dry. Third, when refilling the silo late in the fall with shocked corn, it is always necessary to add water.

There are two ways to add water. First, put a hose in the silo and thoroughly saturate the dry portions, especially around the walls. Second, where the blower cutter is used, run an inch stream of water into the blower when it is at work. This will add a sufficient amount of water to insure good results.

FILLING CRACKS AND AIR-SPACES IN SILO.

The silo should be air-tight. Any crack or space which lets in the air will cause more or less moldy silage. These troubles in wooden silos may be avoided at filling time by having a pail of soft clay at hand; as the silo is filled up, anything that looks as though it was not air-tight should be filled with a handful of clay. Any cracks or openings in masonry silos should be properly fixed with cement before filling. Great care should be taken to have the door fit well and air-tight. In a good silo, properly filled, there should be no waste, except at the top.

PREVENTING WASTE ON TOP OF SILO.

There is always some waste on the top of the silo, unless feeding operations are commenced as soon as the silo is filled. The amount of waste material varied under different conditions of management, from two inches, where great care is exercised, to ten or twelve inches, where practically no precautions are taken to protect the same. Various methods of lessening the amount of waste have been tried out. One of the first precautions is to thoroughly pack and level the top of the silo. Some use oat chaff or cut straw. Others thoroughly soak the top with water, then seed with oats. The oats germinate and form a thick covering which serves to keep out the air, thus lessening the waste. One of the easiest and most satisfactory methods to pursue is to pick the ears of the last three or four loads of corn, then run the stalks through the cutter into the silo. Thoroughly tramp the same. Then put on from twenty to thirty barrels of water. This has the effect of hermetically sealing the silo, and only a very thin layer of waste will be on top.

COST PER TON OF FILLING SILO.

The cost of filling the silo (cutting the corn in the field, hauling it, putting it through the silage cutter, tramping, levelling and covering the silo) varies from 40 cents to $1.00 per ton. It depends on many factors. First, the distance corn must be hauled from field to silo. Second, the kind of weather, as it will cost about fifty per cent. more to fill a silo during wet and broken weather than during dry, clear weather. Third, the kind of machinery used. The cutter must be a strong, well-built machine, with a wide feed-mouth, because at times it is put to very severe tests. The motor power must be ample; a 15-horse-power engine is much more satisfactory than a 10, where rapid filling is practiced. Fourth, a well-organized crew of men will fill a silo much cheaper than where organization is lacking. The machinery should be kept going at full blast all of the time.

The following statement, furnished by a very successful dairy farmer, gives an idea of the cost of filling a silo: "We hire an extra man or two, and make long days with the regular help during the filling season. We have our own outfit—silo, cutter and engine (16-horse gasoline), also corn-binder. We use our regular low-wheel, flat-rack wagons, and have two pitchers in the field, and let one of them take the herdsman's wagon for first few loads in the morning and the last few at night.

Four teams and drivers	$16.00
Corn-binder, man and team	10.00
Cutter and engine, with one man	15.00
Two extra men to pitch	5.00
Two men in the silo	5.00
Thirty gallons of gasoline	3.60
Total cost per day	$54.60

"This crew will put in from 85 to 90 tons per day; thus, it costs around 60 to 65 cents per ton to fill the silo."

The above statement is a fair one. It has cost from 60 to 75 cents per ton to fill the silos at the Iowa Experiment Station during the past eight years. The higher cost was due to hauling a long distance, or to rainy weather, when the loading was more difficult, and the sand and dirt on the corn made it very difficult to keep the knives on the silage-cutter in good working condition.

WHEN TO OPEN THE SILO.

The corn may be used for feeding purposes as soon as the silo is filled. For the first few days it will be simply cut corn, as it is not silage until it has gone through the heating process. In a week or ten days' time the real silage will be reached. When managed in this way, there is no waste on the top of the silo. If allowed to stand for several weeks, there will be some waste, in the form of decayed corn. This should be removed and hauled to the field in a manure spreader, as it is not always a safe feed for any class of live stock.

