FARM AND DAIRY & RURAL HOME

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Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land—*Lord Chatham.*

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The Silo for Year Round Use*

Filled With Corn, Legumes or Cereals it Supplements the Summer Pasture—*By Prof. Wilber J. Fraser*

THE present high price of feed and the necessity of shipping a large amount of grain to our allies have brought about a critical situation and force new problems upon the stockman for solution. To devote less grain and acreage to livestock and yet at the same time to keep the same amount of stock growing and producing is the situation that confronts the stockman to-day.

It is a well-known fact that the silo is a great help in keeping much stock on a relatively small area of land, but little consideration has been given to the crops best suited to put into the silo under different conditions in the northern part of the United States and in Canada.

Generally speaking, corn is by far the best crop for the silo, because no crop raised under ordinary farm conditions produces more digestible nutrients to the acre, unless it is alfalfa, and because it not only keeps much better than any other crop but makes a better quality of silage.

Pasture is usually the chief if not the only source of feed for livestock during the summer months on most farms. On practically all farms where cattle are kept they should be pastured for at least six to eight weeks during the year.

Pasture Yields.

A pasture experiment conducted for four years by the writer at the University of Illinois showed that blue grass pasture produced three times as much feed during May and June as it did during July and August, and that again in the autumn, because of fall rains, it produced for a few weeks nearly as much as in May and June. This means that when a pasture is stocked to anything like its capacity during May and June, the feed is cut short during midsummer. This is the most trying time of the year for live stock, because of the excessive heat and flies.

It is more difficult to keep up the milk flow or to keep young stock growing during midsummer than at any other time of the year, even on a well-equipped farm. This lack of feed in midsummer, caused by short pasture, comes at the most critical time of the year, because cows will shrink at best during the excessive heat and fly time, and if in addition their feed is cut short, the shrinkage is sure to be large; and the worst of it is that normal production cannot be regained again when grass comes on in the fall.

To obtain the largest yield cows must experience no adverse conditions, and for this reason there is no season in the year when an abundance of feed is so important as in midsummer.

In fact, a certain dairyman in Illinois, who gets the highest yield of milk from each cow, so far as known by the writer, has but one silo, and uses this every year for summer feeding only, because he considers silage for summer of more importance than for winter.

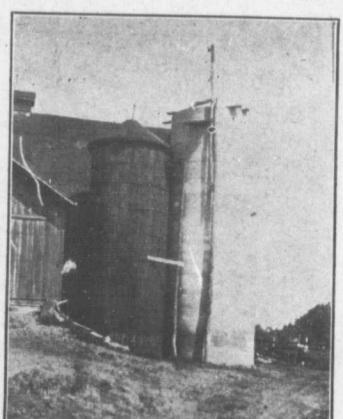
If no extra feed is provided with which to supplement blue grass pasture in midsummer, it must then be understocked in the spring and fall or the animals suffer from lack of feed during the most critical season of midsummer. The pasture area can be greatly reduced, therefore, and the feed supply still kept uniform if some other feed is available for supplementing the pasture when it fails.

When the Summer Silo Pays.

Pasture, then, to be efficient must be supplemented by at least a two-thirds ration for several weeks during midsummer. Attempts have been made to accomplish this by growing soiling crops, but this experiment shows that the great shortage of pasture in midsummer is caused by dry weather, and the time this dry period occurs will vary with different years and may occur at any time from the fore part of June until the middle of September.

Since it is impossible to tell in the spring the exact time the pasture will be short, it is impossible to grow soiling crops of green feed and have them in the best condition for feeding at the time they are most needed. For this reason a summer silo that may be opened at any time the pasture fails is the most economical and satisfactory way of supplying this need.

The summer silo also obviates much extra labor required in seeding and caring for small patches of different kinds of crops and harvesting and drawing these to the cows daily. It also prevents the waste occasioned by the feeding of crops before they are sufficiently mature to furnish the most feed, or after they are overripe and unpalatable.



Prepared for Year Round Feeding.

Mr. John Simmons, of Norfolk Co., Ont., has the right idea. The big cement silo on the right provides winter ensilage for a herd of 20 to 25 milch cows and additional young stock. The ensilage in the smaller silo to the left ensures an ample supply of feed when pastures are short in summer.—Photo by an editor of Farm and Dairy.

As previously stated, corn has the most points in its favor for silage; but where the silo is empty and some other crop can be cut into it in June or the first of July, a saving is made by thus utilizing the same silo for both winter and summer feeding by filling it twice.

Corn is Best Silage.

Corn, alfalfa or some leguminous hay should be the main feeds for cattle and sheep. For winter silage, then, corn is best, as it keeps much better in the silo than legumes are much more palatable when fed in the form of silage than in the form of dry stover. For this reason corn should be fed in the form of silage and legumes in the form of hay whenever possible.

There are, however, exceptions to this rule. The first cutting of alfalfa comes the fore part of June in the Northern districts. It often happens that this period is a rainy one, which makes it almost if not quite impossible to cure alfalfa hay. Under these conditions it is well to put the first crop of alfalfa into the silo.

The best crops for putting into the silo in the summer for supplementing pasture are, therefore, the first cutting of alfalfa, which is usually coarse; the first crop of clover, oats, oats and Canada peas, barley, winter rye, or grass of any kind that is palatable, nutritious and gives a large yield.

Clover and alfalfa should be cut at about the same stage as for hay. If small grain is to be used it should be harvested when the kernels are in the dough stage.

The foremost idea in silo construction is not so much the most cubic feet at the least cost, but rather keeping the diameter small enough so that the silage may be fed and kept in good condition. The diameter of a silo should, therefore, be determined by the size of the herd, and the silo's capacity by its height. When built of masonry the height may be three to four times the diameter.

Summer Silo of Small Diameter.

Summer feeding of silage requires a silo of smaller diameter than winter feeding for the same-size herd. There are two reasons for this: First, silage spoils more quickly in warm weather than in cold; second, many times the summer silo is needed to supplement the pasture when only a partial feed of silage is required. When feeding cows a full ration of corn silage in the summer, ten square feet of silage in the summer, ten square feet of silage surface for each cow is the maximum that can be fed from and the silage remain in good condition.

When such crops other than corn are used for summer silage it is necessary to have a still less area exposed for each cow. When such crops are used there should not be more than five or six square feet of silage surface for each cow. For herds of the following sizes the maximum size of silo that can be used successfully for summer feeding with legumes or small grain is:

Size of Herd	Diameter of silo
14 Cows	10 feet
20 Cows	12 "
27 Cows	14 "
35 Cows	16 "
45 Cows	18 "
57 Cows	20 "

For a good size herd a large silo for winter feeding and a small silo for summer feeding is best. The large silo should be fed out first, so that if any silage is left when the stock is turned to pasture it will be in the small silo for summer feeding; otherwise much might spoil on the surface in the large silo by being fed off too slowly.

Saving the Summer Silage.

If the summer silo has been fed from and there is still silage left when the stock is turned to pasture, it may be covered over with fine straw or chaff thoroughly wet to cause it to decay quickly and seal over the surface, thus excluding the and and preventing the silage below from spoiling. If the straw or chaff is not available the top of the silage will simply have to rot, but it should be thoroughly soaked with water two or three times at intervals of a week to prevent excessive loss from drying out and fire-fanging.

If there is but one silo this should be small enough

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*This article is reproduced by courtesy of "The Country Gentleman." Its writer, Prof. Fraser, is one of the best known dairyman of America. It was he who fed a large herd profitably for years on corn ensilage and alfalfa without a pound of grain, thus demonstrating the practicability of this ration.