



# The Wisest Pursuit



MARSHALL COUNTY RESEARCH EXTENSION

October/November/December 2015

## Important Dates to Remember

November 5:	Cover Crop Meeting	January 22:	Ag Profitability Workshop
December 9:	Leasing Workshop	January 29:	Soybean School
December 10:	Calving School	February 11:	Women in Ag Series

\*\* Dates and times are subject to change\*\*

**Cover Crop Field Day/Meeting:** Come listen to producers talk about their experiences with cover crops. The USDA and WRAPS will also be present to talk about different programs available. There is a \$10 registration fee and registering by October 20<sup>th</sup> is highly encouraged for a lunch catered by Ace's Café. The **November 5, 2015** meeting will begin at **9:30 A.M.** at the American Legion in Axtell, Kansas and registration begins at 8:30 A.M. Pre-registration can be made at 785-336-1853 or email [billbuessing@gmail.com](mailto:billbuessing@gmail.com).

**Leasing Workshop:** Ag leases are regularly used and often misunderstood. K-State Research and Extension, Geary County Extension Agent, Chuck Otte, will try to help landlords and tenants better understand the important concepts of agricultural leases. Otte will discuss various topics including the basics of the Kansas Ag lease law, crop share leases, cash leases including variable cash leases, and the importance of communication. The meeting will be on **December 9<sup>th</sup> at 1:00 P.M.** at the Maryville Library and will last 1½ - 2 hours. Please RSVP at 785-562-3531 or email [anastasia@ksu.edu](mailto:anastasia@ksu.edu).

**Calving School:** Producers have a significant investment in each cow and losing calves at or near birth is an economic loss but it is often a personal loss too. Continued sharpening of skills when it

comes to saving calves is time well spent for anyone that calves cows. This meeting will be on **December 10, 2015** Topics such as signs of calving, differentiating between normal and abnormal calving, and how to manage a difficult birth will be covered. Details are still coming together for this program so watch for specific times but it will be an afternoon/evening meeting. Please RSVP at 785-562-3531 or email [anastasia@ksu.edu](mailto:anastasia@ksu.edu).

**Soybean School:** The **January 29, 2016** program at each location addresses a number of issues in depth, including crop production practices; nutrient and soil fertility; and insect, weed, and disease management, according to Ignacio Ciampitti, crop production specialist with K-State Research and Extension. It starts with registration at **8:30 A.M.** and the program at **9:00 A.M.**, with a complimentary lunch. There is no fee to attend but participants are asked to register by January 22 at 785-562-3531 or email [anastasia@ksu.edu](mailto:anastasia@ksu.edu).

**Ag Profitability Workshop:** This meeting will be in Wamego so if you would like to ride along please let Anastasia know. This meeting will be an **all-day** meeting on **January 22, 2016** and will have a small registration fee. The meeting will discuss land values and rental rates, market outlooks, trends, opportunities, and challenges as well as many other topics.

**Women in Agriculture** : WIA classes will be held each Thursday afternoons from **12:30 to 5:30 P.M.**, beginning **February 11, 2016** and continuing through March 17, 2016. Classes will be held at the Riley County Public Works Facility, 6215 Tuttle Creek Boulevard, Manhattan, KS.

Women Involved in Agriculture is a six-session course for women with an interest in agriculture business management. Topics to be covered include: True Colors (personality profile), Financial

Management, FSA Programs, Marketing, Quicken, Leasing, Estate Planning, and Communication and Family Dynamics. There is an enrollment fee that covers all class materials and supper at each session.

Space is limited to 25 participants. There is always the option of riding down with Anastasia to the meetings. Women interested in attending may sign up by emailing [anastasia@ksu.edu](mailto:anastasia@ksu.edu), or by calling the Extension Office at 785-562-3531

## Fall is a Good Time for Soil Testing

Though we often think of soil testing as a spring chore, fall can actually be a better time. Soil-testing laboratories are often very busy during the spring resulting in a longer turnaround from submission to recommendations. Also, soils in the spring are often waterlogged, making taking samples difficult. If your soil test suggests more organic matter, fall is a much better season because materials are more available than in the spring, and fresher materials can be used without harming young tender spring-planted plants.

