Issue 926

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These e-Updates are a regular weekly item from K-State Extension Agronomy and Kathy Gehl, Agronomy eUpdate Editor. All of the Research and Extension faculty in Agronomy will be involved as sources from time to time. If you have any questions or suggestions for topics you'd like to have us address in this weekly update, contact Kathy Gehl, 785-532-3354 kgehl@ksu.edu, or Dalas Peterson, Extension Agronomy State Leader and Weed Management Specialist 785-532-0405 dpeterso@ksu.edu.

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1. Control annual weeds with fall-applied herbicides ahead of corn and sorghum

With row crop harvest well underway, it is time to start planning fall herbicide applications. Herbicide applications in late October through November can improve control of difficult winter annual weeds. Fall weed control is associated with warmer soils and easier planting in the spring, however, it is important to remember that fall-applied herbicides may limit your crop options in the spring. Also remember that herbicides should not be applied to frozen ground.

Some of the key herbicides to consider for fall herbicide applications include chlorimuron (Classic, others), flumioxazin (Valor, others), suflentrazone (Spartan, others), and Autumn Super, for residual activity. One thing to keep in mind about residual activity from fall herbicide applications is that weather conditions will influence the length of residual control and the weed emergence patterns. So, even though they provide some residual activity, additional spring application pre-emergence herbicides will likely be needed for season-long weed control.

For burndown activity, glyphosate, 2,4-D or dicamba are good options to consider. However, recent glyphosate price increases may make other products more attractive. Alternatives for grass control include Group 1 herbicides like clethodim (Select, others) or quizalofop (Assure II, others). Alternatives for controlling broadleaf weeds include paraquat (Gramoxone, others) or saflufenacil (Sharpen).

Some of the key weeds to target with fall herbicide applications are marestail, henbit, dandelion, prickly lettuce, pepperweed, field pansy, evening primrose, and recently-emerged cool-season grasses. When higher rates of herbicides are used, some suppression of early spring-germinating summer annual broadleaf weeds such as kochia, common lambsquarters, wild buckwheat, and Pennsylvania smartweed can be achieved. Recent data comparing kochia control with fall and spring applications are included in Figure 1.

