in policy. For these reasons every farmer should carefully consider the problem of what live stock he will make a specialty so that mistakes along this line may be avoided and this branch of farm production be placed upon the most firm foundation possible.

Whether the decision be made in favor of horses, cattle, sheep or hogs it should be sufficiently well considered so that there will not be occasion for reversing it in the near future and every economic problem connected with the production and marketing of the live stock selected as such special line of production should be most carefully studied to the end that the economic benefits may be made as pronounced as possible.

The Industry Should be Developed Gradually.

Having reached a decision upon these points, the question will naturally arise, how shall the person so deciding launch out into the chosen line of production. Right here is the test of good business management. Obviously every farmer in Michigan or the country cannot at once undertake to increase their live stock production to the capacity of their farms as the foundation stock would not be available. Since, then, it is impractical for farmers generally to go into the live stock business on a large scale their best course is undoubtedly to grow into it more slowly, but on a more stable foundation, thus resulting in a gradual increase of live stock products which will not more than keep pace with the increase in the market demand and avoid an unwarranted expenditure for foundation stock. This problem as outlined is one of the greatest importance to the agriculture of Michigan and which every reader would find it to his advantage to consider most carefully at the present time.

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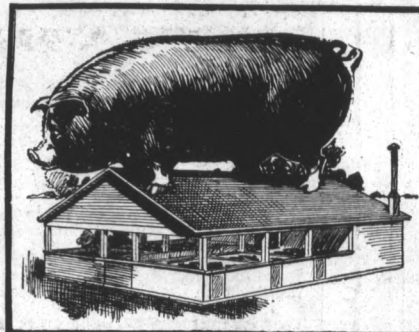
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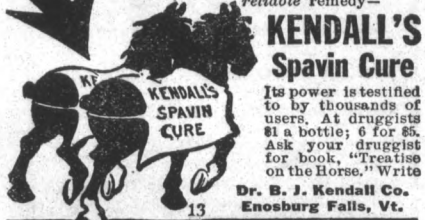
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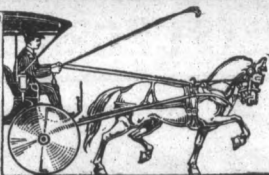
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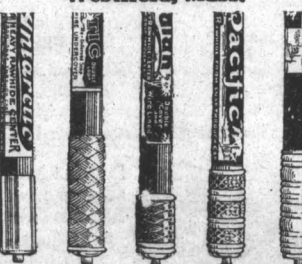
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THE STATE FAIR.

(Continued from page 262).

As usual the gasoline engine was much in evidence, both in its stationary form for farm power, and exemplifying the evolution of the farm tractor, a number of different new types of which were seen at this show. One would almost think that development had reached its limit along the line of equipment for the farm and farm home, but each year brings out many new devices for lessening the cost of production or lightening the labor in the field and in the home. There is no better place to study these developments than at a State Fair, where the new things as well as the old and reliable standbys are exhibited.

Entertainments.

The entertainment features of this year's fair were fully up to the standard of previous years. The rain interfered with the racing program on two days but with the free musical features, speeches by leading men, lectures in the dairy demonstration building, together with frequent aeroplane flights, and the horse show at night, the whole program being finished with a magnificent display of fireworks, the free entertainment features provided ample diversion for tired fair patrons.

Altogether the State Fair for 1913 was a most excellent show, the only matter for regret being that unfavorable weather conditions limited the attendance somewhat. This, however, was a factor over which the management had no control and it is a matter for congratulation that the attendance was so large under the unfavorable weather conditions which prevailed.

The premium awards in the live stock classes will be given in the next issue.

FEEDING COWS AND CALVES.

A report has been received by the Department of Agriculture of some experiments conducted by the Kentucky Station in feeding dairy cows and calves. Eighty calves were employed in tests to determine the advisability of using calf nipples for feeding the young calf. "It required on an average for all the calves, 39½ seconds for the bucket-fed calves to drink their milk, while the calves sucking their milk through the nipple required an average of two minutes and 21 seconds to drink the same quantity of milk. It was shown conclusively that during the first seven to 10 weeks of the calf's life, they were more thrifty when fed through the nipple, which was due to the fact that as they suck the milk they mix it thoroughly with saliva and take it slowly. After the seventeenth day the nipple was no more effective than bucket feeding."

An experiment was made with 18 grade and pure-bred Jersey calves to test the relative efficiency of corn, flaxseed, and whole milk. The average daily gains for the three lots were, respectively, 1.44 lbs., 1.26 lbs., and 1.38 lbs., and indicate that it is unnecessary to use high priced whole milk, or to purchase expensive oil-bearing seeds, such as flaxseed, to supplement skim-milk for calves that are two months old.

LIVE STOCK NEWS.

James Dobbs, of Medicine Lodge, Kas., is banking on high cattle prices for the next year at least. In Barber county, where he lives, Mr. Dobbs owns about 3,500 acres of good land on which he has raised a world of good feed this season. Besides that he also owns about 6,500 acres of land in Roberts county, Texas, where he raises considerable feed. "Forage feeds and the silo will solve this cattle problem in the southwest country and do it right," he says. "When we get the silos up and then devote more time and acres to raising kafir corn and milo maize, we will find that the cattle business will be still better than it has been in the past few years when we all made money. I have kafir corn on my Barber county farm this season that will make ten tons of silage to the acre, which is not bad for an off season. I have corn that will make 15 bushels to the acre, which helps out, too. If converted into silage this would make enough feed to winter a large number of cattle but it is the kafir corn and milo maize that are the reliable feed crops which never fail. This year on my home farm I am building two silos which I will fill. They have a capacity of 300 tons each. They are built of cement, which I consider the most durable. When we look about and remember the large amount of good feed Kansas farmers raised last year, which, if it had been put into silos and held over until now would be of inestimable value, and save the farmers from sacrificing their stock, we at once grasp the situation, and realize what a great necessity these feed savers are. We simply cannot afford to take chances on getting through without them."

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Get more Value**

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Practical Science.

HOG CHOLERA.

(Continued from last week).

Spread of the Disease.

The germs of hog cholera may be spread in a variety of ways. It is not necessary for healthy, non-immune hogs to come in contact with sick hogs or cholera-infected premises in order to contract the disease. Persons may carry the disease on their clothing or shoes; dogs, cats or birds may spread the infection. Treated or immune hogs may carry the infection from infected herds or pens although perfectly healthy themselves. Stock cars that have not been thoroughly disinfected may be the means of spreading the disease. A herd may be infected by improper vaccination methods, and instead of immunizing the hogs it may actually infect them with cholera, if not carefully and judiciously used.

Preventive Treatment.

It has been recently discovered that well hogs may be treated (vaccinated) with hog-cholera serum so that they will not take the disease if exposed later. Such treatment is called immunization. This method of treatment has passed the experimental stage and is now on a practical working basis. There are several different methods for immunizing hogs or making them immune to cholera. Immunization consists in bringing about the presence of what are called immune bodies in the blood. They enable the animal to resist such cholera germs as enter the system. These immune bodies are present in the blood of hogs that have recovered from cholera. Such animals are sometimes called "immunes."

A hog that has been treated with hog cholera serum without exposure to cholera at the same time, does not form any protective substances or immune bodies of its own. It is rendered immune for a short time (three weeks to two months), due to the presence of the protective substances injected. Such treatment is known as the single or "serum-only" method. On the other hand, a hog that has been treated by the single method, and exposed to cholera at the same time, will usually form its own immune bodies in its blood, sufficient to render it perfectly immune. The function of these immune bodies, or protective substances, in the blood appears to be that of neutralizing or rendering harmless the cholera germs when they gain entrance to the hog's body.

When it is desired to make a hog perfectly immune, and there is no cholera yet in the herd, it is necessary that hog cholera germs be introduced into his system simultaneously with the serum, which protects the hog from cholera germs injected. This is accomplished by the introduction into the hog's body of a small amount of virus. Virus is the germ-laden blood obtained from a hog sick with cholera. It is injected at the same time with the serum, but with a separate syringe. By this method the hog is enabled to develop enough protective substances of its own to render it perfectly immune. This is known as the double, or "serum-virus" method of treatment.

We advise single treatment for herds recently infected. From experience we have learned that it is not a good plan to use serum in herds where the disease has prevailed for a long time, or where a large part of the hogs have died, and where many others are sick. Some disappointing results have been obtained by using the single method in unexposed herds, because the disease may be contracted six weeks later or in even less time, because the immunity conferred by the serum has died out.

The double method may be used in herds in which cholera has just appeared, or in healthy herds in a locality where cholera has made its appearance. There is some risk of introducing cholera into a healthy herd by the double treatment. It must, therefore, be administered with extreme care, because when used carelessly, it may have the bad result of causing a large number of the treated hogs to develop vaccination cholera and thereby infect the premises. Even when used with extreme care, by experts, a small percentage of vaccinated animals (about two per cent on a large number) contract the disease as the result of the treatment. In double vaccination both serum and virus are injected at the same time but at different places with separate syringes. A larger syringe is used for the

serum than for the virus, because the dose of serum is considerably larger.

Inasmuch as the virus which is given contains the germs of the cholera, it actually causes a mild attack of the disease in the hog treated, but the serum injected at the same time serves to hold the disease germs in check and does not allow them to get a foothold in the hog's body. Most hogs will not show any effect from the double vaccination, but a few may refuse to feed about the fourth or fifth day, and then be all right in a day or so.

Some hogs are much more susceptible to cholera than others, or, on the other hand, some hogs have much more natural immunity against cholera than others. Herd after herd may be vaccinated by the double method without a single case of cholera developing as a result. Then a herd may be vaccinated by the same serum, and a number of cases of cholera develop afterward. This can be explained in two ways: (1) these hogs may have been infected before the vaccination, but not long enough for symptoms of cholera to have developed; or, (2) the great variation in natural resistance possessed by hogs may explain these disappointing results.

It will be seen from a comparison of the single and double methods that in the former the cholera germs present in an infected herd answer the same purpose as the virus given in the double method. Instead of the hogs taking the germs into their systems in a natural way when the single method is used, they are actually inoculated with the germs when the virus is injected.

What to Do.

(1). When hogs are well and no cholera is in the vicinity, we do not advise vaccination, provided every precaution is taken to prevent infection from entering the herd. Hogs should not be taken out of a healthy herd and sent to a show for exhibition purposes without being protected with serum. It should also be remembered that a hog that has been to a show may bring back cholera germs to a healthy herd.

(2). When hogs are well, and cholera is in the vicinity, the double vaccination is recommended, unless one is prepared to dispose of his hogs immediately. If hogs are to be kept, the single vaccination will confer only a short immunity, lasting from three to six weeks. Artificial pen exposure may be practiced.

(3). When cholera has made its appearance in the herd, hogs which are not extremely sick or in an advanced stage of disease should be treated immediately by the serum-only method. Delayed treatment will bring disappointing results.

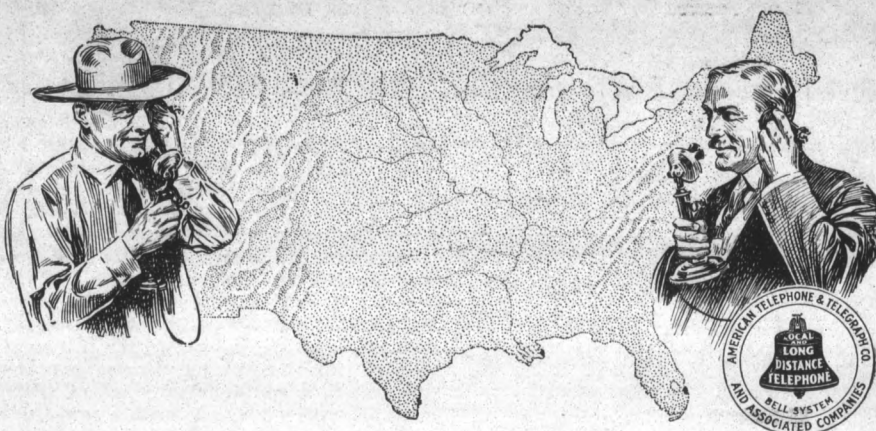
In case it is impossible to secure a serum immediately and the owner decided to send the hogs to market, this may be done. The following regulations of the Bureau of Animal Industry apply to hogs affected with cholera:

- (1). Hogs showing advanced, well-marked lesions of cholera are condemned outright.
- (2). Hogs showing less extensive lesions are not condemned; but may be rendered into lard under prescribed conditions.
- (3). Hogs that show only slight, limited lesions on post-mortem examination may be passed for food, provided the carcass is well nourished.—H. Preston Hoskins, Asst. Veterinarian, Minnesota Ex. Station.

A VALUABLE REFERENCE.

In connection with the veterinary advice given in the Michigan Farmer, every reader can use to excellent advantage one of the Michigan Farmer Anatomical Charts. This chart illustrates the horse, cow, sheep, hog and fowl, the perfect animal, the bones, the muscles, the blood system and the internal organs, also giving the name and location of each bone, muscle, and vital organ. Dr. Fair, our veterinarian, recommends the use of this chart and believes it will help you greatly to make your questions better understood and also enable you to better understand the answers.

This chart is only one of the features of our six-page collection of charts which also contain maps of Michigan, the United States and the world, and many other valuable features. The entire collection will be sent postpaid, for only 30c. The Michigan Farmer, Detroit, Mich.—Adv.



The Merger of East and West

*"But there is neither East nor West, Border, nor Breed, nor Birth,
When two strong men stand face to face, tho' they come from the ends of the earth!"*

—KIPLING.

In the "Ballad of East and West," Kipling tells the story of an Indian border bandit pursued to his hiding place in the hills by an English colonel's son.

These men were of different races and represented widely different ideas of life. But, as they came face to face, each found in the other elements of character which made them friends.

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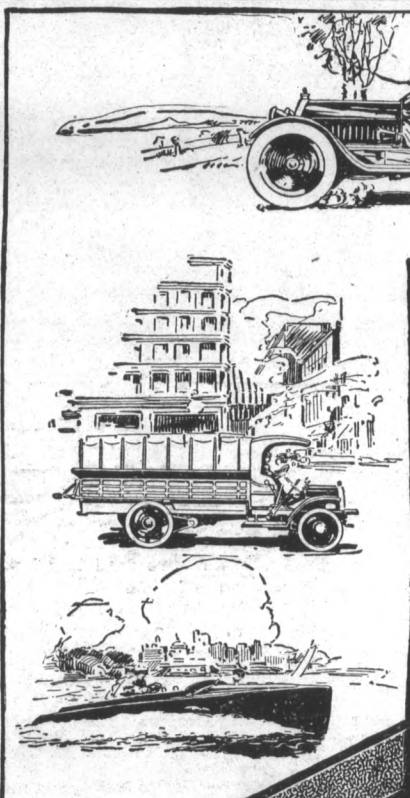
It brings us together 27,000,000 times a day, and thus develops our common interests, facilitates our commercial dealings and promotes the patriotism of the people.

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It penetrates to every part and gives it full protection. It keeps friction at the lowest point and thus obviates many costly repairs. And it serves in any type of motor—motor cars, motor boats, motor trucks.

Don't spoil a good motor with poor oil. And don't judge motor oil by appearance. The poorest oils may look as good as the best.

Polarine is made by the World's Oil Specialists after fifty years' experience with every kind of friction problem. Present day possibilities do not permit of the making of any better oil. All our vast facilities and resources are concentrated on Polarine. Get a can today.

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DETROIT, SEPT 27, 1913.

CURRENT COMMENT.

Crop Prospects and Prices.

In the last issue reference was made to the fluctuation of average farm prices for the aggregate of staple farm products during the past year. As noted in that comment the average farm price for staple crops decreased considerably during the early part of the year, owing to the abundant production of last season in most staple crops. At present the average farm price for staple crops is on the increase, due to the fact that unfavorable weather conditions over a large part of the country have decreased the prospect for a normal production of a number of staple crops.

This fact is of interest and should be taken into consideration by the farmer who is a market student, in determining whether to sell a product as soon as it is harvested and in condition for the market or hold it for a future market on the prospect of getting a better price. This is a more important consideration with the perishable cash crops grown than with the grain crops which can be stored an indefinite period of time, both because fluctuations of the market for the perishable crops are generally greater than is the case with the grain crops and because the perishable crops must in any event be sold within a fixed time.

The potato crop which will soon be harvested is one of these and as potato digging will become the work of the hour upon Michigan farms during October, the situation with regard to this crop is one which it will pay every farmer who grows potatoes on a commercial scale to study carefully. The national crop report for September places the average condition of the potato crop at 69.9 per cent of normal, which is 10 per cent below the average for the past ten years, and a like falling off is indicated during September. The October estimates will be more dependable, but from the tone of the crop notes which appear in this and previous issues from a wide section of the country, it would appear that only over a limited area will the late potato crop be up to previous expectations.

Northern Michigan has a good potato crop, as has also Wisconsin, but as a whole the potato crop prospects have undoubtedly declined during September as compared with the estimates made on the first of the month. Hence the commercial potato growers should expect a price for their crop which is above the average for the ten-year period, even allowing for the chance that at digging time the yield should prove to be better than is anticipated. This is true because of the fact that over a considerable portion of the country there will be a demand for potatoes for farmers' use where there is a complete failure of the late crop and in sections where enough potatoes are ordinarily grown for home consumption as well as a few for sale in the local community.

Of interest in this direction is an announcement recently made by the federal horticultural board that the quarantine against the importation of potatoes from certain foreign countries, including

the British Isles, Germany, Austria Hungary, Newfoundland, and the Islands of St. Pierre and Miquelon in the St. Lawrence river, belonging to France.

This quarantine was imposed last year as a means of preventing the introduction into the United States of that dangerous potato disease known as the potato wart, the potato chaker or black scab, which is now unknown in this country but prevalent in the countries against which the quarantine has been imposed. The announcement has just been made by the Federal Horticultural Board that this quarantine will be continued indefinitely in order that the danger of the introduction of this destructive disease may be reduced to a minimum.

Incidentally this quarantine will also shut off the possibility of a commercial supply from the countries usually contributing to our markets in times of scarcity, Canada being about the only remaining source of importation. With these conditions obtaining it would be the part of wisdom for commercial growers to be in no hurry to sell their crop until their markets open at a satisfactory figure.

The same policy would seem advisable with regard to other cash crops grown upon Michigan farms, since there would seem to be no over production along any line, and under these conditions conservative marketing will insure better prices for the products grown upon the farm and a larger share of the consumer's dollar to the grower than would be the case if the crops are marketed freely, permitting speculative buying and the holding of the products for an advance by dealers and middlemen.

The success of the pure food legislation in advising the public as to just what they are buying in the way of food products has been such as to inspire manufacturers along other lines with the wholesome idea of promoting similar legislation with regard to the products in which they are interested. This sort of agitation has naturally emanated from the manufacturers who make a good product and, while welcoming fair competition, find it a serious handicap to sell goods in competition with similar lines in which cheaper materials are used as a substitute for material which the purchaser naturally expects to be used in the manufacture of such articles.

The latest agitation for legislation of this kind is in favor of a pure shoe law which would require that when substitutes for leather are used in the manufacture of shoes this fact should be plainly stamped on the outside of the outer sole, or shank of the boot or shoe. It would seek to compel both manufacturers and merchants to sell the substitute for what it really is. This, of course, would apply to shoes or boots the outside of which is made of leather and the appearance is such as to lead the purchaser to believe that they are made throughout of genuine leather. This proposed law would require that if leather substitutes were used in the soles, insoles, counters or other parts of the shoes or boots the fact should be clearly designated by stamping same on the outside of the goods as above indicated.

Such legislation has been introduced in several states and has become a law in a few of them and a bill with these provisions as relating to interstate commerce in shoes has been introduced in Congress by Representative Oldfield, of Kansas.

Any proposition which will aid the ultimate consumer in determining the genuineness and relative value of the goods which he might purchase is commendable and should receive the support of the public generally. The pure food law has unquestionably been of benefit to the whole people in this way and there certainly can be no objection to pure shoe bills and pure clothing or cloth bills, or in fact any legislation which will make it more difficult or impossible for dishonest manufacturers or dealers to sell adulterated products of any kind as pure and genuine.

Progress of the Currency Bill.

The administration currency and banking reform bill which has been made the subject of frequent comment in these columns, was passed by the lower House of Congress last week. The vote was overwhelmingly in favor of the bill, being 286 to 84. It was not strictly a party vote, some 24 republicans and 14 progressives joining with the democrats in voting for the bill, while three democratic members voted against it. Inci-

dentally six Michigan congressmen voted for the bill on its final passage. The progress of this bill as compared with that of the tariff bill illustrates the difference between a measure which has been framed along lines of broad public policy and a strictly partisan measure such as the tariff bill is conceded to be.

While it is a matter for regret that tariff legislation cannot apparently be separated from partisan considerations no matter what party may be in power, it is a matter for congratulation that upon an equally important matter of general public good partisan factions may get together and party lines be to a large degree obliterated. It would appear to be practically certain that this action on the part of the House will insure the passage of a currency reform law at the present session of Congress.

Rural Credit and Co-operation.

In commenting upon the investigation of the American Commission on Agricultural Co-operation so far as it related to investigations of co-operative organizations in European countries. Senator Fletcher, of Florida, president of the commission, in his discussion of this topic at a recent meeting of the House of Governors in Colorado, emphasized the fact that in practically every case these organizations are voluntary on the part of the farmers and have not been directly fostered by the government. He stated, however, that since it requires credit to finance such co-operative organizations, they have in the south of Europe followed quite closely along the line of co-operative credit organizations in order that the collective credit of farmer members might be utilized in financing the co-operative work.

In other sections of the territory investigated the farmers had been able to finance these co-operative undertakings without resorting to their credit. It was, however, noticeable that where thorough business co-operation is established in a farming community the co-operative principles seem to be accepted along broad lines and the citizens of that community fall into the habit of co-operating upon general social and civic lines.

From the senator's statement it appears that it is the belief of the commission that the organization of co-operative business associations among farmers will be much more easily accomplished after an adequate system of organized farm credits is introduced. Such organization is more difficult of accomplishment in this country than among the farmers of Europe owing to the greater development of individualism among American farmers. It is reasonably certain that the work already begun will develop some adequate form of rural credit in this country and it is reasonable to suppose that once the tendency toward co-operation has been developed that such organizations will become more common along all available lines.

But it is not always advisable to await general movement before profiting from the opportunities which are open along any line. This is true of business co-operation as of anything else and wherever the farmers of a community are interested in any one line of production they can profitably organize for the marketing of that product at least in a co-operative way. With small beginnings of this kind it will become easier to inaugurate a general campaign toward more complete co-operation.

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Yet, such a store is not more convenient, as a shopping guide, than the advertising columns of the Michigan Farmer. Here you will find hundreds of manufacturers, in all parts of the country, describing and picturing their wares for your convenience.

You can sit down in your own home and buy direct from a factory a thousand miles away, or you can go to your nearest town and find the things advertised.

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HAPPENINGS OF THE WEEK.

National.

The funeral of Mayor Gaynor, of New York city, who died while enroute to Europe, was held in the metropolis Monday and was one of the most imposing in the history of the great city. From all walks of life, men, women and children came to pay their last respects to their departed friend and executive. For miles

the streets along which the funeral train moved, were packed.

By a vote of 51 to one the New York assembly disregarded the defense of Gov. Sulzer and authorized that his trial be proceeded with. Objection had been made by the attorneys of the governor that the impeachment proceedings had been authorized at a special session which was called for other purposes. The trial begins this week.

