

The Wisest Pursuit



MARSHALL COUNTY RESEARCH EXTENSION

January/February 2016

Important Dates to Remember

January 22:	Ag Profitability Workshop	February 11:	Women in Ag Series
January 25:	Advanced Risk Assessed Marketing	February 13:	Beef Weigh In
January 29:	Soybean School	February 17:	Women in Ag II: Excel
February 2:	Winter Ranch Management Seminar	February 19:	Livestock Grazing Workshop
February 3-5:	Women Managing the Farm	February 19:	Range Burning Workshop
		February 29:	Women in Ag II: Meats

Ag Profitability Workshop: This meeting will be in Wamego and will be an all-day meeting on January 22, 2016 and will have a small registration fee of \$10. The meeting will discuss land values and rental rates, market outlooks, trends, opportunities, and challenges as well as many other topics.

Advanced Risk Assessed Marketing (RAM II) will be held on January 25 from 8:30 to 3:30 and will cover marketing strategies including futures, options, crop insurance, forward contracts, and a hands-on case farm activity. This meeting will be at Kaw Valley State Bank in Wamego and will cost \$15.



Soybean School: The one-day school on January 29 at the Marysville Legion will cover issues facing soybean producers: weed control strategies, crop production practices, soil fertility and nutrient management, insect and disease control, and risk management.

The school will begin at 9:00 A.M. and adjourn at 2:30 P.M., including a farmer panel at the end of the school.

Lunch will be provided, courtesy of the sponsors. There is no cost to attend, but participants are asked to pre-register.

Winter Ranch Management Seminar on February 2 at the First Baptist Church in Alta Vista will discuss the veterinary feed directive, sire selection, and other topics. The meeting will be from 5:00-8:30 P.M. and will cost \$5.00.

Women Managing the Farm: No matter the amount of knowledge about or involvement in agriculture, the "Women Managing the Farm" project is specially designed for women in agriculture at the Hilton Garden Inn in Manhattan. There is a \$150 registration fee. For more information contact the Extension Office.

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. The series is for women in agriculture with a passion for business management, farm owners, spouses, or women involved in any sector of agriculture are invited to participate. Classes will be held at the Riley County Public Works Facility, 6215 Tuttle Creek Boulevard, Manhattan, KS.

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 a \$75 enrollment fee that covers all class materials and supper at each session. Space is limited to 25 participants.

Women in Ag II: Excel These meetings are a continuation from the Women in Ag classes. At the first meeting Rich Llewelyn will present an Excel workshop on February 17 from 12:30 to 4:00 P.M., starting with lunch at Frontier Farm Credit in Manhattan. The workshop will start closer to 1:00 P.M. and the fee is \$10.

Range Burning Workshop will be at Pottorf Hall in Manhattan on February 19 and will discuss planning and conducting a prescribed burn. The meeting will be from 10:30 A.M. to 3:30 P.M. and has a \$20 registration fee.

Women in Ag II: Meats will be February 29 from 1:00-5:00 P.M. Travis O-Quinn, KSU Meat Specialist, will cover cooking with new or unfamiliar cuts of meat. This event will be located at the KSU Meat Lab. There is a \$10 fee to attend



****Contact the Extension Office to register for any of the events. Meals are included in the above events****
If you are interested in attending the events in other counties contact Anastasia to possibly carpool in the county van

Livestock Workshop: Grazing Management for Soil Health and Improved Herd Health

Livestock producers are continually searching for new ways to improve the health of their land and livestock while lowering production costs and protecting their farm's natural resources. An outstanding educational workshop for livestock producers will feature Dr. Larry Hollis, retired KSU Extension Veterinary Beef Specialist, and Will Boyer and Herschel George, KSU Watershed Specialists. The program will offer producers many best management practices (BMPs) to manage grazing land, soil health, and livestock feeding situations for protection of natural resources and also improve production.

Maintaining herd health is another key factor in the productivity and profitability picture for livestock producers. Dr. Larry Hollis, combined with the watershed specialists, will show how to use a combination of approaches to improve the health of grazing land, livestock operations and protect water resources. As Herschel George states, "Water is a part of all livestock management decisions."

The **February 19** workshop will offer producers and agency folks the opportunity to participate in the

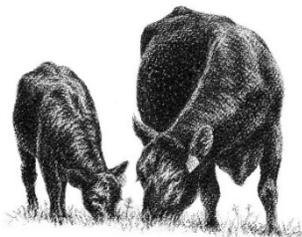
workshop. The workshop will be held at the Kloppenberg Center, Hanover, from 8:30 A.M. to 1:00 P.M. in the Tuttle Creek WRAPS area which is primarily in Washington and Marshall Counties.

The snow date is February 26 at the Kloppenberg Center, Hanover, from 8:30 A.M. to 1:00 P.M.