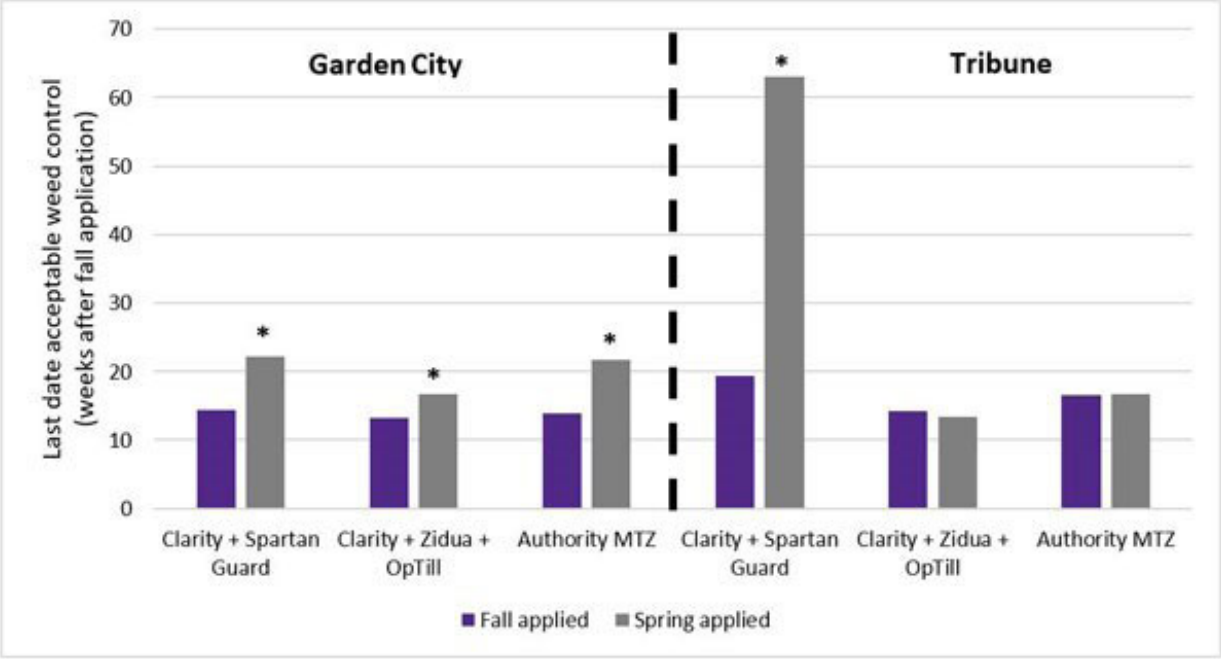

Figure 1. Estimated weeks of kochia control greater than 80% following fall (early December

2014) and spring (early February 2015) herbicide applications at Garden City and Tribune, KS. An asterisk (*) indicates that the spring application provided acceptable weed control at a later date than a fall application. Data from Kumar et al.,2019.

Marestail is a problem that merits special attention. Marestail is much easier to control in fall or early spring while it is still in the rosette growth stage (Figure 2).

Figure 2. Marestail rosettes in a recently harvested soybean field. Photo from Dallas Peterson.

The use of trade names is for clarity to readers and does not imply endorsement of a particular product, nor does exclusion imply non-approval. Always consult the herbicide label for the most current use requirements.

For more information on controlling bindweed, see 2022 Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland, K-State publication SRP-1169.

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2. Control woody plants on rangeland: Basal bark and cut-stump herbicide applications

Late summer and fall can be an excellent time to treat unwanted stands of woody plants. Scattered stands of individual trees should either be treated individually using the basal bark method (for labeled plants less than 4-6 inches in diameter) or the cut stump treatment method. The basal bark and cut stump treatments will not be effective if the plants cannot be treated down to the soil line. Avoid conditions where water (or snow later in the season) prevents spraying to the ground line. Unlike foliar applications, basal bark and cut-stump treatments are less affected by weather.

Basal bark application method

Producers can treat smaller diameter susceptible woody plants individually this fall by spraying the basal stem parts with triclopyr plus diesel fuel or a commercially available basal oil. The lower 12-15 inches of the stems or trunks of susceptible small trees should be thoroughly wetted on all sides with a triclopyr-diesel mixture. Triclopyr goes by the tradenames Remedy Ultra and Pathfinder II. Remedy Ultra is a 4 lb/gallon product. The labeled recommendations for Remedy Ultra are 20-30% solution in diesel. Pathfinder II is a ready-to-use product and does not have to be mixed with diesel. PastureGard HL is a premix of triclopyr and fluroxypyr, and can be applied as a basal bark or cut-stump treatment as a 25% solution in diesel. Crossbow, a mixture of triclopyr and 2,4-D, can also provide control of certain woody plants as a 4% solution in diesel. Milestone, with the active ingredient aminopyralid, is effective on black and common honeylocust. Mix Milestone 5% v/v with a compatible basal oil; e.g. Dyne-Amic from Helena Chemical. Before selecting a basal oil, do a jar test by mixing Milestone and basal oil to determine compatibility.

Cut-stump method

If the woody plant is greater than 6 inches in diameter, the best method is to:

- Cut it off at ground level.
- Treat the cut surface with triclopyr and diesel fuel within 30-60 minutes, before the sap seals over the exposed area.
- Spray the cambium and light-colored sapwood to insure translocation of the herbicide (Figure 1).
- Treat any exposed trunk or exposed roots.

The stump of ash, cottonwood, elm, oaks, persimmon, willow, and Russian olive can be treated with a 1:1 ratio of dicamba (Clarity, Sterling Blue) in water instead of triclopyr if desired. The stumps of Eastern red cedar do not need to be treated since, unlike many woody plants, this species does not root sprout. Simply cutting Eastern red cedar below the lowest green branch will kill it. Common trees in Kansas that re-sprout after cutting include: ash, cottonwood, elm, oaks, osage orange (hedge), persimmon, black and common honey locust, saltcedar, and Russian olive. In sprouting species, new shoots arise from dormant buds at or below the ground often resulting in a multi-stemmed clump.

