AG NOTES

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HAY STORAGE

I've been asked about safely storing some rank lush green hay in a barn and the heating process that could lead to spontaneous combustion and barn fires. We had a rash of barn fires a few years ago with total losses. The losses can be devastating.

Here is some information from a publication Minimizing Hay Storage Loss From Heating or Fires, updated June 10, 2020, from South Dakota State University and written by Tracey Erickson, SDSU Extension Dairy Field Specialist. There is some really good stuff here.

Successful hay storage is essential to preserving high quality forage, while ensuring desired performance from livestock and deterring economic losses from unwanted hay storage fires. The predominant reason that fires occur in hay is because of excessive moisture in the plant residue that results in heating when it is baled or stacked for long term storage.

Plant cell respiration burns plant sugars to produce energy. This is a normal process as the hay plant tissue dries down and is often referred to as "sweating" or "heating" and occurs until the plant material is less than 15% moisture. When the plant material has more than 20% moisture it can cause the mesophilic bacteria present to grow rapidly, which is encouraged by the excessive moisture present. This produces heat in the bale.

The higher the moisture content the longer it takes for the bale to dry down. Correspondingly, the higher the temperature in the bale's core will be as it works through the cycle of heating and drying. It is important to note that spontaneous combustion of hay bales can occur at interior bale temperatures of 170° F. Flare-ups can occur at any time once the hay has reached a temperature that is above the danger zone of 150° F. It should be disassembled and allowed to cool. If the hay bale internal temperature has reached 175° F spontaneous combustion can occur once it is exposed to oxygen, thus it is recommended that fire department personnel be present to help with disassembling the hay pile for cooling and that a charged water source / hose be available to help put out fires if they occur.

Burned-out cavities can be extremely dangerous and may be present in hay if it reaches a temperature that is conducive to fire. A person may become trapped in a cavity as they are walking over the pile thus, it is recommended to wear a life line with a second person present and to also use boards for weight distribution on the top of a pile.

Toxic gases such as carbon monoxide can be present if there is smoldering or burning hay. Hay that has been chemically treated may also emit toxic gas vapors as it burns. This should be communicated to all fire-rescue workers so that appropriate breathing apparatus gear can be worn.

This is critical information. Go to the site https://extension.sdstate.edu/minimizing-hay-storage-loss-heating-or-fires for the chart on temperatures and action recommendations. I have a good bale thermometer for loan. Call before you come to reserve it since it's in and out. I don't have a moisture probe. But that's coming soon.

ONION BLOOMS

I got this accompanying photo sent to me and asked why this onion plant had dandelion-like blooms, called florets. The answer is interesting. There are several references on different websites, and this is a combination of information.

Onions (Allium cepa) are biennial plants that grow in U.S. Department of Agriculture plant hardiness zones 5 through 10. A flowering onion crop is not ideal for a good onion harvest, but the blooms are edible, and you can still eat the onions even after they flower. As an edible plant, onions are grown as cool-season annuals in mild climates.

Biennials take two years to complete the life cycle from seed germination to seed production. The first year, onions form bulbs and top growth but no flower. In the second year, in summer, onions flower and then go to seed. Onions are generally grown as an annual crop, and the bulbs are harvested at the end of the first year before the plants go to seed.

Weather can also make the onions think they are in the second year and set flowers, but it usually takes the second year to shift from growing the onion bulb to the seed florets. This shift reduces the yields and the flavors are also affected.

FARM ROADS

Here is a fact that most folks don't know. When our country was developing, there were few if any roads. When the original roads were built most were primitive dirt trails or mud in bad weather, but they were trails built for a purpose, and that was to be able to get the animals and food and grains from the farms to the markets or to the processors and then to the population centers for the public. Many roads are still identified in many rural areas as F.M. 123 etc., meaning Farm to Market 123 etc.

So, keep in mind the roads are to enable your food to be moved from the farm of origin to the point of exchange or processing so you can eat. When you see a farmer moving equipment or loads on the roads, he has a priority to use the road, and please use caution when you are in the area.

Farmers are using dangerous equipment, and speed and reckless driving on your part can be deadly to the farmer or to you. Be patient, wise, and safe.

Think about it.