Lake traffic was disturbed by heavy winds and snow storms early this week. Anxiety for the Huronic with a number of passengers aboard, was relieved when she arrived long over-due, at the Canadian Soo. The Tionesta is sheltered behind Isle Royal. Many boats did not attempt to make their schedules. Captain O. W. Holdridge, of Barge No. 137, was swept from the craft and drowned Saturday night. The steamer Haddington, laden with coal, is stranded on the rocks at Graybill Point and her crew left her at a time when the sea was rolling heavily and the boat pounding badly.

The latest word from the mine operators of the copper district of Michigan is that they will consider no plan for settlement so long as the Western Federation of Miners remains in the field. The contention of the operators is that the organization has none of the interests of the local miners at heart but merely occupies the district here to gather dues from the men for conducting operations throughout the west. At the same time the operators declare that a settlement would be simple if the federation withdrew entirely.

The refusal of the mine operators to arbitrate their differences with the strikers has induced General Abbey, who is in charge of the troops, to order that the number be cut down to 200 men, and to arrange with the sheriff of the county to undertake the protection of lives and property. An injunction prohibiting parades and picketing has reduced the disturbances in the strike district.

The United States revenue cutter "Bear," which makes an annual cruise to the outlying ports on the northern shore of Alaska is reported to have been caught between large icebergs near Point Barrow and threatened with destruction. However, the crew, after working the boat through many dangerous channels, finally extracted it and anchored in clear water.

In order to facilitate the handling of parcels plans are being considered by the local post office for the establishment of stations in different sections of the city of Detroit for receiving and distributing this class of mail.

An epidemic of diphtheria at Dearborn, Mich., is now believed to have been checked by the vigilance of the health officers. Schools and churches have been closed and all public meetings prohibited. No new cases have been reported the past week and it is expected that the schools will open again next Monday.

The fruit growers of that part of western Michigan touched by the lake transits to Milwaukee are enjoying the reduced rates caused by a freight war between competing companies across the lake to the Wisconsin city. In spite of the fact that one of the companies against which the growers held grievances, imaginary or otherwise, is now carrying fruit from some points across the lake free, the growers remaining loyal to a competitor whose presence they believe will help them in the distribution of fruit in the future.

The eighteenth annual session of the Michigan Methodist Conference closed in Battle Creek Monday, when the announcements of appointments for the ensuing year were published.

The canal which was constructed to remove the stagnant waters of Black River at Port Huron, is reported to be filling with sand and unless it is cleaned out the water will be unable to flow through by spring.

In the death of George W. Bennett, vice-president and manager of the Willys-Overland Company of Toledo, the automobile industry loses one of its great men. He was a man of remarkable genius and of rare organizing and executive ability, and largely through his instrumentality was built up the great industrial institution which he served to the last. So well did he do his work that others can take up the tasks and carry them on without interruption. The thousands of friends and associates of Mr. Bennett throughout the country are inexpressibly shocked at his untimely death. Every man with whom he came in touch during his long and honorable business career will feel that he has lost a personal friend.

Foreign.

It would appear that the reports of looting and uncivilized practices by the rebels of Mexico have not been overdrawn. The first report coming direct from the community of Durango which was sacked this summer, indicates that foreigners and those sympathizing with the federalists were subjected to untold outrages, and that the town experienced a real reign of terror at the hands of the rebels.

The situation in the Balkan district is by no means settled. The conditions resulting from the treaty forced by the powers just now appear to be quite as aggravating as those growing out of the differences between the several countries involved in the recent wars. At present there is trouble between Turkish leaders over the rulership of Albania; Serbia is greatly disappointed that she did not get a port on the Adriatic, and now threatens to break the agreement to which she pledged herself, by starting a progressive military campaign along her borders; Greece is jealous, wants some of Albania annexed to her territory, and has men in the field to force this change if possible, while Bulgaria has so far failed to sign peace with Turkey. All of which makes peace seem a great way off.

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.

Johnny Appleseed, Apostle of Apple Growing.

By ROBERT S. WALKER.

MORE than one hundred years have now been thrown off the reel of time since Johnny Appleseed, the apostle of apple growing, scattered apple seeds throughout a wide range of territory from Pennsylvania to the Mississippi. Johnny Appleseed lived in a wild country, and in humility, yet his name has been immortalized, and we and future generations will be a long time forgetting the name of this great forerunner of the apple industry. Most every important person has the name of being eccentric, and we are told that Johnny Appleseed was also eccentric. I sometimes think that each individual's peculiar traits, which distinguish him from every other person in the world, is the one thing, and only one thing, that causes him to be called eccentric. Of all the millions of people in the world, no two are alike. This little different trait, when observed by the observing, draws to one the descriptive adjective, "eccentric." So we will say that Johnny Appleseed was eccentric, but he was also benevolent.

Johnny Appleseed, whose real name was John Chapman, was born in Springfield, Mass., in the year 1775. About the year 1801 he left Massachusetts, going to Ohio and Indiana. At this time immigration to those states was just beginning.

In the territory between Massachusetts and Ohio, Johnny Appleseed was a familiar figure. He saw the tides of immigration going to the west, and foresaw the need of fruit, and to this cause he devoted his life. So, after gathering up all the apple seeds he could find in his native state, he would visit the intervening territory and scatter the seed, not permitting any family to lack enough to plant to provide them with a good orchard. As a result, thousands of apple orchards grew up in the intervening territory, and thousands of people were soon provided with ripe fruit, owing to the timely benevolence of this apostle of apple growing. But, Johnny Appleseed made it a point to go in advance of civilization, and plant out acres of apple seed, that the little trees might be ready for planting by the time settlers came into the new territory. This he practiced extensively in the states of Ohio and Indiana. When he had cleared up a small plot of ground, and planted his apple seeds, he would cut down timber around the plot as a protection, leave the spot and move on and on, planting little patches of apple seeds about in the forests.

But you may wonder where this man obtained so many apple seeds. After he had reached the Ohio territory he would go back into Pennsylvania and get seeds from the manufacturers of cider; these were carried in saddle-bags, sometimes on his own back but more often on a poor looking pony. On one occasion he was met on the Ohio River, below Pittsburgh, Pa., with two canoes lashed together, loaded to the limit with apple seeds. In the year 1808 his plantings amounted to over fifteen bushels of seeds.

Throughout the Ohio and Indiana territory he traveled on foot, and barefooted at that. During the growing season his itinerary included the territory in which he had planted his seeds, and these he visited to ascertain if the growing trees really needed any attention. When the trees were large enough to transplant to the orchards, settlers had come into this new country, and they visited his nurseries. Here he would let every visitor have all the trees wanted, accepting money, notes, old clothes or most anything in payment. The poorest caller who wanted trees was never turned away; he always saw to it that all received what they desired, whether they had money or not.

As the new settlers came in, they found plenty of maples from which to draw the juice to make delicious maple sugar, and

with the fruit from Johnny Appleseed's trees they were enabled to have apple sauce and other delicacies made from apples. No doubt many of our popular apples today were originated by him.

Various stories have been told about the peculiar habits and dress of this pioneer of the apple industry. One person, who is not now living, declared that on many occasions he had seen him wearing a tin pan for a hat. He was a friend to everyone, and he made it a steadfast rule to never pass anyone by who needed wearing apparel without dividing his own scanty clothing with him. No one feared Johnny Appleseed, for even the Indians had early learned to love him. He had a free pass to any home and to any section. Living entirely in

of water on his fire. Although he lived and traveled in the woods, he never carried a gun, and never attempted to kill birds or beasts. One gentleman states that he never knew John Chapman to give way to revenge, and that he saw him at one time outrageously abused by a man much smaller than himself, but Chapman bore it all with meekness. He considered himself living as the primitive Christians had lived. In his much valued works on the "Historical Collections of Ohio," Dr. Henry Howe relates that one of the early itinerant ministers, preaching in Mansfield, O., on the public square, passed on to a passage not in the original plan of the sermon. At a certain point in the sermon he raised his voice to a high pitch and asked: "Where is the Christian trav-

Johnny Appleseed, no doubt, living the outdoor life of primitive man, had acquired a fine constitution, and it is said that he could chop more wood and girdle more trees in a day than two ordinary men could do.

Like many other great men, Chapman came to the end of life still in the harness of his vocation, to which he had devoted his entire life. News reached him that cattle had broken into some of his nurseries in Northern Indiana, whereupon he made a hurried flight to that territory to repair his tree-fences. On the way he encountered foul weather, but this did not stop him, and the prolonged exposure brought on the sickness which resulted in his death. He died in St. Joseph township, Allen county, Ind., March 31, 1845, and is buried about two and a half miles north of Ft. Wayne, Ind.

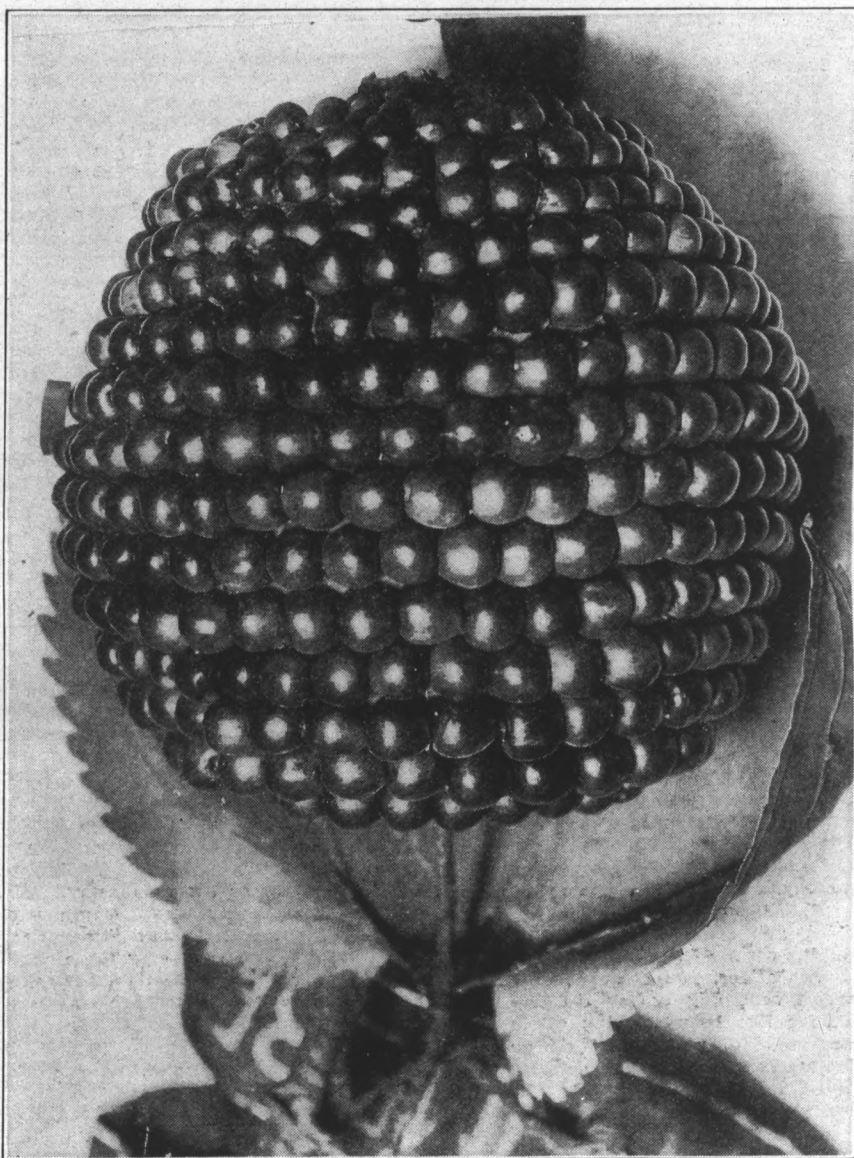
But that isn't all. A monument has been erected to the memory of Johnny Appleseed in one of the beautiful parks in Mansfield, Ohio, and his name has been engraved on the monument in Ashland county, Ohio, erected in the year 1882 to commemorate the Copus massacre, a horrible and sad tragedy committed by the Indians just seventy years previous.

This finishes our brief history of an humble person, but great. But let us, for a moment, take a view of the industry which Chapman so nobly and honorably championed. The apple industry in the United States is one in which every person is interested. It has grown to be a great business, requiring men of more training to carry it to success than law or medicine. It had grown to 69 million barrels in 1896; it dropped to 28 millions in 1911 and went up again to 40 millions in the year 1912.

Without going deeply into the statistics of apple growing in this country it may be said that the recent census showed upwards of 150,000,000 trees in bearing and more than 65,000,000 trees not of bearing age. In this connection it is of interest to learn that the geographic division of the country designated as the East North Central (comprising the states of Ohio, Indiana, Illinois, Michigan and Wisconsin) leads all other divisions in this respect, the number of trees in bearing in these states being reported as follows: Ohio, 8,504,886; Indiana, 5,764,821; Illinois, 9,900,627; Michigan, 7,534,343; Wisconsin, 2,430,232. The figures for trees not in bearing are as follows: Ohio, 2,438,246; Indiana, 1,961,974; Illinois, 2,548,301; Michigan, 2,253,072; Wisconsin, 1,408,726. In production and value of crop, however, this division is second to the Middle Atlantic division which includes the great apple states of New York with nearly 14,000,000 trees, and Pennsylvania with more than 10,000,000. In 1909 (the latest figures given by the federal census) the combined yield of the East North Central states enumerated above exceeded 25,000,000 bushels, valued at more than \$15,000,000.

While the figures show that the apple industry suffered a decline near the close of the last century, there is abundant evidence that it is now strongly on the up grade and seems destined to assume a prominent place among the country's profit-yielding crops. In 1909 the estimated value of the entire United States crop was \$83,231,000, or only 1½ per cent of the total value of all crops. Today it is probably the most popular of American fruits, both at home and abroad. Indeed, during the past decade, the exports of American apples have averaged nearly 1,500,000 barrels per year, the total value of last year's exports exceeding \$10,000,000.

Thus we see that the apple industry in the United States is on a scientific basis and American apples are known the world over. Many of the foreign countries are eating American-grown apples, and many



A Huge Apple Made of Apples—One of the Unique and Interesting Exhibits Seen at a Recent Apple Show.

the wilderness, walking barefooted most of the time, Johnny Appleseed was swift on foot, and he is credited with saving the lives of many people, on one occasion, by running ahead and warning the settlers of an advance attack which was being made by the Indians.

John Chapman was one of those good fellows who believed in keeping on good terms with both man and beast—in fact, all living creatures. His mercy for animals was unmatched. It is well illustrated in a story told of him when he was sleeping in the woods one summer night. It seems that Chapman had built a fire and as he was lying down resting, he noticed many mosquitoes falling into the fire, so he arose and dashed a hatful

of water on his fire. Although he lived and traveled in the woods, he never carried a gun, and never attempted to kill birds or beasts. One gentleman states that he never knew John Chapman to give way to revenge, and that he saw him at one time outrageously abused by a man much smaller than himself, but Chapman bore it all with meekness. He considered himself living as the primitive Christians had lived. In his much valued works on the "Historical Collections of Ohio," Dr. Henry Howe relates that one of the early itinerant ministers, preaching in Mansfield, O., on the public square, passed on to a passage not in the original plan of the sermon. At a certain point in the sermon he raised his voice to a high pitch and asked: "Where is the Christian trav-

It seems that Chapman had other duties, in addition to scattering apple seeds. In addition to growing apple trees, and scattering apple seeds, he made it a part of his business to distribute religious literature free, which he carried with his New Testament in the bosom of his shirt. If Chapman had a good supply of books he gave them out intact, but when his supply ran short he separated the leaves and chapters so that all received a por-

localities hold apple shows each year, some costing as high as \$50,000 to provide for the exhibits.

So in studying the lives of great men, let us remember Johnny Appleseed or John Chapman, and the great good he did in promoting good for his fellow man.

THE REVENUER.

BY FRANK H. SWEET.

When the defeated Willett strode down the mountain he did not go on to the town, as a chance observer might suppose, but slipped quietly into the bushes as soon as he got beyond view of the cabin. Through them he wormed his way back again, upon his hands and knees, without the breaking of a twig or the stirring of a branch. When it grew dark he was lying at a point exactly opposite the door.

Soon after, he heard whispered voices about the cabin, and a flare of light shot through a suddenly opened door. Willett crowded a little closer to the ground, breathing softly.

A little while of waiting, and there came a dull, jarring sound that caused the watcher's hands to pat each other softly. This was his fourth visit up here in seven days, and the first that had brought him even a clue. It was well worth the risks and discomforts of night work to hear that sound.

Almost continuously it came to him now, from the direction of the cabin, and yet not so clearly and unmistakably as the short distance would imply. Probably that was owing to the thickness of the walls. But anyway, it didn't matter. He knew the sound. There was no mistaking that.

Several times during the night he started from his cramped position to go forward and investigate more closely; but in each case, before he reached the cabin, he heard low voices and footsteps, and once a hand fell upon the door latch, and he slipped back. But he had found what he wanted to know, and it might not be well to take unnecessary risks.

Just as it began to grow light the jarring sound ceased, and soon after there came a burst of clear, joyous singing from the cabin. Then the door opened and a young girl stepped out with a pail. The keen eyes of the watcher grew tender.

"Lelia's going to get breakfast now," he thought, "and is starting to the spring after water."

He waited another half hour, until he saw the girl's father come out and wash his hands in the basin on the bench, and wipe them on the towel that hung invitingly from a nail in the wall; then he slipped backwards into the patch beyond the screen of bushes and rose noiselessly to his feet.

"They're going to sit down to breakfast now," he thought, "and if I can walk up quietly while they're eating, maybe I can get a peep into the cabin. Odd I've never seen within since I was a kid, more than ten years ago. When I've been around they always stay outside, with the door shut. It's a good night's work I've been getting in all right."

He could hear dishes begin to rattle, and started toward the open doorway quickly and noiselessly. But just before he reached there the girl appeared and looked at him smilingly.

"My! Sam, but you're early," she exclaimed. "You must have started 'bout midnight. An' look at the leaves stickin' to your clothes! I reckon you come straight through the woods, an' in a hurry. But never mind," a dancing light in her eyes; "you're just in time for breakfast. Come right in."

In a daze, with his mouth half open, Sam Willett followed her into the cabin. The girl's father was already at the table, shoveling large knifeblades into his mouth. At that moment came heavy footsteps outside, and the girl's two uncles, Lem and Mose, strode in. Both flashed surprised, baleful glances toward Willett, but said nothing. Throwing their hats upon the floor they went out to the bench and washed noisily, then came in and pulled stools to the table and at once fell to eating.

"Some time since you was in our house, Sam," said the girl affably; "but we all ain't made much change, I guess—'cept the water cooler over there. Come an' look at it."

She led the way to the water cooler on the opposite side of the room, evidently a discarded one from some railroad station, for it was of the regulation size and much battered and bent. At the bottom was the faucet, which seemed the only part of the cooler not damaged.

"Dad picked it up somewhere," she ex-

plained, "an' for a time 'twas right handy. Then it started in to leakin'." She turned the faucet idly, and motioned him to look in.

"Top's off," she smiled. "Look over 'an see what we use it for now."

Willett looked over the top. The cooler was half full of old shoes and other odds and ends.

"Handy for a catch-all," the girl observed. "Now look around the room carefully an' see if there's a single thing different from what 'twas when you was a boy an' used to come here. An' look into 't'other room, too. The door's open."

Willett's keen eyes swept over every detail of the room, and over the other one, where the door was open. Whatever else he might be, the man was no coward.

But when he slid down upon the stool left for him at the table the man's face looked dazed. There wasn't concealment in the house for so much as a demijohn of corn juice. Moreover, the cabin was built upon posts, and was all open underneath. And there was no loft, the rooms extending up to the hewed shingles. Everything was perfectly bare and plain to the view. And yet—

The men took no notice whatever of him, and ate for the most part in silence. When Lem and Mose arose, Lelia's father looked up for the first time.

"All done?" he asked.

"Yes," Lem answered bluntly; "run the last lot off 'bout daylight. Be twenty barrels or more of prime on hand, I reckon."

"Prime 'taters ought to sell well a scarce year like this," spoke up the girl quickly. "Hear what they're sellin' for, Sam?"

"No," said Willett. "I ain't been inquiring much about potatoes."

"Nose p'intin' too much other ways, I s'pose," grunted Lem sourly, as he arose and left the room, followed by his two brothers. Sam's gaze darkened a little, but he smiled as he looked at the girl.

"Don't waste much likin' on me," he said, "though my father was their best friend, and lived neighbor to them all his life. I suppose," after a few moments' silence, as she did not speak, "it's on account of the business I'm in. But you and they don't understand I'm doing it for your good, Lelia—yes, and for theirs, too."

The girl threw out her hands sharply, with a sudden glint in her eyes, but did not speak.

"I was ambitious," Willett went on; "and after you and I promised to wait for each other, ten years ago, when you were only eight, I started off to get into something bigger than the mountains offered. I went to school, and in time rose from one job to another till I got into the revenue. Since then I've been making a hundred dollars a month, and often more, and now I've got enough saved up to buy us a nice home."

"Made by sending your old friends to jail," commented the girl. "That's why Dad an' my uncles don't notice you much. Your father was their best friend, like you say, an' they owed things to him. So they've kept their guns p'inted other ways so far. If you'd been anybody else you'd been dead long ago. I've been wantin' to tell you this some time, Sam, but didn't seem to get a good chance. You're my own fourth cousin, an' we were boy an' girl playmates, an' I'd hate to see you picked off for a meanness. If I were you I wouldn't come up here any more."

"And you up here, waiting!" protested Willett, with a laugh. "You're joking, Lelia. Besides, you don't understand. I haven't sent any of my old friends to jail, for I've been working off in other mountains till now. But it's notorious down in the office that a whisky still is located right here near your place, for we've got proof that liquor's been bought at this cabin time and time again, and often fresh—not two hours made. We've had spotters up here, fixed as mountain men or negroes, and they've stood at the door and bought by the glass and quart and gallon, and one man got a ten-gallon keg filled and carried it away on his shoulders. And it was newly-made, too. They all said they had to stay outside, and the liquor was brought to them."

The girl was regarding him smilingly now.

"Go on," she said.

"Well, it all accounts for my being here. Three or four men tried to locate the still, and failed, then I asked to be put on the job, as I knew something about the place. You see, it would be only half-way work to arrest your father and uncles and not find the still. Besides, there was another thing. The end was sure to come in a very short time, and the sentence would

be an extra hard one on account of your father and uncles being such old offenders. I have a little influence down there, too, and by taking them in myself, with evidence of the still destroyed, I could urge the sentence to be a good deal lighter. Maybe I could get them off altogether by their paying heavy fines and promising to behave themselves in future. So you see the very best luck they could have would be my handling the job. Also, there is a thousand or so dollars in it, which would better come to us than go to others."

"You heard something last night," the girl said quietly. "The leaves on your clothes showed you'd been watching."

"Yes, I was right opposite the door," candidly. "And I heard enough to go right on with the case. The end's come, Lelia, and it's best to face it just as 'tis. Of course you couldn't stay here with your father and uncles gone, and of course you wouldn't want to. We'll go down to the city and be married, and the thousand, with what I've got, will fit us out nicely. I'll work the sentence down the best I can, and when it's out maybe they can get into some business near us, or come back here—or perhaps they would rather go out west. I've heard that your father and uncles have bought land out there, near where old Lige Peter's son is located. We'll let them do whatever they like best, and I wouldn't wonder if the west would offer more chances. What do you say, dear, to being married now instead of waiting any longer."

He rose from the table, but she stepped back a little.

"Let's look around first," she said. "You've been tellin' your side but didn't say just what 'twas you heard last night. We'll look round an' try to find out what an' where that noise was. As to goin' west, we have bought land out there on Jack Pelter's recommend. He writes it's a splendid section, an' wants us all to come. An' now," briskly, "you search through the two rooms first, to see if you can find so much as a spoonful of whisky, or any hidin' place. Oh, go ahead," as he showed some signs of hesitation; "look just as close as you can. I'd rather you would. Either we've got the stuff or we ain't, an' it's up to you now to prove it."

