

Jody G. Holthaus
District Extension Agent
Livestock and Natural Resources

Winter Water

Water is the cheapest and most important nutrient for all living things. In the winter time, it can be a real problem to keep the water free flowing.

Frost free waterers are a true blessing, but what if your livestock are out on stock, you're just renting a wintering place, or in our case we build a new pen and didn't get the waterer installed before winter.

I've been researching this topic. I like the idea of solar powered devices, heaters or air stones to keep the water open. There are plans on the internet to build passive solar heated tanks.

The passive solar tanks use a regular stock tank, galvanized or plastic and then insulated with a plywood box around them. On the southern side of the box, solar panels are used to harvest the sun. The top of the tank is covered to keep heat in, an adequate sized opening gives the animals access.

Cattle will drink about one gallon of water for every 100 pounds of their weight. Cows that are lactating will drink more. Of course in extreme heat, they will drink more.

Frost free waterers are expensive but the savings is in time and labor from breaking ice. There is a certain comfort in knowing the waterer is there and always working. They are not always 100%, sometimes the cattle will drool over the float and make it freeze, and you will have the occasional maintenance issue.

All waterers will need to be cleaned occasionally, hay and saliva and even dirt will get in there throughout the winter. If your water source comes from a private well, wells should be tested every other year. We have water tests you can get for that. We have a special test if you suspect too much salt in the water. Of course, too many nitrates can be an issue as well.

Contact the Extension office if you are interested in getting a water test kit. I will be posting a video on using a solar powered air stone to keep tanks open this winter, check it out at <https://www.meadowlark.k-state.edu/livestock-natresource/> under informational video section.

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

Kansas Corn Management Publication

Lots of University research gets done annually in Kansas, on sites ranging from experiment fields to on-farm collaborations. Much of that work is included in University publications and research journals, with some also boiled down to a single document.

In the case of corn, its MF3208 – Kansas Corn Management. The 2021 edition will likely arrive after the first of the year, but over the next two weeks, I'm sharing excerpts from last year's publication for your reference. We'll start with fertility management, and the importance of soil testing for nitrogen management.

It's common knowledge that a soil test is a good tool for guiding fertilizer applications. Over/under application can result in multiple problems, from poor yields to environmental concerns. Most soil samples are pulled from a depth of zero to six inches (sampling depth may be split if stratification is suspected) for nutrients like pH/P/K. To best account for residual N in the soil, consider a zero to 24-inch sample depth, instead.

Nitrogen recommendations are strongly improved when a profile soil testing program is used. In fact, it might be the single most important thing a producer can do to reduce N fertilizer cost and increase nitrogen use efficiency in corn. It takes a more time and effort, but deep sampling should be considered on a field or two if fine tuning your N program is your desire.

Labs will account for profile N differently. Research at KSU suggests an N credit of 30 pounds per acre. It's admittedly conservative – but can only be validated via a deep soil test.

For information on profile N testing, contact any of our District Offices or e-mail me at dhallaue@ksu.edu. Check out MF3208 at: <https://bookstore.ksre.ksu.edu/pubs/MF3208.pdf>.

Pine Tip Blight

If you read last week's column, checked your trees, and it wasn't natural needle drop, what else could it be? Tip Blight should be considered.

Pines in Kansas typically experience two fungal diseases on a regular basis: Dothistroma Needle Blight and Tip Blight. Both affect the newest needles on the outer portion of the tree, versus needle drop that affects interior needles. Dothistroma typically affects only a part of individual needles, with Tip Blight affecting the entire branch tip.

If you see brown tips with shortened needle growth, tip blight is the likely culprit. Because it's a fungal pathogen, spring fungicide applications may help to a degree. The disease also has a canker phase. Trees that are repeatedly infected not only show a spread of the disease, but may also result in older tissue being affected, resulting in branch dieback. At that point, control can be very difficult.

Beyond fungicide options, keep trees healthy. Water when needed (evergreens take up water all winter...) and implement adequate weed control on young plantings.

For information on tip blight and other pine diseases, request L722 – "Pine Diseases in Kansas" from any of our District Offices or online: <https://bookstore.ksre.ksu.edu/pubs/L722.pdf>. For a video, see our three-part pine disease series on our Meadowlark Extension District Facebook page or on our website, <https://www.meadowlark.k-state.edu/lawn-garden/> under "Informational Videos".

Cindy Williams
Meadowlark Extension District
Food, Nutrition, Health, and Safety

Black Friday Shopping on a Budget

As the holidays are quickly approaching, are you starting to plan for your holiday shopping? Black Friday shopping is one of the most popular shopping days/day of the year; but it can also lead to financial strain for some.

Due to COVID-19, Black Friday will look a little different as sale prices have already started hitting in-store and online. The pandemic does not seem to be discouraging Americans from spending this year, this could be due to the popularity of online sales. According to the Small Business Trends, 42% of Americans plan to spend \$500 on Black Friday sales.

Sticking to a budget often proves difficult for people when they see flashy advertisements for items they have been wanting for a while. Retailers know that shoppers are prepared to spend during the holiday season and take full advantage of this with great marketing techniques. The best way to be prepared for Black Friday and holiday shopping is to make a plan ahead of time and prepare a budget.

- Start by setting your budget. Have a set amount in mind that you plan to spend. Sometimes this is money that has been set aside each month in anticipating for the holidays; or this might just be what you have left over after paying your bills. Having a total amount, you can spend, will tell you how much you can spend on each gift. This will also help limit the “impulse buying.” Which can bust your budget quickly. Remember just because it is on sale does not mean that you need to buy it.
- List all the people you will need to buy gifts for and what you are planning to buy for them. For each person set the amount from your budget you are able to spend on them.
- Start comparing deals online and in-store. Give yourself plenty of time to make a good decision and find the best price for the gifts on your list. The strategy will help you get the most for your money.

Shopping online vs. in-store—When we are shopping on a budget, sometimes it is hard to avoid all the good deals if we are in the store and can physically touch the items. One way to stick to your budget and enjoy the in-store experience is purchasing with cash only. Shopping with only enough cash to cover the costs of your planned purchase is a good way to stay within your budget. Online shopping is also a great option because you can search for just the items you are wanting to purchase and buy them only.

Don't forget to look around your community and supporting our local businesses. I have found that what I was looking for I found and usually a better price by shopping our local businesses.

Black Friday shopping is a great way to help your financial budget and purchase gifts at a great price, but it does take some intentional planning and budgeting beforehand.

Nancy Nelson
Meadowlark Extension District
Family Life

Storing Eggs Safely

When buying eggs, always open the carton and check eggs for cracks or other damage.

Storing eggs safely is important for quality and safety. Some older methods of storing eggs are not recommended today due to advancements and knowledge of egg safety. One method that has recently surfaced is storing eggs in lime water which is not recommended.

When this method was popular in the early 1900's, they thought that eggs were sterile inside and all bacteria came through the shell after the eggs were laid. But research shows that *Salmonella enteritidis* can contaminate the eggs as they are being formed inside the reproductive organ of the hen and there is no way a person can know it is there or not.

Since the method requires using unwashed eggs, they will likely come from smaller flocks. A study from Penn State University determined that small, home flocks have a much higher incidence of *Salmonella* than large commercial operations.

Another concern is about using lime water and the fact that it could seep through the egg shell. The risk of storing eggs for long periods of time include loss of nutrients, several oxidative reactions, changes in protein functionality, and a strong bitter taste from the lime.

A study from USDA Agricultural Research Service compares how eggs are stored in Europe and how eggs are stored in the U.S. Results showed that refrigeration is best for safety and quality.