COOPERATIVE EXTENSION SERVICE • UNIVERSITY OF KENTUCKY • COLLEGE OF AGRICULTURE • LEXINGTON, KY, 40546

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AGRICULTURE & NATURAL RESOURCES

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Beef Association Recognized

The Campbell County Beef Association Board of Directors was recently recognized as the Outstanding Extension Volunteer(s) for Agriculture and Natural Resources. Directors include: Vince Rawe, Steve Martin, Rob Krift, Ron McCormick, Bryon Messmer and Rock Grogan. For the past year and a half, these six individuals have met an average of twice a month to develop the Campbell County Beef Association. This farmer-owned cooperative direct markets freezer beef to local consumers. They spent countless hours developing the production guidelines, by-laws, business plan and marketing plan that has enabled the Campbell County Beef Association to get off to a good start.

In 2010 they volunteered at several community activities to not only promote their freezer beef program but to educate the general public about the importance of supporting agriculture. Some of these activities included the Campbell County Backroads Farm Tour, Herbst Tour, agriculture booth at the Alexandria Fair, 4th at the Fort (Ft. Thomas) and Farmers Fair in Covington. They have also supported educational programs such as "Buying Locally Produced Foods" and the upcoming "Beef Its What's for Dinner" cooking programs.

Steve Martin receiving Outstanding Extension Volunteer Award on behalf of the Campbell County Beef Association Board of Directors

Congratulations to these hard working individuals who have established a beef marketing cooperative which is addressing the community's need to purchase locally-produced beef, while helping local farmers to become more productive and profitable. See the enclosed brochure for more information on the Beef Association.

Don Sorrell
County Extension Agent for Agriculture and Natural Resources

ESTABLISHING LEGUMES FOR PASTURE AND/OR HAY

There are several different methods of legume establishment, but these basic principles are common to all of them:

Select Appropriate Species—Legumes selected for use as hay or pasture should be adapted to the region and to the soil conditions in the field to be seeded, high yielding, persistent and tolerant of the anticipated level of management. For example, if pastures are to be frequently and closely grazed then white clover would be the best choice for a forage legume. Red clover tolerates this management but would yield much more if grazed rotationally.

Apply Any Needed Fertilizer Amendments—Forage grasses and legumes have specific soil fertility needs of pH, phosphorous, potash and other nutrients. Make sure that these are present in adequate amounts by soil testing.

Use High Quality Seed of a Certified Variety—The "blue tag" on each bag of certified seed is your assurance that the genetics of the name on the bag are actually in the bag. Uncertified seed is not a "bargain" even if it is cheaper. High quality seed will have high rates of germination and be free from contamination from seed of other crops or weeds.

Plant Enough Seed at the Right Time—Seeding rates will vary with the species to be seeded, whether the seeding is a complete re-establishment of a field or an addition to an existing pasture, and whether the legume is to be seeded in a new seeding with a grass or into existing grass.

Get Good Seed-To-Seed Contact—This goal actually has three components: seedbed preparation, seed distribution and seed placement.

Seedbed preparation ranges from a completely plowed, smoothed and firmed land (conventional seedbed) to sod suppression using herbicides to disturbing the existing grass by overgrazing, dragging or excessive treading by cattle.

A good seed distribution method must spread a relatively small amount of seed over each acre. Most seed is spread by either broadcasting the seed (using some type of spinner seeder) or placed/drilled in rows using traditional planting equipment.

Seed must be placed in the upper 1/4 to 1/2 inch of soil and the soil must be firmed up around the seed. Broadcasting methods place the seed on the top of the soil and require another external force (freezing/thawing during winter, cattle hoof pressure, rolling with a corrugated roller) to put the seed in firm contact with the soil

Control Competition After Emergence—Probably more seedlings fail because of unsuccessful control of weed competition than for any other reason. In new seedlings, control existing competitions by thorough seedbed preparation or by herbicide use prior to seeding. After seeding, control weeds by mowing or by limited grazing sessions by livestock.

Maintain Newly Established Stands—Grazing newly seeded areas before they are well-established is also a common reason for unsuccessful plantings. Limited, short duration grazing sessions would be acceptable. If at all possible, allow the immature pasture species to get well established before putting the pasture back into full use.

