June 6 – 9 – Kentucky FFA State Convention, Lexington Convention Center

June 25 – July 2 – Scott County Fair: Saturday 25 – Dog Show, 10:00 a.m.
Tuesday 28 – Rabbit & Cavy Show, 2:00 p.m., Sheep Show, 4:00 p.m., Poultry & Egg Show, 4:30 p.m.
Saturday July 2 – Horse Show, 9:30 a.m., Beef Cattle Show, 10:00 a.m., Guess the Weight Contest, Following the Beef Cattle Show.

July 15 – Annual 2016 Farm-City Field Day, Old Friends Farm, 1841 Paynes Depot Rd, Geo. KY, 5:00 p.m.

July 18 – Basic Technical Ropes Training, Murray State University Equine Center, 8:00 a.m. - 5:00 p.m.

July 19 –21 – Technical Large Animal Emergency Rescue (TLAER), Murray State University Equine Center, 8:00 a.m. - 5:00 p.m. each day & 6:00 - 9:00 p.m. one evening.

AGENT REFLECTIONS

The first cutting of hay is baled and wrapped, tobacco plants are being set, and for the first time in weeks the weather has been nice enough to work in the field! As the growing season kicks into high gear I would like to remind farmers that we offer plant disease diagnostic services in addition to our educational programming. If you have a question about your crops, insect/ disease pressure, or management options I highly encourage you to take advantage of your resources by way of Extension Agents and specialists at UK’s College of Agriculture.

Our annual Scott County Fair is quickly approaching and will have a wide variety of exhibits from the livestock shows to the exhibit hall and carnival. This is a great event for the whole family and is an opportunity to watch the 4H and FFA youth exhibit their summer projects and support the development of youth in agriculture.

Another reminder that the Farm- City Field Day is scheduled for July 15 at Old Friends: Thoroughbred Retirement Farm! We will have interactive educational booths from local businesses and organizations in addition to a farm tour and speakers discussing pasture management techniques. This community event is always a great time for fellowship between the rural and urban populations in the county and to celebrate and acknowledge excelling members of the community.

I would also like to take the time and welcome my summer intern, Claire Waggoner, to the Scott County Extension Office! Claire will be working with the Agriculture & Natural Resources program area this summer and will also gain experience in the other program areas as well. We are very excited to have her join the team this summer.
**INTRODUCTION: AGRICULTURE & NATURAL RESOURCES SUMMER INTERN**

Hello! My name is Claire Waggoner and I am beyond excited to spend my summer as the Scott County Cooperative Extension Ag and Natural Resources Intern! I am a junior at the University of Kentucky, majoring in Agriculture Education with a minor in Plant and Soil Sciences. I grew up in Marshall County, located in far west Kentucky. Being so far away from home, I have already noticed the vast differences in agriculture just across the state. Here at the office, I will be conducting research trials with chickens as my intern project. My goals for the summer are to learn and gain experience with the livestock and horse industry here in Scott County, and to participate in all aspects of Cooperative Extension and make connections with Scott County agriculturalists. I look forward to meeting friends of Scott County Extension!

**ASK AN AGENT**

Q: When is the optimal time to cut small grains for haylage?

A: The optimal time for small grains (rye, wheat, and triticale) all can vary slightly but overall it is similar to other grasses in that the nutritional quality is at its highest in the early heading stage. Of those three small grains, rye and triticale (triticale is a small grain cross of rye and wheat) need to be cut at the early boot stage for optimal feed quality. Wheat on the other hand will maintain its feed value until the bloom stage which allows farmers time in most years to get past the heavy spring rains.

This year unfortunately with the excessive rain, the weather didn't allow most farmers to get these small grains cut and wrapped in the optimal growth stage (early boot or bloom). In this case it is best to wait until the soft dough stage for these three small grains to allow the crude protein and total digestible nutrient percentages to rise.

