

David Hallauer
District Extension Agent, Crops & Soils

Small Grain Cereal Options

With parts of the area recently receiving beneficial moisture, and some forage supplies remaining tight, you might be considering a small grain cereal for grazing/haying this fall/winter. A companion article by District Livestock and Natural Resources Agent Ross Mosteller focuses on the animal side of using cereal crops (<https://www.meadowlark.k-state.edu/livestock-natresource/>; see News Articles at the bottom of the page). This article focuses on general agronomic practices.

The planting window for most winter cereals is now through late September for rye and triticale and extends into the first 10 days of October for wheat. Earlier planting *typically* equals greater production plus a better chance to get plants established adequately so grazing can begin. Planting later can work, but forage production may be reduced or establishment slowed.

Seed small grain cereals at a rate about 25 to 50 percent *above* normal to provide earlier fall forage. A good ballpark rate for most cereals is 75 to 100 pounds per acre. Oats will be a little less – but don't skimp if you want to maximize production. If oats are your choice, consider these points: 1) they *can* be seeded in the fall and can provide quite a bit of forage if planted early or a hard freeze (mid 20's) allows them a long growing season 2) they *can* be planted with other winter small grains and 3) seedlings *are* susceptible to atrazine, so be cautious after corn.

Nitrogen fertilizer rates should be 30-50 pounds above typical when grazing (use similar rates recommended for grain production if going to silage/hay). If previous soil tests suggest a need for other nutrients, they will likely be needed for cereal production as well unless higher than needed fertilizer rates were applied to the previous crop. Consider split applications at higher rates to prevent lodging. If you are taking the crop to grain after grazing, a split application should be made with the last half of the nitrogen applied after animals are removed.

Good information is available upon request for dual purpose wheat varieties. Less information is readily available for other cereal crops. If you have not done so, start lining up seed as supplies may be tight.

Small grain cereal crops can help extend forage supplies while allowing us to use summer crop residues and providing often-needed winter ground cover all at the same time. If you want more information on different options, check out Small Grain Cereals for Forage available from District Offices or: <https://www.bookstore.ksre.ksu.edu/pubs/MF1072.pdf> .

Ross Mosteller
District Extension Agent, Livestock & Natural Resources

Small Grain Cereals for Pasture

Forage quality has rapidly declined following the heat of August and the lack of widespread rainfall so far in September. The recent rains have made me more hopeful that cereal grains could be utilized for livestock grazing this fall, winter and into early spring. District Crops and Soils Agent, David Hallauer is writing a companion piece for establishing and feeding cereals (<https://www.meadowlark.k-state.edu/crops-soils/>) news columns are on the bottom of the page, my focus today will be on the grazing aspect of these crops.

Producers needing forage this year may want to consider planting a small grain cereal crop for forage this fall. There are five main small grain cereals that can be used as forage crops in Kansas: winter or spring wheat, winter or spring barley, spring oats, rye, and winter or spring triticale. Of these, winter wheat is the best all-purpose winter forage, but each of the other options has advantages and disadvantages.

Focusing on fall/winter/early spring pasture, generally rye has the highest total season-long production, followed by triticale, wheat, and barley. Spring oats can be pastured, but the total length of grazing is limited because they will winter kill out, so should be considered a short term option in either fall or spring. Rye becomes stemmy and unpalatable earlier in the spring than other cereals. Since rye is less palatable and higher in fiber than wheat or barley, gains during grazing are normally greater on wheat, triticale, and barley pasture than on rye

Barley produces palatable growth rapidly in the fall under favorable conditions. It is considered superior to other cereals for fall and early winter pasture, but wheat, triticale, and rye provide better late winter and spring grazing. Wheat usually produces most of its forage in late fall and early winter, and again in the spring. Triticale falls in between rye and wheat in its period of peak production. If a producer wishes to extend the grazing season as long as possible in the spring, triticale is the best option.

In terms of overall forage quality of pasture, barley is highest, followed by wheat, triticale, and rye. During the fall and early spring periods of peak production, the crude protein content of small grain pasture is normally about 20-25 percent. Growing cattle require about 12 percent crude protein, thus no protein supplements are necessary. Spring oats for grazing should be planted as early as possible. The quality of oat pasture is very high.

