Farm Views

Pesticide Container Recycling

The Nebraska Pesticide Container Recycling program, coordinated by UNL Cooperative Extension, provides a recycling opportunity for plastic from one and 2-1/2 gallon containers. Crop oil and adjuvant containers may also be recycled. More than 40 inspection/collection sites are available in Nebraska.

The Lancaster County Extension office, in conjunction with local businesses, will be holding public collection days from 9 a.m. to 3 p.m. at the following locations:

• **JUNE 28** — Farmers Cooperative Bennet

• **JULY 12** — Firth Co-op Firth

• **JULY 19** — Farmers Cooperative Waverly

The Lancaster County Extension office also accepts containers during business hours at 444 Cherrycreek Road, Lincoln from now until Oct. 31.

All liquid pesticide containers require proper rinsing (triple rinsing or pressure rinsing). Rinse the containers immediately after emptying, and place the rinse water in the spray tank for application upon the labeled site. Caps and plastic labels or multilayered paper labels must be removed.

Cooperative Extension is excited about this program that places a high regard on environmental stewardship. More and more applicators are participating each year. Last year, more than 171,530 pounds (86 tons) of plastic from pesticide containers were recycled in Nebraska.

Plastic from pesticide containers are recycled into some of these products.

This plastic is kept separate from regular recycling channels and only goes into environmentally safe uses such as pesticide shipping pallets, agricultural drain tile, parking lot tire bumpers, rail road ties, plastic lumber, etc.

For more information about the pesticide container recycling program, call Tom Dorn at 441-7180 or visit online at http://pested.unl.edu/pestrecy.htm.

Controlling Algae in Ponds and Lakes

The dream of many folks in the urban setting is to move to the country, live on an acreage and have their own pond for fishing, swimming, livestock water or just because it is pretty.

One of the perennial problems faced by pond owners in rural and suburban settings is excessive algae growth, also called algae blooms. Algae are divided into three classifications. Single-celled (planktonic), filamentous and Chara. Planktonic algae remain diversely suspended in the water and turn the water a more or less uniformly green or blue-green color. Filamentous algae species string together, becoming floating mats of "pond moss." The third type of algae called Chara or muskgrass, are large green algae that are anchored to the bottom but do not extend above the surface. Chara is stem-like, with thin, leaf-like structures, and is often confused with seed-bearing aquatic plant species. When crushed, chara produces a musky odor.

For maximum production, all plants need adequate water, sunlight and nutrients. Algae is no exception. In a pond, water and sunlight are a given, the limiting factor is plant nutrients. The first step in algae control is to reduce the movement (loading) of nutrients into the water. Whenever I get a call about an algae problem in a pond, I try to identify the source of nutrients that is causing the problem. The two primary nutrients that must be controlled are nitrogen and phosphorus, with phosphorus being the larger concern when it comes to algae control.

If applications of commercial fertilizer or animal wastes applied to the soil surface are followed by a hard rain, they may be carried directly into the pond by runoff water. In addition to movement of surface applied products carried in the runoff water, nutrients can be carried to the pond attached to soil particles that erode from slopes and end up in the pond as silt.

Nitrogen and phosphorus are water-soluble nutrients. Nutrients that are incorporated into the soil by tillage or surface-applied and later dissolved by rainwater and carried into the soil may also find their way into the pond. Most of our southeastern Nebraska soils can be classified as silty clay loam topsoil overlaying heavier clay subsoil. When water that is percolating down through the soil profile encounters the clay layer, its downward movement is impeded. It then moves downslope along the boundary and may emerge as a spring in a creek bottom or in the pond itself. In addition to applied fertilizer or animal waste, another source of potential nutrient loading can be domestic wastewater. Seepage from sewage lagoons and septic disposal fields also becomes part of the soil water matrix and can move downslope as described above.