*If you have a question you would like to submit to “Ask an Agent” feel free to email mmsimo2@uky.edu

**CONTROLLING MOSQUITOS**

Source: Lee Townsend, UK Entomologist

Controlling mosquitoes is challenging to say the least. You may even think you are fighting a never-ending battle. With mosquito-borne diseases like the Zika virus becoming more prevalent, it’s even more important to know how to take control of these pests around your home environment. Learning to do a few simple things could help protect you from more than the itchiness of a mosquito bite.

All mosquitoes need standing water to develop through their larval stages and that doesn’t necessarily mean a lake or pond. It also includes bird baths, kiddie pools and even discarded soda pop cans. The key to controlling them around your home is to stop them from breeding in the first place.

Some things you can do include:

- Drain and remove trash, bottles and any debris that holds water.
- Recycle any unused containers that could collect water, especially old tires.
- Change water weekly in bird baths, wading pools, watering troughs and animal bowls.
- Fill in holes, depressions and puddles in your yard.
- Make sure your culverts and ditches are draining properly.
- Check and clean out clogged gutters to ensure drainage.
- Keep ornamental ponds stocked with fish.
- Fix leaky hoses and faucets.
- Drain water from flowerpots and garden containers.
- Turn over wheelbarrows, buckets and other items that collect water.
- Adjust tarps covering woodpiles, boats and grills to remove standing water.
- Encourage natural enemies of mosquitoes, such as warblers, swallows, martins and other insect feeding birds.
Kentucky tobacco growers should be on the lookout for Botrytis gray mold. This disease may occur in fields under humid conditions, but it is most common in greenhouses and high tunnels. Botrytis gray mold can also affect numerous other herbaceous plants, including ornamentals. Prevention, early identification, and management will help reduce plant losses.

Here are the symptoms to look for, preventative tactics, and brief suggestions on how to treat crops once disease is confirmed.

**Disease Development**

Botrytis gray mold is caused by the fungal pathogen *Botrytis cinerea*. The pathogen overwinters in plant debris from the previous season or in soil. Spores are easily moved by wind, air currents, or water. All above-ground plant parts may become infected at any stage throughout the growing season, resulting in fruit or plant loss. Botrytis gray mold is favored by cool temperatures and high humidity. Once established the disease can spread rapidly in dense plantings.

**Symptoms**

Transplants may become infected prior to setting in the greenhouse or field. Wounded plant tissue is especially susceptible to infection. Tan-brown lesions with an abundance of gray spores develop on leaves, stems, hanging blossoms, tobacco clippings, or fallen fruit. Stem lesions (Figure 1) may expand to girdle stems, resulting in wilting or plant death. In tobacco, Botrytis may expand to leaf veins, resulting in a darkened color and areas dying along the clipping wound. Fruit develop a soft rot and the skin becomes discolored and cracked (Figure 2) with masses of gray, velvety spores. Occasionally, green fruit develop “ghost spots” that make fruit less desirable.

**Management**

**Cultural Practices**
- Remove plant debris, tobacco clippings, or weeds from the growing area.
- Remove and destroy heavily infected plants or plant parts.
- Prune, clip, or trellis plants only when they are completely dry to minimize plant injury.
- Avoid overhead watering to reduce leaf wetness.
- Improve greenhouse ventilation to reduce humidity.
- Use recommended plant spacing to facilitate air movement and leaf drying.

**Chemical Approaches**

As always, all label recommendations must be followed when applying fungicides to crops. Pay close attention to pre-harvest intervals, as well as tobacco contract obligations, in the application of any fungicide.

**Tobacco**

- **Greenhouses**: Both mancozeb and the single labeled Quadris application for target spot management should help manage gray mold.
- **Field**: Gray mold is rarely a problem in field plantings as a result of reduced humidity and improved plant spacing.
Alfalfa is a versatile crop that can be planted in pure or mixed stands with cool-season grasses (i.e. orchardgrass/tall fescue) for grazing or harvesting as stored forage. These fields can be harvested for hay when excess pasture exists and re-enter the grazing rotation when the growth of other forages slow. When alfalfa stands are starting to thin, they can be grazed instead of being preserved as hay, which can extend the use of the stand by a year or more. Grazing tolerant varieties have been developed which can be used for both hay and grazing. The UK Grazing Variety Trials should be consulted when selecting a variety to plant that has improved tolerance toward grazing.