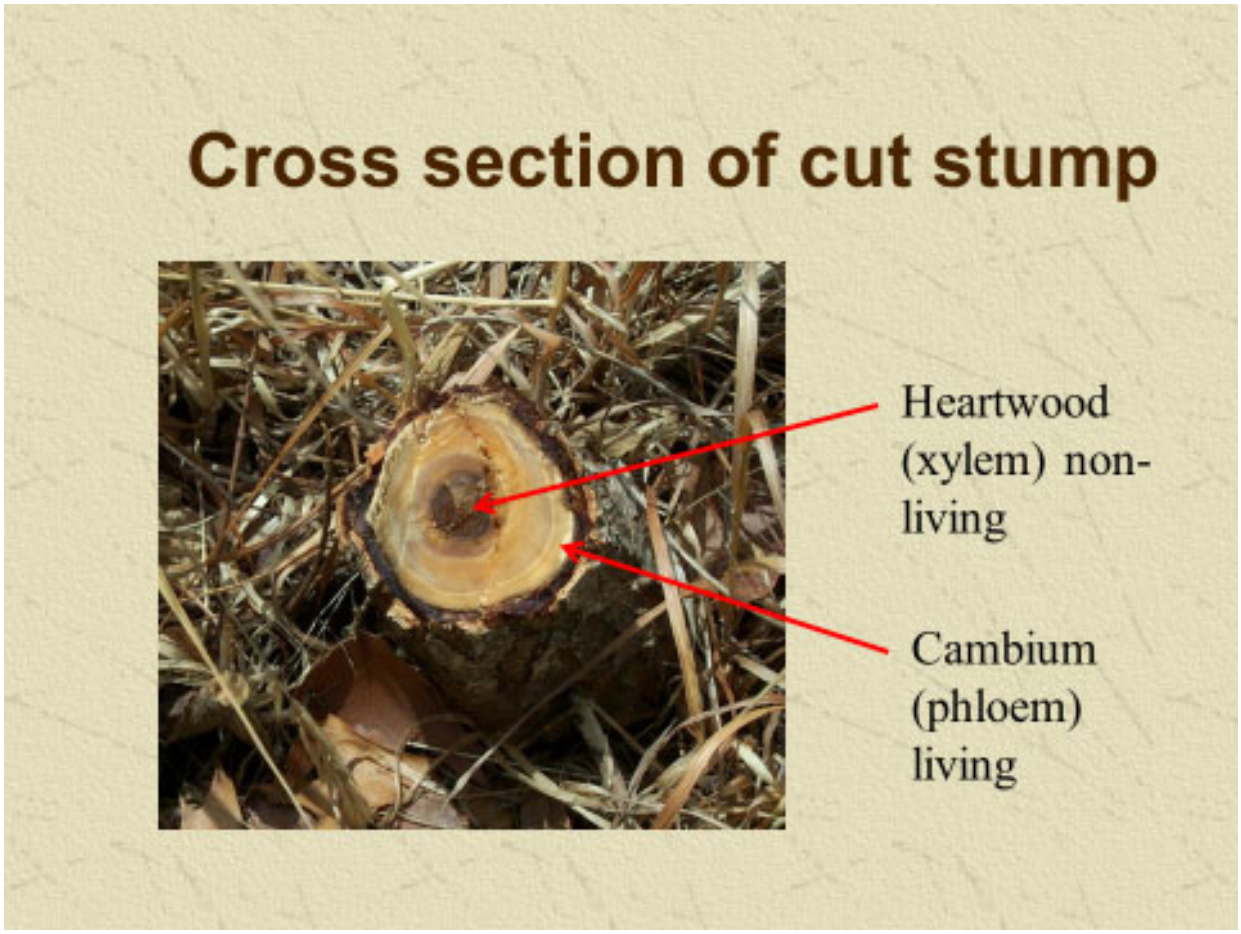

Figure 1. Treat the cambium tissue for cut-stump treatments.

