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Meadowlark Extension District
Livestock and Natural Resources

Blue/Green Take Away

We hosted a successful informational meeting about Blue/Green algae. Dr Gregg Hanzlicek from the K-State Veterinary Diagnostics lab presented the info about the toxic algae and my coworker David Hallauer talked about all the other green stuff and scum on ponds.

My take away, this is sort of the Cliff notes on the meeting. If you have had BG algae in the past you will have it again. Mostly due to warm weather, no wind, sunlight and nutrients in the pond. There have already been some cattle deaths in western Kansas, just a matter of time for Eastern Kansas. Dogs are usually the most affected, because they will jump in, any kind of water.

When you see the blueish green looking like paint spilled. If you stick your hand in it, and it looks like grains of sand, then you have it. If the green is small little plants with roots, then you have duck weed.

When the Blue/Green algae dies, it lets off the toxins, then the wind can blow all of this scum into one area. It's when cattle drink from these areas, that they can become sick and die. It's either a very quick death, within hours or can cause liver failure, which can take awhile. Fencing off the pond areas with the scum and letting cattle drink in the open areas is safe.

Most of our septic ponds have Blue/Green algae, so be sure to have them fenced to keep your dogs out of there (I think that's a regulation anyway). If you put some livestock in the lagoon to graze it down, they can become ill.

The KDHE has a jar and stick method of checking to see if you have Blue/Green algae. You can find the details at our website: www.meadowlark.ksu.edu. OR you can send a water sample to the KSU Vet Diagnostic lab, they cost \$21.50. Our office can assist you with those details.

There tends to be less incidence of toxic algae in native grass pastures, but doesn't mean it can't happen. When you check your cows in the pasture, be sure to check the ponds each time. This can quickly form.

As for the rest of the green stuff in your ponds. David Hallauer says figuring out which aquatic weed you have is half the battle. We have a handy publication that you can pick up that will aid you or Texas A & M has a website that has nice color photos, to help you decide.

Grass carp can aid in the control of mosses, they don't do much for the marginal weeds and they like to travel, so if the pond is over the spillway, your fish are probably gone. David recommends restocking them every few years.

As the summer continues, we will probably see more of these problems. I'm hoping for a big rain that will eliminate this problem!

David Hallauer, Agent
Meadowlark Extension District
Crop and Soils, Horticulture

Watering Fruit Crops

It's my hope that by the time you read this we will have seen some temperature and moisture relief! Even so, a recent climate prediction report noted that expectations for August are much the same as conditions for July!

I've referenced in this space before the need for trees to be watered during the summer months. Fruit trees need to be included in that watering program as well! With the number of days above 90 degrees that we've seen over the last couple of weeks, fruit crops have certainly taken a hit. When soil moisture can't meet the plant's need, it starts to pull it from the fruit to supply the tree to help it survive. This stress, either from high temperatures and/or moisture deficits in the root environment, can cause fruit to drop or fail to increase in size. Further, the stress can inhibit the development of fruit buds for next year's fruit crop.

Now is the time to be checking all fruit crop soil moisture levels. Do so by insert a spade or shovel or a pointed metal or wood probe (a long screwdriver works well) in to the soil to a depth of eight to twelve inches. If the soil is hard, dry, and difficult to penetrate, the moisture level is very low. At that point, plants should be watered to prevent drooping and promote fruit enlargement. Add water using sprinklers, soaker hose, drip irrigation, or even a small trickle of water running from the hose for a few hours. Add enough moisture so you can easily penetrate the soil in the root area of the plant with a metal rod, wooden dowel or other probe. When it's hot and dry weather persists, check soil moisture at least once a week and apply water as needed.

Because of their shallow root system, strawberries may require special attention and more frequent watering during extreme weather. Check moisture levels with strawberries twice a week when heat is extreme.

Cindy Williams, Agent
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Food and Nutrition, FNP

The Science of Freezing Food

Freezing food is an easy way to preserve high quality food with maximum nutritional value. But food in the freezer doesn't last forever as changes will occur during storage.

Freeze food as soon as possible after harvest to stop chemical compounds, called enzymes, that cause deterioration and spoilage. Enzymes are naturally in foods and must be inactivated to stop loss of color and nutrients, as well as flavor changes. Blanching vegetables is an important step to inactivate enzymes. In fruit, color changes are prevented by using pure ascorbic acid (vitamin C) or a commercial ascorbic acid mixture such as Fruit Fresh®

Because of high water content in fruits and vegetables, texture changes occur. Water expands when frozen which ruptures food cell walls. Freezing food quickly will help reduce texture damage. Don't overload the freezer with unfrozen food and keep the freezer as cold as possible, at least 0°F or below.