**High Quality Grazing:** Alfalfa and alfalfa-grass pastures are high quality when grazed at the proper stage of maturity and can support excellent performance. They can be used for grazing higher performance cattle, such as stockers, grass-finished cattle, lactating dairy cows, or as a creep for beef calves. They can support daily gains of 2 lbs or more and have produced on average 790 lbs of beef per acre.

**Forage gap filler:** Alfalfa can be used for grazing throughout most of the grazing season. Cool-season grasses, such as tall fescue, grow best when environmental temperatures are between 70 and 80 °F. Whereas, alfalfa grows best when temperatures are between 75 and 90 °F or at slightly higher temperatures than cool season grasses. This characteristic extends grazing into the summer. In the fall, alfalfa should not be grazed or harvested between September 15th and a killing frost (or November 1st) to allow the plant to store root carbohydrates and improve winter survival. If grazing is needed between Sept. 15th and Nov. 1st, alfalfa can be rotationally grazed to maintain a height of at least 6 to 8 inches at the time cattle are moved.

**More Drought Tolerant:** Alfalfa plants have a deep tap root that allows them access to water stored deeper in the soil than grasses. Thus, they have a higher probability of growing and providing grazing during times of mild drought stress.

**More Pounds of Grazable Forage:** When compared to cool-season grasses, alfalfa yields more pounds of grazable forage over the grazing season. Tested alfalfa varieties in UK variety trials averaged 5.6 tons per acre whereas tall fescue averaged 3.5 tons per acre. Thus, established alfalfa stands out yielded tall fescue by 2.1 tons. To put this another way, an acre of pure alfalfa could support 100 more animal unit grazing days. Thus, incorporating alfalfa into a grazing program can increase the animal carrying capacity of a farm especially during the summer months.

**Graze then Rest- Management Needed:** Alfalfa and alfalfa-grass stands need to be rotationally grazed where the forage is grazed beginning at a height of 10 to 16 inches and cattle are removed when forage is grazed to no shorter than 3 inches. At that time, plants are allowed to regrow without grazing for 25 to 40 days. After this rest period, the plants can be harvested as hay, baleage, or grazed again. This rest period is needed to extend the life of the stand and for optimum plant growth. Regrowth of the alfalfa plant comes from the crown and not the stem of the plant, thus grazing to this height increases utilization of the plant. Essentially, you want to have small enough paddocks that the animals eat the entire plant (stem and leaves) versus just the top of the plant. Cattle should not graze alfalfa plants longer than 5 to 7 days since new shoots start to develop after this time frame. Also, cattle eat the alfalfa plant from the top down. The top of the plant consists primarily of leaves, which are high in protein with little fiber. The stem is lower in protein and higher in fiber. By restricting the area grazed at one time, cattle will consume the entire plant more uniformly which helps minimize bloat risk. Thus, cattle grazing alfalfa and alfalfa-grass pastures ideally are rotated at least every 3 days. With dairy cows, cows are moved twice daily to the milking parlor so a new area can easily be provided twice daily. Cross fencin within a paddock can be used to achieve this.

**Forage for creep grazing:** Alfalfa and alfalfa-grass stands can be used to creep graze beef calves. The calves, not cows, are allowed access to the alfalfa or alfalfa-grass area. By allowing access to this high quality forage, gains for calves can be improved. Only a small acreage is needed when using alfalfa for creep grazing.

**Incorporate grasses in alfalfa stands:** Incorporating grasses in stands of alfalfa can reduce soil erosion, numbers of weeds, hoof damage and bloat. Stands that contain greater than 50% grass have a lower risk for bloat, but pure stands of alfalfa can be grazed with little or no risk for bloat. Management of the cattle is key.