Table 1. Cut-Stump Herbicides

Herbicide	Active ingredients per gallon	Rate
Crossbow[1]	2 lb 2,4-D + 1 lb triclopyr	4% in diesel
Remedy Ultra	4 lb triclopyr	20-30% in diesel
Pathfinder II	0.75 lb triclopyr	Ready to use
PastureGard HL	3 lb triclopyr + 1 lb fluroxypyr	25% in diesel
Milestone	2 lb aminopyralid	10% in water
Sterling Blue/Clarity	4 lb dicamba	25-50% in water
Roundup PowerMAX	5.5 lb glyphosate	50-100% in water
Arsenal	2 lb imazapyr	10% in water
Tordon 22K	2 lb picloram	10% in water
Capstone	0.1 lb aminopyralid + 1 lb triclopyr amine	Undiluted

[1] Trade names are used to help identify herbicides. No endorsement is intended, nor is any criticism implied of similar products not mentioned.

Common honeylocust can re-sprout from a wide diameter area around the main plant because of root suckers. One option is to make a basal bark treatment with triclopyr-containing products to kill the entire plant in the fall. Then the main plant can be cut down in subsequent years once the tree is dead. Cut-stump applications of Milestone as a 10% solution in water has been more effective than triclopyr on common honeylocust.

Table 2. Cut-Stump Treatments

Species	Herbicides
Ash	Crossbow, Pathfinder II, Banvel/Clarity, Arsenal, Capstone
Common honeylocust	Remedy Ultra, Pathfinder II, PastureGard HL, Milestone, Sterling Blue/Clarity, Tordon 22K, Capstone
Cottonwood	Crossbow, Remedy Ultra, Pathfinder II, Sterling Blue/Clarity, Arsenal, Capstone
Elm	Crossbow, Remedy Ultra, Pathfinder II, PastureGard HL, Banvel/Clarity, Arsenal, Tordon 22K, Capstone
Oaks	Remedy Ultra, Pathfinder II, PastureGard HL, Banvel/Clarity, Roundup PowerMAX, Arsenal, Tordon 22K, Capstone
Osage orange (hedge)	Remedy Ultra, Pathfinder II, PastureGard HL
Persimmon	Remedy Ultra, Pathfinder II, PastureGard HL, Sterling Blue/Clarity, Arsenal
Russian olive	Crossbow, Pathfinder II, Sterling Blue/Clarity, Arsenal
Salt cedar	Remedy Ultra, Pathfinder II, PastureGard HL, Roundup PowerMAX, Arsenal
Willow	Arsenal, Crossbow, Remedy Ultra, Pathfinder II, PastureGard HL, Roundup PowerMAX, Sterling Blue/Clarity

Tordon RTU and Pathway can be used on cut surfaces in noncropland areas such as fence rows, roadsides, and rights-of-way. However, Tordon RTU, and Pathway are not labeled for use on range and pasture. Glyphosate labels vary on what sites are labeled for cut-stump application on rangeland. Roundup PowerMAX can be applied on any terrestrial site. Roundup ULTRA can only be applied as a cut-stump treatment on non-cropland. Be sure to check the label as rangeland is sometimes included as a site under non-cropland on some glyphosate labels.

Application equipment for cut-stump application includes pressurized hand sprayers, small backpack sprayers, sprayer mounted on ATV with handheld gun, hydraulic tree shears or saws with an attached spray nozzle, or even a paint brush. Two of the more common pieces of equipment for cutting the woody plants are the turbo saw and the hydra clip (Figure 2).

Figure 2. Turbo saw (left) and hydra clip (right).

Although exposure to animals is reduced by basal and cut-stump treatments, grazing and haying restrictions still need to be followed. There are no restrictions before grazing with any of the herbicides discussed. Check labels for restrictions for use prior to hay harvesting, removal of animals before slaughter, and for use around lactating dairy animals.