Begin by taking a representative sample from several locations in the garden or lawn. Each sample should contain soil from the surface to about 6 to 8 inches deep. This is most easily done with a soil sampler. Many K-State Research and Extension offices have such samplers available for checkout. If

you don't have a sampler, use a shovel to dig straight down into the soil. Then shave a small layer off the back of the hole for your sample. Mix the samples together in a clean plastic container and select about 1 to 1.5 cups of soil. This can be placed in a plastic container such as a resealable plastic bag.

Take the soil to the extension office to have tests done for a small charge at the K-State soil-testing laboratory. A soil test determines fertility problems, not other conditions that may exist such as poor drainage, poor soil structure, soil borne diseases or insects, chemical contaminants or damage, or shade with root competition from other plants. All of these conditions may reduce plant performance but cannot be evaluated by a soil test.

## Tally Time – Measure hay quality and quantity for most efficient use

Sandy Johnson, livestock specialist

Kansas producers have been busy putting up silage and baling hay. Abundant rainfall in much of the state this year has made making hay challenging but also improved volume of hay supplies. Both of these factors, in addition to prices of other commodities, will influence how best to use these forages this year.



Expect that forage that was rained on in the windrow to have lower energy values from the leaching of soluble carbohydrates. If forage was baled

when moisture content was too high, heating could result in damaged protein. If this occurred, make sure your forage analysis includes heat damaged protein which is largely unavailable to the animal. In some cases, forage may have become more mature than desired before harvest as producers waited for better haying weather. Both protein and energy will decline as the plant matures. All of these factors point to very little hay in the "average" category this year and forage quality may vary widely. The bottom line is that forage testing before feeding will be very important to achieving desired performance. Obtaining representative samples and having the forage tested

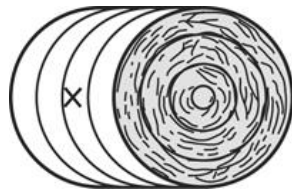
helps producers ensure they meet the animal's nutrient requirements in the most efficient manner.

Obtain forage samples for testing from each field and cutting. As bales are moved from the field for storage, retain the identity of each forage group (field and cutting). Spray paint or surveyors ribbons attached to the twine or netting are some options to mark lots. This segregation is very important in situations where a single forage is a large proportion of a given diet and/or high nitrates may occur. Additionally, segregating forages based on cutting and quality makes it easier to reserve higher quality forages for animals with the greatest nutrient requirements, such as lactating cows. While in most areas of the state nitrates are less likely to be an issue this year, including a nitrate test for forages in the sorghum family is cheap insurance since fertility imbalance can also cause high nitrates. Build a forage inventory record that includes the amount of forage and the forage analysis.

**TABLE 1.** Cost per pound of crude protein, dry matter basis for various protein levels of alfalfa (90% dry matter).

Alfalfa \$/ton	Crude Protein, % Dry Basis			
	14	16	18	20
60	\$0.24	\$0.21	\$0.19	\$0.17
80	\$.032	\$0.28	\$0.14	\$0.22
100	\$0.40	\$0.35	\$0.31	\$0.28
120	\$0.48	\$0.42	\$0.37	\$0.33
140	\$0.56	\$0.49	\$0.43	\$0.39

The improved forage supply situation this year has made alfalfa a competitor for the lowest cost source of crude protein (cost per pound of crude protein, dry basis). In the past several years, distillers grains have often been one of the lowest cost sources of protein and that will likely continue. If the cost of protein delivered to the animal from these two sources is similar then there are several other considerations to take into account. Energy concentration of the



distillers grains is higher than even in the best alfalfa so it has an advantage if additional energy is needed. The higher concentration of protein in distillers grains may be an advantage in some feeding situations. While protein does not need to be fed every day, depending on the total amount of crude protein needed, the frequency of feeding may need to be more often for alfalfa than distillers grains because of the volume. Phosphorus is the most expensive macro mineral to provide and the relatively high content in distillers grains would reduce what was required from the mineral. A tool is available to help evaluate these