Seedbed Tips

The seedbed should be firm (you should not make a footprint more than 1/4" deep) and fine. It is not desirable to have an overly fluffy seedbed or one that is overly "cloddy." To plant into a prepared seedbed, spread the desired amount of seed evenly across the field (it can be broadcast using a spinner seeder) and then roll the field with a corrugated roller to "pack" the seed into the top layer of soil.

Frost Seeding—These are called frost seedings because they rely on the freezing/thawing cycle of winter to work the seed into the soil. Frost seedings are usually done in late February through early March and work best on thin sods. In fact, a good rule of thumb is, if you cannot see dirt, then the sod is not short or thin enough for good success with frost seeding. Hoof traffic by grazing animals can also serve to "tread-in" these small legume seeds. In general, planting into a conventionally tilled seedbed is more effective than no-till seeding into sod which is better than frost seeding.

No-Till Seeding Field—This method is a good compromise when the sod is too steep for plowing and the sod is too thick for a frost seeding. The goal of a no-till seeding is to place the correct amount of seed at the correct depth. The no-till drill can be rented from Southern States.

Equipment Maintenance Best Done Prior to Busy Times Ahead

Now is the time to do farm equipment maintenance while there are still several weeks before the busy spring rush hits. Doing the repairs now can save time and aggravation later. If parts need to be ordered, doing so now can reduce the likelihood of delays during the critical spring days ahead.

When checking equipment, pay particular attention to rubber components as these will sometimes become brittle and cracked during the winter. Check implements for broken or missing parts that need replaced. Also look for worn parts that may also need to be replaced. Go over the machinery and tighten bolts, nuts and cap screws. Pump fresh grease into fitting to remove any condensation that may have formed in the winter.

Electrical problems can lead to time-consuming breakdowns. Now is the time to check for loose connections, frayed or broken wires and repair broken gauges, lights and switches.

Remember to include sprayer maintenance in your late winter cleaning tasks. It will ensure that your spray equipment is ready for the planting season, as well as save you time and money. Taking care of sprayer maintenance prior to the hectic growing season can prevent time-consuming equipment breakdowns, higher chemical costs, reduced pesticide effectiveness and potential crop damage. Rinse out the sprayer to remove any dirt that accumulated over the winter. Check the pump and nozzles for excessive wear and to be sure the pump is operating at full capacity. Inspect sprayer lines for leaks.

Clean filter screens and replace worn ones in the sprayer and in tractors. Air filters need to be cleaned or changed regularly to ensure they are not restricting air flow and starving the engine of air. Fuel filters need to be replaced as they age and become clogged and reduce fuel to the engine.

Be sure to consult the operator's manual on tractors and other equipment for additional maintenance instructions.

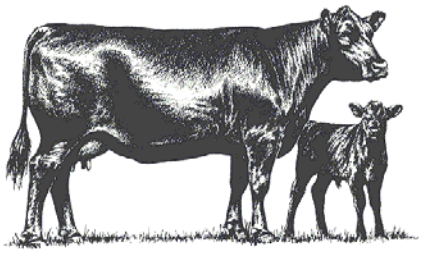
Calf Scours Management

Rory Lewandowski, Extension Educator Athens County, Ohio

Calf scours. Two words that even the most experienced cattleman dreads to hear during the calving season. Calf scours is the single most important cause of early calf sickness and death. It is unlikely that any single factor brings about calf scours. Likewise there is no single "silver bullet" medication or vaccination that will stop or prevent calf scours. Prevention of calf scours or minimizing the occurrence of calf scours depends upon management. Proper management depends upon understanding the complexity of calf scours and how various factors interconnect.

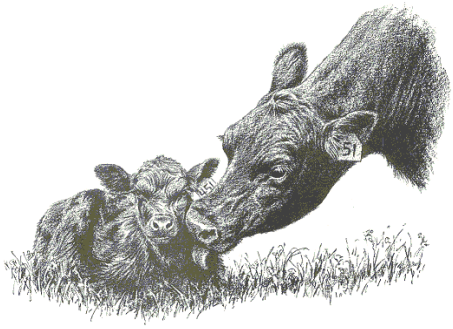
Some of those factors that pre-dispose a calf to scours include: a difficult birth, poor nutrition of the mother cow, poor health of the mother cow, and slow and/or low intake of colostrum by the calf. When a cow is in a state of poor nutrition or poor health colostrum quality and milking ability are affected. This has a negative impact on calf health. Remember that a calf is born without a functioning immune system. Immunity and resistance to disease is passed on through the colostrum of the mother. The calf must ingest colostrum shortly after birth and in sufficient quantity to gain this passive resistance.

