Beeftips
K-STATE Kansas State University
July 2005 Department of Animal Sciences and Industry
www.asi.ksu.edu

Upcoming Events

BIF Convention
July 6-9
Billings, Mont.
www.beef improvement.org

KSU/KLA Field Days
Aug. 16
XIT Ranch
Plains, Kan.

Aug. 18
Limestone Springs Ranch
Soldier, Kan.

Aug. 23
Mashed O Ranch
Council Grove, Kan.
785-532-5428

For more field day information, see the sidebar on page 5.

Summer is the time to plan for new cool-season grass

Ron Hale, livestock specialist

Southwestern Kansas producers were surveyed in 2001 for reasons for converting their land from traditional crops to irrigated grass. The reasons were related to existing corn and cattle prices, reduced well water production, importance in a cattle production program and effluent utilization. The producers have used irrigated grass for weaning calves, starting newly arrived feeder cattle, custom grazing, haying, and as part of a complementary forage system that included winter cereal-grain pasture and crop residues. Cool-season grasses were often selected because of advantages over warm-season grasses. Advantages included ease of establishment, earlier utilization, spring and fall growth, longer growing season, and potentially higher yields. Disadvantages of cool-season grasses include poor summer production and less efficient use of water and nitrogen.

As fall approaches and producers consider renovating old or establishing new cool-season pastures, there are several factors to consider. First, an irrigated grass system is a long-term investment that must be thoroughly investigated. This includes an economic evaluation and grass variety selection criteria.

To be financially successful, consider opportunity, establishment, and maintenance costs. Opportunity costs are the financial value of using resources for something other than grass production. Negative cash flow and returns should be expected during the establishment year – more so for warm-season than for cool-season grasses. After establishment, irrigated grasses will favorably compare to cash crop alternatives. The returns, however, are sensitive to cattle gain, stocking rate, and input costs. K-State agricultural economists have developed a spreadsheet model to help analyze various grass production scenarios (KSU Irrigated Grass.xls at *www.agmanager.info/crops/budgets/proj_budget/*).

Grass variety selection should be based on criteria besides published annual yields. Important agronomic factors include soil adaptation, fertility and water requirements, and winter hardiness. For example, smooth bromegrass and orchardgrass prefer a well-drained soil while fescues tolerate wet or dry soils. Several wheatgrass varieties are alkaline tolerant while other grasses are not. Matuagrass has shown high yield potential in southwest Kansas variety comparisons, but it is susceptible to winterkill because of the open winters in the area.

Animal-related factors that should influence variety selection include nutritional requirements of the animal species and class that will consume the forage, nutrients provided by the forage, and stage of growth at which the forages would be used. Smooth bromegrass can have 21 percent or higher crude protein content during the early vegetative stage, but protein can drop to 6 percent or less when the grass matures and a seed head is produced. Fescue can have similar protein content during early growth, but has 9 to 14 percent crude protein in a winter stockpiling program that meets the protein requirements of pregnant cows.

Grazing tolerance and long-term persistent growth are also important to a sustain-

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A high degree of management and more inputs are required for irrigated grasses to be profitable.

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able forage program. Antiquality factors, such as the endophyte associated with fescue toxicosis, can reduce animal performance. Stocking rate, grazing length and animal gain are some of the most important factors in the economic success or failure of an irrigated grass system. Other factors to consider include primary use, whether haying or grazing, and management style.

Success also depends on careful attention during establishment. Early September to early October is the best time to plant cool-season grass because there is less competition from weeds, the young plants generally have enough growth to survive winter, and the grass can be lightly used the following spring after the plants are well rooted and developed.

Seedbed preparation is important for a successful grass stand. Because the seed is planted at a depth of ¼ to ½ inch, a firm seedbed must be created for good seed-to-soil contact. No-till planting with proper weed control can provide such a seedbed. Soil testing should be done to determine fertilizer requirements. Soil moisture must be monitored for plant emergence and seedling survival. Weeds can be controlled with herbicides, by mowing or by flash grazing, depending on the type of weed and the grass' stage of development.

