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## Timely Farm Suggestions

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### Silos and Silage

A READER writes: "I have an old plantation cistern, 20x14, which I wish to convert into a silo." He asks the following questions:

1. The cistern leaks now; must this be cemented or would the water harm the silage?
2. The top will have to be torn off and rebuilt. What shape should I rebuild it?
3. Does a gas accumulate in an underground silo? If so how must this be gotten out?
4. Farmers around me claim that hay and a little grain will winter cattle best, that there is little feeding value in silage and that I will be wasting my time in making silage.
5. How do sorghum and corn silage compare in feeding value?
6. What is there about silage that kills cattle and horses?

1. It will be necessary to cement the walls of the silo to prevent seepage. In fact, the trouble from seepage, owing to the excessive rainfall and moisture in the soil in all parts of the South east of Texas and Oklahoma, is the chief objection to the underground silo. Unless considerable expense is incurred in making a good tight wall to prevent seepage, an underground silo will not be satisfactory in the South, except in the dry sections of the Southwest. It is stated that the water table should always be some distance below the bottom of the silo, Bulletin No. 101, Oklahoma Station, stating: "The pit silo should never be built where the water level is not some 10 feet or more below the desired depth of the silo. The water table being generally so near the surface, the heavy rainfall, the uneven texture and character of the soil, all of which make it necessary to go to much expense to prevent seepage, and other objections to the underground silo, which will be mentioned later, make it inadvisable to construct underground silos in the South. In fact, the evidence is so abundant and plain, that underground silos are impracticable and undesirable in the South, that their construction should not be advised. Of course, this statement does not apply to western Texas and Oklahoma or other sections where soil moisture conditions are different from those of the Central South and the Southeast."

The next most serious objection to the underground silo is the greater cost of getting the heavy silage out for feeding. Silage can be hoisted by machinery much more economically in filling the silo above ground than it can be lifted out of the underground silo by hand, windlass, or rope and pulley in small lots as required in daily feeding.

The third objection is the one referred to in question 3. Gas does accumulate in underground silos. It is more likely to occur when the silo has been partly filled and allowed to stand a few days. The usual test for the presence of carbon dioxide gas in a silo or well is to lower a lighted lantern before entering. If the lantern does not go out, or continues to burn, it is regarded as safe to enter. Perhaps the same results will be obtained when beginning refilling by allowing some considerable silage to go into the silo before entering it.

2. In making a silo out of this old cistern difficulty will be experienced unless the walls of the cistern are nearly perpendicular. The walls of the underground silo, as of all others, should be smooth and perpendicular, or the diameter should be nearly uniform from top to bottom. If this cistern is jug shape, as cisterns are generally made, it will be necessary to remove the neck of the jug and build the walls so as to give the pit the same size from its largest part to the surface, or a little above the surface of the ground. The top, or curbing around the top of the silo should be made firm and solid of concrete, so as to support cover and not break from the effects of wear due to removing the silage.

4. Dry mature cattle may be wintered very satisfactorily on hay or other dry roughage and a little cottonseed meal, grain or other concentrate; but dairy cattle, growing animals and fattening beef cattle do much better on succulent feed, of which silage is the one most generally used and thought most economical for winter feeding in America.

Whether a silo will prove profitable will depend most largely on the number of cattle to be wintered, but also on the cost of machinery for filling the silo. If both a silage cutter and power to drive it must be purchased and there is not considerable other use for the engine the cost of this machinery will add considerably to the cost of the silage and will make it uneconomical for feeding a small number of cattle. But if this machinery can be hired, or if there is sufficient other use for the engine, then the average man can probably not afford to do without a silo if he has as many as 15 dairy cows or winters or feeds 25 to 30 beef cattle.

5. Taking the available facts or data from numerous experiments or tests, corn silage is shown to be worth more for feeding than sorghum silage. The difference, however, is not nearly so great as some suppose, especially when the sorghum is allowed to mature before being put into the silo and cottonseed meal is used with the silage. Perhaps it is not far from right to state that average corn silage is not worth more than 10 per cent more than sorghum silage made from mature sorghum, and the writer is of the opinion that there is really less than this difference in their feeding values.

On the other hand in most sections of the South on lands that produce 30 bushels of corn or less per acre, the large sorghums will probably produce from 25 to 50 per cent more tonnage than corn.

6. Silo building and the feeding of silage are no longer experiments. Silage is a most excellent feed and under usual conditions furnishes the most economical and best feed for the winter feeding of cattle. Practically all states and also the United States Department of Agriculture have issued bulletins on silo building and the feeding of silage, and any reader of The Progressive Farmer can get full information and the help needed to enable him to put up a silo, make silage and feed it.

Good, sound silage will not injure horses or cattle. Good silage is a good feed for idle horses, but moldy

or damaged silage will sometimes kill horses and mules. When this occurs it is not the fault of silage, but is due to a faulty silo or faults in putting the material into the silo. Moldy or damaged silage should never be fed to horses and mules.

