

David Hallauer
District Extension Agent, Crops & Soils

Exploring Row Crop Soil Health Practices

The term 'soil health' gets used lots of ways, to the point it can be difficult to define. None of the uses are necessarily wrong, but they might add confusion if you are trying to take a broad look at soil health practices and whether they're right for your farm.

If you're trying to get a first look at different practices and how they might change soil health on your farm, consider the Soil Health Matrix Decision Tool. It's an evaluation spreadsheet put together by 12 regional University Extension partners as part of the North Central Region Water Network (with financial support from North Central SARE) and is designed to provide a way to compare current management practices to the addition of a new or improved soil health practices on your operation. It is *not* designed to provide an in-depth analysis of soil health measures, but instead a baseline snapshot as to how you might be able to improve soil health with the implementation of various practices.

The tool looks at four baseline management areas: tillage, manure, cover crops, and crop rotation, plus complementary practices like controlled traffic management and animal/grazing management. Drop down menus allow you to choose current practices, then see how a soil health score might change when other practices are implemented. It also allows you to consider things like equipment, time/labor, skill level, and potential costs for implementing new practices.

The scores from the tool are *not* designed to serve as quantitative values to use on the farm (those may be as varied as the definition of soil health...). Use them instead as 'directional scores' using university research information from across the north central region to think about different soil health practices and how they can affect your farm.

Access the tool online at <https://soilhealthnexus.org/soil-health-matrix-tool/>. Background information on the tool's development is outlined as are management practice definitions to help as you make selections from drop down menus. A downloadable version is available on the site as well.

Still have questions after you've seen what implementation of additional management practices might mean for soil health on your farm? There are a ton of resources available to assist. Local Conservation District and Natural Resource Conservation Service staff are well versed on soil health programs and practices, as are many of the partners they work with on a regular basis. University research information (some of which went into the building of the Soil Health Nexus Tool) and publications to help guide you are also available.

Ross Mosteller
District Extension Agent, Livestock & Natural Resources

Saving Winter Feed Dollars

As I write this, winter has officially started, although the milder temperatures make one think we might avoid winter? Cold, winter weather is inevitable in the coming weeks, which means livestock will need to consume more feed to meet body maintenance energy requirements. Feeding harvested forage - predominantly dry hay - is the way most livestock producers “fill the gap” nutritionally in this time of year. Research has shown that annually, as much as 45% of hay is wasted. Winter feed cost historically are the largest part of the annual cow cost, so making the most of this expense or reducing the cost is critical. Here are some tips for saving, rather than wasting, winter feed dollars for livestock.

This seems over simple, but the longer the animal grazes, the less harvested forage needed! I’m fairly certain bison historically grazed this region without a round bale feeder to be found. Any approach that extends the grazing season will help cut winter feeding cost, especially in this relatively high hay market. This might mean stockpiled pastures, utilizing crop residues, cover crops or even swath grazing. This approach may require a manger mindset change, but can be done very successfully through some fairly extreme winter conditions.

If you’ve not been able to “kick the hay habit”, as Jim Gerrish writes about, how do you make the most of the hay you have? Control feed storage losses on hay bales. Storage losses can easily range from 2-18%. Using net wrap, storing hay off the ground, creating proper hay stacks and utilizing tarps or barn storage all help reduce loss.

Test feedstuffs. Testing is the only way to determine nutrient content of forage. Spending a few dollars on forage analysis can have a high rate of return through more effective use of forage. Supplementation is nearly always required, so compare supplement price based on unit of energy or protein. Base your purchase on price and content of the nutrients needed from the forage test.

Restrict feeding losses. Losses of feeding large, round hay bales may reach 20-30% of the dry matter fed. Simple differences in the design of round bale feeders can account for up to 11% of the feeding loss. Feeders with barriers around the bottom prevent livestock from pulling hay loose with their feet and dragging it out to be stepped or laid on.

Feeding bales in relatively large feeders, limiting feed supply to a daily ration and limiting access to feeders for 8-12 hours/day are all methods that may reduce feed losses. If you unroll bales or grind and feed on the ground, position an electric fence alongside or above the hay to keep cows from trampling or bedding down on the hay. The old adage with unrestricted hay feeding sites is: day one is a dining room, day two a bedroom and day three the bathroom.

Consider splitting the herd into feeding groups. Growing two/three-year olds, along with old/thin cows can be in one group, with higher quantity and quality feed. Mature, more dominant, higher-conditioned cows go into another group. Young growing calves and mature bulls will not have the same requirements as gestational cows, so most often are separated and fed differently. Lactation creates much higher nutritional demands, so cows with calves likely need to be fed separately as well.

Finally, the management that can have lasting impacts on feed resources, is to change the cowherd itself. This can be accomplished by maintaining moderate-sized, more efficient cows. Everyone has their take on “moderate”, but generally speaking, maintenance energy requirements are directly related to cow weight. Efficiency has become a buzz word in the industry and can have as wide of an interpretation as moderate, but selection for efficient cows who can consume less feed and wean larger calves is a goal. Along with this, producers are encouraged to look at system measures, such as pounds weaned per acre, versus larger individual weaning weights, when looking at efficiency.