**Manage bloat risk:** Animal management can reduce the risk for bloat. These management practices include, but are not limited to: (1) move cattle to pastures after the morning dew has dried and cattle have grazed in the morning, (2) do not put hungry cattle on pastures, (3) avoid grazing immature alfalfa, (4) do not remove cattle at the first sign of bloat, (5) observe cattle closely, and (6) feed appropriate amount of bloat-reducing compounds, such as poloxalene. For more information, on bloat prevention, see UK publication ID-186 “Managing Legume-Induced Bloat in Cattle” by following the link: [http://www2.ca.uky.edu/agcomm/pubs/id/id186/id186.pdf](http://www2.ca.uky.edu/agcomm/pubs/id/id186/id186.pdf).
Cattle Management to Extend Stand Life: Under wet, muddy weather conditions, cattle should be removed from alfalfa fields to protect the crowns of alfalfa from hoof damage. Cattle should be placed on a sacrifice, grassy lot with a good sod base.

Grazing alfalfa after a hard freeze or November 1st can help decrease alfalfa weevil problems the next spring. The alfalfa weevil lays its eggs on the stems in the fall. By removing the stems through grazing to a height of 2-3 inches, the eggs are removed decreasing problems next spring. This regrowth often times is lower in yield, thus not worthy of harvested as hay under less than ideal weather drying conditions.

PICKING APPLES OFF THE GRAZING TREE:
How far can we extend the grazing season profitably?

Source: Dr. Greg Halich, UK Ag Economist

UK Extension Agricultural Economist, Dr. Greg Halich, discusses extending the grazing season, and the actual value of grazing over feeding hay. Through different methods like adjusting stocking rates, and incorporating the use of annual and stockpiled forages the profitability of an operation can be affected. Dr. Halich evaluates if one more day of grazing is truly more valuable than feeding hay.

Will grazing more and feeding less hay always increase profitability? There are many cases where cattle farmers could graze more days profitably. I would guess that more than half the cattlemen in Kentucky and the region could find ways to do so. But the statement is not universally correct and we need to evaluate the specific situation to determine if increasing grazing days will pay off.

The idea that we can be more profitable by grazing more days and feeding less hay is a powerful one, and at first glance seems reasonable. I have seen figures stating the average cost of a grazing day and then comparing this to the average cost of a hay feeding day. The average hay feeding day is shown to be considerably more expensive (correctly) and thus the argument goes that by each additional day we can graze, we will save the difference. If this difference is $0.50 per grazing day for example, and we have 50 cows, we are saving $25 for each extra day that we graze the herd. Unfortunately, the economics behind this simple math breaks down upon closer examination.

The most important reason that this logic doesn’t hold is that as we push the envelope and graze more and more days, those last few days grazing will not be at the same cost as the average cost of grazing – they will be higher, possibly much higher. The most effective way I have found to help farmers understand this phenomenon without using lots of economic jargon is the following analogy: Think about picking apples out of one of those big standard sized trees that used to be popular in orchards, during a banner year when it is loaded with apples. Where do you start picking? You get all the fruit that you can easily reach from the ground, correct? This is where you can pick most efficiently. Pretty easy, what do you do next? Well, you might get on your tippy toes and go around the tree and get a few more. Were you as efficient in terms of apples picked per minute as you were when your feet were firmly planted on the ground? No, not quite.

Then what? If you grew up picking apples, you will probably know to gently pull down some of the longer, flexible branches to reach more apples, right? Are you as efficient here as on your tippy toes? Again, not quite. The cost to pick those apples has increased again. So you have picked all the apples you can by pulling branches down. What do you do next? Depending on your coordination and dexterity, you either get a ladder or you climb up into the tree to start working on the rest. Are you going to be as efficient in either case as you were previously? Definitely not. The point of this analogy is that you are proverbially and literally picking the low hanging fruit first, and then go on to the apples that are harder and harder to reach.