The use of high quality seed will help establish a good stand. A mix of grass varieties can be beneficial for the varying microenvironments within a pasture. For instance, Garrison Creeping Foxtail will thrive in low, wet spots where other cool season grasses would not. When considering a grass mix, keep in mind that the palatability of each grass must be similar to prevent overgrazing and elimination of any one variety.

Successful utilization in subsequent years depends on fertility and water management. Cattle grazing management is also important. Cattle numbers must be matched to grass growth, which will vary from spring to summer to fall, as well as from year to year. Moving cattle on or off a pasture must be based on the condition and needs of the grass, not by the calendar. Well-managed rotational grazing will ensure plant health and provide quality forage.

All of these factors play an important part in determining which grass is best adapted to the environment, the intended utilization, and management practices. A high degree of management and more inputs are required for irrigated grasses to be profitable. It is important to match characteristics of the grass to existing resources.

The 2005 Cattlemen's Day Report contains data on irrigated grass varieties studied in southwest Kansas (*www.oznet.ksu.edu/library/lvstk2/SRP943.pdf*). For additional information on selecting, establishing and managing irrigated grass, contact your local K-State Research and Extension office.

Commercial cow/calf health management program

Larry C. Hollis, D.V.M., M.Ag.,
Extension beef veterinarian

Now is a good time to assess current vaccination programs and make adjustments if there are health or poor performance problems. Vaccinations with modified live viral vaccines are often recommended because they offer longer protection and more complete immunity development.

The following are general recommendations that assume a producer is starting with a herd that has not been previously vaccinated with modified live viral (MLV) vaccines. The goal is to move the herd to a point where MLV vaccines can be used on all animals. This requires developing replacement heifers as mentioned below and moving cow vaccination to the open period after calving and before turning in the bulls. This latter procedure will allow the use of modified live viral vaccines during the open period when vaccine-induced abortion is not a potential problem. For herd-specific management and vaccination program recommendations, please contact your veterinarian.

Three to four weeks pre-weaning

Note that these recommendations are valid only if a producer is retaining ownership of calves or selling calves through a

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means where calves are identified as preconditioned and receive a premium.

- Vaccinate with a killed 4-way viral vaccine (such as CattleMaster 4).
- Vaccinate with 7-way clostridial bacterin/toxoid.
- Vaccinate with a product containing Mannheimia haemolytica leukotoxoid (such as OneShot).
- . Return calves to their dams.

Weaning

- Vaccinate with a modified live 5-way viral vaccine (IBR, PI3, BVD types I and II, BRSV).

Until cows have been vaccinated with MLV viral vaccine, do not allow vaccinated calves to have fenceline contact with pregnant cows because vaccine virus shed from vaccinated calves may cause cows to abort. If this is a concern, repeat the killed 4-way viral product used pre-weaning.

- Vaccinate replacement heifers with 5-way lepto bacterin and campylobacter (vibrio) bacterin.
- Have heifers that may be selected as replacements vaccinated for brucellosis by veterinarian as early as four months of age and no later than 10 months of age. (The likelihood of vaccine positive reactor status goes up with age.)
- Weigh calves.
- Wean calves.
- Adapt calves to eating from a feed bunk.
- Adapt calves to drinking from a water trough.
- Hold calves 45 days before sale.

Replacement heifer selection

- Vaccinate with modified live 5-way viral vaccine at end of preconditioning period or at least 45 days before exposure to bull or AI.
- Vaccinate with 5-way lepto bacterin and campylobacter (vibrio) bacterin (second vaccination before first breeding).
- Vaccinate with 7-way clostridial bacterin/toxoid.
- Deworm, if not done previously.

Cows (at pregnancy checking):

- Deworm and treat for lice.

Bulls (fall)

- Deworm and treat for lice.