Willett nodded and went from one room to the other, searching every corner and crevice, pounding on the logs and even pushing his toes into the crevices and climbing up until he could run his fingers along every projecting beam and stand above. In the main room he ran his hand among the old shoes and other things in the water cooler, turned the faucet, and peered under the table and bunks.

"Not a spoonful inside," he at last announced, disappointedly; "but—"

"No place under the house to hide anything—"

"Oh, I know that," Willett interrupted, with a sickly grin. "I've searched over every square inch, and couldn't find a spoonful there, either. But—"

"Never mind speakin' 'buts,'" impatiently. "I'm givin' you leave to look round an' find out everything for yourself now. Come."

Outside, there was just hard, undisturbed dirt for several rods around the cabin. From the back wall, considerably above one's head, ran a straight, heavy clothesline to a small shelf of broken ledge some five or six rods away. The line was covered its whole length with drying clothes, and Willett remembered that clothes had been drying there at all of his former visits. But then Lelia had a mountain reputation for her energy in washing clothes and keeping the cabin clean.

After a thorough and unsuccessful search of the ground around the cabin they went to the ledge. Beyond this was hard, level, unbroken ground again. The rocks offered the last possible hiding place for a still, and Willett climbed over and examined them carefully, a puzzled, dogged look coming into his eyes as the search went on. But the rocks were just the same as he remembered them in his boyhood, with the same patches of moss and lichens clinging to them, and with damp mold and decaying leaves down in the lower crevices, as then. He thrust the end of a long pole into every crevice and hole large enough to receive it, and it was the same. Only one tree grew from the ledge, a knotty, gnarled hickory, to the top of which was fastened the clothesline. The surplus length of the line was twisted around the tree, the end dropping down among the rocks.

Willett searched and prodded about for a full half hour, then returned to the girl with lowering face.

"So we all ain't got any still nor hid whisky nor anything you've been tryin' to put on us," the girl said sarcastically. "Of course, you'll go back an' tell everybody so."

"Not yet," shortly. "I'm going to have another search, and I'll dig around for a whole week next time if need be. If I didn't know there was a still here I'd swear there wasn't. But I do know, for I heard it. Next time I'll bring up some dynamite, and drop a few sticks among the rocks, and maybe dig some holes in the hard dirt round the cabin and drop in a few more."

"How 'bout Dad an' Uncle Lem an' Uncle Mose?" queried the girl.

"I shall bring up a dozen or so men," doggedly; "enough to carry the thing through in spite of opposition. I know what I want is here, and the only link left is to find it. But look here, Lelia," his voice softening, "you can see this won't be a place for you any more. Why can't we be married at once? I'm in a position to help your folks a lot, and I can give you a mighty nice home, and—"

"Wait till you come up next time," the girl interrupted. "You shall have my answer then. Looks like it might need a heap of study."

It was a day's journey from the cabin to the city where Willett must go for further instructions and reinforcement, and there were men to gather and a certain amount of red tape to go through with before he could start back. But it was not quite the end of the third day when he and a dozen or more men moved quietly from behind the bushes and approached the cabin. More evidences of sales had come to light, making it plain that this was an important center for the distribution of illicit whisky—so much so that an adequate force was deemed necessary to break it up. There was no knowing how many friends of the mountaineers might come to their rescue.

Willett led the way straight to the cabin, the door of which was open. But no girl was waiting to receive him now. As he went in, the first object to attract Willett's gaze was a large piece of brown wrapping paper stuck on the faucet of the water cooler. He snatched it off, and read:

"Push the little catch under the faucet so the water'll run. We all left some to refresh you an' your men, for you're bound to be tired arter so long a tramp. Also it's too bad to blow up the ledge, which ain't to blame any, so go back beyond the path an' down the hill twenty-five or thirty feet, an' you'll find two big rocks with a little openin' between them. Kick the leaves an' rubbish away, an' crawl in. A few feet, an' the passage will be large 'nough for you to stand up an' walk in, an' it'll lead right straight back under the ledge, where you'll find what you're looking for."

P. S.—Dad an' me'll start for the west soon's you get out of sight down the mountain. Dad's loadin' his gun while I write this. Uncle Lem an' Uncle Mose will stay a few hours longer to deliver the twenty barrels or so of—taters. Some customers was out in the bushes waitin' for them while you was here.

No need for you to follow. We've got too much start. Jack Pelter ast me to marry him 'fore he started west, an' I said yes. We'll go straight to his place, where he'll have a preacher waitin'. An', anyway, I never could marry any revenueur."

Lelia.

With an exclamation that didn't sound nice, Willett slipped a hand under the faucet and found a small projection, which he pushed until it moved. Instantly a stream of liquid ran out upon the floor, and the odor of it filled the room. Several of the men snatched up cups and sprang forward.

"Don't waste good whisky that way," one of them protested. "Let me get my cup under there, quick!"

Willett dropped upon his knees and examined the bottom of the cooler. The faucet did not connect with it at all, but with a small pipe that went under the cooler and ran up behind it and into the wall of the cabin. Willett did not need to go outside, for he realized suddenly that the pipe continued there as the clothesline.

"Numbskull!" he exploded wrathfully. Why didn't I examine that clothesline when I noticed how straight it was! I might have known so many clothes would sag an' ordinary line of that length. Bah! Then, "Come, men, soon's you get your fill we'll go back and find the hole. We can destroy the still under the ledge at any rate, though it'll be only half a job with the birds flown."

BOOK NOTICE.

The Barnard Language Reader. By Marion D. Payne, Instructor in the Barnard Schools, New York City. This book for the first school year offers an interesting variety of material for dramatization, reproduction, and memory work. Cloth, 12mo, 142 pages, illustrated. Price, 30 cents. American Book Co., Chicago.

THE WORKER.

BY CHAS. E. JENNEY.

He has sweat for the serfs who have
sulked or shirked;
He has wrought for the rich who have
never worked;
He has plodded along when his health
was poor,
And borne their burdens who called him
boor.
He has sternly kept to his steady way
When he wanted to stop and rest or play.
You may call him a scab, or whatever
you like:
To the man who never went on a strike!
He has done the things that had to be
done—
As well as he could and as sure as the
sun—
Wasting no time, nor talk, nor powers
For a raise in wages or shorter hours.
Closed shop and the walking delegate
Mean less to him than his dinner-plate.
His faith he has kept; to his job he has
stuck:
Then here's to the man who has never
struck!

Aye, thrice I would ask you to drink his
health,
And you can't refuse, for you've shared
his wealth;
You have drunken his wine and eaten his
bread,
And he's offered you roof and warmth
and bed.
He has borne the whole earth, Atlas-
like—
This man who never went out on a
strike—
Our country's sword, and shield, and
armor—
Drink, standing all, to our sturdy farmer!

THE LITTLE BROWN BIRD.

BY LOU D. STEARNS.

"Listen," said Hazel.
"To what?" asked Don.
"Do you hear any birds singing?" re-
plies Hazel.
Don listened. "No," he declared, "not
a chirp. Why?"
"Cause," said Hazel. "Mamma said if
we did anything that wasn't quite right
while she was away a little bird would
be sure to tell her."
Don put his head on one side and look-
ed up through the trees. "Not a bird,"
he declared, "is in either of those trees.
We can do just as we please, for a whole
hour, Hazel."
Taking hold of hands they raced to the
far corner of the yard. In a small hollow
in the road was a tiny mud puddle and
Don eyed it with approval. "Let's wade,"
he suggested.
"I'd rather make pies," argued Hazel,
pulling his sleeve, "and besides, Mamma
said we were not to go outside the yard."
Don put his hands into his pockets and
looked up and down the street. "She'll
never know," he said; then, with a quick
change, "I say, let's try some of those
apples under that big tree."
Hazel drew back. Two red spots came
into her cheeks, and she swallowed hard.
She did hate to have Don think she was
afraid. "But," she begged doubtfully,
"you know, Don, Mamma was very spec-
ially careful to say we must not touch
even one."
"Pooh!" he scoffed. "She won't know,

and anyhow she only thought they'd make
us sick. But they won't, when a boy
gets as big as I am," and holding his head
very high he sauntered across to the ap-
ple tree. Picking up the hardest, green-
est one he could find he bit into it,
crunching it down as he had seen Ted
Williams do yesterday. Then another.

Chirp, chirp.
With a thud, the third apple fell to the
ground as a small brown bird spread its
wings and soared up into the clouds,
straight from the top of the very tree un-
der which he stood.

"Gee!" he cried.
"Oh," exclaimed Hazel, "do you really
think a bird could tell?"

"Course not." Don's chest swelled
with importance. "That's just talk. Come
on, let's play croquet."

But soon Don's cheeks began to burn
and his head to ache, and he was glad to
stretch out on the piazza in the shade;
then, after a bit, he got up and, going
into the house, laid down on the couch,
while Hazel sat soberly beside him. How
thankful she was that she had not touch-
ed the apples.

She did hope Don was not going to be
sick, and she was very, very glad when
the door opened and her mother came in.

"Oh, Mamma," she exclaimed excitedly,
"Don's sick!"

Mrs. Gray crossed to the couch. She
felt his hot head and brushed back his
hair. Then she sat down beside him.
"Son," she said, "I'm sorry you forgot
what mother said about the apples."

Don was too sick to reply, but Hazel's
eyes opened wide. "Why, mamma," she
cried, "how did you know? You haven't
even asked!"

Chirp, chirp.
Outside the window a little bird flut-
tered, its small brown body pressed hard
against the screen, and Hazel's eyes op-
ened still wider. "Donald Gray," she ex-
claimed, "whatever do you think? It's
the very same bird that flew out of that
tree!"

Mrs. Gray smiled. "I told you," she
remarked quietly, "a little bird would
tell."

THE SPEED OF BIRD MIGRATION.

BY ORIN E. CROOKER.

The distances which birds cover in
their migration flights have been made
the object of interesting study by many
experienced observers. It has been long
known that some species of birds winter
in South America and breed near the
Arctic Circle—necessitating a trip of sev-
eral thousand miles twice each year.
Quite as interesting, however, are the
results of observations which show the
number of miles that a bird travels in a
single night's flight. It is evident that
to most of the birds this proceeding par-
takes of the nature of a leisurely pleasure
excursion rather than a break-neck race
against time.

The average daily advance of migra-
tion northward in spring has been deter-
mined by experienced ornithologists to be

Marie and Dan—By RUTH RAYMOND.

THIS is Marie on her
Shetland pony, Dan.
Her big brother had
the first ride, for he was up
first, and now Marie will
have a canter before break-
fast.

Dan is a very gentle and
lovable pet. Grandpa bought
him for the children and
they do think he is the nic-
est and best pony that ever
was. He is only two years
old and has learned many
tricks.

Over in the Shetland Is-
lands, where Dan's ances-
tors came from, ponies are
treated as members of the
family and no doubt this is
one reason that Dan is so
gentle.

Dan gets his living in the
summer on the lawn and in
the lane that runs back to
the brook where he has nice
fresh water to drink. In
winter Dan has a nice sta-
ble, where he spends his
nights and very stormy
days, but he is a hardy lit-
tle horse and is not very
sensitive to cold. He has
nice clean hay for his winter
food, with a bran mash once
a week. Of course, Dan
likes sugar and apples when he can get them right out of the children's hands.



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for 24 months, and tells, every
30 days, exactly how to feed, dress,
wash and take care of the baby.

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AGENTS WANTED—Good proposition. Experience not necessary. Write immediately to the Advertising & Sales Dept., 15 Baker St., Detroit, Mich.

only about 23 miles. Considering that the average rate of speed with which the smaller birds travel is about 30 to 40 miles an hour it will be seen that the average daily advance of these tiny migrants is not much more than half an hour's flight. They do not, however, migrate every night. For several days, perhaps, they will linger in a given locality, resting and feeding—then in a single night they will cover many times the daily average mentioned. The purple martin which winters in Louisiana requires some 70 days to reach southern Manitoba but his actual migration flights are probably only about 12 in number, averaging some 120 miles a night. It is undoubtedly true that flights of 200 miles and more in a night are extremely common among certain species, while some of the stronger flying birds, such as ducks and geese, must cover more than this.

Various conditions determine the time it takes a bird to make the journey from haunts. Geese move northward as fast winter quarters to summer breeding as they can find open water. Land birds are governed largely by the question of food supply. Thus the fly catchers, swallows and so on, never advance faster than the appearance of a generous supply of flying insects which permits an abundance of food. The wood warblers do not appear in numbers until our fruit and other trees are well in leaf and productive of a host of insect life upon which they may feed. And as the appearance of insect life is dependent upon weather conditions to a large extent, it necessarily follows that the wave of northward moving bird migrants follows a certain well defined line of average temperature—different, of course, for different species but of such a degree as to warrant the existence of certain insect life upon which the bird depends. Thus if birds did not loiter along the way they would outstrip the advance of spring and get ahead of their food supply.

THE SILVER VOICE.

BY EARLE W. GAGE.

Mary was not aware of the pretty picture she made, standing in the door of her father's flower shop, with the blossoms banked behind her, and the feathery palms framing her fresh young girlhood. Her face was bright with joyous hope, for her father had just consented to let her go on with her lessons in vocal music.

They were very expensive lessons, and it required a great deal of self-denial to meet the demand; but old man Ransom had a long head, and he fully realized that this was by far the best provision he could possibly make for his daughter's future life. He had no fortune to leave her; but experts in the musical profession assured him that Mary's voice, though not as valuable as a fortune, would make her easily self-supporting, when properly developed.

It was a great voice, though not suited for the higher uses of the musical profession, these musicians told him, and the old Englishman promptly snubbed the suggestion; his daughter should never sing on any stage, he declared, no matter what sort of a voice she might have after the culture was through with. But a concert was different and as a teacher, he would gladly see her make an honest living. "But you must be very careful, daughter," the father had just advised her, as she was leaving his flower shop to attend the musical session of the teacher; "music is a wonderful work, but there is many a temptation for the girls to become giddy, as you'll later come to know; you must keep yourself dignified and not show any boldness or forwardness." And then to the lesson of high morality the old Englishman added a shrewd caution: "You must always show yourself a perfect lady, if you want ladies to trust you with their children."

"Yes, father," laughed pretty Mary. "I'll keep my back stiff and straight, never fear!" Then she stepped out to the street and closed the shop door behind her.

A sound of discordant music made her wince; she would rather be struck in the face than listen to discordant music. Searching for its source, her eyes fell upon a pathetic sight; a veteran, supporting himself on one crutch, was playing on a battered violin, much in need of tuning. Many stood waiting until he had finished; then she stepped up to put a bit of money in his cup. Mary's money was only in small bits, and numbered not many; but this nickle meant that she would walk several hurried miles instead of taking the street car. The five cents echoed in an empty cup. "You have not been lucky

today, Captain," she said in a gently sympathetic voice.

"No, kind lady," said the old soldier, in a discouraged tone. "I can't play anything but old-fashioned tunes, and nobody cares to hear them."

A sudden impulse was born in Mary's heart. "I could gain him enough to let him take a day's holiday, perhaps," her face flushed like the dawn, and paled again; would this tell against her? Would it make her desired patrons think she was not dignified? The girl shrank back from her own impulses and inherited caution pulled in the same direction. "Father's will might be such," she said to herself, excusing her cowardliness. "It might cost me my opportunity to become a great and noted singer."

So she started to walk along the street, but the sight of the faded uniform, the crippled leg, the sad face held her yet. "This is my chance to sing in the good cause," she thought, and her heart leaped up. "What did God give me my voice for? I will use it for this poor child of His, and if I lose my career, I sacrifice it gladly!"

"Here, Captain!" The old man was about to put his violin up and move on, for returns were very poor, but the fresh hearty young voice arrested his attention. "Play that last piece again," said Mary, "and we'll make the people listen, and give their money, too."

The old man obeyed, meekly, for he hardly knew what else to do; he played the introductory bars, and a joyous surprise flooded his whole withered body as a high, flute-like soprano rose and soared above the noise of the street, on the simple words of "Lead, Kindly Light." He quite forgot that it was for money this beautiful young woman was singing, and that the money was for him; he merely rejoiced in his musical old soul at being a partner of this heavenly melody, and he played worthily, with a new skill and life.

Mary, herself, felt the great joy of creating such sweet sounds; she recognized the new throb in the battered old violin, the new skill in the battered old fingers, and threw herself wholly into making the selection as beautiful as her gift would allow her. She fully realized that she had never sung so well before.

When the song was ended she and the old street musician came back to earth with a slight jar. There was an enthusiastic crowd around them, applauding and pouring nickles and dimes into the old man's cup until it was filled to the brim.

But the performance was not yet ended. A man, slight in figure, but well dressed, stepped forward from the crowd. "Let me have a try at the old fiddle, Captain," he said with a deep, rich voice. Mary stood amazed, and turned as red as the summer's rose with her great agitation. This—the wonder musician of the country, wonder of wonders of the platform, known to every home of the land—was the great Mantee Kerr himself, the renowned master of the violin, as well as a wonderfully equipped vocal instructor and writer of musical compositions. What could he be thinking of her, who had been so desirous of being among his students? What did he now think of her dignity and her self-mastery of cultural attainments? Did he believe she had done the right thing or the wrong thing in the right place? Was he to place her in a sorry position before all these strangers? Her heart was beating with great heavy bounds.

The crowd was increasing in numbers. The old man, who had faced many a stormy battle and strife for his country's cause, passed the old instrument to the master violinist. After a few turns of the keys, and close observation with his keen ear along the strings, he played introductory bars to "The Rosary," and as he opened the piece Mary took up the words, singing with that tender pathos and feeling which has gripped the great audiences of the auditoriums of the world many a time. The listeners fairly held their breath to catch every tone of the silvery, flute-like voice, blended with the mastery of the violin.

In the great storm of applause that followed, Mary made her way out to the cleared sidewalk, but as she looked over her shoulder she beheld the master of the violin, with his felt hat held in his outstretched hand, taking up the offering for the old captain. And the total amount was wealth to the old man, keeping him from hunger and need for many a stormy day. But Mary was facing her father as she neared the edge of the crowd. Would he be angry because of her use of her voice in this manner? No reproach was to be hers, for he said, "Oh, Mary! The good Lord gave you a heart of gold to match the voice of silver! You have made



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YESTERDAY'S LUXURIES ARE TODAY'S NECESSITIES.

BY EDITH CHILDS.

Could our grandparents look in upon us would they not open their eyes in astonishment at the wonders all about us? During the early days of our nation people spun and wove their own clothes, rode behind oxen, cradled their grain, and hauled, with tedious labor over rough roads, their produce to market.

However, as time passed the loom, and the sewing machine appeared; the cradle gave way to the harvester, the lumbering oxen and the dog-cart to carriages and horses; the steam engine was invented, electricity was discovered and the telegraph and telephone, with other inventions, followed rapidly.

From the time of the first riding vehicle and the weaving of cloth by machinery, one luxury after another has been added until at present we have nearly everything possible to lighten labor and increase the enjoyment of life. The world, which was once a slow one, has been increasing its speed until now it moves with great rapidity. The cry of humanity is hurry, hurry—if you cannot keep up with us, drop out. We have no need of sluggards. "Accidents fill the world with woe." No matter, we continue to rush on at breakneck speed.

The luxuries of the past are necessities of the present. The luxuries of the present will be necessities of the future, while the luxuries of the future are still unknown. The farmer may milk his cows with pneumatic tubes, run the milk through a separator, send his cream to the factory and receive a check each week. The housewife increases her "pin money" by using a "wooden hen" which turns out thousands of motherless chicks.

Gas and electricity are taking the place of hand and horse power. Our barns, houses and streets are lighted with one or both. The power is supplied by private lighting plants or large companies. The farmer, too, may plow his fields with steam, gas or electricity. His grain is threshed by the same means. Then again, the housewife may employ them in washing and ironing her clothing.

Graphophones and pianos are found in almost every home. Books are in abundance but, alas, they are not appreciated. Public libraries are within reach of us all. The farmer takes his family to town or city in an automobile to shop or visit, to attend church or theatre. He keeps in touch with the world by means of the telephone, the magazine and the daily newspaper.

Now comes the greatest blessing, the biggest luxury of them all—the rural mail and the parcel post. How eagerly we watch for the mail carrier! He brings news of friends, or lets us know what is going on outside our domain. We need not drive to town to shop but, by consulting catalogs and advertisements we can send our orders by mail or telephone and, behold, the goods come to our very doors.

Time passes rapidly. Soon these luxuries will be things of the past. Something new will take their place. Can anything take the place of gas and electricity, of the telephone, telegraph, rural mail or parcel post? Someday, perhaps, the farmer will ride from city to city in an aeroplane as he now goes in his automobile. Perhaps, too, some day we may talk with our friends by means of the wireless. Who can tell of the wonders yet to come?

SMILE PROVOKERS.

"Wise men hesitate—only fools are certain," he observed in the course of a conversation with his tender spouse.

"I don't know about that," she said.

"Well, I am certain of it!" he exclaimed. And for a long time he was puzzled to understand why she burst out laughing at him.

A young lady who taught a class of small boys in the Sunday school desired to impress on them the meaning of returning thanks before a meal. Turning to one of the class, whose father was a deacon in the church, she asked him:

"William, what is the first thing your father says when he sits down to the table?"

"He says, 'Go slow with the butter, kids; it's 40 cents a pound,'" replied the youngster.



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We Want to Ask a Question of the Fathers of Little Girls

How will you leave your daughters if you should be taken away? If you should die before they are grown, have you set aside a sum of money for their education and clothes?

Of course they will have their share, but unless the farm is broken up, or the boys have money enough to buy their interest, they may not have any ready money.

And a girl needs some money. If she expects to become self-supporting, she must have money to equip herself. Even to have a fair chance at matrimony, a girl must have some clothes.

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Mrs. Foolish: "Good evening, Anty Drudge. I'm all tired out— and my washing not done, because my boiler sprung a leak. I'm just looking over this mail order catalog to see what kind to get for next Monday. This aluminum one seems nice, and ought to be light to lift."

Anty Drudge: "No boiler full of water is light to lift. Order a box of Fels-Naptha Soap—save the money you'd spend for a boiler—and you'll be able to do your washing in cool or lukewarm water, with no hard rubbing and in half the time, next week and every week."

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Better buy it by the box or carton.

Fels & Co., Philadelphia.



Woman and Her Needs

At Home and Elsewhere

The Joy of Living.

THERE is a lot in the old theology that the new is changing. But one thing still remains which no philosopher has yet arisen to contradict, the idea that God cursed the race when he ordained that man must earn his bread by the sweat of his brow. All down through the centuries we have talked of the expulsion of our foreparents from the Garden as the "curse." We consider the one who needs must toil day in and day out as unlucky, while the one who can live at his ease we speak of as a lucky chap. The girl who marries a man with money is the envied of her set, while she who weds poverty is commiserated or perhaps sneered at.

But taking it by and large, the possession of money in one's youth is seldom a lucky thing. It is far better for the young man and young woman to realize how hard the dollars are earned than to have them handed out for the asking by an indulgent dad. Often even in middle age, the amassing of wealth brings trouble where harmony existed before.

There was the case of John and Mary Waters. They took up new land in Michigan a few years ago, and started out with only an ox team, a few second-hand farm implements and a few household articles donated by anxious relatives. But they were young and strong and very much in love and their possessions looked as fine to them as they appeared shabby to their friends. With laughing faces and brave hearts they set about clearing up their fields, covered as they were with stumps and second growth timber.