Application tips for using cut-stump treatments:

- Always follow directions on the herbicide label.
- Before spraying, brush any sawdust or debris off cut surface.
- Apply herbicide to freshly cut stump.
- Spray cut surface and stump to ground level.
- Spray exposed roots above soil surface.
- The cambium layer is the critical area to spray.
- Apply enough liquid that it pools on cut surface.

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3. Ammonia treatment of low-quality forages

Millions of tons of crop residue and other low-quality forages are produced every year in the United States. However, because of their bulkiness, relatively low energy and protein feeding value, and value for covering the soil, little of this abundant feed source is utilized for livestock. Ammoniation is a procedure designed to increase the energy availability of low-quality forages such as wheat, barley and oat straw, corn or grain sorghum stover, and very mature warm-season grasses. Research over the last few decades has demonstrated that ammonia treatment of low-quality roughages will substantially improve digestibility, voluntary intake, and cattle performance. Most forages with less than 5 percent crude protein and 45 percent TDN (total digestible nutrients) on a dry matter basis are candidates for ammonia treatment. Ammoniating higher quality forages is not advised, therefore it's important to test any materials taken off the field to ensure the crude protein is not above the recommended range.

How does ammoniation improve forage feeding value?

Ammoniation increases the digestibility of crop residues and grass hays by breaking lignin-cellulose bonds in plant fiber, thereby swelling the plant tissue to allow greater microbial activity, and improving dry matter digestion (TDN) by 8 to 15 percentage units.

Ammoniation boosts feed intake by 15 to 20 percent or more because of improved forage digestibility and increased rate of passage through the digestive tract. Ammoniation usually doubles crude protein content by being a non-toxic source of non-protein nitrogen (NPN) and it is well utilized by calves and cows. Ammoniation preserves forage that contains up to 25 to 30 percent moisture because it kills molds and fungi and prevents heating which reduces feed losses.

Techniques of ammonia application

The most common and consistently successful means of treating dry forages with ammonia has been to cover the material with 6 mil black plastic sheeting, sealing the plastic against the ground with soil, crushed rock, or other material. Enough fill should be placed to keep the plastic from being pulled loose by winds and when the ammonia gas fills the stack cover like a balloon.

Traditionally, a 3% application of anhydrous ammonia (dry weight) has been recommended (60 lbs anhydrous ammonia/dry ton hay). However, research conducted a K-State demonstrated that lower application rates (1.5% dry weight or 30lbs anhydrous ammonia/dry ton hay) produced proportionally greater improvements in both crude protein and in-vitro dry matter digestibility. The results of this study are summarized in Table 1 and the full report may be accessed online in the 2014 K-State Cattleman's Day report http://hdl.handle.net/2097/17779.

Table 1. Nutrient composition and estimated cost/value of wheat straw prior to (PRE) and following application of 1.5% or 3.0% anhydrous ammonia on a dry basis.

		Ammonia Rate[1]			
Item	PRE	1.5%	3.0%	SEM	*P*-value

Dry Matter, %	92.1	91.0	91.1	1.01	0.68
Crude Protein, %[*]	3.3[a]	8.6[b]	10.8[c]	0.50	< 0.01
Acid Detergent Fiber, %	51.0	51.9	52.1	1.34	0.84
TDN, %	33.2	32.5	32.3	1.90	0.93
IVDMD, %[†]	31.0[a]	42.0[b]	46.2[c]	1.60	< 0.01
Cost/value, $/ton	70.00	107.00	128.00		

[1]Treatment with 1.5% (HALF) or 3.0% (FULL) dry weight basis of anhydrous ammonia.
[*]Linear $P < 0.01$, Quadratic $P = 0.02$
[a,b,c,] Within a row, means without a common superscript differ ($P \leq 0.10$)
[†] Linear $P < 0.01$, Quadratic $P = 0.10$

Apply the ammonia slowly (for three to five hours) into the center of the stack.. Producers should weigh a few bales to estimate gross weight of the stack. If the moisture content is 15 percent, dry matter weight will be 85 percent of the gross weight. A slow application of ammonia is best as it permits the liquid to fully volatilize, reducing the amount lost in the soil.