**TABLE 2.** Cost per pound of crude protein (CP), dry matter basis for Dried Distillers Grains (DDG, 32% CP, 90% DM).

DDG, \$/ton	\$/lb CP, Dry Basis
110	\$0.19
130	\$0.23
150	\$0.26
170	\$0.30
190	\$0.33

different supplement characteristics called SUPPCOST. A link to the Excel based tool can be found under the Quick Links on the right hand column of the KSUBeef.org website or on AgManager.info.

The availability of forages this year is a pleasant change for producers who have experienced various degrees of drought the past several years. Quality may be variable but something to feed is always better than nothing. Feed costs still represent the largest portion of production costs so wise use of hay by testing for nutrient content is warranted. In some cases alfalfa may be the lowest cost protein supplement.

Table 1 shows the cost per pound of crude protein on a dry basis for alfalfa hay with crude protein values from 14 to 20% . This can be compared to the values in Table 2 which show cost per pound of crude protein of Dried Distillers grains (32% CP, dry basis and 90% dry matter) at various prices.



## Questions on Ornamental Grasses

We are starting to receive questions on whether it is best to cut back ornamental grasses in the fall or spring. As a rule, ornamental grasses should not be cut back while green because they need time to move the energy found in the foliage into the roots. Even when browned by cold weather, most gardeners will leave the foliage until spring because of the interest it adds to winter landscapes.

Early March is the preferred time to cut back these plants. However, dry foliage is extremely flammable and should be removed in the fall from

areas where it is a fire hazard. Another question we often receive is whether we can divide ornamental grasses in the fall. Spring is the preferred time because divisions done in the fall may not root well enough to survive the winter.



## Fertilize Spring-flowering Bulbs

October is the month that existing beds of spring-flowering bulbs such as daffodils and tulips, are fertilized. If bulbs have been fertilized in the past, there is often plenty of phosphorus and potassium in the soil though it is best to take a soil test to be certain. If the soil needs phosphorus and potassium, use a complete fertilizer (such as 10-10-10, 9-9-6, etc.) at the rate of 2.5 lbs. per 100 square feet. This would equal 1 rounded teaspoon per square foot. If phosphorus and potassium are not needed, blood meal makes an excellent fertilizer. It should be

applied at the rate of 2 pounds per 100 square feet or 1 teaspoon per square foot. Turf fertilizers such as a 27-3-3 or 30-3-3 can be used, but cut the rate by a third.

If there is difficulty in determining exactly where the bulbs are planted due to the lack of foliage, fertilizing in the spring rather than the fall is acceptable. However, it is important that the plants are fertilized when the foliage first shows. Waiting until the bulbs are flowering is too late as the roots have already begun to shut down.

## Frost on Lawns

If you have ever walked across a frosted lawn that isn't dormant, you may have noticed your footprints showing up later in the day. Though this is unsightly, it does not kill the turf. Grass blades are damaged but the crown is not. Actively growing turf will often recover after two to four mowings. Damage that occurs this late in the fall will continue to show

damage until it is masked by the rest of the lawn turning brown due to cold weather. It is believed that the damage is caused by ice crystals killing plant cells when they are forced into the leaf by the weight of a wheel or foot. Remember to avoid damage by staying off of frosted turf.

## Controlling annual weeds with fall-applied herbicides

With row crop harvest underway, it's time to start planning your fall herbicide applications to control winter annual broadleaf weeds and grasses ahead of grain sorghum or corn. Fall applications during late October and through November can greatly assist control of difficult winter annuals and

should be considered when performance of spring-applied preplant weed control has not been adequate. Henbit and marehail frequently are some of the most troublesome weeds we try to manage with these fall herbicide applications.