Thus we start by picking the fruit that has the lowest cost, and as we work up into that tree, the cost per apple keeps increasing and increasing. Would you pick every last apple on that 30 foot tall tree? Probably not. Why? Because the cost of some of the apples, the ones that are hardest to reach, will likely be greater than the value of those apples. But if we used the average cost of picking an apple (when we were picking on the ground) as our guide for what we should do, and not the actual cost to pick those last apples, it would tell us to pick every last apple (i.e. graze 365 days a year).
Think of grazing in this same light: The Grazing Tree. What are most livestock farmers going to do first to increase the number of grazing days and reduce the amount of hay they need to feed? The low hanging fruit years ago was simply applying nitrogen to pastures to boost production. Today, with nitrogen costs 4-5 times higher than it was 15-20 years ago, learning how to establish and manage a good clover stand is the new low-hanging fruit. This is probably the lowest cost method of increasing grazing days. What’s next on the Grazing Tree? Realizing that everyone’s Grazing Tree looks a bit different the next lowest hanging fruit is probably learning how to implement effective rotational grazing. These first two areas are where the Cooperative Extension Service in Kentucky has made great strides in my opinion. Both are relatively low cost methods to increase grazing days. But unfortunately, at some point we run out of apples at this level. What next?

Well, we could stockpile fescue: Set aside pasture in early August to build up forage reserves, and defer this grazing into late fall and winter. This will buy us additional grazing days. Unfortunately, many cattle farmers won’t have excess pasture production in August to remove a portion of it from the rotation. If they did, they would be understocked for much of the grazing season, which is a cost of its own (foregone profit for the removed animals). So there would also be an indirect cost of reduced stocking rate in addition to the direct costs such as the nitrogen. Thus our cost to graze additional days keeps increasing.

To increase grazing days further beyond applying nitrogen and stockpiling we would likely have to reduce stocking rates even further so that our winter forage stockpile will be stretched further with fewer animals. This increases our grazing cost per day due to the foregone profit of the de-stocked animals as well as less total utilization of the total forage base (more will be wasted from the spring surplus with fewer animals keeping up with the heavy growth).

Thus the higher we continue to go in the Grazing Tree, the higher and higher the cost of a grazing day becomes. The average cost of a grazing day from the base pasture system (the low hanging fruit) has been long passed by. At some point, and that point will be different on every farm in Kentucky, the cost to graze an additional day will be greater than the benefit (reduced hay feeding day). For quite a few years in the cattle cycle, up until about 2010 or 2011, we could have profitably climbed a lot further up into the Grazing Tree than we can today. During that time, profitability for cow-calf farms was low at best, and losing money at worst. In a situation like this, reducing stocking rate is not much of a cost: If you are making next to nothing per animal, less animals will not change overall profit by much. But if at the same time you are significantly reducing cost per animal by feeding less hay, your overall profitability will increase.

The last two years, however, with profits of $300-500 per cow, reducing stocking rate comes at a very high cost. If we have to reduce stocking rate by just 10% to implement a particular practice, that is a $50 indirect cost per cow that we need to add to the direct costs of that practice. Thus the same practices, or the degree that we push them, that may have been economically viable for extending the grazing season in 2006 may not be economically viable today. Put another way, you are better off having a relatively low stocking rate and reducing the hay fed per cow when profitability is low, and having a relatively high stocking rate and increasing the hay fed per cow when profitability is high. This, I’m afraid, is a concept that many cattle farmers as well as extension specialists have failed to grasp.

Table 1 shows various base profits for 150 feeding days over variable costs ($0-$500 per cow) for the situation where net hay cost is $75/ton. For example, if the profit per cow was $250, reducing hay feeding days below 120 days reduces profits as fewer cows are within the system to extend grazing days. As profit per cow falls to $50, increasing grazing days lowers input costs as fewer cows are maintained improving profit margins.

<table>
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<th>$100</th>
<th>$250</th>
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Note: 1300 lb cows spring calving
One should not complain about spring rains, but when it begins to interfere with hay making, the gloves are thrown off and it is go time. This seems to be the case every spring in the Bluegrass state. The spring rains help the cool-season forages grow, but it impedes our field work. Since we can’t control the weather or the forage from maturing, we have to dig deeper into the toolbox to find some help. Harvesting high moisture forage as baleage may be the tool of choice for some. Several folks have called about wrapping annual cereal grain forage this spring. Let’s talk a few minutes to cover some basics so any forage made as baleage this summer has the best chance of resulting in a high quality winter feed.

