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Livestock and Natural Resources

Pond Health

Well the great Pond Scum tour, did not disappoint. I hosted Ted Harris a researcher at KU's Biological Survey and Will Boyer, a KSU Watershed Specialist. Even though there was a breeze and the ponds looked considerably better than before. We were fortunate to find some Bryozoa in one of the ponds. At first glance, we thought they were white rocks. We were able to fish one out and discovered it was a Bryozoa or moss animal. It is an aquatic invertebrate animal. They are simple animals rarely growing more than 1/25th of an inch in length. However, most bryozoans form colonies that can vary greatly in number, form, and size.

Each individual animal, or zooid, has a simple body style, usually round or oval in shape with a single opening that serves as both a mouth and an anus. Bryozoans lack any respiratory, excretory, or circulatory systems, but have a central nerve ganglion that allows the animal to respond to stimuli. They feed using small tiny ciliated (hair-like) tentacles that surround the opening and push food through it into the gut. In some species, and during certain life periods, these tentacles can be used for simple movement. Most species, however, spend the majority or all of their lifespan immobile.

The vast majority of Bryozoan species are marine animals. Of nearly 5,000 species, less than 90 have been identified in freshwater environments, and only 24 freshwater species in North America (so far).

We found the Magnificent Bryozoan (*Pectinatella magnifica*). This colonial species forms jelly-like “green blobs” on underwater vegetation, branches and other structures. They may also form free floating round colonies. The small visible rosettes on the surface of the colony are groups of 12-18 individual animals.

Although the Magnificent Bryozoan [reproduces both sexually and asexually](#), the main way the colonies form is when the existing individual animal or zooid breaks away or buds asexually forming a twin. As they reproduce, they multiply into an ever growing sphere as the individuals point their mouths outwards to take advantage of available food. Meanwhile, the zooids excrete gelatinous material to give the sphere interior support.

Completely new colonies can also form asexually from small statoblasts (a group of cells encased in a hard covering to protect them from freezing or other harsh conditions). These statoblasts can float in the current, or settle to the bottom where they eventually grow into an individual zooid. These individual zooids can use their ciliated tentacles to move about in the water. They will eventually begin dividing and form a new colony.

The Magnificent Bryozoan actively feeds on suspended organic material, zooplankton, and algae. In this way it can be considered a filter feeder and may, in some instances, increase water clarity. Individual animals on the colony are clear or opaque. It is speculated that the green color of the colonies stems from ingested algae. This was a sign of a very healthy pond!

David G. Hallauer
District Extension Agent
Crops & Soils/Horticulture

The Effects of Late Season Usage on Cool Season Grasses

If ‘typical’ weather patterns hold true (this year could be an exception based on some weather models...), we’re looking at about 50-60 days of opportunity for our brome grass hay fields and pastures to recover from summer use and get ready for dormancy.

Brome grass stands across the District come in many different forms, and what each requires prior to dormancy is different as well. All, however, require some level of rest and regrowth prior to the dormant period, making our stand management now very important.

With adequate moisture and moderate temperatures (brome loves the seventies...), grasses grow rapidly. Photosynthesis starts and green leaves transfer energy to roots when adequate leaf area is achieved to do both. This helps maintain the plant through the winter and initiates green-up next spring. It’s a simple, but often overlooked, process that has a lot to do with how plants prosper – or perish under certain conditions.

Some area stands have seen excellent recovery since last use and regrowth that may be tempting to consider haying/grazing this fall. Others are struggling, particularly those defoliated by armyworms. Instead of lush green growth, there’s little left outside of stubble.

Whatever ‘slot’ your stand falls in to, manage carefully from here forward. If additional haying/grazing is going to occur, make sure to leave adequate regrowth. Four to six inches of green growth is the minimum suggested prior to entering dormancy. Plants with less than that level of regrowth often don’t have enough photosynthetic capacity to produce top growth *and* root growth simultaneously, meaning root systems may be weak going in to the dormant period. Root system reserves are what kick the plant off next spring. If low, stands may be slow to green up and yields may be reduced – next year and beyond.

While you’re monitoring grazing/haying/armyworm recovery, consider a soil test. Stands with lower fertility levels often face increased recovery challenges due to low nutrient levels. For more information about forage recovery or soil testing, contact me at any of our District Offices.

‘Other Crop’ on the Seed Label

It won’t be long until it’s time to overseed or reseed home lawns. When you do, read the product’s seed tag first to avoid seeding unwanted grasses like orchardgrass or rough bluegrass. Both have become huge problems in many turfgrass stands because of their color, texture, height, or growing season differences in relation to more commonly planted turfgrass species.

When checking labels, look for percent ‘other crop’ or ‘other crop seed’. Both would include any species intentionally grown for some purpose – including turfgrasses (other than the one you are buying) and pasture grasses, Orchardgrass and rough bluegrass being two. Seed labels are required by law to show the percentage (by weight) of ‘Other Crop Seed’ in the bag, but unless a species constitutes five percent or more, the label doesn’t have to list each species by name. It can make knowing whether the ‘other crop’ percent is a concern a challenge.

It’s difficult to say how much is too much. You won’t even notice the presence of some species, while others may change the look of the lawn considerably. Even a half to one percent ‘other crop’ can mean a lawn filled with hard to control – or tolerate – weedy species. Keep

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'other crop' as close to zero as possible (most good quality seeding is .01 percent 'other crop' or less). If 'Weed Seed' is on the label, make sure it is at .01 percent or less as well.

Cindy Williams

Meadowlark Extension District

Food, Nutrition, Health, and Safety

No News from Cindy today.

Nancy Nelson
Meadowlark District
Family Life

Teas, Berries Good Sources of Flavonoids

K-State Research & Extension Rapid Response Coordinator for food science Karen Blakeslee said a study conducted at Tuft's University by the U. S. Department of Agriculture is further evidence that a healthy diet can be beneficial in preventing Alzheimer's disease.

The study followed 2,809 people over 20 years to determine the effects of a healthy diet on memory loss. The results were very positive.

The study provides more proof of how the power of plants and produce is so important in our daily diets, and how it can be beneficial nutritionally and possibly protect your mental health, Blakeslee said.

Study participants who consumed more plant foods containing plant nutrients called flavonoids were 50% less likely to develop symptoms of Alzheimer's. Tea, berries, dark chocolate and other flavonoid-rich foods are well-known for their antioxidant, antiviral and anti-cancer properties.

The Tufts study indicated that all types of tea may help delay the onset of Alzheimer's disease. Berries also got a good grade; blueberries and strawberries are the top contributing foods for total flavonoids, "but apples, pears and oranges are also beneficial," according to Blakeslee.

In a 2021 report titled Race, Ethnicity and Alzheimer's in America, the Alzheimer's Association estimates 6.2 million people in the United States age 65 and older are living with the disease. That number is estimated to grow to 12.7 million by 2050.

"If it is possible to reduce risks of chronic illness with food, why not add these to our diet?" Blakeslee said. Late summer is a good time to start with a bounty of fresh produce in grocery stores, farmers markets, or growing in home gardens. These foods can be part of a healthful diet at each meal or even as a snack.

You can freeze summer fruits to enjoy later in the year. When certain produce is not in season, use frozen, canned or dried forms since all are beneficial.

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