

for the horses; better put it where it can be cut up in winter and mixed with other food for other stock. The remarks here apply to the handling of clover apply equally to orchard grass and to lucerne, which are liable to get hard and woody if not cut early. Lucerne should be cut even before it is in bloom, and must not be allowed to lie long in the sun, else the leaves wither and drop off, leaving only dry stalks. It should be got into cock as soon as at all fit, and allowed to cure in that way before being stored. There is room for discussion upon this important subject, which will be timely in June 15th issue. Let us hear from a number of men who have learned how to make first-class hay, as there are hundreds of tons half spoiled every year by reason of improper harvesting. The lessons from experience are what we desire.

#### Keep the Cultivator Going.

We believe it will still be some time before most of even the best farmers will fully realize the value of very frequent cultivation of what are termed the "hoed crops"—corn, potatoes, and roots. "It was not till last year," writes one of our readers, "that we secured a riding corn cultivator that would stir the surface close up to the corn plants. (Before cultivating we use the harrow a couple of times.) It takes two half-rows at a time and does the work so well no hoeing is required. We gave our crop weekly cultivations until the plants were too large to drive among, and we had the best crop of corn in the neighborhood." Cultivation once a week is not too frequent to be quite profitable, no matter what the weather is like (except the soil is really muddy), and if it is very dry, oftener is still better; we mean by that, more profitable. In mellow land the modern weeder is the ideal implement for early cultivation of potatoes and corn, as it moves all the surface even in among the plants, and it takes a good breadth every time it crosses the field, so that it is not a serious matter of time to do this work very thoroughly with the proper implements. When the old-fashioned scuffer and the hand hoe were depended on only a comparatively small acreage could be properly taken care of without a big force of hands, but invention has helped the farmer, along the lines of labor-saving, as well as the manufacturer. What would the Western farmers have done all these years with their vast areas of corn without horse cultivation? And they cultivate once a week, and oftener in many cases. This frequent cultivation is not a serious matter, as it is necessary only for a few weeks, when the crop will have grown beyond workable size.

**Potatoes.**—What is true of corn applies to potatoes in the matter of frequent cultivation. It did seem an easy matter a few years ago to harrow the crop once or twice as the plants were coming up, run the scuffer through a couple of times and hand hoe once, and then hill up. We thought we were doing the work well, but now know that we might frequently have had very much larger crops had we given more frequent cultivation and postponed the hilling up a few weeks later. In fact, we have come to the conclusion that very light hilling after the potatoes get into blossom is all that is advisable, and many successful potato-growers do not hill at all. We would like to prevail on many farmers, who look on this frequent cultivation as a waste of time, to make a thorough test of the matter with two or three acres of hoed crop. People say it takes time. Well, what of it, provided it is profitable? It is profit we want.

**The Carrots and Mangels** should be nicely up by this time, and the first cultivation and side-hoeing will have to be done very soon. Just as soon as the plants can be seen along the rows is the time to commence. The crust that is formed on the drills cannot be too soon broken, as not only will it mechanically hinder the delicate plants from coming away rapidly, but it will, by reason of the numerous cracks, allow rapid evaporation of moisture, and that is quite a serious matter. True, we have had, in most sections, a moist season so far, but roots need much more than they usually get, and it is safe to calculate on a dry time later on. Weed-killing is not the only nor the main advantage of frequent cultivation. After the weeds are killed the earth mulch or mellow surface will give the crop every chance to get for us what the soil contains.

**Carrots** come on slowly at first, but mangels should soon be large enough to thin. As our readers will have observed, our correspondents differ in their opinions regarding the proper width to leave mangels in the row. We consider 10 inches about right, whereas we prefer to leave turnips two or three inches wider apart. Carrots at six to eight inches will grow a nice bulk of crop and of good sized roots. While it is unfortunate when uneven germination of the seed has taken place, it is not a pleasant matter to thin roots that have been too thickly sown. Not only are they more difficult to separate, but more plants that are left die when left alone. Where this latter circumstance is the case some of the plants can be advantageously removed during the side-hoeing, whereas when blanks occur turnip seed may be dropped in or cabbages planted, and thus get a full crop.