Fall applications have another side-benefit. While it is always important to manage herbicide drift, herbicide applications made after fall frost have less potential for drift problems onto sensitive targets.

There are several herbicide options for fall application. If residual weed control is desired, atrazine is among the lowest-priced herbicides. However, if atrazine is used, that will lock the grower into planting corn or sorghum the following spring, or leave the land fallow during the summer and come back to winter wheat in the fall.

Atrazine is labeled in Kansas for fall application over wheat stubble or after fall row crop harvest anytime before December 31, as long as the ground isn't frozen. Consult the atrazine label to comply with maximum rate limits and precautionary statements when applying near wells or surface water. No more than 2.5 lbs of atrazine can be applied per acre in a calendar year on cropland.

One half to two pounds (maximum) per acre of atrazine in the fall, tankmixed with 1 to 2 pints/acre of 2,4-D LV4 or 0.67 to 1.33 pints LV6, can give good burndown of winter annual broadleaf weeds -- such as henbit, dandelion, prickly lettuce, Virginia pepperweed, field pansy, evening primrose, and marestail -- and small, non-tillered winter annual grasses. Atrazine's foliar activity is enhanced with crop oil concentrate, which should be included in the tankmix. Winter annual grass control with atrazine is discussed below.

Atrazine residual should control germinating winter annual broadleaves and grasses. When higher rates of atrazine are used, there should be enough residual effect from the fall application to control early spring-germinating summer annual broadleaf weeds such as kochia, common lambsquarters, wild buckwheat, and Pennsylvania smartweed -- unless the weed population is triazine-resistant.

Marestail is an increasing problem in Kansas that merits special attention. Where corn or grain sorghum will be planted next spring, fall-applied

atrazine plus 2,4-D or dicamba have effectively controlled marestail rosettes, and should have enough residual activity to kill marestail as it germinates in the spring. Atrazine alone will not be nearly as effective postemergence on marestail as the combination of atrazine plus 2,4-D. Sharpen can be very good on marestail, but should be tankmixed with 2,4-D, dicamba, atrazine, or glyphosate to prevent regrowth.

If the spring crop will be corn, other residual herbicide options include ALS herbicides such as Autumn Super or Basis Blend. ALS-resistant marestail will survive an Autumn Super or Basis Blend treatment if applied alone. For burndown, producers should mix in 2,4-D, dicamba, and/or glyphosate. Aim + 2,4-D or Rage D-Tech are additional herbicide options for fall application with only the 2,4-D component providing a very short residual.

Winter annual grasses can also be difficult to control with atrazine alone. Success depends on the stage of brome growth. For downy brome control, 2 lbs/acre of atrazine plus crop oil concentrate (COC) has given excellent control, whereas 1 lb/acre has given only fair control. Volunteer wheat and brome species that have tillered and have a secondary root system developing will likely not be controlled even with a 2-lb rate. Adding glyphosate to atrazine will ensure control of volunteer wheat, annual bromegrasses, and other winter annual grassy weeds. Atrazine antagonizes glyphosate, so if the two are used together, a full rate of glyphosate (0.75 lb ae) is recommended for good control. The tankmix should include AMS as an adjuvant.

Where fall treatments control volunteer wheat, winter annuals, and early-emerging summer annuals, producers should then apply a preemergence grass-and-broadleaf herbicide with glyphosate or paraquat at corn or sorghum planting time to control newly emerged weeds. Soils will be warmer and easier to plant where winter weeds were controlled in fall.