It was hard work, both indoors and out. John worked from 3 a. m. till 10 p. m. many a day, and Mary did nearly as well. For in addition to the work indoors she tried her hand at raising fancy poultry and berry-gardening, and even went out to help the neighbors in their busy seasons. There was nothing much but privations the first five years, for every cent that could be earned went into the farm for improvements. So there was no money for clothes and pleasures, and, in fact, no time to go to merry-makings had there been clothes. Yet there was a pleasure in it all, for both felt the joy of working, and both were filled with hope for the future.

And their hope was not without foundation. Their thrift and hard work told. They bought and sold wisely, and by the time the three children were ready for school, Mary could begin to take things a bit easier, and managed to save up enough money for her first real dress since her marriage.

They bought more land and were among the first to make money raising sugar beets. Mary's fine poultry commanded top-notch prices and things began to come their way. The old barns and log house were replaced with substantial buildings. Trees and shrubs planted years ago, were now in their mature beauty. There was a good bank account, and John purchased an automobile.

"How nice that they can now enjoy life," said everyone. "They certainly deserve it, for their early married life was hard enough."

But strange to say, they did not enjoy life. With the advent of a hired girl in the house Mary felt she had a chance to develop nerves, which she accordingly did. She grew capricious and fault finding. Nothing John did ever suited her. She studied books of etiquette and began to try to correct John's manners. John, thought his manners had been good enough for her for twenty years and he could see no reason for a change. She grew caustic and John and the auto took to leaving the farm in the morning and staying away until Mary had gone to bed at night. He began dropping in at the saloon for a bit of something to brace him up after a tirade from his good wife. Eventually a "bit" didn't suffice, and before many months the neighbors were bringing him home to Mary. A separation followed, and the old age of ease and enjoyment which the two had expected

turned into years of heartache for the wife and wretchedness for the husband.

Everyone had something to say about it, but no one placed the blame in the right place. Money was really at the bottom of it. Had they remained in circumstances which would have made it necessary to work Mary would not have had time to find fault, and John would have stayed right on the farm instead of running off to the saloon. Work would have been their salvation.

DEBORAH.

LAUNDRY DAY HELPS.

BY MRS. JEFF. DAVIS.

Many housekeepers look upon laundry work as hopeless drudgery. Of course it means an outlay of considerable time, and effort, but the burden can be greatly lessened, and the work made much more satisfactory, by adopting a system that includes the smallest details.

Get the best, most up-to-date laundry helps, and then give your tools and your work your careful attention. After you are through using your wringer, before covering it up until the following week, unscrew it, dry it thoroughly, and wipe it with a cloth moistened with kerosene. This is a splendid stain, and dirt remover. This may seem a small matter, but will greatly prolong the usefulness of your machine.

The very best clothes-pins obtainable are none too good to use. There are several kinds on the market of the spring type, that are guaranteed not to rust, and are durable and practical. But if you prefer the ordinary wooden kind, it is best to throw them into boiling water before they are used. They are less liable to "yellow" when treated in this way.

The clothes-pin apron made of strong ticking, turned up at the bottom to form two wide, but not very deep pockets, is a convenience well known, but often neglected.

Your ironing board should receive especial attention. To withstand the constant wear and tear the covering should be made from the strongest and newest of cloth. It will take less than a yard, 72 inches wide, so the cost will be only a trifle. This can be sewed up lengthwise and slipped on the board. For a protection for this make a smooth fitting cover of denim. This should never be off the board when not in use.

The ironing stand should be clamped firmly to the board. This does away with the danger of its slipping and the irons falling to the floor.

The irons must be kept perfectly clean to give the best service. This means they must be scraped clean of starch frequently and rubbed over fine salt, or washed in soap and water and dried. Wax is another important adjunct, though care must be taken that this is wiped off with cloth or paper before using on clothes.

A great deal of wear and tear on the clothes can be avoided by the use of a small hand brush. Instead of rubbing the clothes on the wash board, lay the soiled spots on the board, rub well with soap, and scrub with the brush.

When greasy pieces are washed add a little kerosene to the water. This will help in removing the dirt. Rub soap on the worst spots, and let the garment soak for a short time in soapsuds to which the oil has been added, and then wash.

To Remove Stains.

Iron rust may be removed by applying salt and lemon juice to the dampened spots and placing in the sun, or near the fire. Make second and third application if necessary. Rinse thoroughly.

For mildew give the discolored spots an application of common soap followed by one of starch rubbed in thoroughly. Lay the article in the sun for several hours.

For peach stains wet the stained portion of the linen, cover it with cream of tartar and lay it in the sun. Every vestige of the stain quickly disappears.

Most fruit stains may be removed by stretching the material across the top of

a pan, or other vessel, and pouring boiling water through them.

Tea and coffee stains may be washed out with cold water.

Blood stains will disappear if the stained article is put to soak, at once, in cold or tepid water.

Ink spots may be removed by an application of equal parts of citric acid and cream of tartar melted on a plate. Mix and rub over the stains, then wash carefully. In almost all cases the ink will disappear at once without injury to the color. Stains that have been laundered many times require many treatments before they yield.

If garments stained by tar or wagon grease are first washed in cold soapsuds the stains will be eradicated. For pitch stains first grease with lard, and then use soap and cold water. Turpentine will also remove such stains.

To prevent the fading of gingham, calicoes or lawns, dissolve a nickel's worth of sugar of lead in a pail of lukewarm water. Then put the goods into it and let stand for three or four hours, wring out, dry, and press in the usual way and the colors will never fade. This process shrinks the goods at the same time it sets the colors.

All black lawn, calico and percale dresses, dark tan and dark blue one, should be dipped in starch in which a cupful of clear coffee, and a lump of white wax have been boiled. The coffee will give to the material the original dark color which is so often destroyed by washing, and the wax prevents the starch from sticking to the irons.

For dampening clothes use a whisk broom and warm water. The dampness will be more even than if sprinkled in any other way, and the ironing facilitated.

A folded turkish towel makes an excellent pad for ironing embroideries. Rows of buttons may also be ironed on such a pad, using the iron on the wrong side of the garment.

A pad made from an old linen tablecloth is excellent on which to iron fine tucks. Make it twelve inches long and six inches wide, and six or eight folds in thickness. Stretch the tucks to be ironed over this, right side down, and when finished they will be straight, and stand out nicely.

RECIPES.

Walnut Candy.

Boil two cups of syrup with a teaspoonful of butter, and throw picked walnuts in as it approaches the candying point. Almonds can be used if preferred. To blanch the almonds, boil three minutes, then plunge in cold water.

Pumpkin Fritters.

Be sure your pumpkin is a good solid meated one to start with. Cut in pieces without peeling, scrape out the seeds and shreds that hold them, cut the pumpkin in small pieces and boil with a cup of water to keep from sticking, until tender and nearly dry. This requires five or six hours' slow cooking. Strain through a colander and to every teacupful add a beaten egg, salt and sugar to taste and flour to thicken as stiff as for corn fritters. Drop by the spoonful into a kettle of boiling lard, and as soon as brown and light take out, drain and send to the table. Some cooks prefer to add a little cream to the pumpkin and more flour and egg.

Charlotte Russe.

Dissolve one-half box of gelatine in one-half pint of milk. Heat one pint of milk to boiling point. Beat two eggs, one cup of sugar until very light, add these to hot milk, stir in gelatine. Cook just long enough to cook eggs. Have one and one-half pints of nice thick cream whipped to a good stiff broth. When gelatine part begins to congeal beat lightly into the cream. Set to cool.

Pound Cake.

Six ounces of butter, one-half pound of sugar, four eggs, 10 ounces of flour, one teaspoonful of baking powder sifted with flour. Beat butter to a smooth cream, add sugar, beating very light. Now add eggs one at a time, beating thoroughly between each time. Add flavoring, lemon and a little mace, and mix the flour in

lightly. Bake in loaf pans in moderate oven.

Baked Egg Plant.

The egg plant should be dropped into boiling salted water and boiled until it feels tender on pressure—about 25 minutes. Halve it with a sharp knife, scoop out each center, leaving the sides about an inch thick. Chop the portion taken out, season it well and mix with it an equal quantity of fine stale crumbs or part crumbs and some chopped cold bacon. Refill the halves, dot the top of each with bits of butter and brown in quick oven.

Hot Chocolate Sauce for Ice Cream.

A chocolate sauce poured over ice cream congeals slightly and is a toothsome combination. Boil one-half cup each of granulated sugar and water together for five minutes, then stir in slowly four squares or ounces of chocolate broken in small pieces. When the chocolate is all melted, add one-half teaspoon of vanilla. Keep the sauce hot by standing the dish in a pan of hot water. At serving time add one-half cup of hot milk. Serve in a pitcher or sauce boat.

Broiled Mackerel.

Soak the mackerel in fresh water over night. In the morning rinse in fresh water and dry. Place on broiler, brush the flesh side with butter, have it near the fire until nicely browned, turn and brown the skin side. When brown remove to slow heat, broil slowly, basting often with butter. Serve with lemon slices sprinkled with finely chopped parsley. Serve boiled potatoes with the mackerel and hot buttered toast cut into inch strips while hot, and piled log-cabin fashion, three strips lengthways and three strips crossways, alternating on the plate to look like a little log cabin.

Broiled Lamb Chops.

Broil on a gridiron over a bright fire. Put a little salt and pepper upon each chop, and butter them before they go to the table. Lay them, overlapping one another, around a mound of green peas or mashed potatoes.

Boiled Meat.

Salt meat should be placed at starting in cold water. If the meat is very salt, it is as well to soak it in cold water for a few hours beforehand. The water should be brought gradually to the simmering point, and the joint should be simmered gently, allowing from ten to 12 minutes to each pound of meat after the simmering commences. The drawback to salt meat is that, as a rule, you cannot utilize the water in which it has been boiled. When you boil a large piece of beef to be cut cold, at first starting add onion and celery trimmings, and let the joint get cold in the water in which it has been boiled, like a ham.

Chicken Livers.

Wash well to remove all blood, have butter well heated in a skillet, drop in the livers. As soon as they touch the hot fat turn them and do this repeatedly to keep them from hardening on the outside. The secret of good frying lies in turning them often. This keeps the substance soft and juicy. When the livers are fried season them with salt and pepper and fill up the skillet with soup stock. If you like a thick gravy add a teaspoon of flour to the butter before adding the soup. Another good way to prepare the livers is to stick a clove into each one, sprinkle ground cinnamon and sugar over them and fry in sweet butter. These do not need soup stock, and are served on toast for those who have a sweet tooth.

Cannelloni of Beef.

Chop two pounds of lean beef very fine; chop and pound in a mortar half a pound of fat bacon, and mix with the beef. Season with pepper and a little salt, a small nutmeg, the grated rind of a lemon, the juice of a quarter of it, a heaping teaspoonful of parsley, minced fine; or it can be seasoned with an additional tablespoonful of onion; or, if no onion or parsley is at hand, with summer savory or thyme. Bind all these together with two eggs, wrap the roll in buttered paper, tie securely, then cover with a paste made of flour and water. Bake two hours. Remove the paper and crust. Serve it hot with tomato sauce or brown gravy. This may be made from raw or underdone meat. If the meat is not raw, but rare, surround the roll with pie crust. Bake and serve with tomato sauce, or any of the brown sauces poured in the bottom of the dish. Potato croquettes may be served around it.

Coffee Whip.

Place two tablespoonfuls of coffee in a pan and heat until hot, stirring all the time; turn at once into one pint of rich cold cream with two tablespoons of fine sugar and stir a minute. Let it become

cold, remove the coffee, and whip to a stiff froth.

Devil's Food.

One cup of butter and one-quarter cup of sugar, three eggs, one-half cup of sweet milk, three ounces of melted chocolate, one and three-quarter cups of flour, one and one-half teaspoonfuls of baking powder. Bake in a flat tin.

LETTER BOX.

Household Editor:—I wish to say a few words in praise of Deborah's article, "Till Death do us Part." I can truly say, "Those are my sentiments, too." There is no other subject on which I feel so strongly as on this one and if the writer of the article had known of the case which I will cite, she could not have written more to the point.

I know a dear little woman whose husband has found an "affinity," and left his wife and three beautiful children. This wife has always done all the work for the family except the washing and part of the time the ironing; has done all the sewing for the children, and nearly all of her own; keeps her home and her children in excellent shape, and is very trim and neat herself.

People say her husband must be crazy to leave such a family, and, verily, it would almost seem so, but all I can say is that it seems to me he is very selfish and has no respect, much less love, for his family or he couldn't be such a despicable cur.

Truly, there should be some terrible punishment for a man who stoops to such things. To my mind, if a woman gives her pure young womanhood into a man's keeping and in the course of ten years bears him three lovely children, there is nothing too great for him to do for her.

I wish every man, husband or father, could read the article, "Till Death do us Part."—Mrs. A. F. F.

HOME QUERIES.

Household Editor:—If M. J. will cut pieplant into small pieces, as for pie, and put in an earthen or granite dish with a covering of such a dough as she would make for dumplings, steam till done and eat with sauce of butter, sugar and nutmeg or lemon, she will, I think, be pleased with the dish. A marmalade can be made in the proportion of two pounds of pieplant, cut small, two pounds of sugar and two lemons or oranges, as liked, with seeds removed and rind chopped fine. Cook all together until it will jelly. Can be placed in glasses like jelly. A pineapple can be used with it if that fruit is liked. Pieplant and the elderberries which grow in most parts of the state, when cooked together, make a very good pie filling.—M. K.

Household Editor:—If Mrs. William M. will rinse her yellow clothes in buttermilk or sour milk and then lay on the grass she will find they will bleach out white. Or she can rinse them out every morning and they will come white a great deal sooner.—Mrs. I. C., Defiance.

TO SAVE FRESH MEAT IN SUMMER.

Boil up what meat you wish to keep fresh just as if you were cooking it to eat at once. Fill quart jars with meat and finish filling in with water in which the meat was cooked. Add a pinch of salt (or about enough to taste), and screw on lid (just loose), and place in a boiler of water up to the shoulders of jars. Have a board or straw (or false bottom of any kind), in bottom of boiler on which to place jars to prevent them from breaking. Now let boil this way three or four hours, then take out and screw down tight. Tip your jar down and see if any of the juice escapes; if so, your jar will not keep unless remedied. Take a knife and press the back against the edge of the lid until you press it down against the rubber enough to keep the air from escaping. Set in a cool, dark place and when needed open and you have fresh cooked meat.

Here are a few ways to serve this meat.

Breakfast Dish.

Place in a frying pan and thicken with a little flour and water. Add a piece of onion, if you like onion flavor.

Hash from Canned Meat.

Mix half and half, meat and potatoes; one raw egg, well incorporated; a tablespoon of flour, also onion, if liked. Make in cakes or fry as a whole. The meat must first be chopped or run through a meat grinder, before adding ingredients.

Mince pies may be made, or soup, or any dish liked. This is sometimes quite a saving as well as quite convenient in case a quick meal is desired.

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Farm Commerce.

Distributing Michigan's Bean Crop

THE growing of the bean crop in all its phases has been from time to time discussed in the Michigan Farmer, and it may be of interest to follow the crop in its distribution to the consumer.

The Michigan Bean Jobbers' Association, that is the association of elevator operators, occupies this field and in a somewhat different way than grains, that is, wheat, corn and oats, are bought and sold. With the beans the elevators are in some ways like a manufacturing plant preparing them for ultimate consumption. Wheat, for example, goes to the mills from the elevator, while with beans the process of cleaning, sorting and making the product ready for cooking is done at the elevators. The distribution of the beans is in cotton bags to the jobber, wholesale grocer, and finally from one bag to a carload to the retail trade.

The standardization of grades seems necessary. In fact, before any two persons can agree on the merits of merchandise there must be some common standard in mind.

The "bete noire" of the bean dealer is wet beans, just as the wet harvest that contributed to this cause was the evil thing to the grower. It is doubtful if the damage resulting from an excess of moisture in the bean can ever be rectified. That is, even if chemical changes do not occur and deprecate the food value. The heads of the leading concerns who prepare the delicious canned pork and beans resolutely refuse to receive or use anything but the best grade of beans for this reason. The added expense of canning, advertising, etc., will not allow low grade stock to be used. The logic is that the occasional find of an inferior can is an expensive offset to public favor.

Since the handling of beans through the elevator is so much slower than the handling of grains and the distribution directly to the trade in the sense that corn and wheat are stored in large central elevators and not sold to the ultimate consumer the bean market is easily congested and falling prices ensue. The law of supply and demand, not the wide supply and demand of production and consumption, but the supply as limited by the ability of the producer and manufacturer to prepare for distribution, fixes prices. When their ability to prepare is exceeded prices slump. To use the common expression, the market is weak and the buyer is bearish and to add to this a falling mar-

ket sometimes has the paradoxical effect of stimulating deliveries in order to "get out from under" before the price goes lower. Last year when the elevators were crowded there were seven hundred cars of beans ready to be thrown on the market when the Bean Jobbers' Association took them over and held them off the market and avoided one of the most disastrous panics in beans and a great lowering of prices from which it would have been hard to recover. While this concerted action was primarily effective in saving the price of beans already bought it necessarily maintained the price of thousands of bushels in the bins on the farm.

It is doubtful if there are any very accurate statistics, but in a general way Michigan produces 75 per cent of the common white beans of the United States. The crop brings in 10 to 12 millions of dollars to the bean growers annually and is one of the distinctly cash crops of this state. When one understands the conditions of growing and marketing, it is little wonder that a prominent elevator man said that the farmers had the price making of this crop in their own hands.

The conditions surrounding this year's crop is about as follows: Last year's crop is well cleaned up, with everybody, from grower to retailer, heartily glad, for it was, as a whole, very unsatisfactory. There will be no European surplus since the Balkan war and a poor crop in Austria are definite and deciding factors. Meats of all kinds are high and, owing to the drought will be higher. Potatoes are a short crop and the prices of meat and potatoes will be comparatively higher than beans have ever been since they became a commercial crop of importance. Another small item is the expected high quality of this year's crop which quality stimulates consumption, just as last year's inferior quality retarded consumption. This year's crop is variously estimated at from six to eight million bushels. The word "estimate" may mean a little more accuracy than the word "guess," but any estimate this year is but a guess. Dry weather has cut into the yield in the southern counties, also anthracnose. The northern and eastern sections of the state in many places promise abundant crops of beans. The acreage is large and reaches into territory never before distinctly given over to bean production.

Shiawassee Co. JAS. N. McBRIDE.

In Quest of a Special Market.

IT is a well known fact that in order to get the most remunerative prices for various farm products, it is necessary to get a special market. We all know that in the case of fruits, butter, eggs and the like, the middleman gets a large share of the profits which rightfully belong to us. In order to obviate this difficulty we must reach the consumer.

There are various classes of consumers. Some of them are willing to haggle for hours in order to get a reduction of one cent upon a dozen eggs. Others want you to carry their butter around to their door, weigh it out and want you to take less than the regular grocery price. It is this class of people which drives most farmers to sell to their grocery store. Even if the groceryman makes a 50 per cent profit off them, they are of the opinion that he earns it when selling to such a class of trade.

But it should always be remembered that there are people who will treat you right for the sake of obtaining farm products which are perfectly fresh. It should also be remembered that this class is always willing to put up the price which will give them such goods. With these people, the small farmer has a great chance to get maximum prices for butter, eggs, fruit, apple-butter, vegetables, lard, sausage, cottage cheese, and the like.

His opportunity comes not only with his ability to successfully market his own goods; but he likewise has the chance to make money off those of his neighbor. A short time ago, I met a man who lives 15 miles from an Ohio city of 60,000 inhabi-

tants. About 16 years ago he began to build up a private trade among the wealthy residents of that city. He made one trip a week, taking his own butter and eggs along with some of his neighbors. Gradually, he began to raise strawberries and a little fruit. Now he ships his stuff by trolley, hires a buggy in which to make his final delivery. During the past year he received 45 cents for butter in winter and 35 cents in summer. At the time I talked with him he got 13 cents per pound in excess of the regular retail price. He received proportionately high prices for eggs and the other products which he sold. Of course, he had to take care to keep everything up to a high standard but he was making big money at it. He did not think that he was demeaning himself because his customers treated him as they should. He received cash for everything and the week's marketing hardly required a day's work.

But for the man who is unwilling to do this house to house canvassing, there is still another means of reaching the high-grade and discriminating trade. Hotels and restaurants are always willing to pay a little better than the ordinary dealer in order to get strictly gilt edge food products. A cousin of mine, a dairyman, has a contract with a New York hotel which takes all his butter at most remunerative prices. I am told that this method of disposing of dairy products is very common among dairymen. My next door neighbor supplies a restaurant with cream at a price that is 15 cents per gallon in excess of regular rates.

This is not all. The paying trade can

be reached through the commission men, provided you have products worthy of special notice. A well known strawberry grower was lately telling me of his methods. A few years ago, three and one-half acres of strawberries brought him \$2,300. That's a long tale, but the strangest thing about it is that it is true. Last summer, while his neighbors were getting from \$2 to \$2.50 for berries, he received \$3.50. You will think less of my capacity for telling the truth when I tell you that he sent them to a commission house.

The reason lies in this. He has grown strawberries for 18 years. He has become a specialist and his berries show it. He pays two cents per quart for picking and has them picked the way he desires. He packs honestly and in the same kind of crates. He sorts his berries. The crates containing the seconds are stamped with his number. The choice berries are put in good looking crates which bear the name of his farm, his name and address. He shipped to Pittsburg; but even in that large city his product has gained such a reputation that he always gets at least a dollar per bushel more than his neighbors who do not aim at the high-paying customers.

Ohio.

CLYDE A. WAUGH.

MARKETING STORAGE APPLES.

Apples which ripen in the summer and autumn require prompt attention. They should be immediately marketed, made into cider or evaporated. Provided they have been carefully picked, sorted, and packed, they will often remain uninjured by rots and decay for several days, and may be shipped quite a distance with safety, but they must be handled with far greater dispatch than are the later apples. So it is usually rather unprofitable for the farmer to grow early perishable varieties unless he has a home market to supply.

One of the chief values of cold storage is that the farmer or seller is not at the mercy of dealers and he can market his fruit at a season when the markets are not flush. When one has early winter varieties, it often pays to hold them until the market becomes steady but it is hardly advisable to hold them after freezing weather sets in, as so many dangers are encountered. When the fruit is in prime condition, other things being equal, it will bring the highest price as far as economy is concerned.

There is no certainty of getting a higher price by waiting for an advance. The advance may come and again it may not. If the fruit has to be held any great length of time, it will require re-assorting to fit it for market, and many times the loss in stock will be greater than the gain in advanced price, due to rot or shrinkage. However, with the late varieties, they are usually ready to market at such a time when the trade is overloaded. In this case, there is a chance to gain by holding the stock for a while until the glut is relieved. Most growers deem it advisable, if a paying market is at hand, even at small margins of profit, to get rid of the crop and thus avoid any losses which might be caused by rot or shrinkage; also the probability of the additional expense of re-assorting.

Ingham Co.

I. J. MATHEWS.

SHIPPING FRUIT BY MAIL.

The new parcel post rules may mean a new era for the fruit grower and for consumers in the cities as well. Growers of southwestern Michigan, who are close to Chicago, as well as other large and growing centers, have been trying out in a small way the shipment of peaches in small packages to private customers in Chicago with pleasing results and it is expected by next season the system will be perfected and a big trade will develop by mail. The middlemen in this case must look up other jobs. Growers will select suitable packages and attractive labels and will work up mail order lists of customers, delivering the fresh fruit promptly at their homes, while the money that has been going to the middlemen will be shared between producer and consumer. Postmaster Needham, of St. Joseph county, says: "The plan is practical. Chicagoans are always anxious to receive fresh fruit direct from the orchards and will pay a reasonable price for it. The farmer with an eye to business can find all the customers he wants in marketing his fruit by mail. The parcel post is both safe and prompt in handling such business and the rate from this city to Chicago is comparatively cheap. There is no reason why every grower should not take advantage of this opportunity. He has

not awakened to the possibilities and when he does great volumes of produce will go through this office to Chicago. In making shipments the farmer should put up the product in light but firm packages so as to get within the lowest weight limit. Within another season I look for a great boom in this class of business."

