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ensiling annual crops such as corn and grasses, including certain weeds, especially when grown under stressed conditions on nitrogen-rich soils. This year, silo gasses were even produced by some alfalfa haylages, probably because they contained more weed grasses.

The problem of silo gas is most severe during the first few weeks after filling. It is a gas that can cause permanent lung damage -and death -- and needs to be taken seriously. The effect of silo gas is cumulative. Once exposed to it, people have lower tolerance levels in the future.

Silo gas is yellowish brown in color and heavier than air. Therefore, it lingers on top of the silage, floats down silo chutes, accumulating at the base of silos, in feed rooms and in stalls adjacent to silo rooms. It has a "biting" odor that causes people and animals to cough. If dead birds are found at the base of silo chutes, suspect the presence of gas.

To reduce the risk of exposure to gasses, aerate feed rooms and stables well. Before entering a silo, run the silo blower or a fan, or wear a respirator.

Protein-Enriched Corn Silage

If you've been depending on hay or haylage to meet much of your protein needs in previous years, but are coming up short this year, one way to reduce protein purchases is to treat corn silage at harvest time with anhydrous ammonia.

Anhydrous ammonia is a good and economical source of protein -- if applied and used properly. It is also a good preservative. Because of this, it can reduce dry matter and spoilage losses in the silo and improve the bunk life of silage.

On the other hand, anhydrous ammonia is dangerous to work with. Therefore, be safety conscious; wear protective clothing and have water nearby. Before treating corn silage with anhydrous ammonia, be sure you are working with a nutritionist who can balance rations well, especially for soluble protein and carbohydrates.

When comparing feed prices, consider the cost of tying up money when you buy protein at ensiling time, rather than as you \ need it. Also remember that the hay and protein supplements you may have been feeding probably contained numerous vitamins and minerals; anhydrous ammonia does not; their cost needs to be considered too.

Anhydrous ammonia has an affinity for moisture. It attaches well to silage that has 60 to 70% moisture. Below 60%, losses increase. The suggested rate of application is 7 lbs. of anhydrous ammonia per ton of 65% moist

Ammonia is also highly soluble in the rumen, but this is not necessarily a problem. Rumen bacteria need some soluble nitrogen, but excess accumulations are toxic. To "capture" and utilize the soluble nitrogen that is present in the rumen, and to help prevent toxic buildups, rumen bacteria need a readily available supply of carbohydrates -- but not too much, because excess soluble carbohydrates can cause acidosis. Thus, it is very important to balance rations properly, regulating the

amount of soluble protein and ear- 🦠 high in NPN or soluble protein. bohydrate in the ration, plus the time and order in which cows should receive them.

During the fermentation process some plant proteins in feeds are converted to soluble protein. When a non-protein-nitrogen (NPN) additive with a preservative activity, such as anhydrous ammonia, is added to com silage it helps to prevent the conversion of plant protein to soluble protein. Consequently, the amount of soluble protein in ammonia-treated silage is not much different than that of untreated silage.

This is not true of other NPN additives, such as urea, which do not possess silage preservative characteristics. When added to silage, they can increase the levels of soluble protein. For this reason, many people who use urea prefer to mix it with the grain. This gives them more opportunity to control soluble protein levels in the ration, because once urea is added to silage it is harder to remove from the ration.

Do not add NPN to silage if it is present in the grain mix, or if other forages and feed ingredients are

TB and Johne's Disease

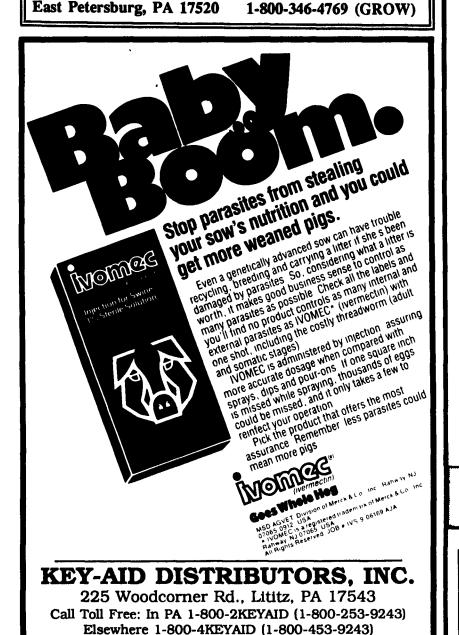
The recent outbreak of TB and the presence of Johne's disease remind us of the constant need for tight biosecurity measures on our farms. The TB organism is shed in the feces, urine and milk, and through nasal and vaginal discharges. Johne's organisms also can be spread to calves and heifers through the feces of older cattle.

As show and sale cattle move onto and off the farm, be concerned about the cleanliness of transport vehicles and exposed to other animals. Remember, health charts are no guarantee that animals are not infected; they merely indicate that infection is unlikely. Avoid tracking manure from farm to farm, and from older cattle to vounger cattle. Have visitors sanitize their footwear and keep them out of feed alleys. Move your breeding charts to a safe location. Be sure to consult your veterinarian on these and other herd health matters.

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