Producers should build the stack and estimate the total dry forage for treatment. The exact amount of anhydrous ammonia can be ordered, and the ammonia can be applied until the tank is empty. After starting the application, producers should check the cover for leaks and apply duct tape to any holes in the plastic.

For best results, crop residues and other forages should be covered and ammoniated as soon after harvesting as possible to minimize weathering and dry matter losses maximizing feed value. The time needed for maximum treatment effect may range from only a few days in 90˚F plus weather to 30 to 45 days during cold winter temperatures. Anhydrous ammonia will seek the moisture in the stacked forage which aids in the uniform spread of the ammonia. Eight to 10 percent is an adequate forage moisture content, but 15 to 25 percent is preferred. The ammoniated stack should remain covered until two weeks before feeding when the cover is opened to allow bales to air out to reduce the concentration of residual ammonia.

Consider the cost of ammoniating forages

Producers should also be advised that the costs associated with ammoniating wheat straw have increased. A 40 x 100-foot roll of 6 mil black plastic will cost approximately $325 and anhydrous ammonia is was as much as $1400/ton back in July in some locations. At these July prices the cost/value of wheat straw treated with the 1.5% and 3.0% application rates is $107 to $128/ton respectively. Anhydrous ammonia has dropped a little in price since July but not enough to significantly reduce the final cost when ammoniating forages. At these values, producers should evaluate what other forage options are available before making the decision to ammoniate wheat straw as other comparable, cost-effective forage options, such as grass hay, may be available.

Safety considerations

Anhydrous ammonia is maintained under pressure and can be dangerous. If misused, it can burn skin, eyes, or throat and can explode and burn. Follow these precautions:

- Wear goggles, rubber gloves, and protective clothing
- Work upwind when releasing anhydrous ammonia
- Have fresh water available to wash off any anhydrous ammonia that comes in contact with the skin
- Check all valves, hoses, and tanks for leaks
- Check the plastic cover on the stack for leaks and seal any holes with duct tape
- Do not smoke near anhydrous ammonia
- Keep children away from the treatment area

The possibility of ammonia toxicity with cattle fed ammonia-treated forages appears remote. Studies have been conducted with application rates of over 6 percent ammonia to dry forages without illness or harmful side effects to ruminants. The ammonia odor of freshly uncovered treated forages also acts as a safety factor. Research has shown that animals will not eat ammonia-treated crop residues unless they are aerated or mixed with a fermented feed so that the silage acids neutralize the ammonia. Ammoniated forages should have the end of the plastic cover removed and allowed to aerate for two weeks before feeding.

Summary

Ammonia treatment is a very effective means of markedly increasing the feeding value of low-quality forages. Do not treat with ammonia any higher quality forages. Large crop acreages offer an almost unlimited supply of lower quality crop residues which can be transformed into relatively nutritious forages with the potential of improving the economy of cattle production.

For more information on ammoniating forages, watch this KSRE video: https://youtu.be/-JtjJb-umpk

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4. Small grain forage options for this fall

In 2022, forage production was limited during the summer, and filling the gaps during the fall/winter will be a challenge. Small grain forages can be a profitable option for producers. They can be planted in the fall and either terminated or grazed out in the early spring, allowing time to plant a summer row crop if soil moisture is adequate.

There are five common small grain options for forage: spring oats, winter wheat, winter barley, winter cereal rye, and winter triticale. Each option has strengths and weaknesses.

Spring oats. Spring oats are usually planted in late February or March in Kansas. However, spring oats can also be planted in August or early September -- and if done so, they will produce much more fall forage compared to other small grain forages in the fall before a killing freeze. They will rarely produce grain if planted in August. Spring oats do not need to vernalize before heading. They will develop rapidly in the fall if they have enough moisture and fertility, and may even head out before termination by the first hard freeze in the mid-20 degree F range, but in most years it will not have time to produce viable grain. In very mild winters, however, much of the spring oats planted in the fall might survive the winter in southern Kansas.