There are a variety of infectious agents or disease organisms that can cause calf scours. They may be classified as bacteria, viruses, or protozoa. The most common bacteria associated with calf scours is E. coli (Escherichia coli). These bacteria produce toxins in the intestines that damage the cells to the extent that fluids are lost, leading to the symptoms of diarrhea. E. coli related calf scours generally appears with very young calves, developing as soon as 16 to 24 hours after birth. The most common viruses responsible for calf scours are coronavirus and rotavirus. Both of these viruses will infect cells that line the digestive tract and damage those cells so that milk can not be digested or absorbed. Again the symptom is diarrhea. Generally when these viral agents are the cause of calf scours it appears when the calves are near a week of age or older. Another causal agent is protozoa, possibly cryptosporidium or coccidia. Once again, the cells lining the digestive tract are affected, leading to decreased diges-



tion and absorption of milk along with diarrhea. Calves infected with cryptosporidium are generally in the one to three week age range. While coccidiosis is more often seen in weaned calves it can be associated with calf scours in calves at three to four weeks of age, particularly if those calves are under some kind of stress. It should be noted that it is possible that an outbreak of calf scours could be the result of mixed infections involving a combination of infectious agents.

Environmental factors can play a big role in the development of calf scours. Mud, heavy snow, cold temperatures and rain can all be stressful to a newborn calf. Each one alone, or especially in combination, can decrease a calf's resistance to disease. Other environmental factors that can set up an outbreak of calf scours include overcrowding, contaminated lots, calving heifers and cows together, wintering and calving in the same area. These are all conditions that increase the calf's exposure to infectious agents that cause scours.



While knowing the cause of the scours outbreak and the disease organism responsible for the outbreak may be helpful for future management intervention, the treatment is similar regardless of the cause. The most important treatment for calf scours/ diarrhea is to replace the fluids and electrolytes that the body is losing. There are numerous commercial products available that can rehydrate the calf, correct pH imbalances and replace lost electrolytes. You may want to consult with your veterinarian as to a specific product and recommended volume/mixture to use in treatment of sick calves. A key point is to start fluid replacement early on while calves are still standing and have a nursing reflex. If the calf will nurse from a bottle, electrolytes can be provided in this manner. If the calf refuses to nurse from a bottle, replacement fluids and electrolytes will have to be given by using an esophageal feeder probe/tube. Keeping calves hydrated will help the calf to maintain vigor, enable the calf to continue to nurse, and help the calf to maintain its body temperature. Once a calf loses the ability to stand and suckle, the only recourse is intravenous (IV) treatment. Antibiotics and sulfa drugs are commonly given as an oral treatment to calf scours, but it has been found that this is not effective treatment and may even be detrimental

Prevention or minimization of scours on the farm depends upon management. Here are some key management practices to keep in mind:

- Provide good nutrition to pregnant cows. The last trimester is especially crucial. Remember that heifers that have not reached their full adult size have an additional nutritional requirement for growth. Cold and/or wet weather can increase the energy requirements. Failure to meet nutritional requirements will result in a weak calf at birth, predisposed to early calf hood disease.

- Calving Management. If at all possible, heifers should calf in advance of the cow herd and preferably in a separate location. Cows should be managed to minimize the transmission of scours causing organisms.

- Minimize environmental stress. Strive to provide a dry, clean environment for the calf to be born into. Provide protection from the wind in the form of windbreaks during severe cold weather. Minimize calf exposure to mud and manure.

- Care of the newborn calf. The single most important factor is that the calf ingests colostrum soon after it is born. All other prevention management becomes much less effective if this is not accomplished.

- Vaccination. While there is no universal vaccination program, there are some effective scour vaccines that are available. Some of the most effective are those vaccines that can be given to the cow, 1 to 2 months prior to calving. Immunity will be passed on to the calf through the colostrum. Vaccines are not a replacement for other good management practices, particularly colostrum ingestion. They can be another piece in a scours management package.

Scours outbreaks can be devastating. Understanding the factors that come together to bring about an outbreak is a step in developing a management plan to minimize the occurrence and severity of calf scours during the calving season.