Kent Co.

A. GRIFFEN.

DIRECT SELLING IS BEING ENCOURAGED.

When these columns were being used to impress upon readers the economy to be found in selling all the farm products possible direct to the consumer, we were a little anxious. We had the utmost faith in the principle of direct selling of such products as are ready for the consumer when they leave the farm, for we had given it an extensive trial beforehand, and the experience of a host of producers and consumers since testifies that our faith was not misdirected; but our anxiety issued from the uncertainty as to how the plan outlined would be received.

Fortunately we were not disappointed. Many who see clearly the trend of events and undertake to warn and direct others who may be unable to see, or possibly less concerned, are disregarded and even taunted for their zeal. The pathway along which the race has marched from the dark ages of the past to this present enlightened era is dotted with such unselfish lives whose services were not appreciated till long years had passed. But in this instance results have come soon and in fuller measure than we had reason to hope. Not only has there been large numbers of producers and consumers brought together as the direct result of the publicity given the plan, but certain large express companies are now offering to assist in making the scheme more comprehensive and effective. Should their promises be fulfilled great inroads will be made in the business of the middlemen.

The plan of the express companies is to receive orders from consumers, forward them to producers who fill out the orders and express same to the consumers ordering. The plan eliminates the middlemen. Producers can sell as individuals or as organizations and consumers may buy in either manner also. The express companies provide the way for getting the two classes together. While the idea is still new several companies have promised to give the scheme a thorough trial.

In the event, however, that the express companies fail to advance the practice as far as they now anticipate, the producer and the consumer of high-class goods especially, are finding a new servant in the parcel post system which, since the zones have been extended, is meeting with such favor that its limitations ought to be still further extended and its cost reduced. Even under its present provisions a large number of Michigan producers are finding a very satisfactory avenue for making sales direct through its aid. The service is prompt. It reaches from the farmer's home to the consumer's home and for these reasons the cost is not so objectionable. Hence, for those products that can be handled the parcel post is a promising means of distribution.

In all it seems that direct selling has a most promising future. The experience of practically all who have reported, indicates greater satisfaction than was expected, and the favorable way in which the plan is appealing to the leaders of commercial activities nurtures hope for larger things to come.

LIVE STOCK NEWS.

Frank Hastings, manager of the S. M. S. Ranch, of Texas, brings the encouraging word that cattle shortage as it exists in the United States now will be overcome within the next few years. He says: "Texas, the natural cattle breeding country of the world will be a prominent factor in the reconstruction. In the 11 years I have managed the S. M. S. Ranch conditions were never more promising in Texas than at the present time. In the last decade there has been a wonderful change but that change has been for the better. Cattle have been graded up, modern methods have been adopted and Texas now is capable of doubling its cattle output." The "vest pocket" ranchmen, a term which Mr. Hastings says, is applied to the small outfits to distinguish them from the big ones, is going to cut an important figure in increased output. The "vest pocket" ranchman, he says, is getting one to five sections of ground. On that he will be able to carry 100 to 125 head of cattle to the section, whereas, formerly only about 40 head were held. His method will be to raise forage crops, use silos and fatten cattle. The demand for beef is such that increased production is necessary, and while the prices will never be low again, the acute shortage now existing shows that it carries the elements of increased production.

FREE MILK AND CREAM TESTS.

Every farmer and dairyman now subscribing to the Michigan Farmer should know that he can get an accurate test made of his cream or milk, by sending a sample to the "Michigan Farmer" laboratories, 674 Woodward avenue, Detroit, Michigan.

If you wish to avail yourself of this service, have a sample of the cream or milk taken that is satisfactory to you and the buyer, put it in a wide-mouthed bottle, cork tightly, enclose in mailing case and send by parcel post to the above address. (See page 240 of September 20 issue of The Farmer for further particulars).

In case you do not have bottle and a mailing case we can furnish them both to you at cost, which is 10 cents in stamps, and this includes postage to you. Or we will send you mailing case alone for six cents in stamps.

Remember, you can use any suitable bottle and mailing case if you desire. We have simply made arrangements with a large concern to furnish the mailing case and bottles at cost for the convenience of our readers.

It is the aim of the Michigan Farmer to be helpful to its subscribers, and we have instituted this service that our readers may have an opportunity to learn if they are getting a "square deal" from their cream or milk dealers.

CROP AND MARKET NOTES.

Lapeer Co., Sept. 21.—On September 13 a very hard frost occurred, which froze ice one-eighth of an inch in thickness. Corn, potatoes and other vegetation were damaged. Some corn was matured, while many fields were not. Lots of corn was cut last week and some are digging out their potatoes before they are ripe, regardless of their green condition. Today, September 21, is a very cold change, nearly cold enough to snow. We drilled in our wheat the 15th. There is lots of seeding to do yet which will be mainly rye. Lots of corn to cut yet. Some are pressing their hay now. Lots of second crop clover has been left for seed which seem to be quite well filled. The apple crop, although very light, does not bring the prices it should. Clover and grass seeding very poor. Farmers upon threshing the bean crop, do not find a very heavy crop but a nice sample generally.

Mecosta Co., Sept. 17.—A much needed rain came Monday evening and lasted until this morning. The late planted potatoes will be greatly helped, but the earlier of the late crop are so far along that it is rather doubtful as to whether they will be helped or not. Corn is nearly all cut, which is the best crop here in a number of years, if ever so good. Beans are a good crop. Not many winter apples. Scarcely any live stock for sale at any price.

Hillsdale Co., Sept. 15.—The dry weather which has predominated in this section since the last of May, still continues. The drought is unprecedented in this county, in its prolonged and widespread destructiveness—there being no crop during the entire season not affected by it. A light rain, today, was welcomed by those who have wheat ground plowed, as it seemed doubtful whether or not the seed would grow. Owing to difficulty in plowing, less wheat will be sown than would otherwise be the case. Corn cutting came early, and using the splendid showing of the last of June as a standard, the crop is less than half what it would have been had there been plenty of rain. New seeding has been destroyed, in almost every instance. In those townships where cabbage and tomatoes are grown extensively, the products have suffered from the dry weather. The cabbage crop lacks but little of being a total failure. The tomatoes, although standing the drought remarkably well, are rotting by the hundreds of bushels, before ripening, thus cutting down the yield to something like a third of what it ought to be. The rot is attributed by growers, to dry weather conditions. A fair-sized peach crop is being harvested, but apples for winter promise to be few, many of the winter varieties having already fallen from the trees as a result of tatoes will be less than half a crop. Bee keepers in this section have done well this season, and the clover seed crop is the best in a number of years, the yield being heavy wherever there was a stand of clover.

Livingston Co., Sept. 22.—The weather for the past week has been very unfavorable for harvesting beans but the largest share was secured before the rain. A heavy frost on the night of the 13th did much damage to late potatoes and corn as but little corn was cut before the frost. There will be a fair average of wheat sown this fall. More silos have been erected than ever before. Farmers are beginning to realize what a wonderful feed ensilage is for cows and as this is a dairy county the near future will probably see more silos in this county than in any other, in the state.

Pierce Co., Sept. 16.—The small grain is nearly all threshed. Wisconsin has been blessed by more than normal crops in yield and quality, except in barley. Our corn crop now in the shock without any touch of frost; is ten per cent over the average. All root crops are good. The early apple crops could not all be marketed. Much extra grass growth has been turned into money by feeding cows and steers. Sheep kept in too shady pastures

are below normal in growth and condition. The cholera has not destroyed the hog industry and most herds have not been affected. There is a disposition to pool many productions while buying in car lots by nearby neighbors is the rule. The building of silos is epidemic. Concrete being the leading material. Alfalfa fields are increasing in number. Wisconsin is not subject to droughts but the experience of Kansas friends teaches even the Wisconsin dairy farmer that safety demands the planting of alfalfa.

Wausahara Co., Sept. 17.—The severe drouth was broken by copious rains the 16th. This will yet benefit late potatoes, but some irreparable reduction in the yield already. Corn a good crop. Early sown buckwheat blighted badly, but late sown is filling well. Threshing nearly finished, and yield of oats and rye fair only. Good hay crop with a full harvest of cornstalks insures the carrying through the winter of a full 100 per cent of live stock.

Ohio.

Warren Co., Sept. 15.—Cooler weather, but drouth continues; threshing all done; wheat an average crop; oats almost a failure. Pastures dried up; spring seeding of grass very badly killed. Corn cutting and clover hulling in progress; large acreage of clover; corn about 50 per cent of a crop; early potatoes a fair yield, late ones a failure. Apples about one-third of a crop but ripening and falling prematurely. Following are local prices: Corn \$1 per cwt; wheat 88c; oats 43c; hay, timothy, \$12; alfalfa, \$18; potatoes \$1; hogs \$8; butter 27c; eggs 25c.

Hardin Co., Sept. 17.—Have been having some very cool weather the past week. Some frost in the marshes that froze the potatoes and corn some on the muck land. Corn will be a fair crop through here if frost holds off a few days yet. The early corn is being cut at present, and some seeding being done, nobody seems to be sowing any great amount of grain this fall and it is mostly corn ground to be sown. Some real estate changing hands in spite of the high price of land. Plenty of cholera in all directions. Cows in great demand. Eggs 23c; cream 31c; peaches \$2 per bu.

Carroll Co., Sept. 22.—Farmers starting to cut corn. Some of the corn has been "nipped" by the frost already. Not many pumpkins this year. There are still a few fields to be sowed to wheat and rye. The apple crop is rather poor this fall. The potato crop isn't very good, it was too dry for them last summer. We are having pretty wet and cool weather.

Indiana.

Tippicanoe Co., Sept. 21.—A hail storm that passed through this section about the time the tassels were formed on the cornstalk, completely ruined the crop. Very few fully developed ears can be found. Silo filling was completed this week. Wheat sowing has begun and the late rains helped in germinating the seed. The apple crop was a good crop before the hail struck it but a great many apples were injured and knocked off the trees. Eggs are selling at 23c; country butter 25c; spring chickens 14c; old hens 13c; geese 10c; turkeys 16@17c; lard 12c; hogs \$8.90@9.10; choice lambs, \$4@7.

Franklin Co., Sept. 22.—Drouth broken, heavy rain the 20th; will benefit pastures and late vegetables only. Wheat threshing over, yield about 20 bu.; quality good. Oat yield very light; potato crop almost a failure. Very little plowing done for wheat, too dry. Corn cutting in progress; ripening very unevenly. Will be about half a crop, quality fair to good. Some wheat sown; more silos being filled than usual; clover seed good, making about two bushels; acreage limited. Fruit crop a failure from severe freeze in the spring. Hog cholera is abroad in the county again, having broken out at the state fair at Columbus.

Nebraska.

Dawson Co., Sept. 17.—August was an extremely hot and dry month with hardly any rain since July 3. Many silos have been built and filled and most of the remaining corn has dried up. This drouth is fully as severe as the one in 1894. Small grain will yield about a half crop. Alfalfa is about the only thing that is able to cope with the weather. The mean temperature for the month of August was 77 degs., compared with a normal of 72 degs. for a 38-year average. Extremes were 103 degs. and 49 degs. Precipitation was .33 of an inch, compared with a normal of 2.46 inches.

Hitchcock Co., Sept. 16.—Crops have suffered from drouth but people have raised enough for seed and feed and have plenty of roughness to take their stock through the winter. Corn cutting is done and silos are filled. Some fields of corn will make a fair yield. Farmers are seeding wheat. We had a nice rain on the 16th of this month. The weather is turning cool and we are liable to have frost any time. A number of public sales are held through the county. Wheat 71c; corn 85c; barley 60c; hogs \$7; eggs 15c; butter-fat 25c; potatoes \$1.25.

Cass Co., Sept. 15.—Weather is now cooler. The record for heat has been broken this year, nine days in July, 15 days in August, six days in September, above 100 degs. Hottest day 109 degs. on July 16. No rain since July 27. Corn crop very poor. Threshing mostly finished. Winter wheat made from 25 to 50 bu. Spring wheat 10 to 20 bu. Oats 25 to 60 bu. Last cutting of hay light crop. Potatoes small and poor yield. Apples third of a crop. Pastures short, cattle are being fed. Stock of all kinds look fair and in healthy condition. Silos are being filled and considerable corn being cut for feed. Local markets: Wheat 75c; corn, 75c; oats 40c; cattle 3@5c; hogs 7@7½c; hay, baled, \$10; potatoes 90c; apples 75c; butter 25c; butter-fat 26c; eggs 20c.

Kansas.

Marion Co., Sept. 15.—Very little corn (Continued on page 279).

Costs Little.
Improves Much

FIXING-UP time around the home—that should be the farm slogan now that the harvest rush is over. Woodwork looking a little dull; floors showing the hard wear they have received; upstairs that enamel bed needing a little touching up? Or perhaps you are wondering if you could not do over some old piece of furniture? Or how about taking off that unsanitary wall paper? Have you thought about the beauty of fresh painted walls? You can do wonders about the home, working at odd times, and you will enjoy painting if you use

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These Two Great Books Free

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NATIONAL FIRE PROOFING COMPANY, Fulton Building PITTSBURG, PA.

Markets.

GRAINS AND SEEDS.

September 24, 1913.

Wheat.—The market is a little easier than it was one week ago. Several factors have worked together to bring about this result, chief among which is the heavy deliveries of spring wheat in the northwestern states and in Canada where primary receipts far exceed those for the corresponding period of a year ago. The other factors are heavy offerings to the European trade by Russia, bearish news from Argentine and Australia and a liberal increase in the European visible supply. There is also a small demand from millers who are not receiving liberal orders for flour. On the other hand, the offerings of winter wheat in this country are unusually small. Michigan farmers as well as others, are very backward about marketing. They seem to believe that at present prices wheat furnishes the race with the cheapest food it can get and for this reason they do not believe that values can sag far below the present range of prices. There is also some uncertainty about the political outlook as to letting Canadian wheat into this country free of duty, a condition that is keeping many buyers out of the market and thus injuring the trade to the detriment of the sellers. One year ago the local price for No. 2 wheat was \$1.05½ per bu. Quotations for the past week are as follows:

	No. 2	No. 1	Dec.	May.
Thursday	94½	94½	97½	1.02½
Friday	94½	94½	97½	1.02½
Saturday	93¾	93¾	96½	1.01½
Monday	93¾	93¾	96	1.01
Tuesday	92½	92½	95	1.00
Wednesday	92	92	94½	99½

Chicago, (Sept. 23).—No. 2 red wheat, 91½¢; No. 3 red, 90¢; No. 2, Dec., 88¢; May, 92½¢ per bu.

Corn.—This trade is steady and values have not fallen below the lowest quotations of a week ago. Frosts have been a detriment where the crop was late in maturing, but Michigan corn did not suffer to any great extent from this cause. The crop is being secured perhaps more quickly than usual, with the majority of corn producing sections reporting a yield far below normal. The price on this market one year ago was 74¢ per bu. for No. 3 corn. Quotations for the past week are as follows:

	No. 2	No. 3
Thursday	77½	77
Friday	77½	77
Saturday	77½	77
Monday	77½	77
Tuesday	77	76½
Wednesday	76½	76

Chicago, (Sept. 23).—No. 2 corn, 74½¢; No. 3 white, 75¢; No. 2, Dec., 71½¢; May, 73¢ per bu.

Oats.—The basis of this deal remains on practically last week's level. On the local market there is a fair demand for the cereal, while receipts are running light. Farmers are delivering the grain slowly. One year ago standard oats were quoted here at 38¢ per bu. Quotations for the past week are as follows:

	Standard.	White.
Thursday	44½	44
Friday	44	43½
Saturday	44½	44
Monday	44½	44
Tuesday	44½	44
Wednesday	44½	44

Chicago, (Sept. 23).—No. 3 white, 41½¢; standard, 42½¢; Dec., 42½¢; May, 46¢ per bu.

Beans.—The market is unchanged and inactive. There is a moderate demand for the legume. While threshing continues throughout the bean producing counties of the state, expected yields are not being secured. The quality of the new crop is good, however. Immediate and prompt shipment are nominally quoted at \$1.85 per bu., an advance of 5¢ over last week.

Chicago, (Sept. 23).—Bean values have advanced and hand-picked pea beans, choice, are now quoted at \$2.20 per bu.; red kidneys, \$2.25@2.30; white kidneys, \$3 per bu.

Rye.—Rye values sagged 1½¢ the past week. No. 2 rye now being quoted at 68¢ per bu. At Chicago the price is a shade lower, with the same grade quoted at 66½¢@67¢ per bu.

Barley.—Barley is in fair demand; one carload sold Monday at \$1.50 per cwt. At Chicago the price ranges from 60¢@82¢ per bu., while at Milwaukee the range is from 67¢@82¢ per bu.

Clover Seed.—Common seed suffered a decline the past week, while alsike continues steady. Quotations at Detroit are for prime October seed, \$6.80; Dec., \$6.90; May, \$7.05 per bu.; October alsike \$10.25 per bu. At Toledo prime cash is quoted at \$7; Oct., \$6.90; Dec., \$6.95; prime alsike cash is \$11; Oct., \$10.30 per bu.

Alfalfa Seed.—Prime spot is quoted at \$7.50 per bu.

Timothy Seed.—Sales were made Tuesday at \$2.50 per bu. for prime spot, which is 10¢ below the price quoted the previous week.

FLOUR AND FEEDS.

Flour.—Jobbing lots in ¼ paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.40; second, \$5.10; straight, \$4.90; spring patent, \$5.10; rye flour, \$4.60 per bbl.

Feed.—In 100-lb. sacks, jobbing lots: Bran, \$26; coarse middlings, \$27; fine

middlings, \$29; cracked corn, \$33; coarse corn meal, \$31; corn and oat chop, \$27.50 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.—Good market. Demand good for timothy particularly. Supply light. Choice timothy quoted at \$18@18.50 per ton; No. 1, \$16.50@17.50; No. 2, \$15@16.

New York.—Market easy with prices a shade lower. Best demand is for good timothy. Larke baled, No. 1 timothy, \$21; standard, \$20; light clover mixed, \$19; heavy mixed, \$17 per ton.

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

Chicago.—Quotable steady as follows: Rye, \$7@7.50; oat, \$6@6.50; wheat, \$6@6.50.

New York.—Steady. New rye straw, \$17 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—"Quotably firm" is the term much used this week in describing the butter market. Quotations show no appreciable change at any point, but there are evidences of considerable shading where goods are not strictly up to grade. Locally, all kinds are moderately active with the better qualities moving best. Quotations are: Extra creamery, 31¢ per lb; firsts, 30¢; dairy, 22¢; packing stock, 20¢ per lb.

Elgin.—Market firm at 31¢ per lb. Chicago.—This market is quiet, more so than at last week's close. Fancy makes are reasonably firm and medium grades steady, while many of the lower grades are pretty much neglected. Packing stock in good demand and there is a fair call for dairies. Quotations: Extra creamery, 31¢; extra firsts, 29¢@30¢; firsts, 25½¢@26½¢; seconds, 24½¢@25¢; ladles, 23½¢@24¢; packing stock, 22½¢@23¢.

New York.—An easier tone was apparent at last week's close, nearly all classes of stock showing some accumulations to be carried over to this week. So far this week the market is holding steady, last week's figures ruling. Quotations: Creamery extras, 32¢@32½¢; firsts, 28½¢@31¢; seconds, 26¢@27½¢; state dairy, finest, 30¢@31¢; good to prime, 27¢@29¢; common to fair, 24¢@26½¢; packing, 20¢@24¢ as to quality.

Eggs.—Although offerings are showing something of an increase and some improvement in quality at most points, desirable grades continue in good request at advancing values. The local market is unchanged. Current offerings, candled, quoted at 24¢ per dozen.

Chicago.—Strictly fresh laid stock very active. All grades show an advance of 1¢@2¢ but outside figures rule only on exceptional lots. Refrigerators are up another ½¢. Quotations are: Miscellaneous lots, cases included, 16¢@24¢, according to quality; do., cases returned, 15½¢@23½¢; ordinary firsts, 20¢@22¢; firsts, 24½¢@25¢; refrigerator stock in good demand at 23¢@23½¢ for April firsts.

New York.—With quotations averaging 1¢@2¢ higher, this market is somewhat irregular owing to a tendency toward accumulation of average and medium qualities. Storage stock steady. Fresh gathered extras, 33¢@36¢; extra firsts, 31¢@32¢; firsts, 28¢@30¢ per doz; western gathered whites, 28¢@38¢ per dozen.

Poultry.—Supplies pretty well cleaned up at last week's close. Demand sufficient to take care of current offerings and the market is firm at former values. Quotations are: Live—Springs, 16¢ per lb; hens, 15½¢; No. 2 hens, 11¢@12¢; old roosters, 10¢@11¢; turkeys, 17¢@18¢; geese, 11¢@12¢; ducks, 14¢@15¢.

Chicago.—Market again well supplied and business showing greater activity. Fowls and springs are getting closer together, the former advancing ½¢ and the latter losing ½¢. Geese are quoted 1¢ higher. Condition of market considered good. Quotations on live are: Turkeys, good weight, 19¢; others, 12¢; fowls, general run, 15¢; spring chickens, 15½¢; ducks, 14¢; geese, 8¢@13¢; guinea hens, \$4 @5 per dozen.

New York.—Steady to firm; values are practically unchanged. Fresh dressed western chickens, 19¢@24¢; fowls, 13¢@19¢; turkeys, 18¢@20¢.

Cheese.—Market steady, last week's figures ruling. Wholesale lots, Michigan flats, 13½¢@14¢; New York flats, 16¢@16½¢; brick cream, 17¢@17½¢; limburger, 14½¢@15¢.

FRUITS AND VEGETABLES.

Apples.—Apples are scarce and the demand is increasing rapidly. Good grades rule from \$3@3.50 per bbl., while poorer kinds, which constitute a large proportion of the bulk, are selling around \$2 per bbl. At Chicago values rule from \$2.50@5 per bbl. Market is firmer with supplies inadequate.

Grapes.—Delawares and Niagaras quoted at 40¢@45¢ per peck basket. At Chicago the market is fair with liberal offerings. General quotation 10¢@17¢ for 8-lb. baskets.

Peaches.—Supply is small and of inferior quality. Market is strong. Prices range from \$1.50@1.75 for choice and \$2 @2.25 for fancy West Michigan stock. Chicago prices rule from \$1.25@2 per bu.

Plums.—In rather light supply. Quoted at \$1.30@1.75 per bu.

Pears.—Plentiful and selling at \$1.50@1.75 per bu. for Bartlett's. Clapp's Favorite 75¢@1.25 per bu.

Potatoes.—Market is steady. Buyers are anxious as offerings scarcely meet current demands. Prices rule at 90¢ per bu. Receipts at Chicago showed a sharp increase last week of 30 cars more than for the corresponding week of 1912, but the trade absorbed the offerings without sagging. Trade is fairly active with Michigan stock going at 85¢@90¢ per bu.

Tomatoes.—Cold weather increases of-

ferings. Demand good. Home-grown, 75¢@1 per bu.

Cabbage.—Offerings larger and prices a shade lower. Good quality quoted at \$2@2.25 per bbl.

PRICES ON DETROIT EASTERN MARKET.