Birth

- If rotavirus or coronavirus calf scours has been a problem in the past, vaccinate with a product like ScourGuard shortly before calving.
- If rotavirus or coronavirus is newly diagnosed in a non-vaccinated herd, a product like CalfGuard should be given before the calf has the opportunity to nurse. Withhold from nursing for 30 minutes after giving product.
- Ensure that calf gets roughly 10 percent of its body weight in colostrum within two to six hours after birth.
- Dip navel in 7 percent iodine.
- Ear tag calves with individual ID.
- Weigh calves.

Cows (after calving and before breeding)

- Vaccinate with a modified live 5-way viral vaccine (or killed 4-way viral vaccine at pregnancy-check time).
- Vaccinate with 5-way lepto bacterin and campylobacter (vibrio) bacterin.
- Deworm.

Branding/turn out

- Castrate bull calves that will not be retained as bulls.
- Implant castrated bull calves (unless producing calves for a market that pays a premium to keep calves unimplanted).
- Vaccinate with 7-way clostridial bacterin/toxoid.
- If summer pneumonia is a problem in calves, consider vaccinating them with a product like CattleMaster 4 and/or One Shot containing Mannheimia haemolytica leukotoxoid.

Bulls (45 days before turning in with females)

1. Vaccinate with a modified live 5-way viral vaccine.
- Vaccinate with 5-way Lepto bacterin and Campylobacter (Vibrio) bacterin.
- Deworm.

Replacement heifer vaccination includes two injections of a modified live 5-way viral, vibrio and lepto before first breeding. This is to ensure that optimal protection is established in the heifers because individual animal responses to the first vaccination may be low or not occur.

Vaccination with modified live viral vaccines are often recommended because they offer longer protection and more complete immunity development.

Gulf Coast ticks make their presence known in Kansas

Alberto B. Broce, Ph.D., Entomology; Michael Dryden, DVM, Ph.D., Diagnostic Medicine/Parasitology; All photos by Dr. Michael Dryden

Research on cattle infested with Gulf Coast ticks has shown growth performance to be reduced by as much as 20 percent.

The Gulf Coast tick, *Amblyomma maculatum*, used to be considered incapable of overwintering in Kansas – the infestations seen in the state were thought to have been brought in by cattle from states along the Gulf. But persistent and early spring populations in the state can only be explained by overwintering populations. This tick was originally thought to be restricted to Gulf Coast States and up to southeastern Kansas. It is now found on cattle in central, northcentral, and northeastern Kansas. Outbreaks of this tick have been recorded in central and northeastern Kansas since 1998. This is an ornate three-host tick typically found in late March through June in Oklahoma and southern Kansas. In central and eastern Kansas, populations are at their highest from April through early June. Larvae feed on small rodents and ground-dwelling birds such as quail, cattle egrets and meadowlarks. Nymphs use hosts similar to those of the larvae, plus dogs. Adults feed on larger hosts such as dogs, bobcats, coyotes, rabbits, rodents, deer and humans, preferring livestock such as cattle, horses, pigs and goats. Immature forms feed on migratory birds such as cattle egrets and meadowlarks. These birds may be responsible for the spread of this tick.

Male Gulf Coast tick

Female Gulf Coast tick

This tick commonly clusters in the inside of the ears of large mammals, causing intense soreness. Under heavy infestations, ear muscles become weakened, which results in a flop-eared, permanent deformity called "gotch ear." Research on cattle infested with Gulf Coast ticks has shown growth performance to be reduced by as much as 20 percent. Before the screwworm fly was eradicated from the United States, the presence of Gulf Coast ticks producing bloody ears through which the screwworm could penetrate into cattle heads, resulted in cattle mortality of up to 7 percent some years.

Cow with "gotch ear"

Ear infested with Gulf Coast ticks

There are 41 products registered in Kansas for the control of Gulf Coast ticks. Rapid control of these ticks can be achieved with direct animal applications of pesticides, such as amitraz (Taktic), coumaphos (Co-Ral) or permethrin (Ectiban, Atroban, Permectrin, Expar etc.). Most of these chemicals should provide control and prevent reinfestation for three or four weeks. To control Gulf Coast ticks in the ears, spray for good neck, shoulder and ear coverage. Long-term control can best be achieved by using ear tags impregnated with any of several insecticides.