Preparing Replacement Heifers for Breeding

By Les Anderson, University of Kentucky Beef Specialist

March is an extremely important "check-point" in replacement heifer development. The key to proper heifer development lies in understanding the factors that influence conception in yearling heifers. One key factor regulating heifer fertility is age at puberty. Most producers don't consider age at puberty of their heifers to be a major problem, yet few know how many heifers are actually cyclic at the beginning of the breeding season.

One of the largest factors responsible for regulating puberty in heifers is weight. For puberty to occur, heifers must weigh at least 65 percent of their mature weight. This weight is referred to as their target weight. Most heifer development programs require that heifers reach their target weight by the onset of their first breeding season. Because fertility increases until the third estrus after puberty, heifers should reach their target weight at least 30 days before the start of the breeding season. Most yearling heifers will need to reach a target weight of 700 to 800 pounds by mid-April to ensure high fertility, assuming that the heifer breeding season starts in about mid-May. Weigh your heifers to determine how much they have left to gain to reach their target weight. You may need to adjust your feeding program to assure heifers reach their target weight.

The next important phase in heifer development occurs one month prior to the start of the breeding season. At this time, heifers should be vaccinated (Vibrio fetus, Leptospirosis, and the respiratory disease complex which includes PI3, BRSV, BVD and IBR; modified -live vaccine is preferred), and dewormed.

Producers should consider estrus synchronization and/or artificial insemination. Estrus synchronization and artificial insemination have many advantages which include: higher pregnancy rates; heavier, more uniform calves at weaning; increased production and labor efficiency. The greatest advantage of artificial insemination is the ability to use superior, more predictable sires.

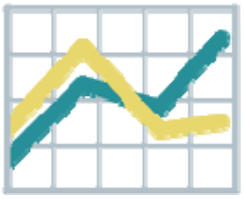
Proper heifer development is one of the key components to profitability in a beef cattle operation. Understanding the principles of heifer development can enable producers to incorporate management techniques to im-

Kentucky Beef Cattle Market Update

By Kenny Burdine, Livestock Marketing Specialist, University of Kentucky

The 2010 feeder cattle market reached its low in October, a bit earlier than in 2008 or 2009, then improved through the end of the year. Kentucky feeder cattle markets carried that strength into 2011, with 5 wt feeder steers well into the $120's and 7 wt steers in the $110's on a state average basis by the end of January. Tight supplies, strong export pace, and positive economic signs have all supported feeder cattle prices since fall, offsetting the effects of rising grain prices.

Late January brought USDA's Cattle Inventory report. As expected, beef herd liquidation continued during 2010, despite the stronger fall markets. Estimated beef cow numbers fell by 1.6%, a little more than predicted last month. The estimate of heifers held for beef replacements may have been the biggest surprise of the report as it fell by about 5%. The implications are clear; the 2011 calf crop will be smaller and we are still at least a couple years away from seeing larger beef supplies in the US.



Drought was once again a factor on many Kentucky beef cattle operations during 2010. Many began feeding hay in mid-summer, and there are reports of short hay supplies in the Western part of the state. This was no doubt part of the reason why beef cow numbers continued to decrease. Also at play were rising production costs and increased competition for land for row crop production. Kentucky beef cow numbers were estimated to be down by 47,000 (-4%). USDA's estimates of Kentucky's beef cow numbers have decreased by 184,000 cows since January 2007.

Timely Tips for Spring-Calving Herds

Have calving equipment, supplies and labor ready for the spring calving season. Some supplies which may be needed are: eartags and applicator, record book, iodine for calves' navels and colostrums supplement. Calving equipment (puller and chains, etc.) and facilities should be ready and clean.

Move cows to a clean, accessible pasture near facilities so that calving assistance can be given.

Cold weather can mean death for newborn calves. During extremely cold spells, bring the cow(s) into a sheltered area as calving approaches to protect the calf. Be prepared to warm up and feed newborn, chilled calves. Calving in mud can also cause problems.

Record birthdate, cow I.D., and birthweight immediately. Identify calf with eartag. Male calves in commercial herds should be castrated and implanted as soon as possible.

Separate cows that calve away from dry cows and increase their feed. Avoid muddy feeding areas so that cows' udders won't become contaminated and spread scours. Don't confine cows to muddy lots.

Increase their feed to 25-27 pounds of high quality hay. Concentrate (3-4 lb. for mature cows and about 8 lb. for first-time heifers) may be needed if you are feeding lower quality hay. Supplementation may have a beneficial effect on date and rate of conception. The most important time to feed a beef cow is after calving. Thin cows don't come into heat very soon after calving. We must have cows in good condition if we plan to breed them early in the season for best pregnancy rates, especially on high-endophyte fescue pastures.