Tuesday was a big day on this market. The cold weather is forcing nearby farmers and gardeners to harvest perishable stuff, a considerable bulk of which is coming directly to the stalls. The accommodations were inadequate, but the produce moved well at satisfactory values in most lines. Many buyers were present. Tomatoes were in such large supply that the recent high quotations for the season were cut and the bulk sold between 60¢ and \$1 per bu; green tomatoes ranged from 35¢@50¢; potatoes, scarce and inferior in quality, sold at 75¢ @ \$1.10; onions \$1.25; cauliflower \$1.60@2; endive 50; lettuce 35¢@40¢; peaches \$1@2.25 as to quality; pears \$1.25@2; apples, scarce at \$1@1.25; melons 65¢; celery 30¢ for large bunch; hay is coming in slow; loose timothy and light mixed selling from \$14@18 per ton.

GRAND RAPIDS.

An attendance of 650 people, and 425 loads of fruit and farm produce, is the Tuesday morning record on the city market. On the fruit side the peaches were prominent, with 75 to 100 loads in sight, and prices ranged from \$1.25@2.25 per bu. Bartlett pears are practically out and other varieties bring 90¢@1.25. The season of plums is nearly over and the later kinds offered bring \$1.25@1.50. There are still many grapes to come, though the season promises to be shorter than usual on account of short crop and inferior quality. Grapes sold on Tuesday's market at 90¢@1 per bu. On the vegetable side there were liberal offerings of tomatoes, with sales ranging from 75¢@1. Some loads of potatoes were in sight, with sales at 75¢@85¢. Other prices were as follows: Celery 15¢ per doz; beans \$1.50; cabbage \$1; lettuce 50¢; beets 50¢; watermelons 50¢; muskmelons \$1@1.50. Hay is in light supply and sales are reported at \$20@24. Bean dealers are quoting \$1.60 for pea and \$1.80 for red kidneys to farmers in this territory.

THE LIVE STOCK MARKETS.

Buffalo.

September 22, 1913.

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

Receipts of stock here today as follows: Cattle 165 cars; hogs 90 double decks; sheep and lambs 80 double decks; calves 1300 head.

With 165 cars of cattle on our market here today, and 22,000 reported in Chicago, all grades of cattle of desirable quality sold fully strong to 10¢@15¢ per cwt. higher than last Monday. At the close, everything was well cleaned up except a few little trashy odds and ends of stockers.

We quote: Best 1350 to 1500-lb. steers, \$8.75@9.10; best 1200 to 1300-lb. steers, \$8.50@8.75; best 1100 to 1200-lb. steers, \$8.25@8.65; coarse and plain weighty steers, \$7.50@7.85; choice handy steers, 1000 to 1100, \$8.25@8.75; fair to good do., \$7.25@7.75; grassy 800 to 1000-lb. steers, \$7@7.50; best cows, \$6.75@7.25; butcher cows, \$5.75@6.50; cutters, \$4.50@5; trimmers, \$3.75@4.25; best heifers, \$7.50@8.25; medium butcher heifers, \$6.50@7.25; stock heifers, \$5@5.25; best feeding steers \$7@7.25; fair to good do., \$6.25@6.50; common light stockers, \$5.50@6; best butcher bulls, \$6.75@7.25; best bologna bulls, \$5.50@6; stock bulls, \$5@5.50; best milkers and springers, \$7@8; common to good do., \$5@6.

Receipts of hogs today were moderate, about 90 double decks on sale; trade active and 5¢@10¢ higher on everything but pigs. This grade sold a strong quarter lower than Saturday. Few strong weight hogs, weighing around 300 lbs., sold from \$9@9.25, with the bulk of the 250 to 275-lb. average from \$9.25@9.40; light mixed and yorkers \$9.45@9.55; pigs as to weight and quality, \$7.50@8.25; light from \$8.50@9; roughs, \$8@8.25; stags \$6.50@7.

The sheep and lamb market was active today, with prices about 10¢ higher than the close of last week; most of the choice lambs selling from \$7.65@7.75; yearlings \$5.50@6; look for about steady prices the balance of the week with moderate receipts.

We quote: Choice lambs, \$7.65@7.75; cull to fair lambs, \$6@7.50; yearlings, \$5.50@6; bucks, \$3@3.25; wethers, \$5@5.25; handy ewes, \$4.50@4.75; heavy do., \$4@4.25; cull sheep, \$3@3.50; veals, choice to extra, \$12@12.50; fair to good do., \$10 @11.50; heavy calves, \$5.50@8.

Chicago.

September 22, 1913.

Cattle. Hogs. Sheep. Received today ... 20,000 35,000 53,000 Same day last year ... 23,847 23,225 48,631 Received last week ... 41,785 109,612 187,022 Same week last year ... 50,133 99,833 152,631

Shipments from Chicago last week aggregated 16,449 cattle, 37,079 hogs and 65,690 sheep and lambs, compared with 15,842 cattle, 18,470 hogs and 34,789 sheep and lambs for the same week last year, the sheep and lamb shipments last week consisting largely of range feeding lambs.

Cattle today are active and steady for ordinary lots, while the better class are selling at prices that show an upward tendency. Hogs are fully a dime higher, with a strong demand at \$7.90@9.25, and one early sale was made of prime light hogs at \$9.30. Owing to the greatly increased proportion of light hogs and mere pigs received last week, the average weight of the hogs received fell off to 217 lbs., comparing with 231 lbs. a week earlier, 235 lbs. a year ago, 219 lbs. two years ago and 259 lbs. three years ago.

The sheep market is steady today, with a good demand, but while feeding lambs are in active demand at steady prices, fat lambs are weak to a dime lower, the best price paid up to a late hour being \$7.40. Range lambs show more steadiness than natives.

Cattle were marketed during last week in such greatly lessened numbers that sellers were able to make better terms for themselves, and advances took place all along the line, beef steers moving up from 15¢@35¢, while cows and heifers were 25¢@40¢ higher and bulls 40¢@50¢ higher. Beef steers sold chiefly at \$8@9.15, the poorer class of light-weight grassy steers fetching \$7.10@8.25 and the best class of finished steers \$9@9.30. Yearlings that were fat sold as well as much longer fed cattle, topping the market at \$9.20@9.30 and steers weighing but 807 to 822 lbs. bringing \$9.20. Medium class steers went at \$8.30@8.70 and good lots at \$8.75 and better, while butchering lots of cows and heifers were active sellers at \$4.90@8.25, scattering sales taking place of prime heifers up to \$8.50@8.80. Cutters went at \$4.15@4.85, canners at \$3.25@4.10 and bulls at \$4.90@8. There was but a limited amount of trading in stockers and feeders, as they were offered very sparingly and prices advanced considerably, stock steers being salable at \$5.50@7.65 and weighty feeders at \$6.75@7.90, with a few fancy feeders held as high as \$8. Western range cattle arrived in only fair numbers and advances in prices took place, there being few of the feeder class on the market. Most of the range steers went over the scales at \$6.35@8.65. There was much talk concerning the importation of 1,000 quarters of Argentine dressed beef at the port of New York, the largest quantity ever brought over. With the duty of 1½¢ added, it cost 12¢ per lb. Calves have been offered sparingly and only about 800 calves arrived last Tuesday, known as "calf day" at the stock yards. Prices experienced a decided boom, and calves sold at \$5.50@12 per 100 lbs., according to quality, prime light vealers advancing most. Milkens and springers sold moderately at \$5@100 per head, with no call worth mentioning for poor ones.

Hogs had some good advances in prices last week as a result of very much smaller supplies after Monday, the best hogs moving up to \$9.15. Eastern shippers and local speculators operated freely all the way up, but the local packers refused to follow the sharpest advances, and at times sharp breaks occurred the same days when early sales were decidedly higher than those made the previous day. At such times a good many hogs had to be carried over unsold to the following day. The offerings embraced much increased numbers of pigs, these coming from districts where hog cholera is prevailing to a serious extent, and prices for these declined sharply on some days when choice matured hogs were either firm or even a little higher in prices. There was all the time an extremely wide spread in prices between the moderate percentage of prime corn-fed butcher hogs on the light-weight order adapted for the eastern shipping demand and the numerous offerings of heavy packing sows of a coarse kind, and the latter were first to weaken usually and the last to sell higher. Fresh pork continues in excellent demand, and so do provisions, despite their dearthness. The close of the week saw hogs sell at a range of \$7.80@9.15, largely at \$8.05@8.70, with select packing and shipping lots going at \$8.20@9.15; stags brought \$8.30@8.80, boars \$1@3.25, pigs \$4@8.25, and throwout packing sows \$7@7.70. The government order compelling boars and recently castrated stags to go to the grease tanks is responsible for the collapse in prices for these. A week earlier, hogs sold at \$7.45 @8.90.

Lambs and sheep sold as well last week as could be expected with such enormous supplies offered, the Monday run breaking all previous high records and footing up 57,605 head, fully three-fourths of which were lambs. There was a large general demand, low prices stimulating the call for live muttons, while the requirements for the feeder trade were as liberal as ever, with especially large demands from Michigan and Ohio. The ranges furnished heavy supplies of lambs and sheep, with a good show of fat yearlings. As has been the prevailing rule all along the demand centered strongly in fat lambs rather than in sheep, and lambs of desirable quality brought prices that compared favorably with past Septembers. The close of the week saw lambs selling at \$5@7.50, yearlings at \$4.75@5.60, wethers at \$4.25 @4.75, ewes at \$2.50@4.40 and bucks and stags at \$3@3.50. Feeders bought range lambs at \$6@6.60, yearlings at \$4.75@5.50, wethers at \$4.15@4.50 and ewes at \$2.50 @3.75.

Horses are now in such improved general demand, the best sellers being workers, and more of the better class than are arriving could be disposed of at stiff prices. Late transactions cover sales of the best class of draft horses at a range of \$250@350 per head, while the poorer class of horses sold sparingly around \$85 @125. Chunks that weigh from 1250 to 1350 lbs. go at \$185@250, and a fair class of horses sells around \$150@175. Nice wagoners are wanted at \$500 a pair.

LIVE STOCK NEWS.

Boars and freshly castrated animals are condemned by the Chicago local bureau of inspection, and boars are selling for only \$1@3 per 100 lbs., about all of them going into the grease tanks. The following order was sent from Washington: "Boars and Stags.—In the ante-mortem inspection of swine under the meat inspection law all boars which are sexually matured and stags which show evidence of recent castration shall be tagged U. S. subject, and hereafter such animals and their carcasses shall be handled as provided by the regulations."

THIS IS THE FIRST 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.

September 18, 1913.

Cattle.

Receipts, 1412. Market steady; good active trade.

We quote: Extra dry-fed steers and heifers, \$8.25@8.50; steers and heifers, 1000 to 1200, \$7.50@7.75; do. 800 to 1000, \$7@7.50; grass steers and heifers that are fat, 800 to 1000, \$7@7.50; do. 500 to 700, \$6@6.75; choice fat cows, \$6@6.25; good do., \$5.50@5.75; common do., \$4.50@5.25; canners, \$3@4; choice heavy bulls, \$6@6.50; fair to good bolognas, bulls, \$5.50@5.75; stock bulls, \$5@5.25; choice feeding steers, 800 to 1000, \$7@7.25; fair do., 800 to 1000, \$6.50@7; choice stockers, 500 to 700, \$6.50@7; fair stockers, 500 to 700, \$5.50@6; stock heifers, \$5@5.50; milkers, large, young, medium age, \$60@85; common milkers, \$40@50.

Haley & M. sold Sullivan P. Co. 8 butchers av 702 at \$6.25, 2 bulls av 615 at \$5, 4 heifers av 717 at \$6.10; to Payne 1 stocker weighing 430 at \$5, 2 do av 515 at \$6.20, 16 do av 567 at \$6.20, 5 do av 526 at \$6; to Newton B. Co. 1 bull weighing 1150 at \$6, 1 do weighing 930 at \$5.50, 1 do weighing 1200 at \$6, 1 do weighing 630 at \$5.50, 1 cow weighing 1100 at \$5, 1 do weighing 790 at \$4, 2 steers av 640 at \$6.35, 3 do av 1070 at \$6.15; to Breitenbeck 2 cows av 960 at \$4.90; to Sullivan P. Co. 5 butchers av 1064 at \$6.75, 21 cows av 1060 at \$6; to Cushman 12 stockers av 624 at \$6.50; to Bowersox 5 feeders av 740 at \$6.70, 6 stockers av 657 at \$6.40, 1 do weighing 760 at \$7, 1 bull weighing 590 at \$5.50, 1 steer weighing 800 at \$6.70; to Stump 2 feeders av 750 at \$6.75; to Applebaum 5 cows av 884 at \$5.30; to Mason B. Co. 11 butchers av 773 at \$6.75; to Goose 1 bull weighing 1400 at \$6.65; to Thompson Bros. 1 cow weighing 1210 at \$5.25, 1 do weighing 1210 at \$6.25; to Grant 5 bulls av 750 at \$5.40; to Marx 1 steer weighing 1070 at \$7.25; to Rattkowsky 2 bulls av 750 at \$5.50, 4 cows av 892 at \$4.75, 2 heifers av 500 at \$5.75, 4 cows av 1005 at \$5.60; to Bresnahan 6 stockers av 561 at \$6; to Mason B. Co. 13 butchers av 771 at \$6.80.

Spicer & R. sold Hammond, S. & Co. 1 cow weighing 700 at \$3.50; to Mason B. Co. 7 butchers av 594 at \$6.35, 2 do av 525 at \$5.50; to Sullivan P. Co. 1 bull weighing 400 at \$5.25, 4 cows and bulls av 1000 at \$5.50, 4 steers av 845 at \$6.60; to Haley 3 cows av 863 at \$4; to Sweete 10 stockers av 633 at \$6.25; to Newton B. Co. 1 steer weighing 830 at \$5, 3 do av 850 at \$7, 1 bull weighing 1040 at \$6; to Thompson Bros. 1 cow weighing 950 at \$6.25, 1 canner weighing 780 at \$3.25; to Mich. B. Co. 28 butchers av 893 at \$6.35; to Bresnahan 7 do av 646 at \$6.25; to Rattkowsky 2 steers av 1580 at \$6, 5 butchers av 696 at \$5.75, 1 cow weighing 830 at \$4.50; to Thompson Bros. 2 cows av 1075 at \$6, 2 cow and bull av 1050 at \$6, 3 bulls av 543 at \$5; to Sullivan P. Co. 1 cow weighing 920 at \$5, 3 do av 927 at \$6.

Roe Com. Co. sold Sullivan P. Co. 2 cows av 785 at \$5.25, 1 do weighing 920 at \$4.50, 1 do weighing 950 at \$5.50; to Kull 16 steers av 866 at \$7; to Sullivan P. Co. 28 butchers av 668 at \$6.60, 13 cows av 910 at \$5.75; to Torrey 27 stockers av 494 at \$6.05; to Stump 18 feeders av 822 at \$7.25; to Jesse 12 stockers av 591 at \$6.25; to Mich. B. Co. 5 cows av 1010 at \$5.65, 6 do av 886 at \$5.80, 1 do weighing 900 at \$4.50, 4 butchers av 655 at \$6.50, 20 steers av 1075 at \$7.85; to Rattkowsky 2 bulls av 1450 at \$6.65, 4 do av 817 at \$5.65, 1 cow weighing 830 at \$4.50, 7 butchers av 824 at \$5.50; to Hammond, S. & Co. 7 canners av 864 at \$4, 2 bulls av 1270 at \$6, 2 do av 1315 at \$6, 3 cows av 897 at \$4; to Austin 12 stockers av 576 at \$6.40; to Kimball 8 do av 637 at \$6.40.

Bishop, B. & H. sold Sullivan P. Co. 4 cows av 990 at \$5.50, 1 heifer weighing 510 at \$6, 1 cow weighing 1220 at \$6, 3 steers av 810 at \$6.65, 2 do av 955 at \$6.25; to Breitenbeck 34 butchers av 691 at \$6.35; to Bowersox 7 stockers av 630 at \$6.40; to Kamman B. Co. 21 butchers av 836 at \$6.90; to Bresnahan 1 bull weighing 750 at \$6, 8 heifers av 404 at \$5.25; to Breitenbeck 12 cows av 1002 at \$5, 1 do weighing 860 at \$4; to Newton B. Co. 4 butchers av 662 at \$5.50, 1 heifer weighing 730 at \$7, 2 cows av 1205 at \$6, 3 do av 947 at \$4.75; to Powersox 4 stockers av 602 at \$6.75; to Hammond, S. & Co. 2 cows av 1050 at \$4.25, 1 do weighing 900 at \$4, 2 canners av 950 at \$3.75; to Bresnahan 7 heifers av 560 at \$6.15; to Sullivan P. Co. 3 cows av 827 at \$6, 1 bull weighing 1130 at \$6; to Parker, W. & Co. 3 cows av 743 at \$4, 2 do av 1030 at \$5, 3 do av 843 at \$4, 3 canners av 853 at \$3.75; to Thompson Bros. 3 butchers av 620 at \$4.50, 3 do av 977 at \$5.75; to Jesse 2 feeders av 730 at \$6.50; to Mason B. Co. 1 heifer weighing 660 at \$6.25; to Rattkowsky 3 butchers av 666 at \$5.50; to Brown 2 stockers av 650 at \$6.50; to Rattkowsky 3 cows av 1227 at \$5.90, 2 butchers av 745 at \$5.50, 3 cows av 1073 at \$5.30, 4 do av 835 at \$4.75; to Sullivan P. Co. 5 do av 1006 at \$5.50, 5 do av 926 at \$4.50.

Bohm sold Bresnahan 12 butchers av 627 at \$6, 1 bull weighing 590 at \$5. Same sold Gerish 6 bulls av 965 at \$6, 24 steers av 871 at \$7.15.

Veal Calves.

Receipts, 368. Market good, steady; heavy and grass grades \$1 lower than last week. Best, \$11@12; heavy, \$7@9; grass, \$5@6.

Haley & M. sold Parker, W. & Co. 1 weighing 170 at \$12, 4 av 155 at \$12.50, 2 weighing 370 at \$7, 9 av 165 at \$12.50, 2 av 155 at \$12.50, 23 av 250 at \$7; to Newton B. Co. 1 weighing 250 at \$8, 7 av 175 at \$12, 1 weighing 170 at \$10; to Applebaum 15 av 325 at \$6.60; to Mich. B. Co. 1 weighing 140 at \$12, 3 av 185 at \$7.50, 2 av 210 at \$11.

Sandall sold Kull 2 av 135 at \$12. Smith sold Sullivan P. Co. 1 weighing 160 at \$12.

Kalaher sold same 2 av 210 at \$12. Roe Com. Co. sold Goose 6 av 150 at \$11.50, 8 av 275 at \$6.50.

Bishop, B. & H. sold Parker, W. & Co. 3 av 180 at \$12.50, 2 av 180 at \$12.50, 4 av 200 at \$11.50, 2 av 170 at \$12.50, 2 av 260 at \$6, 8 av 155 at \$12, 6 av 225 at \$7, 1 weighing 140 at \$12.50; to Goose 3 av 275 at \$7.50, 2 av 335 at \$8, 4 av 200 at \$12; to Newton B. Co. 4 av 155 at \$12; to Rattkowsky 3 av 330 at \$9; to Rattkowsky 6 av 300 at \$8.75; to Kull 6 av 140 at \$12, 1 weighing 120 at \$11; to Mich. B. Co. 5 av 165 at \$9.50, 8 av 150 at \$12, 8 av 200 at \$11.75, 11 av 210 at \$11; to Thompson Bros. 2 av 230 at \$6, 5 av 170 at \$11.50, 4 av 145 at \$8.50.

Sheep and Lambs.

Receipts, 4161. Market active at last week's and Wednesday's prices. Best lambs, \$7@7.25; fair to good lambs, \$6.25@6.75; light to common lambs, \$5@6; yearlings, \$5@5.50; fair to good sheep, \$3.75@4.25; culls and common, \$2.50@3.

Bishop, B. & H. sold Hammond, S. & Co. 10 sheep av 107 at \$4.25, 15 lambs av 75 at \$7, 12 sheep av 125 at \$3.25, 8 do av 95 at \$3, 7 lambs av 60 at \$6, 17 do av 60 at \$6, 26 sheep av 115 at \$4.25; to Sullivan P. Co. 63 lambs av 75 at \$6.75, 37 do av 80 at \$7, 11 do av 67 at \$6, 17 do av 65 at \$6, 30 do av 55 at \$5.75, 12 yearlings av 75 at \$5.50; to Nagle P. Co. 14 sheep av 110 at \$3.75, 20 do av 120 at \$3.75, 16 lambs av 80 at \$6.75, 33 do av 83 at \$7, 18 do av 90 at \$7, 62 do av 75 at \$6.90; to Parker, W. & Co. 94 sheep av 88 at \$3.25; to Newton B. Co. 13 do av 105 at \$3.60; to Kull 21 lambs av 65 at \$4; to Young 27 sheep av 85 at \$3.50; to Mich. B. Co. 64 lambs av 78 at \$7, 62 do av 70 at \$6.90, 38 do av 57 at \$7; to Bray 62 do av 65 at \$6.60; to Mich. B. Co. 26 sheep av 110 at \$3.75; to Hammond, S. & Co. 44 lambs av 80 at \$7; to Hayes 12 do av 65 at \$6.75; to Sullivan P. Co. 39 do av 55 at \$6.25, 8 sheep av 80 at \$3; to Bray 106 lambs av 75 at \$7; to Fitzpatrick Bros. 68 lambs av 82 at \$7.25.

Haley & M. sold Hammond, S. & Co. 50 lambs av 75 at \$7; to Newton B. Co. 75 do av 75 at \$6.90; to Goose 25 sheep av 125 at \$3.75; to Youngs 9 lambs av 75 at \$6.85, 81 do av 75 at \$6.90; to Hammond, S. & Co. 46 do av 73 at \$7, 4 do av 55 at \$6; to Costello 40 do av 55 at \$6, 96 do av 56 at \$5.75.

Roe Com. Co. sold Youngs 19 lambs av 80 at \$7, 5 sheep av 120 at \$4.25.

Sandall sold Hammond, S. & Co. 54 lambs av 78 at \$7.

Hogs.

Receipts, 2367. Quality much better; generally 5@10c higher.

Range of prices: Light to good butchers, \$9.10; pigs, \$8@8.25; mixed, \$8.75@9.10; heavy, \$8.50@8.85.

Bishop, B. & H. sold Sullivan P. Co. 134 av 190 at \$9, 33 av 200 at \$8.90, 150 av 150 at \$8.70.

Roe Com. Co. sold same 175 av 190 at \$9, 150 av 180 at \$8.90, 85 av 160 at \$8.50.

Bishop, B. & H. sold Parker, W. & Co. 710 av 190 at \$9, 415 av 180 at \$8.90, 150 av 170 at \$8.85, 207 av 160 at \$8.75, 110 av 160 at \$8.50.

Spicer & R. sold Hammond, S. & Co. 115 av 190 at \$9, 40 av 200 at \$8.90, 30 av 150 at \$8.75.

Haley & M. sold same 275 av 190 at \$9. Rough and grassy hogs look bearish for future as packers are discriminating against these grades.

Friday's Market.

September 19, 1913.

Cattle.

Receipts this week, 1556; last week, 1621; market strong.

We quote: Extra dry-fed steers and heifers, \$8.25@8.50; steers and heifers, 1000 to 1200, \$7.50@7.75; do. 800 to 1000, \$7@7.50; grass steers and heifers that are fat, 800 to 1000, \$7@7.50; do. 500 to 700, \$6@6.75; choice fat cows, \$6@6.25; good do., \$5.50@5.75; common do., \$4.50@5; canners, \$3@4; choice heavy bulls, \$6@6.50; fair to good bolognas, bulls, \$5.50@5.75; stock bulls, \$5@5.50; choice feeding steers, 800 to 1000, \$7@7.25; fair do., 800 to 1000, \$6.50@7; choice stockers, 500 to 700, \$6.50@7; fair stockers, 500 to 700, \$5.75@6.25; stock heifers, \$5@5.50; milkers, large, young, medium age, \$60@85; common milkers, \$40@50.