Over time, food loses moisture during freezing which leads to freezer burn. Use packaging designed for freezing to reduce this problem. Freezing does not kill bacteria, it only slows it down. When food thaws, any bacteria present will become active again. Always inspect food and packages carefully before use.

Can I Add Bacon to Green Beans Before Canning Them?

This is an example of creating your own recipe can be a dangerous practice. While bacon and green beans are both low-acid foods, there are no processing recommendations for canning bacon. Therefore, can the beans by themselves. Then when ready to eat the beans, add the bacon just before serving.

Adding any fat or butter to home-canned products, unless specifically stated in the recipe may slow the rate of heat transfer during processing. This will result in an unsafe product. Additionally, the fat could seep in between the lid and jar rim and the lid will not seal properly. Spices or herbs may be added in small amounts before processing.

Nancy Nelson, Agent
Meadowlark Extension District
Family Life

Nutritionist advises caution, care when using essential oils

It seems like just about everyone is using essential oils these days. Dr. Linda Yarrow offers some advice on using these essential oils safely in this timely article written by Tiffany Roney.

Using essential oils for healing is a centuries-old practice, but only a few essential oils have independent studies to back their claims, according to a Kansas State University nutritionist.

Essential oils are removed from plants and distilled into concentrated forms that distributors say support immunity, mood and other functions of the mind and body.

However, these oils should never be substituted for prescription medications and routine checkups, said Linda Yarrow, registered dietitian and instructor in the food, nutrition, dietetics and health department in the university's College of Human Ecology.

Yarrow recommends checking with your health care provider before trying any anecdotal treatment, including essential oils, to ensure the ailment you want to treat is not a more serious condition that needs medical intervention.

Yarrow said there is a sparsity of scientific studies on essential oils because there has been little financial incentive to research them. The essential oils industry does not have nearly as much product development mechanisms or patents to recoup costs as the pharmaceutical industry, she said.

"Peppermint oil and lavender oil are two that have some good research studies behind them to support their use," Yarrow said. "Tea tree oil also has a couple of small studies that have shown its effectiveness."

Studies have found peppermint oil rubbed on the forehead or chest reduced headaches, nausea and congestion. Peppermint oil capsules also have been shown to reduce colonic spasms, abdominal pain and bloating by relaxing the muscles of the digestive tract.

Still, peppermint oil is not the answer for everyone who has stomach problems. Yarrow said people whose stomach discomfort is caused by gastroesophageal reflux disease should not ingest peppermint oil because it can make the reflux worse.

Lavender's usefulness has been studied in the labor and delivery room, where it reduces anxiety for women who are giving birth. The lessening of anxiety leads to better breathing, increased oxygenation, muscle relaxation and a reduction in pain, Yarrow said. The lavender is diluted and applied in body massages or diffused as aromatherapy. Yarrow said other studies have indicated that presurgical use of lavender decreased the pain associated with needle sticks and presurgical procedures.

Tea tree oil has been shown to be nearly as effective on acne as benzoyl peroxide, with fewer side effects than the peroxide. The oil also has been shown to work as well as standard medical treatment in removing antibiotic-resistant *Staphylococcus aureus* from skin, according to the National Institutes of Health.

Despite the benefits essential oils have in some cases, Yarrow cautions that excess amounts could have negative side effects, such as skin rashes when undiluted oil is applied directly to skin. Nausea or even ulcers can occur from drinking too much oil, and Yarrow said no oils should be consumed without diluting them first. To avoid side effects, she recommends starting with the smallest dosage possible — one drop — or using it through a diffuser.

"We sometimes think if a little bit did some good, then a lot of oil will do a lot of good, but unfortunately, that's not the way it works," Yarrow said. "If using one drop gives you the desired effect, then you don't want to increase the amount."

Yarrow also cautions against using essential oils on infants and children because they could cause skin irritations and allergic reactions, and increase sun sensitivity. She recommends storing essential oils out of children's reach, just as with any substance that could put children at risk for poisoning.

Yarrow recommends researching essential oil manufacturers to find ones with the most stringent harvesting, processing and storage standards to ensure the user is receiving the purest oils possible.

"It's important to emphasize that just because they're a natural product doesn't mean they're always a safe product," Yarrow said. "Do your research beforehand and be careful to follow the recommended guidelines if you're going to use essential oils."