Laura Phillips
District Extension Agent, Horticulture

What to Do With Your Tree After Christmas

Now that January is upon us, we have to take down our Christmas trees. If you have a real tree, you should make sure to take it down before it becomes a fire hazard. You can tell that your tree needs removed when the needles become brittle and the branches are no longer pliant. However, a Christmas tree's useful life does not have to be over once you remove it.

While our first thought might be to toss it in the landfill, this is the most harmful way to dispose of a tree. When landfills are sealed, there is no oxygen for the tree to use while it breaks down. This means the tree will take a much longer time to decompose. Additionally, when the decomposition process takes place without oxygen present, it releases methane, which is a potent greenhouse gas. Instead of a landfill, there are numerous ways you can easily dispose of your tree that will benefit the environment and be more convenient than a trip to the landfill.

The first option is to use the wood for another purpose. If you have access to a woodchipper, you can turn the tree into mulch for your garden or landscape. In addition to sprucing up your garden, mulch helps retain moisture and regulate soil temperatures, which will help your plants when summer comes around. As it breaks down, it will also provide nutrients to your plants for the next few years. You can also chop up the tree for firewood, but beware that conifers tend to spark and pop when they burn more than other trees.

If you have access to a pond or lake, you can also use it to make underwater habitat. Simply tie a cinder block or two to trunk tree and sink it in the pond, ideally so that the tree is vertical. The dense, complex branches of an evergreen tree provide shelter for smaller fish, and studies show an increase the biodiversity and abundance of fish in ponds and lakes.

For those of us who do not have time to utilize the wood or create an underwater home for the fish, the best option is to simply put the tree in a quiet spot out in nature and forget about it. This will attract birds and critters that are looking for shelter, giving a boost to local wildlife.

Depending on where you live, your municipality may provide a tree recycling program for you. Some towns and cities will pick up trees that are free of decorations and ornaments from the curb and use them for habitat in local parks and ponds. Check with your town's trash and recycling service to see if this is offered in your area.

Whatever option you choose – mulch, firewood, fish habitat, or simply setting it outside – keeping your tree out of the landfill will give it a second life. If you have questions about any of these options, reach out to me for more information!

Teresa Hatfield
District Extension Agent, Family and Community Wellness

Protein Helps Maintain Muscle as You Age

Protein is a crucial nutrient for maintaining and building muscle as we age. As we get older, we begin to lose muscle and gain fat. The loss of muscle mass in our later years can cause health problems. As we get older, especially after age 50, the rate of muscle loss declines by 2 to 4% every year. This muscle loss can contribute to falls, disability, and hospitalization. But getting the right amount of protein in our diets can reduce the risk of injury and illness. There are things we can do to prevent muscle loss, including strength training and getting the right amount of protein in our diets.

Why is protein essential? Protein is important for every cell in our body and helps maintain muscle. It helps us recover more quickly from surgery, helps with weight management, helps support our immune system, and helps to regulate blood glucose levels.

According to the University of Missouri, adults need about 40-60 grams of protein daily, and older adults need 25-35 per meal. There are many good ways to work your protein requirements into your diet. Foods that include protein include soy, eggs, nuts, animal meat, dairy, and beans. On average, 1 ounce of protein contains 7 grams of protein. For example:

- 3 ounces of chicken, beef, or turkey = 21 grams of protein
- 1 ounce of cheese = 7 grams of protein
- ½ cup cottage cheese = 14 grams of protein
- 1 ½ cup of firm tofu = 28 grams of protein
- 2 Tablespoons of peanut butter = 7 grams of protein
- ½ cup kidney beans, canned, drained = 8 grams of protein

Below are some ideas on how to incorporate protein into your diet. If you have questions about your protein intake or health conditions or the impacts of protein intake, consult your healthcare provider before changing your diet.

Breakfast: cottage cheese with fruit, add peanut butter to oatmeal, eggs in any form, add protein powders to smoothies.

Lunch: add tuna or chicken to a green salad and mix tuna with hummus instead of mayonnaise.

Dinner: Add beans to soups, stews or casseroles, fish, quinoa as a side dish

Snacks: peanut butter with an apple, cheese cubes with grapes, Greek yogurt and fruit, a handful of nuts or seeds, milk

Strength training is also important to help maintain muscle mass. The Meadowlark Extension District offers classes on strength training for older adults. If you have questions about diet and protein or are interested in an upcoming class, call the Meadowlark Extension office at 785-364-4125.

Cindy Williams
District Extension Agent, Family & Community Wellness

Listening: A Vital Dimension of Respect

The virtue of respectfulness is demonstrated by being courteous, being civil, and treating everyone in a manner that acknowledges and honors their essential human dignity.

An important but often neglected aspect of respectfulness is listening to what others say. Respectful listening is more than hearing. It requires us to consider what's being said. That's hard when we've heard it before, aren't interested or don't think much of the persona talking. It's even worse when we act like we're listening but are just waiting for our turn to speak.

The fact is, most of us don't listen well, certainly not all the time, and especially with those closest to us. Kids are especially adept at tuning out their parents, but parents are equally skilled at ignoring or dismissing as foolish or irrelevant what kids have to say.

The disrespectfulness of not listening is most apparent when others ignore or patronize us (rolling their eyes in a show of impatience or contempt or faking interest with a vacant stare or wandering eyes).

We all want to know that what we say and think matters. But if we want others to care about what we say, we need to care about what they say. Like all the important virtues, we teach respect best by demonstrating it. So, listen up! It'll make people feel better, and you may learn something.