



Wintry winds blew, and a light covering of snow failed to curtail the crowds at Friday's Lancaster County trench silo demonstrations on the farms of John M. Groff, R1 Bareville, and the Harry Griffith Farm operated by Robert C. Groff just north of Quarryville on R3. Looking over

the open end of the silage, with the concrete walls showing, are from left to right, Mr. Griffith; Bob Groff; John Walker, extension agricultural engineer from Penn State, and Max M. Smith, Lancaster County agricultural agent. (See accompanying story). (Lancaster Farming Staff Photo).

Trench Silo Cuts Feeding Costs in Lancaster County Dairy Enterprise

By ERNEST J. NEILL
Editor, Lancaster Farming

Seeking cheaper milk at the production level, Robert C. Groff has reduced hay purchases through use of a trench silo. Mr. Groff, who farms the Harry Griffith place just north of Quarryville, was one of two Lancaster County hosts in a trench silo demonstration Friday.

Explaining procedures and construction were M. M. Smith, Lancaster County agricultural agent, and John Walker, extension agricultural engineer from Pennsylvania State University.

John M. Groff Host Also

Around 40 attended the 9:30 a. m. meeting on the Robert C.

Groff farm, and in the afternoon, similar sessions were held at the farm of John M. Groff, R1 Bareville, on Route 23.

Throughout the country, trench and bunker-type silos have been constructed to provide cheaper winter feed, and, in emergencies, to salvage drought-burned crops. Locally, however, the silos of this type have been used to get a maximum amount of feed from a minimum acreage.

At Bob Groff's, the latter is the case. He operates a farm of 148 acres, is now milking 13 head of Holsteins that produce 320 gallons of milk daily, and feeds 50 head an average of 60 lbs of silage a day.

Markets in Philadelphia
Bob is justly proud of the progress he is making since moving into Southern Lancaster County from the Stevens' neighborhood. Today he is selling Grade A milk to Abbott Dairies, Philadelphia, with the primary supply of winter feed coming from nine acres of land.

One hundred and ten loads — almost 200 tons — of soybeans and sorghum, or soybeans and sudan, went into the silo. Using this combination, no preservatives were necessary.

Mr. Griffith pointed out that dirt mounds around the trench silo which runs north and south, opening to the south, divert rainwater, preventing erosion and spoilage. Dimensions of the trench silo are 78 by eight feet at the bottom, 78 by 14 at the top. When filled 10 feet high, and well crowned, it holds an estimated 180 to 200 tons. So far, in the first year, success has been proved, with only two or three inches of spoilage.

Sixteen tons of sand, 24 tons of stone, and 114 bags of cement went into construction of this trench silo, at a total cost of \$753.50.

Breakdown of Costs

Some dynamite was necessary to break up rock formations on the slope where construction was made. Digging cost \$160, blade work \$82.50 and labor approximately \$270, figured at \$1 per hour. The first side was erected in one day, the second side was erected on a less steady basis, but was completed in 2½ days by three men.

"You should figure digging costs at approximately \$1 per ton of capacity," Mr. Walker explained, showing the Griffith-Groff construction figures very closely to customary estimates.

The Penn State engineer added that trench silos can be constructed over a period of years, and used during that time. The first year they may be used without concrete, perhaps even into the second year, to spread the costs over a longer time.

"It will take about one-third of a yard of concrete per ton of capacity, and when figured at \$6 per ton, concrete should cost about \$600," he added.

Trench Silo Labor Saver

The trench silo is a labor saver, Mr. Smith and Mr. Walker told the group. It is easier to fill, easier to use. Costs are low. It may be built quickly, and there is less danger involved than in a tower silo.

Three men filled the silo in the southern end of the county in four days, using a field chopper.

There is more spoilage in a trench silo than in an upright, but this loss is easily offset by cost. "You can't dig trench silos every where due to the water table being too shallow," Mr. Walker warned, "but in that case you can use a bunker-type silo."

"A trench silo is ideal when constructed on a bank, and there should be an eight-foot fall in each 80 feet to assure proper drainage," Mr. Walker advised.

At the same time, trench silos should not be constructed too near dug wells, or water may be blackened and contaminated,

or too near the residence, where odors may be offensive. Construction close to the barn or feeding area is advised, allowing room for juices to seep away, and to save labor.

Any Hay Mixture

Sides should slope back two feet at the top in an eight-foot wall. Slanted sides ease packing, and will give less spoilage than vertical walls.

Bob uses a rubber-tired tractor to pack his silage, as weight is more concentrated on tires than on the broad footage of a track tractor.

Mr. Smith explained other features of a trench silo especially crops that can be used. "Any hay mixture is good; soybeans, sorghum or soybeans and sudan offer some of the best tonnage, and no preservative is necessary," he told.

If preservatives are necessary, any cereal crop chopped or ground can be used. Grasses and legumes need preservatives. Another good combination planting for Lancaster County is Canadian field peas and spring oats, using a bushel of inoculated peas to a bushel of oats to seed one acre.

"Make sure you combine crops that mature simultaneously," Mr. Smith warned. In the peas-oats combination, seeding should be done in March, with fertilizer drilled separately. Harvest when small peas form, when oats head out. Be sure to use preservatives," he told.

"It takes high quality hay to make high quality silage," Mr. Smith added.

Corn May Be Added

Corn may be added to serve as both a preservative and to increase palatability — crushed or ground. Preservatives must be mixed thoroughly — and it would be advantageous to mix them at the field chopper as the ground material goes into the blower.

Crops destined for silage need moisture, and those over mature

are of little value. Grass is best when just heading. Alfalfa serves best just before it shoots a head, or in 10 to 20 per cent blossom. Clover in one-third blossom is also good, and alsike in full bloom may be used.

By cutting at this period, it is possible to save more of the feed nutrients than in any other form of feed harvest.

"Put good stuff in your trench silo. Cut grass at the proper state of maturity, when it's green and juicy. Use preservatives," Mr. Smith admonished.

Seal Top Carefully

Pack silage well, the group was told, especially along the sides, which are more vulnerable to seepage. The top must be carefully covered, and the best seal is tarpaper and dirt or sawdust. Three inches of ground limestone may be spread evenly on top, and after a rain or two will form a weather-proof crust.

Feeding is ordinarily from the front end of the silo, using a tractor scoop or loader.

Mr. Smith advises against self-feeding dairy stock. For beef cattle and dry cows, yes, but hand feeding is recommended in the case of dairy stock. Mr. Walker showed a scale model of an ideal trench silo, as well as models of feeding gates, both movable wooden gate type, and gate suspended from chains on a bar crossing the top of the trench silo.

Summing up the advantages of a trench silo, Mr. Smith told, "You can get the most feed value by making grains into silage. You use all feed nutrients. You cut the need for hay — but some dry material, 5 to 10 tons daily, is still needed."

Around 40 attended the Bareville meeting too.

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