## Tips to minimize storage loss of large round bale



Although large round bales reduce labor requirement when putting up hay, storage losses with large round bales are generally much higher than

with small rectangular bales, particularly when stored outdoors. This indicates that a lot of large round bales might have some nutrient loss from precipitation combined with air temperature and humidity. Much of the dry matter loss with outdoor storage is associated with microbial respiration under optimal moisture, temperature, and nutrient condition for microbes. The following are a number of ways to minimize large round bale loss stored outside:

**1. Increase bale density:** One of the most important ways to reduce round bale loss is to tighten the outer layer of bale. It's recommended to have a minimum density of 10 lbs. of hay per cubic ft.

**2. Use covers:** Weathering can reduce forage quality of round bale hay, particularly digestibility. Plastic wrap, net wrap, reusable tarps, or plastic twine can be used to prevent the loss from weathering. Plastic wrap or net wrap will result in less loss than twine.

**3. Select a good storage site:** First of all, the storage site should not be shaded and should have good air circulation, which will enhance drying conditions. The storage site also should be well-drained to reduce moisture absorption into the bottom side of the round bales. Ground contact can account for over half of the total dry matter loss. To elevate the bales from the ground use racks, fence posts, discarded pallets, railroad ties, used tires, or a layer of crushed rock about 4 to 6 inches deep to have good drainage.

**4. Orient rows of bales to promote drying:** It's recommended to stack large round bales in rows, buff end-to-end, give three feet between rows, and orient the rows in a north-south direction. Vegetation between rows should be mowed to allow good air flow.

## Why are there so many pigweeds in soybeans this year?

More fields of soybeans than usual in Kansas have a problem with pigweeds this year – both Palmer amaranth and waterhemp. Populations of these pigweeds are unusually high, and the weeds have gotten tall and formed seed by now. In these fields, the pigweed seedbank in the soil after harvest will be heavy and could create significant problems for years to come.

Why is pigweed pressure heavier this year than in recent years? Increasing pigweed pressure in soybeans has been the trend in Kansas over the past 10 years or so, increasing a bit overall every year. But this year pigweed pressure has taken a big step up.

There are two main reasons for what is happening this year:

**1. Glyphosate resistance is spreading.** More populations of Palmer amaranth and waterhemp are now resistant to glyphosate. Waterhemp populations

have been resistant to glyphosate for several years. Glyphosate resistance in Palmer amaranth has been a more recent occurrence, and resistant populations are now increasing rapidly within the state.

**2. Wet weather in May and early June.** The rainy pattern in May and early June delayed planting and caused producers in some areas of Kansas to plant later than expected. As a result of both the wet soils and the delayed planting, the effectiveness of EPP (early preplant) herbicides had worn off by the time the beans were planted. Pigweeds began emerging in some cases before the beans could be planted. Then when the soils dried out enough to plant beans, producers had to hurry their operations and may not have had time to apply burndown or preemergence residual herbicides.

Producers who are still trying to rely primarily on postemergence herbicides to control pigweeds are

having an increasingly hard time getting good control. It used to be that glyphosate would provide 95% or more control of both waterhemp and Palmer amaranth even if those weeds were a foot tall or more. But now, glyphosate provides poor control of pigweeds on many fields in Kansas.

There are other options for postemergence control, but most of those options require that the weeds be less than 3 to 4 inches tall for good control. That means producers have to watch their fields closely early in the season and spray the weeds when they first see them emerging. That's an entirely different mindset than just a few years ago when glyphosate was more consistently effective on pigweeds. Both waterhemp and Palmer amaranth grow very quickly once they have emerged, and can quickly get too tall for good control with postemergence herbicides – if they are glyphosate-resistant. If these weeds get to be a foot tall or more, postemergence herbicide alternatives to glyphosate often just burn back the tops of the weeds but will not kill them.

Consequently, a good residual herbicide program in the spring will likely be important for pigweed management in the future, regardless of the postemergence program. Where glyphosate-resistant pigweeds have become a problem, producers may want to consider Liberty Link or conventional soybeans. However, even these soybean varieties will need to be part of a planned program that utilizes residual herbicides and timely applications. Timely applications and higher spray volumes that can provide good thorough coverage of the weeds is very important for the postemergence herbicide options currently available for pigweed control in soybeans.