1. Forages need to be cut at the boot to early flower stage for optimum quality. This helps ensure adequate soluble carbohydrates for the microbes to ferment and drop the pH to preserve the forage.

2. Forage should be baled at the proper moisture, 40-60%, to ensure a successful fermentation. Higher levels of moisture increases the risk of a clostridial fermentation and botulinum growth. Too dry impedes fermentation and again to lead to a poorly preserved forage. Obtain a windrow moisture meter, bale moisture probe or utilize the microwave technique for determining moisture levels in forage.

3. Slow down the tractor speed when baling to ensure a tightly wrapped bale is made, particularly with cereal grain forages. It is important to limit the amount of air or oxygen so that anaerobic fermentation occurs soon after baling.

4. Wrap bales in plastic ideally within 6 hours of baling to limit air and oxygen exposure. Stretch film should be applied to provide 6 millimeters of plastic thickness. This is often accomplished by having 6 layers of plastic. At a minimum 4 layers of plastic should be applied, but 6 millimeters is recommended to limit oxygen from getting through the plastic.

5. Allow the bales to ferment for 4-6 weeks. Samples should be obtained and analyzed for pH and ideally a fermentation profile which will provide the level of acids in the silage. This information is important to help determine the quality of silage made and whether there is a potential risk for a disorder.

There are thousands of bales made for silage annually with few cases of botulism or listeria occurring in animals. The key to lowering the risk of poor fermentation is following the five basic steps outlined above. For additional information on making baleage, please contact your local county Extension office.

Microwave Oven Method to Determine Moisture Content of Hay, Silage and Baleage

The microwave oven method provides reasonably accurate forage moisture results in a relatively short time. Although this method takes about 20 minutes to complete, the measured moisture concentration is much more accurate than those from electronic conductance moisture testers, especially for high moisture sample like silage and baleage.

Before using the microwave oven method, obtain the following items:

- Microwave oven
- Scale (must weigh in grams-can buy one from most post offices)
- Microwave-safe plate
- 10- to 12-ounce cup of water (a coffee mug works best)
- Pencil and paper

Use the following procedure for the best results:

1. Obtain a representative forage sample (whole plant material).
2. Cut the sample into 1-inch pieces; keep leaves and stems uniformly mixed.
3. Weigh the plate and record it as "plate weight." This will be subtracted during the final calculation.
4. Add approximately 100 grams of the forage sample to the plate; spread the sample as uniformly as possible.
5. Weigh the plate with the forage sample and record it as "initial weight."
6. Place the cup of water in the corner of the oven to capture unabsorbed microwaves as the plant tissue dries. This prevents sample from igniting.
7. Place the sample on the plate in the center of the oven.
8. Set the oven on HIGH for 2 minutes* and "cook" the sample.
9. Remove the sample and plate, weigh them, and record the weight.
10. Change the water in the cup to prevent the water from boiling over.
11. Set the oven on HIGH for 1-2 minutes* and "recook" the sample.
12. Remove the sample and plate, weigh them, and record the weight.
13. Repeat steps 7 through 10 until the weight does not change more than 1 gram (this means the sample is dry); record as "final weight."
14. Use the following equation to determine the percent of moisture of the forage sample: Percent moisture (%) =
\[
\frac{(Initial \ weight - Final \ weight) \times 100}{Initial \ weight - Plate \ weight}
\]

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**PINKEYE IN CATTLE**

*Source: Michelle Arnold, DVM, UK Ruminant Veterinarian*

Infectious Bovine Keratoconjunctivitis (IBK) or “Pinkeye” is a costly disease for the beef producer. Preventing the disease is difficult because many factors are involved in the development of pinkeye including environment, season of the year, concurrent diseases, the strain of bacteria involved, and the animal’s genetic makeup and immune system. Once pinkeye begins, it is highly contagious and can spread rapidly within the herd. Careful attention to control of contributing factors and prompt, effective treatment in the face of an outbreak are necessary to reduce the spread and limit the damaging effects of the disease.