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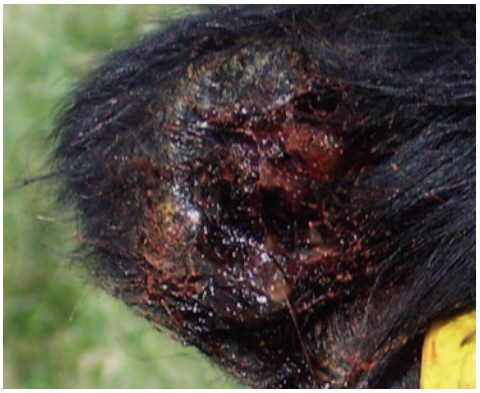
Tags containing organophosphate (OP) tags include etion (Commando); coumaphos plus diazinon (Co-Ral Plus); diazinon (Patriot, Optimizer, Z Diazinon, X-Terminator); and chlopyriphos plus diazinon (Warrior, Diaphos).

Tags containing pyrethroid insecticides include permethrin (Atroban Extra, Gard-Star Plus); beta-cyfluthrin (Cylence Ultra); fenvalerate (Super Deckem); and zeta-cypermethrin (Zeta-Gard).

Even an organophosphate-pyrethroid combo is available as cypermethrin plus clorphyriphos (Max-Con).



Ear damaged by Gulf Coast ticks

West Nile virus makes mosquito control necessary

The presence of the West Nile virus has made mosquito control necessary to reduce the spread of the virus to humans and animals. Mosquito monitors indicate that conditions are prime this year for the population to expand if control measures are not taken.

Generally, the use of mosquito larvicides is considered preferable to adult control for several reasons. First, larvicides prevent the appearance of the blood feeding adults. Second, mosquito larvicides can provide up to a month of control, rather than the few hours provided by fogging. Also, the commonly used larvicides are less toxic than products to control adults and are applied in such a way that there is much less human exposure. Finally, mosquito larvicides generally are applied to smaller areas.

Around a typical farm or ranch there are a variety of watering sites for livestock that can provide suitable breeding sites for mosquitoes. Watering sites that are not used much or at all in the summer can become stagnant and provide ideal sites for larvae to develop. Tanks that are completely refilled on a regular basis aren't likely to be a problem because mosquito larvae don't like fresh or running water.

A natural form of control is to stock livestock tanks with fish that eat mosquito larvae such as goldfish or minnows. Commercial larvicide products that contain either a bacteria or a larvae growth regulator can be purchased. These products are added to the tank and either dissolve immediately or float on the surface of the water. Floating products may need to be protected with a screen or other barrier to keep curious livestock from consuming the product. If larvicides are used, retreat weekly to monthly according to label directions to continue control.

Old tires are a common occurrence and unless the tires are cut or punctured, they will collect water. The larvicide products mentioned above could be used, or a handful of salt scattered inside each tire should provide control for the entire season.

Items such as pet water bowls, buckets, bird baths and wading pools should be drained or emptied at least once a week to prevent mosquito larvae from reaching maturity.

If you are wondering if you need to consider a larvicide, check by collecting a water sample in a white container attached to a pole. Larvae and pupae are easy to spot in that type of container. The pole is needed to sneak up on the larvae.

If you need more information on controlling mosquitoes see *www.oznet.ksu.edu/westnilevirus/* or contact your local K-State Research and Extension office.

Field days set

The annual KLA/Kansas State University Ranch Management field days will take place this summer in Meade, Jackson and Morris/Chase counties.

Adams Cattle Company will host the first event August 16 on the historic XIT Ranch near Plains. The second field day is set for August 18 on John Atwater's Limestone Springs Ranch near Soldier. Mashed O Ranch of Council Grove will complete the schedule by hosting a field day August 23.

Events will begin mid-afternoon with a look at unique management practices used by the host ranch and conclude with a complimentary evening meal. Field day sponsors are the Farm Credit Associations of Kansas and Bayer Animal Health. Details will be announced later in July.