Barbara Donovan, Tuttle Creek WRAPS Coordinator, is excited to announce that applications can be made by producers for cost share monies in the targeted land areas for approved BMPs. Target area maps can be viewed at the Extension or the NRCS/CD offices. On site appointments are being scheduled with

the KSU Watershed Specialists by contacting Barbara Donovan at donovanmn@aol.com or 651-247-8292.

A Department of Conservation grant was awarded to cover Dr. Hollis's speaking fees, and travel to Kansas. Workshops are sponsored by Tuttle Creek WRAPS and Mid-Kansas WRAPS groups. For more information or to register contact: Marshall County Extension at 785-562-3531 or River Valley Extension at 785-325-2121. **RSVP's are due by Friday, February 12.**



Conservation Trees from the Kansas Forest Service

The Kansas Forest Service offers low-cost tree and shrub seedlings for use in conservation plantings. Plants are one to two years old and sizes vary from 5 to 18 inches, depending on species. Orders are accepted from now through the first full week in May each year, but order early to insure receiving the items you want.

Orders are shipped from the second week of March through May. Approved uses for these plants include windbreaks, wood lots, riparian plantings, wildlife habitat, and



Christmas trees. They may not be used for landscape (ornamental) plantings or grown for resale.

All items are sold in units. Each single species unit consists of 25 plants. For example, a unit of Eastern red cedar has 25 trees per unit. Though a single species unit is most commonly purchased, four special bundles are also available. If you want to order, come into the office and pick up a form.

Cold Stress: What is Cold to a Cow?

As we all know there is no typical weather pattern in Kansas. We experienced a mild fall this year and thus far winter has been interesting with warm temperatures followed by rain then brutally cold and windy days. The downside is that we don't know what might happen in the New Year, as we approach what are typically the coldest months of the year. Most cattle producers know and appreciate that cold weather increases nutrient requirements.

However, the obvious questions that come to mind are "What is cold to cow?" and "What increases (energy, protein etc.) and by how much?". Cattle are most comfortable within the thermoneutral zone when temperatures are neither too warm nor too cold. During the winter months cattle experience cold stress anytime the effective ambient temperature, which takes into account wind chill, humidity, etc., drops below the lower critical temperature. The lower critical temperature is influenced by both environmental and animal factors including hair coat and tissue insulation (body condition). The table to the top right lists the estimated lower critical temperatures of cattle in good body condition with different hair coats. In wet conditions cattle can begin experiencing cold stress at 59°F, which would be a relatively mild winter day. However, if cattle have time to develop a sufficient winter coat the estimated lower critical temperature under dry conditions is 18°F.

Estimated lower critical temperatures for beef cattle	
Coat Condition	Critical Temperature
Wet or Summer Coat	59°F
Dry Fall Coat	45°F
Dry Winter Coat	32°F
Dry Heavy Winter Coat	18°F

Cold stress increases maintenance energy requirements but does not impact protein, mineral, or vitamin requirements. The general rule of thumb (for a cow in good body condition, BCS = 5 or greater) is to increase the energy density of the ration by 1% for each degree (Fahrenheit) below the lower critical temperature. The classic response to cold stress in confinement situations is an increase in voluntary intake. However, it has been documented that grazing beef cows may spend less time grazing as temperatures decline below freezing, which reduces forage intake (Adams et al., 1986) and makes the challenge of meeting the cow's nutrient requirements even greater. In many cases feeding a greater amount of low-quality hay may not provide sufficient energy. Therefore providing additional energy by feeding a relatively higher-quality hay or grain may be required. More information on cold stress and nutrition may be found in "Beef Cow Nutrition Guide" available at the extension office.

Nitrogen loss due to the rain?

(Adapted from Dr. John Sawyer, Iowa State University Professor of Agronomy and Extension Specialist in Soil Fertility)

We received large amounts of rain in December but it seems like we can't get any relief. Producers are now worried about fall fertilizer and manure N applications. It is very hard to estimate losses but nitrogen loss if any will be low.

The two main losses of nitrogen are from denitrification and leaching of nitrate. Because nitrification is a biological process and soil temperatures were low at the time of the rains denitrification will be very low.

Anhydrous ammonia is the most common form of fertilizer N applied in the fall, forms ammonium when initially injected into the soil and is positively charged. Since the soil cation exchange complex is negatively charged the ammonium will not leach. Ammonium also does not get biologically converted to a gaseous form and is stable in wet soil conditions.

Manure sources containing high percentages of ammonium-N will also have considerable N initially at application in the "stable" ammonium or organic form.

The main reason for fall applications to be made after soils cool and get colder is the nitrification slows

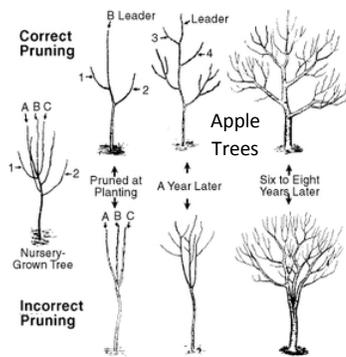
considerable below 50°F and the amount of nitrification in the fall will be very small. The colder the soil temperatures are means that less nitrification is occurring. Ammonium will nitrify no matter the source but anhydrous ammonia will nitrify slower than other fertilizer or manure N.