Watch for scours in newborn calves. Consult your veterinarian for diagnosis, cause, and treatment. Obtain fecal samples and submit to diagnostic lab, if scouring begins.

You should be feeding a mineral supplement with adequate magnesium to prevent grass tetany (~ 15% Mg) now.

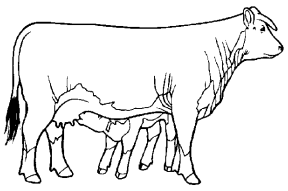
Managing the Calving Season

Providing sound management during the calving season can mean more live calves. Excessive losses can mean the difference between a year's profit or loss for a beef producer. It is important to have a short calving period to allow frequent observation and assistance if needed. Some specific things a producer can do to limit calf loss include:

- Separate first-calf heifers from mature cows. Calving difficulty can run as high as 30 to 40 percent for 2-year-old heifers compared to just 3 percent for mature cows. Place them in a small, accessible pasture near a corral where assistance can be given if needed.
- Provide a clean area for calving. The calving area should be a well-sodded pasture or clean, dry maternity pen, not a wet, muddy lot. It should also be large enough for adequate exercise and offer protection from prevailing winds.
- Be familiar with the signs of calving. Within a few hours of calving, cows generally become nervous and uneasy. As contractions increase, a cow will likely wander away from the rest of the herd.
- Check cows frequently. Observing cows three or four times a day and providing assistance when necessary results in more live calves. However, cows should be disturbed as little as possible during labor.

Know when a cow needs assistance. Intervention is justified when two or three hours have passed without progress or if delivery has not occurred within 90 minutes after the water sac appears. In a normal delivery, the calf's front legs and head will appear first.

There are also a few steps to take after the calf is born to help it get off to a good start. These include making sure the calf is breathing normally after it is delivered and that it consumes colostrum. Ideally, a calf should consume its first milk within one hour after birth.



Increase the cow's energy intake after calving. This would include increased hay quality and quantity as well as increasing energy feeds such as grains or commodity feeds. The extra energy will help the cow produce enough milk for her calf and allow her to rebreed on schedule.

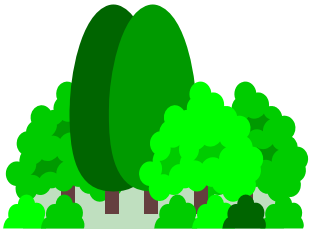
Roundup Ready Alfalfa (RRA) Now Available for Planting

On January 27, 2011, the U.S. Department of Agriculture announced the deregulation of Roundup Ready Alfalfa (RRA) without conditions. This was the final step in an extensive environmental review process undertaken by the USDA that took 46 months to complete. With the return of RRA to the U.S. market, alfalfa growers will once again have the option to use this beneficial technology. Some of the benefits of RRA include a more productive and profitable crop. RRA will often require less use of crop protection products, providing both financial and environmental benefits. RRA allows the use of Roundup products to be used for weed control without harming the alfalfa.

Based on the U.S. Department of Agriculture (USDA) agreement, Genuity® Roundup Ready® Alfalfa seed is available for sale and distribution by authorized seed companies or their dealers for use in the United States only. To meet sales reporting requirements, the seed supplier is required to identify and list all Genuity Roundup Ready Alfalfa field locations. Therefore, all growers must provide their seed supplier with the GPS coordinates of all their Genuity Roundup Ready Alfalfa.

Before a producer can purchase roundup ready alfalfa seed he/she must fill out a 2011 Monsanto Technology/Stewardship Agreement. This agreement can be filled out on line by going to www.monsanto.com. Farm stores who are authorized to sell RRA seed have these forms on file at the store. Once the stewardship agreement is filled out and signed, the seed supplier will be allowed to order RRA seed for that producer. Therefore, it is important to plan ahead as no in- store supplies of RRA will be allowed.

CONSULTING FORESTERS CAN HELP IN TIMBER SALES PROCESS



Forests make up nearly half of Kentucky's land area. In late winter and early spring a large amount of timber is cut from the state's woodlands.

Local sawmill supplies are dwindling as a result of a wet winter season. If you are one of the 300,000 forest land owners in Kentucky, you might soon receive a phone call or a personal visit from a logger offering to buy and ultimately cut your timber stand.