**Turnips**, in most sections, will not be sown at this date, although some are getting into the way of rushing them in during the last week in May. The writer has tried both early and late sowing. We find from June 10th to 20th the best time. We have occasionally had larger crops when sown at the same time as the mangels, but not infrequently

the plants get lousy and tend to rot, and almost invariably become woody; whereas, when the soil is well cultivated up till the dates first mentioned and the seed then sown the chances for a good crop are at their best. There is a great deal in getting the ground in nice condition, and to this end plowing, harrowing and rolling should be done almost simultaneously, and occasional cultivations follow till the time of drilling up for sowing. When the ground is mellow, moist, and in a good state of fertility, to sow more than one and one-half pounds of seed per acre is a mistake, because if thickly sown the plants come up spindly and are bad to thin. Of course, we must allow for the turnip beetle taking a few plants, but if we moisten the seed with spirits of turpentine shortly before sowing it will impart a flavor to the leaves that the fly will not relish. This is undoubtedly good treatment. If a heavy rain comes on clay soon after the seed is sown, it may be necessary to run a light roller, perhaps the turnip drill, over the drills to break the crust. The fact of the matter is, we need to exercise judgment all the way along, keeping in view the necessity of conserving the moisture in the land and of giving all crops the best possible chance to assimilate the plant food in the soil.

#### The Stave Silo.

Knowing of a number of silos within a few hours' drive from London, we recently made a visit to them with a view to ascertain a few points gained from the experience of their owners. The first one seen was of the square sort generally built a few years ago. It is 20 feet deep and has a diameter of about 16 feet. It was empty, with the exception of a pile of rotten silage in each of the corners. We learned that, except in the corners, this ensilage keeps fairly well, but in them there is each year considerable waste. It is Mr. P. H. Lawson's (the owner) intention to put up a round stave silo very soon, and perhaps before next fall.

The next farm visited had a modern stave silo 18 feet high and 16 feet in diameter. It has no other roof than boards laid on flat. The owner of this silo, Mr. Nelson Sage, would, if building another, increase the height, but not the diameter. This silo stands on the ground and has just a clay bottom. Mr. Sage considers it important to have a level and firm foundation and so banked outside that water cannot get in. He is well suited with the two square hardwood scantlings extending from top to bottom, standing opposite each other. Through these the half-inch round iron bands, with five-eighths inch ends, pass and act as both stays and blocks against which to tighten up the bands by the nuts. The holes are not bored straight through the scantlings from side to side but angling from the inside corner to near the outside corner on the other side, so that the rods hug the planks tight right up to the scantling and pass through straight so that the nuts are easily drawn up, and the ends of the bands projecting through form a convenient ladder by which to climb to the top of the silo. The silo has six hoops, or bands, almost equally distributed. Mr. Sage considers it would be better to have the bands closer as they approach the bottom of the silo, as that is where the greatest pressure occurs. In constructing this silo the circle was marked out and a shallow trench dug to set the planks in, and a stake driven in the center. Four posts were put up and plumbed, two of which were set close up to the circle for the planks and the other two four inches back, and to these latter were fastened the two hardwood scantlings. The bottom and fourth hoops were put in place, passing through the scantlings and resting in notches in the two other posts. The planks were then set up one at a time against the hoops and braced from the center stake, each plank being toe-nailed to the last one set up. This continued till the circle was completed, when the remainder of the hoops were put up as the first one had been, and all were drawn up tight. Mr. Sage finds it necessary to tighten up the bands a little each season after the silo has been empty a few weeks. He also considers it an advantage to be able to remove the cover entirely when filling the silo, as then he can heap it up two or three times away above the top so that it will be almost full when it is settled.

The next farm visited was that of Mr. Stephens. His silo is of the same size as Mr. Sage's and similarly built, except that it has iron blocks for the bands instead of scantling. These he has found defective, because they seem to twist and bend the rods, and sometimes break them just where they enter the block. And when once bent they cannot be drawn up the next season after the silo has shrunk, and then the bands slacken and drop down if not fastened.