This means that early fall applications are going to be at a higher risk of loss than late fall applications. However, earlier fall applications would not have all applied N converted into nitrate, just a great amount.

Nitrogen fertilizer or manure applications within the past couple of weeks or so should not have an issue with nitrate loss. It is too early to make decisions about adding more N in the spring. With the soil moisture profile recharged there is a greater potential for excessively wet soil conditions next spring which would have a greater impact on N loss than wet soils this fall.

If you are wanting to do a soil test, visit the extension office to borrow the soil probe and we can send them off to the KSU Soil Lab.

Pruning Young Fruit Trees



Young fruit trees should be pruned to begin developing a strong structure of the main or scaffold limbs. This will help prevent limb breakage over the years when the scaffolds carry a heavy fruit load. Apple, apricot, cherry, plum, and

pear trees generally are trained using the central leader system. The growth pattern for these trees is for a center branch to be dominant and to grow straight up. Peach and nectarine trees are normally pruned using the open center method because they do not have a strong tendency for one shoot or branch to dominate the growth of other shoots or branches.

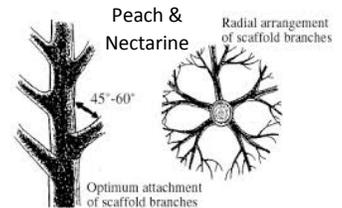
In this system, the tree is pruned to a vase-like pattern with no central leader. Regardless of the system used, the three to four scaffold branches should:

Be no lower than 18 inches from the ground. This makes it easier to prune and harvest the tree once it matures.

Form wide angles (about 60 to 80 degrees) with the trunk. Wide angles are much stronger than narrow angles and are less likely to break under wind or ice loads.

Be distributed on different sides of the tree for good balance.

Be spaced about 6 to 10 inches apart on the trunk with no branch directly opposite or below another.



2015 Marshall County Soybean Yields

The inserted table has the yield results from the 2015 Marshall County No-Till Soybean Demonstration Plot. The No-Till Soybean Plot averaged 42.3 bushels per acre, which is 2.0 bushels per acre higher than last year's soybean plot. The plot had a range in yields from 47.2 bushels per acre to 39.2 bushels per acre. These average yields are adjusted for field variation.

A lot of people ask how the adjusted yield calculations are made and what they are for. The adjusted yields are used to account for any field variations such as different soil types. The same variety is planted for each check so that you can see how the variety yields throughout the field. Adjusted

yields are calculated by taking the check average (41.1 bu/ac) divided by the average of the two checks that the varieties planted between. This number is then multiplied to the actual yield to get the adjusted yield.

It's important to note that the Marshall County Soybean Demonstration Plot results are not replicated like the Kansas State University Experiment Fields and Stations. Yield data is more accurate the more times varieties are planted. So, use the yield information to get ideas of varieties you like that performed well in Marshall County this year as well as previous years, and then look at the 2015 KSU Kansas Crop Performance Books.

2015 DEMONSTRATION PLOT RESULTS					
Cooperator: Caleb Obermeyer Harvested on October 25, 2015					
Company/Variety	Maturity	Weight (pounds)	Moisture Percentage	Actual Yield Adjusted to 13%	Adjusted for Field Variation
Check 1: Pioneer 93Y92*	3.9	56.2	11.7	42.9	Average 41.1
Mycogen 5N431R2*	4.3	57.0	11.9	42.6	42.1
Mycogen 5N387R2*	3.8	59.9	11.4	41.3	40.8
LG C3989R2*	3.9	57.9	11.7	41.2	40.7
LG C4010R2*	4.0	57.3	11.9	39.6	39.2
Lewis 423R2*	4.2	58.0	11.7	44.2	43.7
Lewis 374R2*	3.7	57.3	11.4	40.0	39.5
Midland 3983NR2*	3.9	57.8	11.7	42.4	41.9
Check 2: Pioneer 93Y92*	3.9	57.4	11.8	40.3	Average 41.1
NK S39-T3*	3.9	59.1	11.7	46.6	47.2
Asgrow AG3432*	3.4	56.0	11.5	42.7	43.2
Ohlde 404OPF*	4.0	54.8	11.4	44.8	45.4
Hoegemeyer 4124NRR*	4.1	58.1	11.7	44.1	44.6
Check 3: Pioneer 93Y92*	3.9	57.9	11.7	41.0	Average 41.1
Pioneer NT P39T67R	3.9	57.4	11.7	43.6	44.1
Producers NT 4500NR2	4.5	57.0	12.1	40.6	41.0
Producers 3801NR2*	3.8	57.8	11.8	42.7	43.2
Check 4: Pioneer 93Y92*	3.9	58.1	11.5	40.3	Average 41.1
Average	3.9	57.5	11.7	42.3	