Stocking rates must be adjusted to match the crop's production potential. Under good growing conditions, a well-fertilized small grain dryland pasture can carry about 500 pounds of cattle per acre. Under poor growing conditions, stocking rates should be reduced considerably. Cattle gains of 1.5 to 2.5 or more pounds per acre per day are possible during periods of good production. With irrigation and intensive management, higher stocking rates can be attained. Fall grazing management is critical to the success of small grain pastures. Begin grazing when the plants are well rooted and tillered, usually about 6 to 8 weeks after planting. If the foliage is too tall when the animals are introduced, or if the crop is overgrazed, the plants will be more susceptible to winterkill. Make sure some green leaves remain below the grazing level. The minimum stubble height should be about 3-4 inches. Rye has a more upright growth pattern than most wheat varieties, so it should not be grazed as low. Barley and triticale are more susceptible to winterkill than rye or wheat.

Small grain pastures can cause bloat. Daily supplementation with poloxalene (Bloat Guard) is highly effective in reducing bloat. Feeding high-quality grass hay, silage, and/or an ionophore such as Rumensin or Bovatec can also provide some protection against bloat. Mineral supplements containing magnesium are necessary when grazing cattle on small grain pasture to minimize the occurrence of grass tetany.

Laura Phillips
District Extension Agent, Horticulture

Prepare your soil for spring

As the growing season for many gardens comes to a close, it is a perfect time to evaluate and improve your soil health. Your garden will thank you in the spring! The first step in evaluating your soil health is to do a soil test, especially if you have not done one in the past two years. Performing the standard gardener soil test through K-State can tell you about your soils' pH, organic matter, phosphorus, potassium, and nitrates. With this information you can make adjustments that optimize your soil for plant growth.

When evaluating soil health, one of the first things to look at is the pH. Soil that is too acidic or too basic can wreak havoc on your garden. Even if you have sufficient nutrients, an extreme pH level will essentially lock those nutrients in place, making them inaccessible to plants. While not all plants require the same PH range to thrive most, vegetables and ornamentals will grow well with a pH somewhere between 6.0 and 7.0. If your soil test indicates that your pH is too high, you can incorporate sulfur to lower it. If your soil pH is too low, you can incorporate lime to raise it. In Northeast Kansas, many gardeners have slightly basic soils (a pH just above 7.0) and need to incorporate sulfur into their garden.

Adding lime or sulfur to your soil, however, will not alter the pH overnight. In fact, it can take over a year for these amendments to fully react with your soil and alter your pH. Rather than waiting until spring to mess with your soil pH, make those changes now so that the amendments have time to react with the soil before your next spring planting.

Next you want to look at your organic matter content. Organic matter refers to decaying plant materials or animal waste, which can offer numerous benefits. Beyond providing nutrients, it can improve the soil structure, increase water infiltration and retention, and increase the amount of nutrients available to your plants. If you have low organic matter content, consider applying a thin layer of organic matter to your garden in the fall. This will allow it to breakdown and incorporate into your soil over the winter. It is important to note that not all compost is equal. Depending on the source of the decomposing matter, it can alter your pH, or have high amounts of nutrients your soil already contains. Make sure you are adding organic matter that is suited for your soil.

Once you have added any pH amendments and organic matter, cover your soil for the winter. You can do this either with mulch or cover crops. Bare soil is prone to erosion, nutrient leeching, and damage the soil structure. Additionally, both cover crops and mulch will provide additional organic matter to your soil.

Lastly, you want to look at your soil's nutrient values. You can compare your soil nutrient results to our K-State *Fertilizing Gardens in Kansas* to determine how much phosphorus, potassium, and nitrogen your specific plants will need. You can apply these fertilizers in the spring either before planting or as you plant, and make sure to water them into the soil.

If you have any questions on working with your soil, or need to get a soil test done, reach out to one of our offices for more information.

Teresa Hatfield
District Extension Agent, Family and Community Wellness

September is National Healthy Aging Month

National Healthy Aging Month promotes ways people can stay healthy as they age. It's never too early to begin thinking about how the choices you make now will impact your health and life later as you get older. As we age, we often expect changes in our five senses: vision, hearing, touch, taste, and smell. One of the programs that I provide for school-age children and adults is called Gray for a Day. It's a great program that lets people understand what it is like to experience sensory loss. We get to wear special glasses, experience hearing loss, and feel the stiffness in our joints. At the same time, we continue to do our daily tasks. The Gray for a Day program has left an impact on participants. Many express that they now have more empathy for older adults. Others state that they plan on taking better care of themselves now.