Filling 125 Tons Silage Per Day.

Editor "The Farmer's Advocate":

I herewith send you the methods followed as the result of 13 years' experience with the silo:

1. Let your corn mature as much as possible. Light frosts do not appear to injure the silage so long as the stock is not frozen. A few days wilting does not appear to do any harm, but it goes through the cutter nicer when green, or as soon as possible after cutting.

2. We cut and bind with the corn binder.

3. An ordinary low wagon with two stout poles 18 to 20 ft. long makes a very easily constructed and useful rack for hauling corn to the silo. If the wagon has a 5 ft. track and 42 inch bolster all the better.

4. A blower of 100 to 150 ton capacity per day is very satisfactory for the filling process.

5. It will take from 4 to 6 teams, according to the length of haul, and about 20 men, placed as follows: 5 loading, 5 teamsters, 3 unloading, 5 in silo, feeder and engineer. A fork may be used to advantage in most cases for loading, especially when the corn is damp from rain or dew. This staff should handle 125 tons per day.

6. A good hood on end of pipe that can be moved back and forward is a great help in spreading the corn in the silo.

7. Neighbors co-operate wholly.

8. I have never sprinkled with water, and never saw it coming out too dry. If corn lay a long time after cutting or dried up, a great deal of sprinkling might be a benefit.

9. I refilled once after settling; took a few inches off the top and filled up again. I could not see any difference in the silage. I have also had silage left from the year before filled right on top; could see no difference, only a little darker mark on the wall of the silo. We were feeding this ensilage up to the time of refilling.

10. The cost of harvesting and packing in the silo is about 40 cents per ton. I cannot say that tramping or covering the top is of any special benefit, so long as the corn is evenly spread and not left with the leaves at one side and the stocks and cobs at the other.

I am only too glad to think that some of these suggestions may be a benefit to others in silo filling. Following advice in "The Farmer's Advocate" has often been of much benefit to me.

Lanark Co., Ont. R. G. BOURNES.

Filling Ten Silos.

I have had four years' experience in silo-filling. Though not as long as some, my way of taking care of the corn crop may be of benefit to others. As regards maturity of corn, three years ago my corn was so ripe that the husks were leaving the cobs. It was cut and piled in large heaps in the field, and left there for a number of days. I never had better silage. As regards cutting, we use a corn-binder. It is owned and operated by four neighbors. We generally have two teams to cut with, and let them take turn about. We do not stop the binder at meal time, and cut from eight to nine acres a day. We use the common farm wagon, leaving on the bottom of the hay rack. We then put on cross-pieces about six or seven feet long, and board all over, which makes an easy rack to load and convenient to unload.

We have always used a 20-horse-power traction engine and a 13-inch-mouth cutting-box, with blower attached. This outfit is the property of a neighbor who does the threshing in this vicinity. He goes from one to another, until all are completed. The number of men and teams required depends on the distance from field. In drawing the corn about 80 rods, we have four teams, with four men to help load in the field. One man stays at the box, two help the teamsters to unload, one to feed the box, and two tramping in the silo. We have a funnel-shaped piece of galvanized iron for spreading the corn, which requires a man on top of the silo. It is about 2½ feet long, 10 inches across at one end, and 20 inches at the other. There is a long elbow on the blower pipe, and this funnel goes on the elbow; it hangs loose, and the man on top moves it to shoot the corn in any place wanted.

There are ten silos in this neighborhood, and the owners change help, which makes it very convenient. We hire the engine and box. Three men and a team go along, for which we pay $10 a day. We never have used water to wet the corn; I could not see any use in it. My neighbors have used it, but not of late years. I would like to refill after settling, but find it very inconvenient to have men and outfit come back. Instead, we put poultry netting around to the height of about four feet, which we fill to top. After that settles we have our silo filled within two feet of the top. We use a movable top of corrugated iron, which gives good satisfaction. I do not know exactly, but think the silage costs me 60 cents a ton to put in the silo. JOHN FORBES.