Very few forest land owners sell timber more than once in their lifetime. Investigating all the options is a way for owners to get the best price and management available for their resources. Generally two methods are recognized for selling timber—lump sum and pay-as-you-cut. If you are like many forest land owners, selling timber can be a very intimidating process. You need to understand the issues involved with liability insurance, capital gains, Best Management Practices adherence, market values and potential market risks. All of these terms and concepts will greatly affect the final price you will receive for any timber you sell.

Using the services of a professional forester can provide landowners the advantage of better understanding how to sell their timber. Consulting foresters have knowledge of logging practices and legal issues, contracts and sales procedures and they can make sure the land owner's interests are protected. A forest consultant assumes the same duties that a realtor does when you sell your house. They represent you and your timber resources.

Consulting foresters can also help with future management decisions of forested land. Kentucky has rich resources of soils, a variety of tree species and ideal growing conditions for a valuable timber crop. Like any agricultural crop, continued management is necessary during harvest and into the next rotation.

Consult a forester before you sell any timber. They have the tools and knowledge to increase the return on your forest investment. Remember that timber is a slow-growing resource and many of the economically mature stands in Kentucky are nearly 100-years-old. Relying on a professional forester will only add value to your timber.

Call me if you need assistance in contacting a consulting forester.

Locally Produced Foods

In recent years consumers have begun to look more closely at their food purchases. There has been a growing interest in buying locally-produced foods such as fruits, vegetables and meat products. To help address this growing need, the Campbell County Cooperative Extension Service will sponsor three programs that will educate families about what food products are available locally and how you can purchase them.

On March 14 and April 25, there will be programs on purchasing locally-produced (no antibiotics and no added hormones) freezer beef. On May 14, there will be a program on buying locally-produced foods such as fruits, vegetables, beef, pork, wine, breads, honey, and jams and jellies. This program will introduce you to local farmers' markets and farmers who are direct marketing food products. See the enclosed flyer for more details.

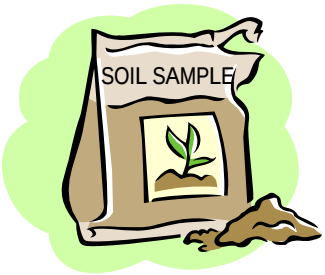
MANAGE FERTILIZER COSTS TO GET MOST FOR THE MONEY

As fertilizer costs escalate, farmers might want to consider what they can do to maximize productivity within their budget. For some that could mean using less nitrogen and focusing on other needed nutrients or perhaps switching nitrogen sources.

"Fertilizer price is one of those issues that isn't likely to go away," said Greg Schwab, a soil Extension specialist with the University of Kentucky College of Agriculture.

The first step is figuring out where fertilizer should be applied. As fertilizer prices go up, the value of soil testing goes up. Soil tests allow farmers to see what nutrients are available in their soil and what may be needed to attain maximum yields, as well as "critical levels" of these nutrients needs to be known.

A critical level is a soil test level of a nutrient at which no additional yield response is expected if additional fertilizer is applied. The critical level for phosphorous is about 35 pounds of Mehlich III extractable phosphorous per acre. However, UK recommends fertilizer up to soil test levels of 60 pounds per acre. This is because soil tests are an average value of a field, so pounds are added to fertilize areas within the field that are below the average.



For potassium, UK recommends potash until the soil test reaches 300 pounds per acre, but the critical level is closer to 225 to 235, he said. Anytime a soil test is below that level, potassium is likely going to be a limiting factor for a large portion of the field.

The critical level of 35 (P) and 225 (K) are in the medium fertility rate for most forage and row crops. By taking regular soil test samples you can maintain high production levels in this medium fertility range with only small additions of fertilizers. Once you fall below these critical levels production will be reduced and the need for additional fertility will be warranted.

Nitrogen prices also are not forecast to get better any time soon. As the price of nitrogen increases, over-use of nitrogen gets more expensive. In UK's nitrogen recommendations, there is a range of pounds rather than a specific number. An example would be from 100 to 140 pounds per acre. In the past there has not been a real economic disadvantage from over applying, but with today's prices additional costs of nitrogen will lower the return per acre.

Because of the high price of nitrogen fertilizer, producers need to take steps to increase nitrogen efficiency whenever possible through timely applications, use of legumes, cover crops and accounting for nitrogen in manures used on the field.