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Once nutrient loading has been reduced to the extent possible, chemical treatments can be used to control algae in a pond. Copper compounds such as copper sulfate and various chelated copper products are both safe and effective when used according to directions. Some aquatic herbicides that are used for seed-bearing aquatic plant species are effective against certain algae species as well. For more information on chemical control methods, go to the aquaculture page in the Lancaster County Extension Agriculture and Acreage section under livestock at www.lancaster.unl.edu/ag/livestok/aquaculture.htm

An alternative to chemical control is described in a University of Nebraska educational resource "Controlling Pond Algae with Barley Straw" (NF00-429) by John Holz, UNL water quality specialist, located online at www.ianr.unl.edu/pubs/wildlife/nf429.htm. Holz tells of work conducted at the Centre for Aquatic Plant Management in the United Kingdom using barley straw to control pond algae. As the straw decomposes in the lake, it releases a chemical which inhibits algal growth. He recommends applying straw in mid-late April in order to allow sufficient time for the products of decomposition to build to sufficient levels to control summer algal growth in Nebraska ponds and lakes. Roch Gaussoin, extension turfgrass specialist has worked with several golf course managers who used barley straw for algae control. He reports that if the straw is put into the pond early in the spring, before any noticeable algae growth occurs, the managers had good results.

See page 1 for a feature story about a local farmer who is growing barley in 2002 and plans to market the straw to pond owners for algae control in the spring of 2003. (TD)

Sample Your Hay to Get Accurate Nutrient Analyses

Nutrient concentration varies considerably among forages. Values vary from one forage specie to another, one cutting to another throughout the year, the stage of growth when harvested, whether the hay was rained on while in the windrow, etc. That is why the university recommends forage testing as a regular part of your livestock operation. For forage tests to provide an accurate reading of forage quality, the sample must accurately represent the hay. Reaching into a bale and pulling out a hunk of hay will not give you a good sample. Nor will gathering a single flake of hay.

The only effective method to sample long hay is by using a core sampler. If you don't have one, you can buy one from many ag supply catalogues or forage testing labs. Lancaster County Extension has a probe that you can check out by leaving a deposit which is returned when you bring the probe back.

Once you have a hay probe, Dr. Bruce Anderson, extension forage specialist, recommends that you use it to collect one core every 15 to 20 bales that came from the same field and same cutting. Keep samples from different cuttings separate. The proper sampling procedure is to probe the bales, cutting across the grain. On square bales, probe the center of the bale from the end (between the twine or wires). On round bales, probe toward the center of the bale from the rounded edge. Then combine all the samples from a cutting into one larger sample to send to the lab.

If there is decayed or moldy material that you will discard or your animals will not eat, do not include it in your sample. That way you will have a sample that is similar to the actual diet of your livestock. By following these sampling techniques, you will get accurate nutrient analyses of your hay and be able to use it more effectively. However, if you plan to sell the hay, you must include this less desirable material in your sample to accurately represent all the hay to be sold.

Forage testing can be an effective marketing tool. If you were a hay buyer deciding between two hay sources, one where the nutrient analysis is known and the other where nothing definite is known about the quality, wouldn't you rather buy the known commodity? Hay tests report various nutrient values such as crude protein, energy values (expressed several ways) and minerals (calcium, phosphorus, etc.). In addition to reporting specific nutrient values, most labs use the analysis to calculate a rating of overall quality. This is commonly referred to as the relative feed value (RFV).

Not everybody needs the highest quality hay to meet the nutrient requirements of their particular animals but they need to know what they are getting so they match the hay quality to the specie of animal and time of year (stage of pregnancy, lactating, breeding, etc.).

To understand relative feed values, lets look at three examples. An RFV of 100 is mediocre hay but it is usually adequate to meet the protein and energy requirements for older, dry cows in the middle one-third of pregnancy. An RFV of 120 - 140 is generally suitable for pregnant beef heifers that are still growing and for beef cows that are about to freshen. An RFV of 150 and above is considered dairy quality.

Even when the quality of one batch of hay doesn't meet the nutrient requirements of the animals, the livestock producer may be able to feed two or more forage sources in specific proportions that together will provide the nutrient needs of the animals being fed. Alternately, one may feed non-forage supplements to balance the protein, energy and/or mineral needs of the animals they are feeding. Without the hay quality test, it is not possible to accurately develop the rations needed to meet the animal's nutrient needs at least cost. (TD)