

# FORAGER



*Agronomics with livestock in mind!*



## In the Field – Improving First Cutting Yields

Interested in increasing tonnage and quality? A number of producers are doing just that, by no-tilling small grains into alfalfa stands, and seeing their first cutting yields as much as doubled. The University of Maryland has been doing this since 1996. Of the small grains triticale seems to work best because the late boot/early heading stage of triticale seems to coincide well with alfalfa; rye tends to reach this stage too early while wheat and barley reach this stage too late. Triticale is also taller and has a higher yield potential than wheat or barley.

From the research it appears that optimal seeding rates in newer alfalfa stands (1-3 years old) is 50 – 60 lbs/acre of triticale with about 80 lbs of nitrogen per acre in the spring. In older thinner stands a significant yield increase can be obtained by seeding 80 lbs/acre of triticale and applying 120 lbs/acre of N in the spring. Although alfalfa produces nitrogen, additional nitrogen is needed to feed the triticale and obtain increased yields.

At Maryland University they seed triticale around mid October, into the alfalfa stands. Nitrogen is applied in early March in the form of manure or fertilizer. There appears to be no detrimental affects from three years of no-tilling into stands on the persistence of alfalfa.

Harvested triticale in the late boot/early head stage will not regrow, in subsequent cuttings resulting in straight alfalfa. The 2000 crop of triticale and alfalfa tested 24.1% CP, 33.1% ADF, 42.9% NDF, and RFV of 137 on a dry matter basis. The mixed crop should be harvested before the alfalfa goes past the bud stage.

The benefits are abounding for this practice, improved yield, improved quality, improved weed control, and expanded opportunities for using manure.

*(Information from Maryland Dairy Talk, Lester Vough)*

## SILO GAS CAN KILL

This time of year with everyone in a hurry chopping corn, putting up their final hay crops and some preparing for grain harvest it is easy to forget important safety practices.

Deadly silo gas begins to form almost immediately after silage is placed in the silo. Nitrogen dioxide (NO<sub>2</sub>) is deadly silo gas, which may be visible as a reddish to yellowish-brown haze around a recently filled silo. It tends to have a bleach-

like odor. NO<sub>2</sub> is heavier than air and tends to stay around the surface of the silage pack, but when produced in sufficient quantities it may flow down the silo chute and settle in feed rooms. This can be a serious risk to people and animals. Ventilation systems may pull silo gases in through the barn killing livestock, especially calves. The risk of exposure is greatest during the first three weeks after filling.

When inhaled NO<sub>2</sub> dissolves in moisture in the victim's lungs, forming nitric acid. Nitric acid burns sensitive tissue stopping oxygen supply to the body. Bleeding and death follow quickly. At smaller concentrations extensive lung damage can occur resulting in death hours after exposure. Even small periodic doses of NO<sub>2</sub> can cause chronic respiratory problems, including shortness of breath, coughing and fluid in the lungs. Presence of silo gas may be noticed by a burning sensation in the nose, throat, and chest.

Consider the following important information to deal with the danger:

- If you must enter the silo after filling is completed, only enter immediately after the last load is put in, and leave the blower running.
- Never enter the silo without a "life line" that is in the hands of capable people outside that can help.
- Provide feed room ventilation to remove gas that may spill down the chute, and seal the feed room door tightly to prevent contamination leaking into the barn.
- Install Silo Gas warning signs.
- Always ventilate silos for a minimum of ½ hour prior to entering and keep the blower going while anyone is in the silo.
- Inform children and others of the danger, and do not allow them to play around silos, or around bunks.
- Be cautious around draped plastic, or the edges in bunks or bags.
- Dead flies, rodents, birds or other animals can point to silo gas buildup.

Nitrate concentrations tend to be higher when crops are drought stressed and receive rain just prior to harvest. Certain weed species also store high levels of nitrates. Higher nitrates can be a factor in silo gas buildup. To minimize nitrate levels in corn silage raise the cutting height, as nitrates are concentrate in the lower part of the plant.

It is important to also consider that Carbon dioxide (CO<sub>2</sub>) is dangerous in silos as well. CO<sub>2</sub> can displace oxygen in confined spaces and result in asphyxiation, and it is odorless, tasteless, and colorless. Proper ventilation is important!