Lambton Co., Ont.

Good Silage Costing $1 Per Ton.

Editor "The Farmer's Advocate":

In this neighborhood we try to cut our corn as near the glazing stage as it is possible. If, in the event of our corn being late sown, we leave it until a good sharp frost comes, and then cut it immediately and put in silo. I don't mean to say that we desire it frosted, but, in leaving it to mature as much as possible, it sometimes gets frosted. When this happens, we believe in cutting immediately, and always cut with a corn binder. In hauling it to the blower, we use the ordinary farm wagons, with reach let out as far as possible, and a rack similar to those used for hauling cordwood, using from four to six teams to draw in to the cutting box, and can fill a hundred-ton silo in a day, without extra exertion. We aim to use at least a 16-horse-power threshing engine to do the work. We place two men in the field, two in the silo, from four to six teamsters, according to distance of hauling, two men at the blower, one to feed, the other to help unload (these two men relieve each other alternately), and the engineer. This requires from eleven to thirteen men. There is nothing like plenty of help to make the work go satisfactorily.

We try, as far as possible, to co-operate, but occasionally hire a man and team at $2.50 per day, as well as providing board and horse feed for dinner and supper.

Only on one occasion did we sprinkle with water. In 1909 we had more corn than our silo would contain. This we stooked and left in the field until after the ground froze. The first week in December we refilled our silo, using water as the corn was going in. The ensilage was of a fair quality, but not as good as the first filling. It is a good act to tramp the silo once every day for four or five days after filling. This is all that is necessary. There is always a certain amount of decayed silage on top, which, I believe, will result in any case. Have tried the thick sowing of oats as a cover, but could not see as this protected the top ensilage from decay. However, it did no harm.

The best silage is always made from well-eared corn, nearly ripe. If your corn is frosted and green, with few ears, don't expect too much from it. If you do, you will be disappointed. Six to seven acres of corn should fill a 100-ton silo.

Rent of 7 acres, at $4	$28.00
Plowing 7 acres	12.25
Harrowing and seeding	2.50
Seed, at $2 per bushel	3.75
Twelve men, at $1.50	18.00
Engine and blower	8.00
Cultivation of corn	15.00
Total	$87.50

This does not take into account cost of manuring, but as the corn crop leaves the land in much better condition for succeeding crops, we will allow a charge of $12.50 for manure used by corn, and the balance of the cost of manuring we will charge to succeeding crops. This makes the cost of silage about $1.00 per ton. If for any reason the corn was a poor crop, such as poor seed, destroyed by crows, drouth, etc., and it took 14 acres of corn to fill the 100-ton silo, you would still have your silage for $2.00 per ton, or thereabout.

Those having no silo often say, "My cows milk as well without a silo as Jones' do with one," forgetting the fact that Jones produces his milk for less money by the means of his silo. Silage is a cheap food; therefore, every feeder of cattle should have one. J. A. CASKEY.

Hastings Co., Ont.

Tin Pipe in Silo.

Editor "The Farmer's Advocate":

One of the best additions to a silo-filling outfit I know is a pipe down the inside of the silo to distribute the cut corn. Made of ordinary stovepipe tin, and buckled together by means of strap and buckle on each side, they cost but very little, while the wear on them is practically nothing. A boy with this can do more efficient work than several men can do with the old way of dropping down the center, or any other method I know of. There are two methods of attaching these to the ordinary blower pipes. A funnel or flaring pipe, buckled to the ordinary hood or elbow, is the simpler way; the other is to have a number of elbows made of heavy sheet iron, which, when coupled together, will form a semicircle of about ten feet. These pipes should be made to couple easily, and two and a half feet is a good length to have them. Carry your pipe into the silo in short lengths, put two men into the blow-hole, with a rope long enough to reach the bottom of the silo; fasten your rope around the funnel of pipe, according to the system used, and couple them from below, until all are put together, then the men above must join them to the hood. These pipes should reach within four feet of the bottom, and as the silo is filled, each