Veal Calves.

Receipts this week, 434; last week, 500; market steady. Best, \$11@12; heavy, \$7@9; common and grass, \$5@6.50.

Sheep and Lambs.

Receipts this week, 5337; last week, 8491; market steady. Best lambs, \$7; fair to good lambs, \$6.25@6.75; light to common lambs, \$5@6; yearlings, \$5@5.50; fair to good sheep, \$3.75@4.25; culls and common, \$2.50@3.

Hog.

Receipts this week, 3340; last week, 4418; market steady. Range of prices: Light to good butchers, \$9; pigs, \$8.25; light yorkers, \$8.50@9; heavy, \$8.50@9.

The northwestern range cattle supply still continues to prove a disappointment in point of quality. Early gathering was forced in many sections of Wyoming and Montana as result of smaller pasturage than rangemen enjoyed in previous years. This has meant a thinner class of steers from the larger outfits. However, small rangemen have not begun to ship freely as yet. They are hanging onto cattle with a view to getting every pound possible onto them and October and November are expected to bring the season's best quality westerns.

CROP AND MARKET NOTES.

(Continued from page 277).

produced here this season. Weather is cooler but not enough moisture for fall seeding. No late cutting of alfalfa; no pastures. A light seed crop of alfalfa; prairie hay light, \$14 per ton; potatoes poor crop and poor quality, 90c per bu. Many cattle and hogs shipped out on account of scarcity of feed and the dry weather. Enough cattle remain to eat all roughness. Corn being shipped in at 81½c per bu; oats 48c; wheat 80c.

Cloud Co., Sept. 16.—Weather cooler for three days now and local showers in places, but not enough to really amount to anything toward wetting things, only cools the air. Farmers busy cutting corn for silo, shock, and also some beginning to sow wheat but most of them are waiting for rain. Corn for this locality will make about ten per cent of usual crop. Wheat advanced 2c to 76c this week and short; bran advanced 35c per cwt. Many farmers were expecting to use shorts largely for hog feed this winter but the millers seem to have put a price on them that will stop much being fed. This part of the country will hold over more cattle this winter than usual as there is lots of roughness and when there is a good corn crop most of the fodder is wasted. Feed is being sold now to ranchmen who will bring the cattle here to winter. Hay both alfalfa and native, is high and scarce; alfalfa seed a big crop.

Trego Co., Sept. 15.—The long drouth in western Kansas was broken on Sept. 9 and 10 by a two-inch rain. The ground is in good condition for seeding. A few farmers have started sowing wheat but it will be several days yet before all the farmers will start sowing. Very little corn raised in this county this year and just enough forage for home consumption. A large number of silos have been built this fall by farmers who are going into the dairy business. The potato crop was almost a failure on account of the bugs. Corn is worth 85c; oats 50c; hogs \$7.50; butter 25c; eggs 15c; cream 29c; potatoes \$1.40.

Pennsylvania.

Mifflin Co., Sept. 15.—Weather is exceedingly dry and warm; crops suffering in this section; wheat an average crop; oats a little above the average. Corn is being cut, only half a crop; some clover seed being cut; pasture very short; apples scarce.

Crawford Co., Sept. 15.—The drouth and the early frost last Saturday night finished the potatoes and corn. There will be but a small crop here. The farmers began to cut corn this week. Oats are threshing 40 to 50 bu. to the acre. Wheat is very poor. Apples are scarce. Cattle and steers are selling at a good figure. Butter, 28c; eggs, 26c; oats, 42c. Pasture very poor.

New York.

Columbia Co., Sept. 16.—Dry weather has caused much shortage in most crops. Apples about half a crop. Rye is one of the leading crops in this county but it was a light crop. Rye is bringing about 60@65c per bu. Rye straw is \$14 per ton; hay about \$16@18, depending on quality. Local grain dealers handle western clipped oats and the local supply will not be adequate.

Missouri.

Lafayette Co., Sept. 15.—This county has a rainy spell after a long drouth. The wheat was good average, 20 to 25 bu., but some went as high as 35 and 40 bu. Threshing is almost finished; oats fair. Would have had a bumper crop of corn if the hot winds stayed away; had enough moisture in the ground to raise a good crop. The early corn will go from 30 to 50 bushels per acre. Hog cholera is not known this year. Dairy cows are in the pasture yet, but were fed a long time; the cowpeas will make a good crop; butter sells at 29c.

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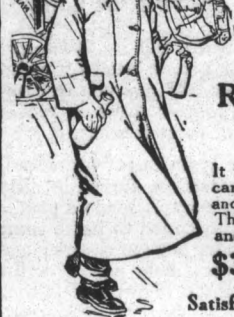
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Paint Facts Worth Knowing

How to Get Best Protection and Beauty at a Minimum Cost

BEFORE you paint this fall—and every farmer has some need for paint every fall—it will pay you to carefully consider the progress made in recent years in the science of paint-making.

In the old days we got a keg of white lead, some commercial linseed oil, turpentine and some sort of coloring matter, made a paddle out of a stick, and proceeded to make some "paint." No formula, but guesswork; and the appearance and protecting power of the paint was largely a matter of guesswork, too.

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Poultry and Bees.

STATE FAIR'S GREAT POULTRY SHOW.

Conditions in the poultry department at last week's State Fair strongly suggested the need of larger and more up-to-date quarters for this branch of Michigan's great annual exhibition. Although the fact is notorious that, upon the average farm, poultry has long—far too long—been regarded a minor and inconsequential branch, the enterprise of poultry raisers and the interest displayed by the general public in recent years are surely placing the industry upon a plane which entitles it to greater consideration at the hands of fair managers generally. In no other department was there greater interest shown this year, notwithstanding the fact that the crowded condition most of the time, and the insufficient light and ventilation which the building affords, made it difficult to examine the exhibits with any degree of satisfaction.

The show, in the aggregate, was by far the largest that the management has ever been called upon to accommodate, taxing the ingenuity of Superintendent Coward and his assistants to provide makeshift quarters for the overflow. As it was, a considerable proportion of the waterfowl division had to be corralled in the rear of the building. The large annex, built a few years ago with the idea of accommodating exhibitors of poultry manufactures, was full of poultry while the various kinds of poultry appliances were, for the most part, conspicuous by their absence.

In quality, too, this show was second to none of its predecessors when considered as a whole. Some sections and classes were exceptionally strong in this respect, while nearly every class contained specimens which would acquit themselves creditably in any exhibition of farm poultry. The vast chasm which separates the mongrel upon the farm where poultry "don't pay" from the high-scoring product of the professional fancier, was well revealed by the presence of a few specimens which have proved unbeaten prize-winners in shows of interstate and national scope, and the fancy values placed upon these fowls by their owners threw consternation into the ranks of owners of dunghill chickens.

Comparison of Breeds.

Among the chickens the American class, which comprises the so-called general-purpose breeds, was again in the van as regards number of entries. Wyandottes led, the white, silver penciled, Columbian and buff being strongest. The Rocks were a good second, so far as numbers are concerned, and the white and barred varieties were among the noteworthy classes of the entire show as regards quality. Orpingtons were not as prominent as in preceding years and the R. I. Reds ranked fourth in numbers but stood very high in quality.

The egg layers, in the aggregate, were nearly as numerous as the general-purpose breeds, the Leghorns being far in the lead in this division, the White Leghorn class proving the largest and one of the best in the show. There was also a good showing of buffs but the Brown Leghorn class was disappointingly small. Numerous varieties of the Polish breed, a good showing of Minorcas (mostly of the black variety), a sprinkling of Houdans and of Hamburgs in a number of varieties made the showing of egg layers one that should have proven satisfactory to most admirers of these breeds.

Brahmas again led the meat-producing breeds, with the Cochins a close second. There was also a good showing of Langshans but all of these classes were poorly grouped, making them show to poor advantage. Practically all of the breeds were represented in the pen classes, the entries here slightly exceeding those of last year.

Grand Showing of Waterfowl.

The entries of ducks and geese greatly exceeded those of any preceding year and included a greater proportion of good specimens of the various breeds than ever before. Among the ducks the popular Pekin was most in evidence, some remarkably fine specimens being seen. Indian Runners were less conspicuous than in other years, but there were many good ones, while the Rouen, Muscovy, Cayuga and White Crested breeds showed up strongly. About a dozen specimens of

the Blue Sweedish, shown here for the first time, attracted considerable attention.

What has been said of ducks as regards numbers and quality is also true of geese. There were few poor or even mediocre specimens. Toulouse, Embden, African and China were about equally strong and comprised the bulk of the show, an unusual number of Canadian or wild geese proving an additional feature.

Turkeys Make no Gain.

There were few fowls of outstanding quality in the turkey division, the show as a whole being a very ordinary one and not above former years in numbers. Narragansetts, which showed up so strongly last year, were represented by a few specimens only. Some excellent White Hollands were there and a good number of the comparatively new Black variety. The Buffs or Bourbon Reds, still rather new in this section, were prominent, but there were few good specimens of the breed, while indifferent showings of the old reliable Bronze and of the Slate variety completed this section of the show.

FALL CLEANING.

Before the hens and pullets go into their winter quarters the houses and yards should be given a thorough cleaning. It is safest to remove perches and replace with new ones. However, if it is desired to use the old perches, they should be thoroughly saturated with coal oil and held over a fire until the surface is slightly charred. This is the surest method of ridding them of vermin and germs.

The inside of the house, and the outside, too, for that matter, should be thoroughly whitewashed. Fall whitewashing serves a double purpose in not only destroying insect life, but making the house much lighter, which adds to the comfort of the hens during the short, dark days of fall and winter.

Old litter must be replaced with new material. The best litter is straw, but if this is not to be had leaves from the orchard or nearby woods will do very well. If leaves are used a good supply must be stored, since they are soon reduced and must be replaced.

The yards should be plowed and sowed to rye. Rye will stay green all winter, and will supply no little part of the necessary green food during late fall and early spring.

T. Z. RICHEY.

A PECULIAR TROUBLE.

Do your hens and little chicks get dumpy, mope around and finally die from no apparent cause? Mine do, and I think I have found the trouble, but neither the cause nor the remedy.

They get so they won't even try to eat, and when they die they are as poor as though they had died of starvation, as indeed they have. It has been about four years since I found what the trouble was, and I have never heard of anyone else having trouble of the same kind but think it must be because they have called it something else.

Now I find the chick so affected invariably has the upper part of the bill grown long, forming a sort of hook, so that it is a hard matter for the chick to pick up its food. The others crowd and eat so much faster that the unfortunate one doesn't get sufficient for its needs; it becomes weakened, gives up trying to eat and finally starves to death. If I take them before they have become too weak, and trim the upper part of the bill to fit the lower, the chick will often recover.

I have small chicks as well as mature hens troubled that way and I would like to know the cause, also whether there is any remedy other than the one I have mentioned.

Our soil is sandy; our poultry have wide range and a variety of feed. While I am writing for information, at the same time I think perhaps some reader may find that what was thought to be some disease is really a case of starvation because of a hooked bill. I have never had many such cases at a time, but I have had a number troubled that way this year, more especially little chicks. I have helped but one or two. I think perhaps they get too weak before I do anything for them.

Eaton Co.

V. T. W.

PROPER CARE OF HONEY.

Comparatively few people know how to keep honey. It is therefore advisable for the bee-keeper who is building up a direct trade to give his customers as much information along that line as possible. The average city housewife will put honey in the cellar or into a refrigerator for safe keeping—about the two worst places that could be found.

Honey is kept very differently from fruit. Good honey is thoroughly ripe when taken from the hive and will therefore not ferment unless it is placed in a cool, moist place. It has a great affinity for moisture, and comb honey, stored in a damp atmosphere, will absorb moisture through the slightly porous cappings and become thin and watery. Its bulk will be so increased that it will burst the cells and ooze out. It may become so thinned that fermentation will set in. Cold is also detrimental to comb honey, causing it to candy in the cells. It seems strange to me that nearly everyone takes it for granted that honey should be stored in a cold place. If they would stop to think a moment, they would know that the bees keep it warm, and the bees know how to keep honey. The warmer honey can be kept the better, so long as it does not get above 100 degrees F.

When nectar is gathered it is thin and watery. The heat of the hive, aided by the manipulations of the bees, gradually reduces the nectar to thick, "ripe" honey. When the honey is ripe the bees seal it over. That is their finishing touch which proclaims that it is ready for market use. While there is an excess of water in the honey the bees will not seal it over. They will leave it to evaporate. This process of evaporation is the ripening process. As it goes on the honey gets thicker and heavier, until it has reached the proper density. Then, as already remarked, the bees certify to its ripeness by sealing it over.

Quality Improves Under Right Conditions.

The first requisite, after taking it from the hive, is a good, warm room in which to store it. The object of this is to have it growing better and better, instead of poorer. When honey is taken from the hive, that in unsealed cells is often so thin that, if the sections are held so that the mouths of the cells are down, it will run out. However, by leaving it in a warm room for three weeks or a month, it can be handled as you please and not a drop can be shaken out. Fully capped honey is not as likely to become watery and sour as is that which is unsealed, and as unsealed honey in any part of the section makes that section more or less unsalable, it is always best, if possible, to leave all sections on the hive until they are fully sealed.

Honey should not only be kept in a dry, warm room, but there should be enough ventilation in and about the room to carry off all moisture which evaporates from the honey, and the larger the pile of honey stored in a room the greater should be the ventilation. It is not well to store comb honey directly on the floor, for where so stored the air cannot pass under the pile, and through lack of such circulation the honey will become watery in a room that is otherwise dry and well ventilated.

Thoroughly ripened extracted honey should be at once put into bottles, cans or barrels and sealed up tight. It will, of course, soon candy, or crystallize, but the flavor will be retained indefinitely, and the honey can be liquified whenever it is needed for use. Care must be exercised in melting it that the flavor is not injured by the application of too great heat. Of course the honey will not be burned if it is not heated hotter than boiling water, but the application of so great heat as this rapidly drives off the flavor. Keeping the package closed and applying a very gentle heat—never above 150 degrees—is the better way.

F. G. HERMAN.

In a series of tests conducted by South Australian poultrymen to ascertain the relative weights of eggs of light and heavy breeds, one pen of Brown Leghorns and six pens of White Leghorns failed to reach the prescribed standard of 24 ozs, while seven pens just reached it. Of 14 pens of Black Orpingtons only one fell short, with 22½ oz., the highest weight being 26½ oz. When the eggs of 61 pens of the light breeds and 28 pens of the heavy breeds were weighed 3½ months after the first test, in both cases the general results showed a fall in the average weight during the period, tending to disprove the theory that the pullet that lays a small egg will develop the habit of laying eggs of larger size.

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.

Sow Does Not Come in Heat.—I am an interested reader of the Michigan Farmer; have never failed to read veterinary column and would like a little advice regarding my sow which had a litter of pigs last spring, but I have not been able to catch her in heat since. What do you advise me to give her or do for her? F. J. F., Temperance, Mich.—Give your sow 30 grs. powdered capsicum, 60 grs. ground ginger and one-thirtieth of grain of strychnine at a dose in feed two or three times a day and if you can conveniently, let her run with male.

Bone Spavin.—I have a mare that is quite lame in hind legs; a bunch is growing on inside lower portion of hock joint; neighbors tell me it is bone spavin. Now if she has a spavin how can I check its growth and remove bunch? B. G., Lake George, Mich.—First of all you must understand that either heavy pulling or fast driving, or concussion of some kind produced the spavin; therefore, it will be necessary to give her rest or you should not expect her to get well. Clip off hair and apply one part red iodine mercury and eight parts cerate of cantharides to bunch once a week; or you can safely apply any one of the spavin remedies that are regularly advertised in this paper.

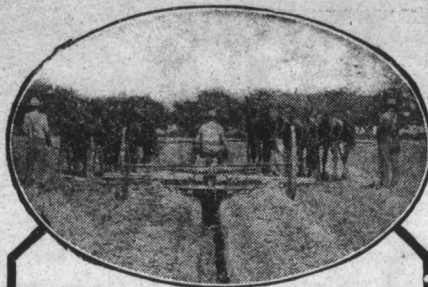
Umbilical Hernia.—I am anxious to know what to do for my three-months-old colt that has navel rupture which is about the size of a hen egg. This bunch came on about a month ago. J. G., Hemlock, Mich.—I advise you to leave colt alone until November and if this bunch has not then disappeared have your Vet. perform a surgical operation, which is usually successful.

Melanosis.—About three years ago I bought a grey mare that had a swelling on hind leg which I thought might be the result of water farcy, but it caused no lameness. About once a year this leg swells and these attacks seem to come on suddenly. I forgot to say that she is in foal and is 14 years old. C. M., Honor, Mich.—I am somewhat inclined to believe that your mare has melanosis, an ailment peculiar to white horses, and as bunch is doing no harm, you had better leave it alone. If the swelling you speak of is the result of lymphangitis, which it may be, exercise her daily and feed her very little grain when not working.

Unhealthy fowls.—I am writing to know if you can give me helpful advice in the management of my chickens. I have a flock of White Leghorns; most of them began to lose their plumage in May, combs darkened in color, they all showed more or less weakness and some of them after drooping around for two or three weeks died. Now my younger chickens seem to be acting much the same as the older ones that died. R. W., Onondaga, Mich.—Your fowls should have a change of food, their premises thoroughly cleaned and disinfected and the soil on which they run should be cultivated in order to destroy the bad effect of them living in their own filth. Their roosting place should be dry and free from damp. Mix with their food some ground ginger, ground gentian, cooking soda and a little powdered copperas should be dissolved in their drinking water. They should be well fed, plenty of sunlight and fresh air admitted into their roosting place. You should also furnish them with a good quality of drinking water.

Loss of Vision—Paralysis.—Some of my hens become lame and partly or completely lose vision. Furthermore, some of them seem to lose control of their muscles and occasionally tumble down, later on bowel trouble develops and they die. It is not unusual for them to dump around several weeks, then die. Some of our hens have a rattling in their throats and the hens are about the only ones that are affected. F. S. F., Milford, Mich.—Your chickens doubtless suffer from an inflammation of upper air passage which is doubtless a catarrhal ailment, which will be greatly relieved by proper care and a proper food supply. Mix in their feed equal parts ground ginger, and baking soda; also add a little salt—five or ten grains of each is enough of medicine per day. It is needless for me to say that they should not be allowed to roost in a draft or live in a damp, filthy place. Their coops should be thoroughly cleaned and disinfected and kept clean and you may find it necessary to change their food and water supply.

James Mulvihill, of Cummings, Iowa, and owner of a farm of 800 acres, makes the prediction that prime beef cattle will advance by another summer to \$10 per 100 lbs. He says in an interview: "Farmers will have to feed high-priced corn this fall, and will be demanding \$10 for stockers bought at \$7.75@8. The steers must be fed for about nine months and fed good. Stockmen should obtain \$2 higher than they pay for the stockers, considering that they are fed on high-priced land and on high-priced corn. It really costs us from \$50@60c per 100 lbs. to market them, shrinkage, commission, freight charges and personal expenses included."



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Spring bred gilts all sold. Gilts bred for next August farrow. September pigs either sex, pairs and trios not akin. Orders booked for spring pigs. COLON C. LILLIE, Coopersville, Mich.

Horticulture.

The Importance of Careful Picking.

FRUIT farmers realize the importance of careful methods during the harvest time but much of the work is often done by unskilled men and they should receive some instruction from the owner or orchard boss before they are placed on the pay roll. During the rush season it is difficult to get first-class labor and the farmer must depend on two classes of pickers to do his work. When they first come to the farm some of them are poor pickers and the rest are very poor and the farmer must give them a few careful directions or the trees and fruit will suffer. It is simply a financial proposition to develop efficient labor and the better the workman, the larger the profit from the business.

Avoid Mechanical Injuries.

Mechanical injuries cause a premature rotting of the fruit and careful handling will reduce this loss to the minimum. There are many causes of mechanical injuries, but the word that explains all the trouble is carelessness. Some pickers snatch a few apples from the tree by the handful and pull off fruit spurs at the same time. These spurs may scratch or puncture the skin of the apple and the opening is ready for the first fungous disease that comes in contact with the fruit. The finger nails of the pickers often do considerable damage when the fruit is grasped too tightly as it is removed from the branch.

Even the slightest bruise may develop into a large discoloration and very soon the tissue begins to break down and rot. This is very apparent in yellow varieties and careless handling has battered up the early yellow varieties on some farms until even the canning factory would not offer a price equal to the cost of production.

On one farm about twenty trees of big yellow harvest apples were ready for picking. It had cost the grower considerable time and money to spray, prune, and cultivate these trees. The trees were heavily loaded and two boys from the neighboring town were given the job of picking them. They jerked the apples from the limbs without regard to the fruit spurs or stems and after dropping them in the picking basket with a thud, they were roughly dumped into bushel crates on the ground. They did not think to bend over to ease the fall of the fruit and nearly every apple received a serious bruise at some time during the harvesting operations. These apples were not a fancy variety and could not expect to bring a high price on the market, but if the trees were worth caring for, the fruit was certainly valuable enough to handle in such a manner as to bring a just return for the money and labor expended.

What was the result with these early harvest apples? The farmer could not immediately haul them to town and they remained for several hours in the bushel crates in the orchard. It was a hot, sunny day and the fruit became seriously spotted, showing up the slightest bruise that had been made by the careless handling. The grower took them to the canning factory, which had been buying apples, but the manager looked over the display and refused the entire load and said that he could not use any more apples. His reason was simply that their bruised condition made necessary their immediate use and any delay in handling would result in serious loss. He did not wish to speculate on that load, or any other load of fruit from the farm of a man who had allowed his apples to become so bruised that they were not even desirable for canning. A little care on the part of the pickers would have saved a large part of the loss and they might have brought a fair return for the labor.

Fancy apples cannot stand the use of mechanical pickers as there is danger of bruising and puncturing the skin and the stems are often pulled out, leaving an opportunity for the entrance of rot-producing spores. Hauling to the packing house is also a source of injury and prompt transportation on a good spring wagon drawn by a steady horse, and guided by a careful driver will do much to prevent serious injury.

When to Pick Apples—And How.

The apple is said to be mature when the seeds turn dark brown but as the seeds cannot be examined, the picker

must use his judgment and depend largely on the outside appearances. Early apples should be harvested just as they begin to soften, unless they are varieties that soon become dry and mealy. In that case they should be placed on the market a few days before ripening time. Winter apples are the most important and they should be allowed to mature on the trees but never to ripen. When still too hard to be dented by thumb pressure, and before heavy frosts appear, the late winter varieties should be in the packing house.

Color is an important factor in determining the market price of apples and some western packing associations will not allow fancy red apples to be shipped from their packing stations unless 70 per cent of each apple is red. As the trees will not usually ripen their fruit evenly, this will require going over the trees several times before completing the picking. During the last two or three days, while the apples remain on the trees, the high color rapidly increases and some varieties do not show their best color until the leaves begin to fall and the sun enters to develop a more radiant blush. It is thus apparent that the market and the distance from the market should influence the time of picking. Fruit that is to be sold to a local trade can be left on the tree until it has taken on a high color and it will be more attractive on the market. When apples are to be shipped a long distance, they should be picked as soon as they mature and often they will hold up better if they are harvested a few days before reaching full maturity.

The picking of apples is a simple operation to the skilled hand who was brought up in the business but it is awkward to the man who has never had any experience in orchard work. The farmer has to depend largely on men who have a limited experience and therefore he should spend some time in explaining and demonstrating the best way of doing the job. An hour spent in giving instruction at the beginning of the season will prove a good investment of time and the farmer will be repaid for his efforts long before the end of the harvest.