Spring oats can be utilized in the fall for either hay or grazing. Spring oats can be ready to graze 6 to 8 weeks after planting with adequate moisture and after a good crown root system has developed. Under good conditions, spring oats can produce up to 1 to 2 tons of forage per acre, but as planting is delayed past early August, expect less tonnage. Spring oats are not very drought-tolerant, and will not establish well or produce much forage if soils are very dry. Rye, triticale, or barley are more drought-tolerant than spring oats.

Spring oats can also be planted in a mixture with a winter small grain. The spring oat will produce most of the forage in the fall and then most likely winter kill. If the winter climate is mild, the spring crop can survive the winter. The winter small grain will overwinter and produce forage in the spring. Winter small grain biomass production might be less than if planted alone, but the combination of oat and winter small grain biomass will most likely be higher than winter small grain planted alone. If a mixture is used, plant oats at a 50% seeding rate and winter small grain at 100% seeding rate.

Spring oats should be seeded at the rate of 2 to 3 bushels (64 to 96 pounds) per acre. About 30 to 70 pounds of nitrogen (N) per acre will be adequate depending on forage potential and if no excess N is available in the soil.

Oat pasture can generally carry 500 pounds of beef per acre. Average daily gains range from 1.5 to 2.5 pounds per head per day. Forage quality on actively growing oats is high, with protein content in the range of 20 to 25%.

Oats are fairly susceptible to atrazine, so if producers plan on planting oats this fall after corn or sorghum, there is a risk of herbicide carryover that can kill seedlings.

Winter wheat. Wheat is often used for grazing and grain in so-called “dual-purpose” systems (Figure 1). These systems are usually balanced between getting good forage and good grain yields without maximizing yields on either side. Dual-purpose wheat is typically planted at least two to three weeks earlier than wheat planted for grain only. In addition, producers wanting both grazing and grain

should use a higher-than-normal seeding rate (90-120 pounds of seed per acre) and increase the N rate by 30 pounds per acre for every 1,000 pounds per acre of dry matter forage yield.

Figure 1. Cattle grazing on a wheat field. Photo courtesy of Great Plains Grazing.

Producers who need more pasture than normal can plant even earlier, at the likely expense of lower grain yields. Planting very early opens wheat to many risks, such as wheat streak mosaic, barley yellow dwarf, Hessian fly, grasshopper damage, planting into hot soils (and consequent shortened coleoptile length), and common root rot. If beef prices are more favorable in the spring, wheat can also be grazed out, foregoing grain yield altogether. Wheat usually produces most of its forage in late fall and early winter, and again in the spring. There are differences among varieties in how much fall forage is produced. Grow an awnless variety if planning on grazing the wheat out.

For more information on dual-purpose wheat, please refer to the eUpdate article, "Managing wheat for forage and grain: the dual-purpose system". For a comparison of wheat variety performance under grain only versus dual-purpose systems, please refer to the publication "Dual-Purpose Wheat Variety Performance 2022".

Winter barley. There are new, improved varieties of winter barley available with better winterhardiness, especially under grazing. Many of the newer varieties also produce more forage than older varieties. 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. Barley has excellent drought and heat tolerance. Winter barley forage is typically the most palatable of the small grain cereals and feed quality is the highest, although tonnage of barely is usually less than triticale or rye.

Winter rye. Rye establishes fall pasture quickly. It also regrows rapidly in late winter and early spring. However, 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, cattle gains during grazing are normally greater on oat, wheat, triticale, and barley pasture than on rye pasture. Rye is the hardiest of the small

grain cereals for overall tolerance to drought, heat, winterkill, and poor soil conditions.