### Corn, Oats and Cottonseed Meal for the Work Animals

A READER asks: "How many pounds of cottonseed meal should be mixed with 10 bushels of corn and 10 bushels of oats to properly balance a ration for work stock, when receiving crabgrass hay?"

We suggest the following:

560 lbs. corn, 10 bushels.  
320 lbs. oats, 10 bushels.  
170 lbs. cottonseed meal.

If 14 pounds of this mixture is fed a day it will give a ration of about:

2.42 lbs. corn.  
4.22 lbs. oats.  
2.25 lbs. cottonseed meal.

14.00 lbs. Total

If 10 pounds of the crabgrass hay is given daily these will furnish a ration supplying about two pounds of digestible protein, 12 pounds of digestible carbohydrates and seven pounds of digestible fat, giving a nutritive ratio of one of protein to about 16 of carbohydrates and fats, which is about right for a hard working horse.

Of course, a small, easily kept horse or mule may get along on less than 14 pounds of such a mixture and a large horse or mule doing extra hard work may require more; but 14 pounds of this mixture and 10 pounds of hay will usually prove a fair ration for a 1,000 to 1,200-pound animal doing farm work. We would feed six pounds of such a mixture and all the hay at the night feed, with four pounds of the mixture at each of the morning and noon feeds. If only two feeds are made daily then the grain mixture may be given in two equal portions, but in all cases, where the animals are working hard, all the hay should be given at night and the amount should not be over one pound per day for every 100 pounds of the animal's weight. Three-fourths of a pound would probably give better results, especially if the weather be hot or the animal doing hard or fast work.

### Mature Rye Will Not Injure Cattle, but Is a Poor Hay

A READER asks: "If Abruzzi rye headed at full maturity will do to feed to mules or cattle in this stage, as is done with oats. I am told it will not do to feed headed rye cut like oats."

This is another instance of that prevalent idea that the beards on rye, wheat and barley are likely to injure livestock. The writer has seen hundreds of cattle wintered with bearded barley straw as the chief roughage, and instances where the beards did injury were of the rarest occurrence. Indeed, if this rye were allowed to get ripe and then the straw fed, provided the stock would eat it, there would be little or no danger from the beards. But if cut early, say in the early milk stage, or even before blooming, as is best when it is proposed to make hay out of rye, there will be no danger of injury from the beards worth considering. Rye hay is not palatable and will not be eaten well by livestock, if the straw is allowed to get yellow before cutting and cures like straw. But if the rye is cut before the straw becomes

too old, that is while it is still green, it makes a hay which livestock will eat fairly well. In short, we think the condition of the straw a more important guide as to when to cut rye for hay than the state of maturity of the heads. We would rather have it cut before blooming while the straw is still green, than to wait until the dough stage of the grain, when the lower part of the straw will cure yellow and hard and will not be eaten by the livestock. But in either case the beards are not likely to injure the stock.

### VETERINARY PROBLEMS

#### Thrush

THRUSH is the term used to designate a disease of the frog of the foot of the horse. There is a deepening of the depression or cleft in the center of the frog, extending down through the horny frog into the sensitive parts. There is often a slight discharge and a very disagreeable odor.

It is generally caused by the animal's standing in moist filth, but cases occur in which a weakened or run-down condition of the animal and other diseases of the foot seem to play a part in causing it.

The trouble may occur in a front or hind foot, but when seen in the front feet is more common in geldings than in mares.

Apart from the cleft in the frog and the offensive odor, the whole hoof may become unusually dry and hard. The heel may become hot or feverish and tenderness or lameness may sometimes occur, especially when the animal steps on anything hard.

If the foot be hard and dry it should be poulticed for 24 hours. Clean absorbent cotton and water, or wet wheat bran may be used as a poultice, but this will not be necessary except in severe cases. When the horn is softened all loose portions should be removed with a sharp knife and the cleft in the horny frog widened or enlarged by paring away the horn of the sides of the cleft. Then the cleft or crack must be thoroughly cleaned out and disinfected. To do this it is necessary to use a thin blunt piece of wood or a probe wound with a little absorbent cotton to swab out the cleft. The writer has found full strength of the coal tar disinfectants a good remedy to use in swabbing and cleaning out the cleft. This should be used freely after washing and swabbing out with clean water in which the disinfectant has been dissolved—one part of coal tar disinfectant to 30 or 40 parts of water.

Some advise swabbing out the cleft with "butter of antimony" once a day for several days, after cleansing the cleft. When either treatment has been used once a day for four or five days then there is no more effective remedy than to dust the cleft full of calomel and then push it to the bottom of the cleft with a thin wood paddle or the back of the blade of a pocket knife. This applied once a day for a week or 10 days, with attention to keeping the place where the animal stands dry and clean will usually effect a cure. If the animal is run-down in condition, attention must be given to building it up with good care, feed and tonics.

Except in severe cases it is not necessary to take off the shoes or stop working the animal, but a run at pasture will frequently result in recovery.