Gilmore Bros.' new 26-foot stave silo, 16 feet in diameter, was the next one visited. It was built late last fall, so that it has just been filled once. It is constructed of one-piece planks, six inches wide, and planed on the inside. The plank was quite green when put up, and has, therefore, allowed the silo to go a little out of shape. It has no roof, or else that might have been prevented. It stands on a brick foundation and has a hard clay bottom. A platform was used in constructing it and each plank as set up was fastened to two of the hoops by wire nails driven from the inside and bent around the hoops, and each plank was toe-tailed to the next one. The stays through which the five-eighths inch bands pass are like Mr. Sage's—of hardwood scantling. Messrs. Gilmore preferred to use iron blocks, but could not procure

the right sort at the proper time. These scantlings, like Mr. Sage's, stand outside the planks, and we noticed they tended to press the planks opposite them too far into the silo. It had also four two by four pine scantlings standing at regular distances around the silo between the planks, and flush with the inside of planks. These were bored just outside the planks and through them the bands passed. We consider it would be of decided advantage to have the hardwood scantlings set into the wall similar to the four pine ones on this silo. It would allow the hoops to touch the planks all the way round and prevent the bulging in of the planks by the scantlings. We believe this to be in use in some silos.

There is still another style of block used for staying and drawing up the hoops, and is shown in the accompanying illustration, which we have reproduced from *Hoard's Dairyman*. It consists of pieces of hardwood scantling holding a pair of hoops, as shown in the illustration. Directly opposite these short scantlings are others similarly fixed. The hoops of all round silos should be in halves to facilitate drawing them up. The question of doors is not finally settled, but in the illustration shows a sort that gives satisfaction. They are not cut out until the last thing, and then should be cut beveling at top, bottom, and sides, largest all around on the inside. If the planks are eight inches wide, two are wide enough for a door. They may be permanently fastened together with cleats, but they may be left separate if desired. We have endeavored to cover the important points in round silo construction, but will be pleased to learn from any of our readers additional ideas which will help others in building their first silo.



#### The Round Silo in Ontario Co.

To the Editor FARMER'S ADVOCATE.

SIR,—In reply to your article in FARMER'S ADVOCATE of May 16th, would say the silo in this county has had a boom during the last two or three years almost equal to the Klondyke, there being somewhere about 170 in the North Ontario Farmers' Institute district, ninety per cent. of which are cheap round silos, built of 2-inch plank. Only one man, as far as I know, has condemned his silo, simply because he did not read and understand the kind of corn to plant, or the commonest principles of cultivation, and then with rotten silage expected to make beef without grain or hay, relying on turnips. Many in this section have two—one for summer use, where cows are properly kept, when they no longer depend on soiling crops to carry over the dry weather and short pasture, and the other much larger for winter.

The silo I now use has been filled twice (in '96 and '97). When opened in '97 there was about a wagon box full of waste and no more, and the silage had been in ten months, without any roof, not even covered with straw. When opened yesterday, about half a ton in twenty-five tons was waste. We feed silage all summer to over seventeen cows. Sometimes they will not eat more than 10 lbs. a day each; other times as high as 30 lbs., depending on the condition of the pasture. We also feed bran the year round. The following description and advantages were written three years ago, and a note (in parenthesis) explains itself.

While a round silo is unquestionably the best, a stave silo is not the best kind of a round silo. Inasmuch, however, as they answer all practical purposes, I have urged the building of them, as they can be built so cheaply as to come within the reach of almost every farmer. They are particularly invaluable to tenants whose landlords will not help them, as they can be taken down in two hours and taken away when the tenant's term expires. A 60-ton silo can be built for \$30 to \$40, depending on the price of the lumber in the locality. My large silo—140 tons—cost about \$75 three years ago.

As to the advantages of the silo, it would seem almost superfluous to mention them here. So great is my faith in them that I would build a new one for each crop if it were necessary rather than be without one.

#### HOW TO BUILD A STAVE SILO.

In building any kind of a silo it is desirable to get as much depth as the nature of the ground will permit (up to thirty-five feet) and thereby reduce