There may be new varieties of soybeans coming in the future with resistance to 2,4-D (Enlist) or dicamba (Xtend) if key export markets get approved. However, these options also work best in a program approach using residual herbicides and timely postemergence applications. In tests at K-State, a tankmix of glyphosate+2,4-D or glyphosate+dicamba still had problems controlling 6-inch-tall Palmer amaranth this summer. So it will still be important to apply these postemergence herbicides on small weeds to get good control.

The best approach to good pigweed control in no-till is to start with a two-pass program early. Apply EPP residual herbicides at a two-thirds rate in mid- to late-April, then follow up with rest of the residual herbicide at planting. If pigweeds are



emerged at planting time, it will be important to include a burndown herbicide to control those weeds as well. If you want to rely strictly on a single EPP treatment, be sure to include an adequate rate of a residual herbicide product in the mix.

Then be ready to apply any needed postemergence herbicides early, before weeds get to be 3 to 4 inches tall. On fields with heavy pigweed pressure, you may want to add additional residual herbicides to the postemergence treatment.

## Peppers from the Garden

Peppers are able to be stored fresh much longer than tomatoes. They can usually keep in a crisper drawer of a refrigerator for several weeks if kept moist but not wet. For longer storage, freezing works well. Though mushy when thawed, the flavor still comes through in cooked foods. Try dicing them into

small pieces and then freezing on a cookie sheet. The frozen pieces can then be poured into a plastic bag for later use. Measuring is much easier as the pieces are not frozen together in a clump. This methods works equally well for hot peppers.

# Green Stem Syndrome in Soybeans

Green stem syndrome in soybean is a condition by which the stem remains green while the seeds are mature and ready to harvest. In parts of the state, there are many fields of soybeans with brown pods but green stems. A hard freeze will kill the leaves and stems, but it still may take a while for the leaves to drop, if leaves are still green.

Producers can either harvest these soybeans now if the seed moisture is dry enough, or wait until the leaves have dropped and stems dry down. In most cases, it would be best to harvest sooner rather than later to reduce losses from shattering and lower seed quality. Harvesting beans before the leaves have dropped can be messy and gum up the combine, but at least the yield level will be maintained. Make sure harvesting equipment is sharp and in top condition, and take it slow in the field. Harvesting soybeans with green stems can be challenging.

What caused this unusual situation this year? It's most likely due to a combination of stress, low pod counts, and late rains. Also, soybean aphids, stink bugs, leaf beetles, and viruses can help cause this problem.

In a normal situation, soybeans will accumulate carbohydrates and proteins in the leaves and stems up until seeds begin to form (R5). The leaves provide the photosynthates needed by the newly formed seeds as they begin filling. As the seeds continue to get bigger, their need for photosynthates will eventually become greater than what the leaves can provide through normal photosynthesis. As this happens, the plants will move carbohydrates and

proteins from the leaves and stems into the seeds. This can be referred to as "cannibalization" of the vegetative tissue (rapid senescence process and defoliation), but it's a normal process. This eventually causes leaves to turn yellow and drop, and the stems to turn brown and die.

The fewer the number of seeds, due to abiotic or biotic stresses, the lower the demand for photosynthates produced by leaves and stems. If demand is low enough, the leaves and stems are never "cannibalized" for their carbohydrates and protein. As a result, the leaves and stems will remain green longer than normal, even up through physiological maturity of the beans. Late-season rainfall can make the problem worse by keeping the plants alive as the seeds have dried down. It will take either a frost or a desiccant to kill the leaves and stems in this situation.

If the leaves are still green and intact when pods have turned brown and have reached 13-14% moisture, it's almost always an indication of mid-season stress around flowering/pod set and low yield potential – at least

Eventually, freezing temperatures will kill the leaves and dry down the stems. Otherwise, the utilization of desiccants to kill leaves and drop the stem moisture down is a viable option, but only if the producer wants to harvest the field soon, before a freeze is likely to occur. If the stems and/or leaves are still green when the field is harvested, the best option is to harvest slowly and make sure the harvesting equipment is sharp and in excellent condition.