The cause of pinkeye is the bacteria Moraxella bovis (M. bovis) which is located in the eyes and nasal cavities of infected cattle. A newly isolated strain of bacteria “Moraxella bovoculi” may play an important role as well but research has yet to confirm this. M. bovis has two known factors that are important for causing pinkeye: pili and cytotoxin. “Pili” are hairlike projections that enable M. bovis to stick to a damaged or injured surface of the eyeball (on the cornea). There are 7 different serogroups of pili (A through G). “Cytotoxin” gives the bacteria the ability to kill corneal epithelial cells leading to an ulcer. It is also believed to be responsible for killing white blood cells needed to fight infection in the eye. The rupture of these white blood cells releases enzymes that further break down the cornea, making the ulcer even worse. Cattle are the only known reservoir of Moraxella bovis and infected carrier animals may harbor this organism year round without showing any signs of eye problems. Once pinkeye begins in a herd, it is highly contagious and can spread rapidly by direct contact through nasal and ocular discharges and by vectors such as flies.

Prevention of pinkeye is difficult because it is a complicated, multifaceted disease. The best plan is to reduce or remove as many risk factors as possible that can result in damage to the cornea which allows the bacteria to take hold of the corneal surface. Many different combinations of contributing factors such as ultraviolet rays from the sun, face flies, excessive eye irritation, and stress may work together within a herd at one time. Prevention is based on maximizing herd immune status, minimizing exposure to the bacteria, and maintaining as irritant-free environment as possible.

**Steps to Preventing Pinkeye:**

1. Maximize Herd Immune Status- An overall good level of nutrition, adequate vitamin and trace mineral intake, a comprehensive vaccination program including the respiratory viral diseases IBR and BVD, parasite control, and basic biosecurity practices are all exceptionally important in improving the cow’s or calf’s ability to fight off any disease process (not just pinkeye). There is no scientific evidence to support feeding excessive levels of any vitamin or mineral, including Vitamin A, will prevent diseases of the eye. Biosecurity measures such as quarantine of new arrivals to the farm (including show animals) for three weeks before commingling with the herd are important in case any of these animals is carrying the disease.
2. Maintain an irritant free environment- Any irritation to the eye allows Moraxella bovis to invade and cause pink eye. Prevent eye irritation with good face fly control, mow tall grass with seed heads, provide shade and clean water, and reduce sources of stress (such as overcrowding) if possible. Control face flies with ear tags impregnated with insecticide and topically administered insecticides by way of back and face rubbers or dust bags they must walk under to get to water or mineral (see UK Extension Publication ENT-11: Insect Control on Beef Cattle). Removal of fly breeding grounds and the use of certain feed additives will decrease the number of flies. Provide shade to protect from the harmful UV rays of the sun. Cool, clean drinking water (instead of stagnant pond water) is critical because intake is greater with clean water and this helps provide plenty of fluid in the eye, especially important in dry, dusty, and/or windy conditions. Tears are essential in eye defense mechanisms as tears wash away pathogens and tear proteins are an important part of protective mechanisms. Do not forget to regularly check and clean automatic waterers.

3. Minimize exposure to M. bovis [and M. bovoculi]- Early detection of animals with the first clinical signs (tearing, squinting, and blinking) and then prompt, effective treatment are essential to reducing spread to herd mates and limiting damage to the eye. Long-acting antibiotics such as long-acting tetracycline or the prescription antibiotic tulathromycin (Draxxin®) are labeled for treatment of pinkeye. Your veterinarian may prescribe the antibiotics florfenicol (Nuflor®) or ceftiofur (Excede®) to be used in an off-label manner for treatment as well. Injectable antibiotics are generally the best option because of their long duration of activity and effectiveness in eliminating bacteria. Topical sprays only remain in the eye a few minutes before tears wash them away so application is generally required 3-4 times daily to be effective. When severe ulceration exists, the eyeball may need extra protection with either a patch or the eyelids may need to be sutured (stitched) together. Remember, preventing spread by treating affected animals is the single most important factor in controlling a disease outbreak. Active cases of pinkeye with excessive tearing attract flies that widely spread the bacteria. Topical application of a fly repellant to the face will also help reduce spread.