Winter triticale. Triticale, a cross between wheat and rye, possesses the toughness of rye along with the quality of wheat. It can be grazed much harder than wheat and still recover to produce grain. Triticale and rye can be planted about a month earlier than wheat with a decreased risk of wheat streak mosaic (while the triticale might not show symptoms of wheat streak mosaic virus infection, it may vector the mites that might affect a neighboring wheat field). However, there is still risk to grasshopper feeding in the fall, hessian fly, barley yellow dwarf, or root rot. Planting triticale (Figure 2) or rye earlier in the fall increases the amount of fall forage available compared to winter wheat. Triticale has longer effective spring grazing than rye, but not as long as wheat. Depending on the variety, winter triticale will head later than rye so the forage can remain higher in quality later into the spring. Heading date on all winter cereals should be a consideration if spring grazing is the goal.

Figure 2. Cattle grazing on a triticale research field. Photo courtesy of John Holman, K-State Research and Extension.

Small grain pasture management

As planting dates get later in the fall, producers will get more fall forage production from triticale and rye. The later it gets; the more rye becomes the best option for fall forage needs. Relative pasture production of small grain cereals can be found at https://bookstore.ksre.ksu.edu/pubs/mf1072.pdf. It may help to identify the right forage to fill the gap in the system or complementary forages.

When planting a small grain cereal primarily for forage, use a seeding rate about 50-100 percent higher than if the crop were grown for grain. In western Kansas and under dry soil conditions, a seeding rate of 1.5 bushels per acre is recommended. In eastern Kansas or under irrigation, a seeding rate near 2 bushels per acre is recommended. When planting a small grain cereal for grazing

purposes, increase N rates by about 30 to 50 pounds of N per acre. To determine the actual amount of additional N needed, the following formula can be used:

Additional lbs N/acre = (Number of animals/acre) x (lbs of weight gain/animal) x 0.4

In a graze-out program, all the N may be applied in the fall. However, split applications will reduce the chances of having a problem with nitrate toxicity. In addition, there may be excess N in the fall from failed summer crops, so producers should use caution when putting on N without a profile N soil test.

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 pasture production. Under irrigation, with intensive management, much higher stocking rates can be attained.

Grazing management

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 to 4 inches. Rye has a more upright growth pattern than most wheat varieties, so it should not be grazed as low. Winter barley is more susceptible to winterkill than rye or wheat. However, newer varieties of barley are exhibiting increased winter hardiness.

Forage quality considerations

Overall forage quality of hay, barley is the highest, followed by oats, wheat, triticale, and rye. Yet, the forage quality of all small grains in the vegetative stage is more than sufficient for any grazing animal. 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.

Small grain pastures can cause bloat. Daily supplementation with poloxalene (Bloat Guard) is highly effective in reducing bloat and is available in many different feeding forms. Feeding high-quality grass hay, silage, and/or an ionophore such as Rumensin or Bovatec can also provide some protection against bloat. Rumensin and Bovatec have also been shown to increase stocker cattle weight gains on wheat pasture.

Cows with high milk production grazing small grain pasture in the spring can experience grass tetany. To prevent this, provide a mineral supplement containing magnesium. Cattle should be started on the mineral two weeks prior to the risk of grass tetany.

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5. Kansas Bankers Association Conservation Awards – Nominations due Nov. 11

Nominate a deserving Kansas producer or landowner for the 2022 Kansas Bankers Association Conservation Awards Program. This year, the Kansas Bankers Association, K-State Research and Extension, and the Kansas Department of Wildlife and Parks have announced six award categories:

- **Energy Conservation**
- **Water Quality**
- **Water Conservation**
- **Soil Conservation**
- **Windbreaks**
- **Wildlife Habitat**

The purpose of this program is to stimulate a greater interest in the conservation of the agricultural and natural resources of Kansas by giving recognition to those farmers and landowners who have made outstanding progress in practicing conservation on their farms. In 2021, over 200 Kansas producers and landowners were recognized through this program.

Submit this form to the County Extension Office or District Biologist for Kansas Wildlife, Parks, and Tourism (Wildlife Award only) no later than **November 11, 2022**.

A committee of conservation professionals will submit the names of the selected recipients to the KSU Agronomy Extension office (or KDWPT for Wildlife Award) by December 9, 2022.

For more information, see: https://www.agronomy.k-state.edu/extension/kansas-bankers-award/

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