

# Large Stock on Small Acreage at Central Experimental Farm

Five Facts Make Such a System Possible—Five Silos—S. R. N. Hodgins, Associate Editor, Farm and Dairy

"THE silo is the secret," remarked Geo. W. Muir, assistant Animal Husbandman, as he made a tour of inspection of the live stock and buildings at the Central Experimental Farm recently. This remark of Mr. Muir's was in reply to my request to know how they managed to keep such a large stock for the size of the farm. For at the Central Experimental Farm, they keep approximately 180 head of cat-

"Do you find the freezing of ensilage to be an important factor in feeding?" I asked.

"The freezing of ensilage is not serious in the winter if mild spells come frequently," was the reply. "The ensilage should thaw often enough so that we can keep it fed if we are to get the best results from it. If cold weather keeps up for long at a time and then mild weather comes and a great deal of ensilage thaws and falls down at once, it is impossible to get it all fed before it spoils. We find that in the stave silos ensilage freezes to a distance of about one foot in this district, and in our experience there is nothing will put a cow off her milk more quickly than frozen silage."

**Cellar Storage for Summer Feeding.**  
One of the best features of the two main silos at the Experimental Farm is the five-foot concrete base which is practically all under ground. In this base the ensilage is kept under cool, summer conditions. It has been found that ensilage keeps in a great deal better condition in such storage than in the ordinary silo, particularly for summer feeding. This five-foot base also adds to the capacity of the silo without adding to the filling height, and it has not been found a hardship to throw the silage out of the base. One thing must be kept in mind, if placing a stave silo on a concrete base. That is that the staves must be flush with the inside of the base, so that the corn will settle.

The temporary silo which stands by the sheep barn, was erected in 1915 to care for the big corn crop of that year. The ensilage from the silo has never been used and is still in fairly good condition. There is some mold on it, enough to make it undesirable for feeding to ewes, but they are planning to bring in a number of steers this winter and feed this ensilage to them. This is the only silo on the farm that is not roofed over.

Forty-three acres of corn was grown this year at the Experimental Farm to supply these silos. Ensilage is fed all the year round, and there is always some left over from the previous year when the new crop comes in. No difficulty has

been experienced in keeping the ensilage. Last winter some two-year-old ensilage was fed and was found to be satisfactory.

### Methods of Feeding Followed.

While it is true that over 700 head of live stock are carried on 225 acres at the farm, this statement must be qualified by saying that considerable of the grain used in feeding the stock is bought. This is particularly true of the grain feeds for swine. The outstanding feature of the stock feeding method is the limited pasturage included in their feeding systems. During the past summer the dairy cattle had a run of seven acres of pasturage—sufficient to keep them about one month. The sheep were kept on the lanes and on other odds and ends of ground where they might be utilized to clean out the grass and weeds. The swine got practically no pasture at all.

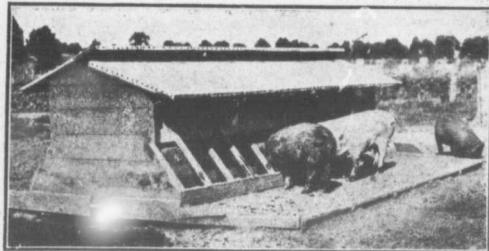
The 43 acres of corn for ensilage included that from experimental plots. In addition to ensilage for summer feeding, 10 acres of soiling crops were grown and fed mostly to the dairy cattle, but some fed went to the sheep. As a general principle, they have found ensilage far superior to soiling crops as summer feeds for our climate. We have an excess of moisture in the spring and a very dry summer. As a consequence of this a mixture of peas and oats, for instance, sown at three different dates, will all come to maturity at the same time, the only difference being that the crop sown in early spring will give a large tonnage per acre, while that sown in summer will be scarcely worth harvesting.

### Feeding Dairy Cattle.

Up until 1917 all the dairy cattle stock was carried on the farm by a system of summer feeding. This year, however, 100 acres of bush pasture was rented and 40 head of young growing stock was pastured there. The 40 head of milkers, however, got no pasture this year, except the strip of seven acres already mentioned. None of the milkers went out to pasture before June and during the early part of the season they were put out in the day time and brought in at night. During the hot spell, this practice was reversed and the cows were kept in the stables in the day time and put out at night. The milkers were taken off the pasture in the latter part of September.

Besides the little bit of pasture which the cattle got this summer, they were fed ensilage from the silos. The heaviest summer feeding ran up to 25 lbs. of ensilage per head. They also got soiling crops in their seasons from part of the 10 acres which were under soiling crops in connection with rotation experiments. Clover

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Hogs Using a Self-feeder at Ottawa.

"The self-feeder is admirably suited to hog raising where pasture is available," states the man in charge of swine at the Central Experimental Farm.

tle, 30 horses, 150 sheep and 350 swine—a total of over 700 head of live stock on 225 acres.

"We feed a large stock on a small acreage because we can't get a larger acreage," went on Mr. Muir. "We summer feed our stock, not because we think it the most profitable way to produce milk or meat, but because we cannot get pasturage for them. The fact that we must supply ensilage and soiling crops for our cattle in the summer, makes our milk cost us more than if we were able to supply our stock with pasture. More labor is involved. But our position is that we cannot secure the pasturage. We therefore turn to the silo, and it doesn't fail us. Without the silo, such a stock could not be carried on our farm."

### The Silos.

To get a good grasp of the feeding methods carried on at the Experimental Farm, one must first find out something of the silos—the foundations upon which these methods are built. The Central Experimental Farm has a battery of five silos. The two main silos in connection with the large dairy barn are of fire-proof construction. Each has an inside diameter of 22 feet and is 35 feet high, including the five foot concrete base under ground. In connection with the model dairy barn is a stave silo, with a concrete base of five or six feet mostly under ground. This silo has a diameter of 15 feet and a height of 30 feet above the base. The other two silos are connected with the sheep barn. One of these is a permanent stave silo 12 x 30 feet with a cement base, the other is a temporary stave silo 14 x 30 feet, which was erected to accommodate the exceptionally large crop of corn in 1915.

There is not much to choose between the two main silos. One of these is constructed of hollow cement blocks, made by the workmen on the ground. The other one is of vitrified hollow clay tile. The difference in cost was not much either way. The tile silo was constructed quicker and is better reinforced, special arrangements being made for the reinforcing iron. For anyone who can afford to build such a silo, either of these is satisfactory. The ensilage keeps in excellent condition.



Sheep Pay Profits at Experimental Farm.

Sheep are used at Ottawa to keep down grass and weeds in lanes and forest belt. Illustration shows them in the meadow.