## Last Tomatoes of the Season

Cold nights are increasing in frequency now that we are into October. If you have tomatoes, you may have some that are approaching maturity. Leave them on the vine until mature or until a frost is forecast. Tomatoes will ripen off the vine but must have reached a certain phase of maturity called the 'mature green stage. Look for full-sized tomatoes with a white, star-shaped zone on the bottom end of the green fruit. When harvesting fruit before a frost, separate tomatoes into three groups for storage:

those that are mostly red, those that are just starting to turn, and those that are still green. Discard tomatoes with defects such as rots or breaks in the skin. Place the tomatoes on cardboard trays or cartons but use layers of newspaper to separate fruit if stacked. Occasionally a tomato may start to rot and leak juice. The newspaper will keep the juice from contacting nearby or underlying fruit. Store groups of tomatoes at as close to 55 degrees as possible until needed.



# What Beef Producers Should Start Thinking About

Tips by Dale Blasi, Extension Beef Specialist

## Cow herd management for spring-calving cows

In late fall and early winter, start feeding supplement to mature cows using these guidelines:

- Dry grass — 1-2 pounds (lb.) per day of a 40% crude protein (CP) supplement
- Dry grass — 3-4 lb. per day of a 20% CP supplement
- Dry grass — 10 lb. good nonlegume hay, no supplement needed

Compare supplements based on cost per pound of nutrient.

Utilize crop residues.

Strip-graze or rotate cattle to improve grazing efficiency.

Cows in average body condition can be grazed at 1-2 acres per cow for 30 days, assuming normal weather. Available forage is directly related to grain production levels.

Limiting nutrients are usually rumen degradable protein, trace minerals and vitamin A.

Control lice.

## General management

Document your cost of production by participating in Standardized Performance Analysis (SPA) programs.

Review management decisions; lower your costs per unit of production.

Check your financial management plan and make appropriate adjustments before the end of the

## Conservation Awards

If you have anyone that you would like to nominate for any of the following awards please let myself (Anastasia) know. I can be reached by calling the Extension Office at 785-562-3531, or by e-mail at [anastasia@ksu.edu](mailto:anastasia@ksu.edu).

**Grassland Award:** The purpose of this award is to give recognition to landowners who have made improvements in their pasture and management practices. Sponsored by the Marshall County Conservation District

**Windbreak Recognition:** The purpose of this award is to give recognition to landowners who have made progress in the establishment and management of windbreaks. Sponsored by the Bankers Association.

**Wildlife Award:** The purpose of award is to give recognition to landowners who have made progress in the development and stewardship of fish and wildlife resources. Sponsored by the Bankers Association.

**Soil Conservation Award:** The purpose of award is to give recognition to those farmers and

ranchers who have made improvements in the development of a complete soil conservation plan and implementation of that plan on their farms in accordance with the capability of the land. Sponsored by the Bankers Association.

**Water Quality Award:** The purpose of this award is to give recognition to those farmers and ranchers who have taken measures to improve and protect water quality on their farms and ranches. Sponsored by the Bankers Association.

**Water Conservation Award:** The purpose of this award is to give recognition to those farmers and ranchers who have taken measures to improve the beneficial use of an existing water supply and/or reduce water consumption on their farms or ranches. Sponsored by the Bankers Association.

**Energy Conservation Award:** The purpose of this award is to give recognition to those Kansas farmers and ranchers who have taken measures to reduce fossil-fuel based energy consumption on their farms and ranches. Sponsored by the Bankers Association.

*"Agriculture is our wisest pursuit, because it will in the end contribute most to real wealth, good morals, and happiness."  
- Letter from Thomas Jefferson to George Washington (1787)*