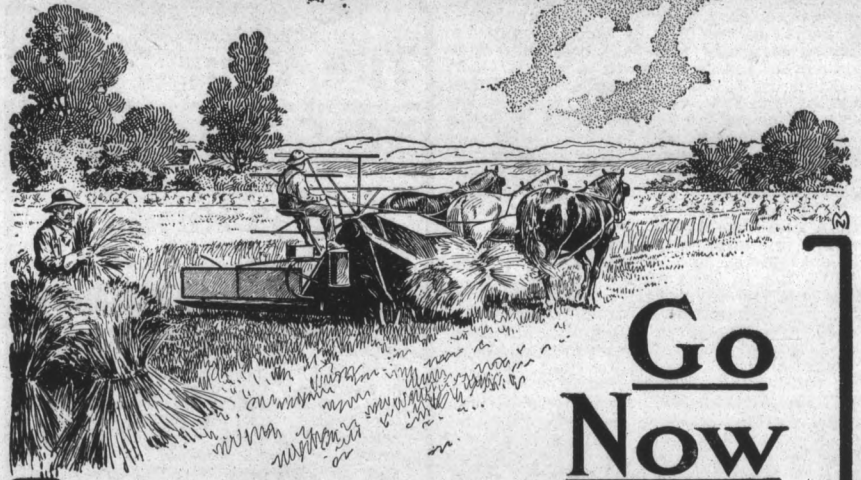
Apples should not be pulled from the twigs as it jerks out the stems, but when the fruit is firmly grasped and raised at an angle to the twig, then quickly given a sharp twist, there is little danger of injury. The stem will snap smoothly from the spur unless the fruit is very green and if they will not break off easily, it is a sign that it is rather early to begin the harvest of that particular variety.

There are many receptacles that are suitable for gathering apples but the fundamental principle is to get a picking contrivance that will not injure the fruit and can be hooked on the limbs, thus giving the picker the free use of both hands. The apples should be carefully laid in the basket and special care is necessary when placing the fruit in the baskets on the orchard wagon. Fancy apples must be handled two at a time and never carelessly dumped from one basket into another. Never pick up the windfalls on the ground and mix them in the baskets with the fresh picked fruit. The fallen apples are bruised and usually covered with dirt and the danger of rotting is greatly increased. Any infection will spread rapidly and if the fruit is placed in cold storage it may mean the destruction of a large per cent of the fine fruit. The heat of the sun warms the apples that have fallen on the ground and their keeping qualities are greatly diminished.

Peaches Cannot be Shipped After Ripening.

The peach has the best flavor when it is allowed to ripen on the tree, but this is impossible when the fruit must endure transportation to distant markets. Leave peaches on the tree as long as possible, depending on the distance to their final destination, and the cold storage facilities of the community where they are shipped, and the efficiency of the railroad or steamboat company in rapidly handling the shipments. The fruit must not be overripe or too green, and considerable experience is required to know just the right time to begin the harvesting of each variety. The Elberta is a firm variety and can be allowed to hang on the trees until much riper than a soft fleshed variety.

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ety like the Belle of Georgia. Hot, muggy weather increases the danger from rotting, and careful inspection should be given the peach orchard to determine the daily condition of the various varieties. A sudden warm rain, with an increasing temperature, will hasten the development of peaches so that every hour will mean money to the grower. At such a time it is necessary to be familiar with the condition of the trees and rapid work is necessary to prevent serious financial loss.

"Peaches cannot be shipped to a distant market if they show any soft spots and so it is necessary to harvest the crop while they are still firm and just as the blush is beginning to show. The fruit will not mature evenly and it is necessary to go over the trees two or three times in order to ship all of the crop in the proper condition.

Great care is necessary in handling peaches, as they bruise easily and will not stand rough treatment without serious loss. The half-bushel basket, or a one-third bushel basket with one side curved to fit the body will make a satisfactory carrier for peach picking. These baskets can be strapped around the shoulders and held securely to prevent jostling. The fruit must be removed from the picking basket with much care, or serious bruising will result.

When Are Pears Ready to Harvest?

Lift the pear, and if you are handling a specimen with a slightly changed color and it readily snaps from the tree, then it has reached maturity. The Bartlett may be picked before it has reached maturity and it will ripen into a fine flavored fruit. Most pears will become granular if they are allowed to remain on the trees until fully colored, and after being placed in cold storage they soon become soft and mushy. The majority of varieties will be much better in flavor if they are picked before maturity and allowed to mature in the house.

The pear is a dessert fruit and should be handled with as much care as the peach or the apple. The stems extend out from the fruit in a way that makes them liable to breaking and this not only presents an opportunity for the entrance of diseases, but spoils the appearance of the fruit on the market.

There are many problems in picking that cannot be solved by the inexperienced man and the fruit farmer should not send new men into the orchard without giving them some instruction that will enable them to do better work. The man of limited horticultural experience cannot do efficient work without practice, no matter how great his efforts. The farmer should take plenty of time to teach his men all that he has learned about proper harvesting methods and it will pay well for the time expended in the instruction.

Ingham Co.

R. G. KIRBY.

KEEP THE GARDEN SANITARY.

At this season of the year it is quite common to find the home gardens throughout Michigan covered with potato and tomato vines, corn husks, and the like. In the control of diseases and insects that do damage to the crops of the garden, it is possible to do a great amount of good in the way of preventing the attacks of insects and fungous diseases the following year, by careful destruction of such garden refuse.

In the fall, after the crops have been harvested, all of the refuse that remains on the ground should be gathered up and placed in a compost heap or it should be burned if found to be diseased or to have been attacked by insects during the summer. Many of the garden insects find protection for the winter under any loose material that may remain in the garden such as refuse or old boards. Dead vines or leaves of plants are very often covered with spores of the diseases which affect those crops during the growing season, and these should be burned, as they possess very little value as a fertilizer.

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I. J. MATHEWS.

The plum curculio is easy to control if the grower already sprays for brown rot, as it is simply a matter of adding one and one-half pounds of arsenate of lead to 50 gallons of the fungicide and putting it on the trees one month after the petals fall. Peaches in full bearing can be sprayed for brown rot and the plum curculio at the same time using all three applications, for about four to five cents per tree, the expense varying with the cost of labor in the vicinity. The plum curculio will continue to do much damage in the fruit belt until better spraying methods are adopted to put the destructive snout beetle out of business.

Grange.

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

THE OCTOBER PROGRAMS.

State Lecturer's Suggestions for First Meeting.

Song.

A story—told by a woman.

How can we help blot out the great "White Plague," Tuberculosis? Discussion based on experience in sleeping out of doors.

Prayer, "A Tuberculosis Day Prayer," by Chaplain.

Humorous recitation.

Violin solo.

A. sold rye for 80c a bushel to the village merchant, who in turn sold it to B., who lives on a farm less than two miles from A. What remedy would you suggest? Discussion.

Appointment of committees to visit schools.

Some of the things I liked in this program today.

Closing song.

Suggestions for Second Meeting.

Song.

Reports of committees appointed at last meeting to visit schools.

Duet.

A "yarn."

"Methods of a successful farmer whom I know," by three men.

Reading, "Better Babies."

"What are correct measurements for a child one year old?"

Halloween stunts and refreshments in charge of "Surprise committee."

Music secured for this program by some member whom lecturer cannot get to "talk in Grange."

THE DUTY OF A GRANGER.

(Extracts from a paper read by Mrs. Willard Upright at a recent meeting of Charlotte Grange).

The Grange is not a living being. It is only at best an organization composed of just as many parts as there are members belonging. We cannot think that just joining this Grange and paying our dues finishes our obligation. Nothing of the kind. No success can be obtained by so doing. Each new member, as he joins the Grange, becomes a factor of it and each and every one have their work to do.

We need you and your work; not merely your money and name on our books. That will not do anything. Sometimes a mere name will make people stop and listen, but back of that the person whose name was mentioned had done some active piece of important work before his name came into prominence. So do not sit by and do nothing, for we never gain anything that way. As long as we have joined the Grange we will infer that we have had some purpose, whether social, legislative, educational or financial, but some definite purpose known only to ourselves.

If your idea when joining was for the social part of the Grange, you knew where to go for a good time, for we are a very sociable people and have some fine times here, but we cannot do it all alone, nor can the Grange itself give the nice times; it must have some individuals that have worked and brought out ideas for entertainment, then fulfilling their ideas or bringing them to action. Now, you know best what would interest you, and why not put your hands and mind to work, and when you have some ideas on social things jot them down in the memorandum book the overseer gave you at time of initiation, and bring them in. When there is a committee appointed on entertainment go to them with your booklet and they will have something to work from.

If you have joined for the legislative part of it and to help out the Grange in the good work it is doing, you must have some ideas of your own on what the Grange ought to do, what it can do and what you, individually, would like it to do. Co-operation ought to do wonders for us, not only financially, but legislatively. Did not we let ourselves be known down at Washington during the reciprocity battle? I should say so. Have we not been heard for some time past? What have we done for our country and the people in it? Take rural delivery and parcel post for example. Each bill probably originated in some one man's brain and he spoke of it to someone else and it kept growing until it is full grown and we are reaping the benefits of the idea now.

Take the educational part of it. If any

have anything to say on this subject let them out with it. If they have any complaints to make let them make them, and the Grange will give consideration. If they have ideas, as I know we all have who have children, or have any remarks to make, let us speak freely and not stand back in the collar and fume, as that will not accomplish anything. Now, for instance, if we do not like the increase in tuition let us speak of it with a resolution and see what we can do. The first thing we should do would be to investigate. If asked for, an investigating committee of the Grange would be appointed and they could find out the particulars.

* * * *

Now the financial part of it. Co-operation is a very important factor of this. To get best results we must co-operate. Not only that, but to get financial benefits from the Grange we must be at the meetings and, when these subjects come up, make our wants known. We have had some members who joined the Grange and left it because they could not get the money benefit they expected. If the truth were known they were not at the meetings when twine and fertilizer and coal and the other commodities were talked of. If they had been, and had made known their wants, they probably would have had their satisfaction. Or if they were there, they may have remained silent and never made known their wants.

AMONG THE LIVE GRANGES.

Interested in Silo Filling.—At the meeting of Washtenaw Pomona, held at Chelsea, Sept. 9, the topic, "Best Method of Filling a Silo," appealed to the majority of members present. Phillip Broesamle told how they fill silos around Chelsea. Their outfit consists of gasoline engine, two teams and six men, with two men in the silo to pack the ensilage. Mrs. Ben Kelly, of Ypsilanti, said their silo required a 20-horsepower engine, five teams and 13 men, and took a day and a half of work to fill it. R. M. Hoppe thought that too many men, required too much labor for the housewives. However, he admitted that ensilage is a good feed. One may feed it to cattle, horses, sheep, hogs, chickens, and he declared that some men like it. Whereupon the sisters suggested that its use upon the table might assist in solving the high cost of living.

Grand Traverse Pomona held its quarterly meeting with East Bay Grange on Sept. 5 and 6, with representatives present from Long Lake, Peninsula, Grand Traverse and Williamsburg Granges. Geo. Arnold and wife, of Williamsburg, and Miss Lena Pepper, of Long Lake, were elected delegates to the State Grange meeting to be held at Flint in December. The subject, "How the Farms of this County May be Improved," was given a thorough discussion, as was also the topic, "The New School Laws." The Grange passed resolutions endorsing the proposed uniformity of text books for the county.

A Children's Meeting was held early in the month by Coopersville Grange. About 160 members and invited friends were present and listened with pleasure to the program, given by the children and young people, which was held in the lower hall. Although many of them had never taken part in a program before, all did well and every selection was worthy of special mention. After the program all passed to the upper hall, where the time was merrily spent in contests which had been previously arranged, until the announcement of supper.

Farm Credits was the topic of chief concern at the meeting of Grand Traverse Grange held Sept. 6. Several members described symptoms of credit in use in European countries, reporting them to be quite successful. Conditions prevailing in this country were clearly brought out and it was the consensus of opinion that some method should be devised for providing farmers with funds, through long time loans, to tide them over trying times and to enable them to prepare for future crops.

Grain and Stock vs. Fruit.—Vermontville Grange, at a recent meeting, discussed the advantages of fruit culture at some length, some contending that Eaton county farmers might profitably give more attention to fruit raising and less to grain and stock farming. A majority of those present, however, seemed to look upon grain and stock as surer crops than fruit and therefore preferable for the average farmer.

Fall Sale Yields Funds.—Tanner Grange, of Manistee county, conducts an annual fall sale of ladies and children's ready-to-wear clothing, such as dresses, aprons, waists, undershirts, etc., as a means of raising funds. This year's sale was held several weeks ago, the affair being followed by a dance and the serving of refreshments which considerably augmented the receipts.

Ironton Grange Incorporates.—At the last meeting in August, Ironton Grange, of Charlevoix county, became incorporated and elected new officers for the remainder of the year. Plans were made for the annual plowing match which occurs late in September.

COMING EVENTS.

Pomona Meetings.

Eaton Co., with Delta Mills Grange, Saturday, Oct. 18. Prof. French, of M. A. C., will talk on "Agriculture in Rural Schools."

Farmers' Clubs

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—Jas. N. McBride, Burton.
Vice-President—C. B. Scully, Almont.
Secretary-Treasurer—Mrs. C. P. Johnson, Metamora.

Corresponding Secretary—Mrs. Wm. T. McConnell, Owosso.

Directors—C. P. Johnson, Metamora; H. W. Chamberlain, White Lake; Wm. T. Hill, Carson City; Jerry Spaulding, Belding; R. J. Robb, Mason; J. F. Riegan, Flint.

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.

EXECUTIVE COMMITTEE MEETS.

A meeting of the executive committee of the State Association of Farmers' Clubs was held on the State Fair grounds last week and a tentative outline of the program for the next associational meeting was arranged. President McBride stated that the prospects were excellent for a most instructive and entertaining program.

MEMORY DAY SENTIMENT.

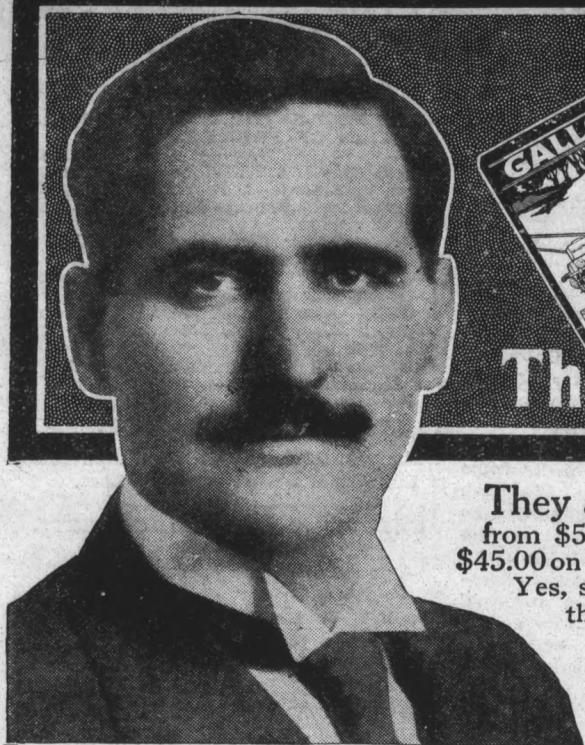
A brief history of the Memory Day movement in Michigan was given in this department of the last issue, together with a poem expressive of the beautiful sentiment of Memory Day, which may be made the subject of both thought and action by every Club member, and for that matter by every citizen of the state.

The Memory Day sentiment is in itself a beautiful sentiment and one which will enable its possessor since it will enable him to not only cherish but emulate all that was beautiful in the characters of departed friends. The average person finds too little time from the hurry and cares of everyday life for the wholesome reflections which will be inspired by putting oneself in sympathy with the Memory Day idea and sentiment. Consequently the appropriate observance of September 30 as Memory Day by devoting it to the care of the graves of the dear departed friends will not only be a wholesome expression of our appreciation of their lives, but will as well prove an inspiration which will aid us in making our own lives more useful or our thoughts more sympathetic and our own acts more kind.

Let us then, one and all, whether we are members of the Farmers' Club or not, give a little time to such an observance of Memory Day, to the end that not only ourselves but the community in which we live may be fittingly benefited thereby.

Will Hold Club Fair.—The Washington Center Farmers' Club was held at Sunny Slope Farm with Mr. and Mrs. B. S. Gilman, Thursday, Sept. 11-13. Meeting was called to order by President Long. Music by the Club. After reading of the minutes, and miscellaneous business, Mrs. French gave a very good report of the joint picnic held in Clinton county Aug. 21. Greenbush, Essex and Washington Clubs joining. Roll call was responded to by naming a musical composer. A fine musical and literary program was rendered. This ended the last half-day meetings of the year, after which cake and ice cream were served to nearly 60. The next meeting will be the Club Fair and chicken-pie dinner at "Riverside," at the home of Mr. and Mrs. C. N. Curren, Oct. 9. "Music! That can touch beyond all else the soul that loves."

Open Club Season.—After our summer vacation the East Arlington Farmers' Club met at the pleasant home of Mr. and Mrs. George Hutchins. We were welcomed by our host and hostess, assisted by their daughter and husband, Mr. and Mrs. Green. The forenoon was spent in viewing stock, visiting, and discussing farm work. Soon after one o'clock an elegant three-course dinner was served. There we lingered long, until our president, Mr. Alfonso Cross, raised the gavel, warning us that the hour had arrived for Club work. The program was as follows: Singing by the Club; roll call, notes on philanthropy; report of committee; collection for flower fund of five cents; paper, "Rest from Work," by Mrs. Blakeledge. Talk, "Mothercraft and Philanthropy," and poem, "Defense of the Ambulance," Mrs. I. Monroe. Others followed in talk on philanthropy. Question for discussion: "Is it best for the farmers to have an expert visit the farm?" There was quite a diversion on the subject, and many good points suggested. This concluded the exercises, but before leaving we were again treated to luscious melons. Then bidding good-day, to meet Dec. 11, with Mr. and Mrs. Monroe.—Mrs. Carrie J. Monroe, Cor. Sec.



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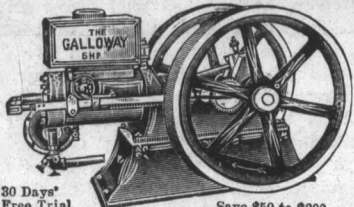
Now I am Going to tell You Some Inside Facts about My Business

I haven't any secrets about my business—the more my farmer friends know about it the better I am satisfied. My offices and factories are always open for your inspection. Thousands of my farmer friends and customers visit our big chain of factories every year and see at first hand just exactly the way we build our machines and examine the materials that are used in their construction; then go back to their homes more than ever satisfied that every statement and claim I make about Galloway Made Machines is true. I only wish every farmer in America could see just how Galloway Machines are made. If you could, my factories would have to be enlarged to ten times their present size (7½ acres of floor space) and then couldn't meet the demand. I know it. Because Galloway Made Machines have the merit—that is proven today by the fact that our satisfied customers (over 135,000) can be found in every state in the Union and in over thirty Foreign Countries. Seven years ago the name "Galloway" was practically unknown—today the "Sun never sets on Galloway Made Machines." No big business is built by accident. It's got to have something substantial back of it. Isn't that a fact?

Now, I've enlarged my line this year so that I can supply you with anything you want for the farm, home or family. My big 144-page Merchandise Book is chuck full of bargains on machinery and implements, household furnishings, rugs, carpets, tapestries, linoleums, stoves, furniture, sewing machines, buggies, harness, washing machines, clothing for men, women and children, watches and jewelry—and many other lines—all selling at regular wholesale prices. Get my big General Merchandise Book and let me save you 20 to 50 per cent on the things you buy. It is the big catalog shown at the right at top of page. Write for it today. Just use coupon below.

The Only Way is the Galloway—Selling Direct from Factory to Farm

Let me prove it to you. I want to show you just what a man can do for you when he will sell you direct from his own factories to your farm. I want you to see for yourself what an amazing difference it makes in prices when you don't have to pay a lot of middlemen's profits. I want to show you how simple and easy it is to buy by mail the Galloway Way. With every machine backed by a 30 to 90-day Free Trial Privilege, a strictly legal five-year warranty on materials, printed in black and white, that goes out with every machine that leaves our factories—and a \$25,000 Bond that guarantees you right at the start that we will fulfill every claim and statement we make—Now, just consider this plan a minute. Read it over again. Then tell me—Did you ever buy goods of anybody where you had such a perfect guarantee of satisfaction back of them? Never! Then, best of all, I will make you practically any terms you want—on any Galloway Made Machine—terms that our competitors cannot equal and prices never before even approached by competition on strictly standard, high grade machines. That's what it means to buy the Galloway Way—that's why thousands of farmer business men will tell you the "Only Way is the Galloway—Selling Direct from Factory to Farm." Try it and be convinced. Write for the Catalog Salesman you want me to send to you today. Fill in coupon below.

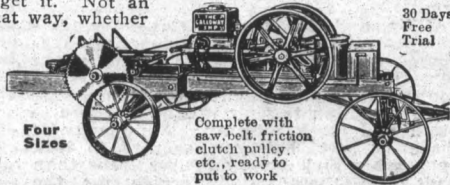


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any one of my nine different models right on your own farm, at my risk. I'll put any Galloway engine on the market, and I don't care what the other engine costs. I'll put any Galloway engine right up against any other engine made, absolutely regardless of price, and let you keep the engine that suits you best. But, remember, when you buy of me I agree to save you from \$50 to \$300, depending on the size you buy.

Can you beat that offer? Never! You can't equal it anywhere. And I've been making just this sort of offer for years and my engine business has grown by leaps and bounds every year. Why? Simply because I am giving my customers a better engine for less money than any other concern in the country. When I sell an engine it helps me sell more right in that section. Remember, on my direct-from-factory plan you must be satisfied or your money will be cheerfully refunded and I will pay all the freight. You take no risk whatever and I back up this offer with a \$25,000 Bond for your complete protection. But the best proof of all are my 35,000 satisfied Galloway engine users.

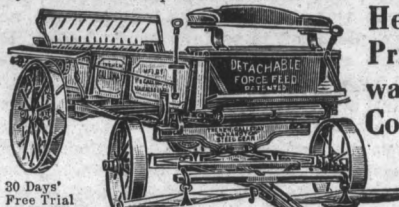
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That means complete portable engine with detachable saw frame, saw blade, saw guards, belt and belt tightener and 20x6-inch friction clutch pulley. It's ready to put right to work when you get it. Not an extra to buy. All my engines are sold that way, whether stationary, portable, sawing rigs or combination outfits. If you need a fine pumping outfit, combination of engine and power washer, engine and churn, engine and small grinder and a dozen of just such combination small or large power plants, write me now. I am making special combination prices that you can't beat. Get my engine catalog today. Just fill in coupon below.



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Now, don't be misled by other concerns making a lower price than this. Note first what the capacity of their machine is then note my price and capacity. My 500-lb. capacity machine is the smallest size I make and it's absolutely the smallest size it will pay you to buy. Then I make a 750 and 950-lb. capacity machine. Here's the cream separator you have been looking for. It's the most modern, most sanitary and closest skimming cream separator ever built. It took us three years to perfect, build and market this new incomparable Galloway Sanitary. It hasn't its equal on the market today from any standpoint, regardless of price, and yet I say to you, when you buy it I will save you positively from \$35 to \$50. I am making a special 90-day Free Trial Offer on this wonderful machine because I want every man in the market to give it a good trial entirely at my risk right alongside any other separator built, you to keep the machine that does the best work and suits you best. Get my catalog telling all about my New Sanitary, how it's built, the sort of materials used in its construction, terms, prices, etc. Just fill in coupon and mail to me today sure.



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