So, no matter what your age, you can take steps to reduce the amount of sensory loss that comes with aging. When looking at people who live to be 100, many have several things in common. Many in this age group share the following.

1. **Keeping a Positive Attitude:** A positive attitude can improve your outlook on life and impact your mental health. Positive attitudes can help us fight disease and strengthen our relationships with others.
2. **Physical Activity:** It's always possible to get active. Whatever you do, keep moving. Exercise could include walking, gardening, dancing, and climbing stairs. Staying active reduces your chance of falling and can put you in a better mood. K-State Research and Extension offers classes to keep you active; call our office to find a class.
3. **Know Your Health Numbers:** Make sure you know and understand your health numbers. Talk to your healthcare provider about your blood pressure, cholesterol, and glucose numbers. Also, ask about your body Mass Index or BMI to understand the ratio between your height and weight. Understand what you need to do if these numbers are too high and how it can impact your health.
4. **Stay Socially Active:** People engaged with others and in their community are often healthier, happier, and less depressed. Social activity helps reduce the risk of illness and disease, reduces the risk of mental health disorders, and improves overall brain health. These are all excellent reasons to stay engaged.
5. **Sleep:** Many Americans do not get the recommended amount of sleep each night. No matter our age, we all need to get a good night's sleep. Sleep is your body's way of repairing muscle, regulating hormones, and helping you to form memories.
6. **Eating Right:** Everyone knows food has a direct impact on our health. Remember that eating nutritious food helps us to maintain a healthy body. Many illnesses and diseases are directly related to poor eating habits, such as heart disease, diabetes, high blood pressure, bone loss, and cancer.
7. **Stress Management:** Everyone experiences stress in their daily lives. We can have good stress (starting a new job) or bad stress (facing a health crisis). When stress becomes too much, it can impact our health. Learning what causes your stress and your body's reaction to it can help you learn to control those factors that are causing your bad stress. You can also take action before the stress becomes a major health crisis.

These are just a sample of the things that can influence your health. Some things you can control, others you cannot. You might start with making minor changes to improve your health. Write down your goal to help hold yourself accountable. For example, I will walk for 20 minutes three days this next week right after lunch. Make you change something you know you can do; don't make it so hard that you will never accomplish it.

For more information, contact Teresa Hatfield at 785-364-4125 or thatfield@ksu.edu.

Source: Keys to Embracing Aging, KSRE Publication

Cindy Williams
District Extension Agent, Family & Community Wellness

A Better Boxed Meal

Imagine its late afternoon on a typical weekday. Do you know what you're having for dinner tonight? Most people don't, according to a recent survey. About 70 percent of adults living in the U.S. don't decide what to eat that night until 4:00 p.m. or later.

For a quick meal, many cooks reach for packaged convenience foods. Most of these products are NOT nutrient dense, but rather are low in healthy nutrients and high in sodium, fat and calories. Some of the convenience foods are much more expensive than homemade recipes, too.

Here are some delicious, quick and easy ways to boost the nutrient density of a boxed or frozen packaged convenience food. By following these tips, you will increase the taste of your meals---as well as the vitamins, minerals and overall nutritional value. When your family and works schedules don't allow much time for cooking, try these tips.

To decrease fat---

- Use only half the margarine called for in the instructions of boxed mixes of rice, pasta, stuffing, potatoes and macaroni and cheese. Omit all of the margarine for even greater calorie savings.
- Reduce the fat in ground beef when making a hamburger casserole boxed mix. Drain the fat from cooked ground beef, place the meat in a colander and rinse with warm water. Drain. Continue with the regular directions.
- Substitute an equal amount of unsweetened applesauce for vegetable oil in boxed brownie mixes. Substitute two egg whites for each whole egg to decrease the fat and calorie content even more.

Decrease Sodium----

- Use only half of a seasoning packet for seasoned rice mixes, packaged soup noodles, and frozen stir fry meals. Add the remaining half when cooking plain rice or noodles, or use as a seasoning for slow cooked meats, if desired.

Add Nutrients---

- Add chopped vegetables to frozen pizza before baking.
- Add frozen chopped spinach to tomato-based pasta sauces.
- Add frozen mixed vegetables to canned soups.
- Add drained chunks of canned fruit to gelatin desserts and puddings.
- If a packaged mix calls for milk, used nonfat dry milk powder and water instead. If you use 2/3 cup dry milk and 1 cup water for every cup of milk the package calls for, you will get twice as much calcium as you normally would have.