4. Does vaccination work? Immune responses to pili have been shown to be protective in some studies where animals are vaccinated with pili of a certain type and then challenged with a similar strain. This fact is likely responsible for why some herds might see a benefit from vaccination while other herds do not; if the vaccine strain stimulates immunity to a pilus type that is also present in the herd, there should be good protection. In clinical trials, approximately half reported significant protection from commercial vaccines. Therefore, it is unlikely that vaccination is the solution to all pinkeye problems although it may reduce the overall incidence of disease and severity of clinical signs. When commercial vaccines are not effective, a vaccine can be made from bacteria cultured from pinkeye cases from one particular farm or farms in a certain area. All cultures must be taken early in the course of disease; preferably when the eye is just beginning to tear excessively and before any medications are used. These specialty vaccines can be effective if the “correct” M. bovis antigen is used. However, autogenous vaccines often lose effectiveness within one to two years as the bacteria mutates and a new batch needs to be made from new cultures.

In summary, pinkeye is one of the most common diseases of cattle and is of major economic importance in Kentucky. The keys to prevention and control of an outbreak are maximizing the herd’s immune status, minimizing exposure to Moraxella bacteria, and maintaining an irritant-free environment as possible. Treatment decisions are influenced by numerous factors such as effectiveness of the drug, cost, labor availability, withholding times, facilities, and availability of a veterinary prescription. Vaccines are not consistently effective in disease prevention and cannot be completely relied upon to prevent pinkeye. The best strategy of treatment, prevention and control of pinkeye for a particular herd is best accomplished with the help of the local veterinarian.
FORAGE TESTING
The Scott County Extension Service offers this FREE program to test the quality of your forages. It is important to know the quality of your feedstuffs to properly balance rations for your livestock. The end result of this means higher profit for farmers and also a fair estimate when selling products. Call today to schedule an appointment to test your forages.

SCOTT COUNTY BEEF IMPROVEMENT ASSOCIATION
The Scott County Beef Improvement Association is a county-wide cattleman’s association that works in conjunction with the Kentucky Cattleman’s Association. This organization works to help producers improve their existing operations by conducting field days and demonstrations, renting equipment to members, and hosting speakers from the industry. Call the office 863-0984 to reserve the equipment and to join the Association! Membership to Kentucky Cattlemen’s Association & SCBIA is $30/year. Membership benefits include: producer meetings, 1% discount on Southern States animal health products, use of Squeeze Chute, Scales, Cattle Panels and Grill.

SCOTT COUNTY AG IMPROVEMENT PROGRAM (CAIP)
Dead Animal Pick-up: Harmon’s Dead Animal Removal (859) 567-2111 is picking up deceased livestock in Scott County through the Conservation District cost-share program. Farmers are billed $15 per head.

SOIL TESTING
The UK Cooperative Extension Service offers an outstanding Soil Testing Program at the county level. By taking a sample of soil from your hay pasture, or crop fields we can make fertilizer recommendations based on the nutrients and pH of the soil. By knowing exactly what the soil needs, no expenses will be made on excess fertilizer. The Scott County Extension Service has soil probes that Scott Countians can borrow for a returnable deposit of $20. If you would like your soil tested, bring approximately 2 cups of soil to the Scott County Extension Office for this FREE service.

APPLE POTATO SALAD
Credit: Kentucky Proud Kitchen

Dice red potatoes into 1/2 inch cubes and place in a pot of cold water. Bring the potatoes to a simmer over high heat and cook until tender, about 10 minutes.
In a large bowl, whisk together the mustard, honey, vinegar, and oil. Once the potatoes are tender when pierced with a knife, drain and transfer to the bowl with the dressing. Add the celery, apple, dill, and parsley and toss to combine. Season with salt and pepper and serve.

SMARTPHONE APP

The Angus Mobile app has been created by the American Angus Association and is designed for anyone with an interest in Angus Cattle.

Sincerely,
Michelle Simon
Scott County Extension Agent
Agriculture & Natural Resources
http://ces.ca.uky.edu/scott