

we faced the winter with fourteen cows (milking and coming in), four spring calves, and sixteen head from eighteen months to three years old; in all thirty-four head, besides six horses. We fed everything all the ensilage they would eat. Cows got ground barley and oats with bran added. Result: cows kept up a good flow of milk, and the young cattle came through looking fine and in good health. The corn did it. And I have no doubt many owners of silos could give equally good testimony.

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 the surface exposure as much as possible. It should not be less than twenty feet—Mr. Orchard, Seagrave, has one sixteen feet in diameter, twenty-four feet high, which gave splendid satisfaction. Two-inch plank any width up to ten inches wide and twenty feet in length will do in a silo sixteen feet in diameter. If the plank are not long enough any mechanic can put up the silo by splicing the plank. The spliced ones would have to be the same width. The plank must be jointed, but not bevelled on the edges. The foundation may be stone if convenient; if not convenient, make a rim of double inch cedar boards like the rim for the curb of a well, and of the size intended to be built. Bend the first hoop, putting the nuts on the extreme ends of the rods



Block used to join the ends of the hoops.

or hoops, as shown in the cut of the block, and lay it two inches from the bottom by temporary blocks. Bend the fifth hoop and raise it twelve feet from the bottom by means of stays, and plumb over the lower hoop. Raise the first plank and set it on the foundation inside the hoops; plumb the edge; drive a four-inch wire nail through under each hoop, and bend it round the rod; this will keep the plank in its place. Set up the planks all the way round until the circle is complete. Tighten the hoops already on; put on three between them and two above, when the silo will be ready for use. The hoops are made of five-eighths round iron, the threaded ends being three-quarters. The blocks may be of hard wood (end pressure) or cast iron. The silo may be let in the ground if necessary, where there is no danger from water. The one shown in the photograph is placed two feet below the surface. In

such a case pieces of old lumber should be put round the outside to prevent the earth coming in contact with the staves, and it should be banked up to shed surface water. (The boards were removed from the front when the photo was taken.) When commencing to fill don't be alarmed if you can see through the cracks; the damp silage will swell the cracks tight in twenty-four hours, but beware of knot holes or places in the edges of the boards that do not fit; tack a piece of tar paper over them. Try the hoops after the silo is filled a few days, and if too tight slacken the nuts, or there is danger of bursting the hoops.

The only bottom required is the earth itself. It should be banked a little on the inside to keep the air from coming in under the planks. A roof, though an improvement, is not an absolute necessity, and adds to the cost. All the rain that will fall on the silage will not injure it. In the winter put some poles on the top, and cover with pea straw to keep out the snow.

How to get the silage out: Cut three holes at convenient distances in the side, as shown in the cut, about 18x24 inches in size, bevel the edges on the inside, and make doors with bevelled edges to fit (don't put them on hinges), put them in place and tack a piece of tar paper over the whole door on the inside.

Will it freeze? Yes, in very cold weather, and in exposed situations, sometimes to the thickness of four inches next the staves. What effect has the frost? When it thaws out the cattle eat it as readily as the other. We take an axe sometimes, knock it down, and put it in the feeding-trough, where it will thaw out in twenty-four hours. What the chemical effect of the frost on the silage may be I am not prepared to say. From experience in feeding, I believe the frost does not injure it. The following table will give the approximate capacity of various sized silos. It is safe to estimate fifty cubic feet per ton and four and a half tons for each animal during the winter:

CAPACITY IN TONS OF SILOS OF VARIOUS SIZES.

Diameter of silo in feet.	Depth of silo.			
	20 feet.	22 feet.	25 feet.	30 feet.
10	31 tons.	34 tons.	40 tons.	47 tons.
12	45 "	49 "	56 "	65 "
14	63 "	68 "	77 "	90 "
16	80 "	90 "	105 "	130 "
18	100 "	110 "	125 "	150 "
20	125 "	135 "	155 "	185 "
22	145 "	160 "	180 "	215 "

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