NOVEMBER

Fall Calving

- 1. Continue feeding program begun in October. Lactating cows need to be in good condition for breeding.
- 2. Begin breeding heifers 20 to 30 days before the rest of the cow herd (late November or December).
- 3. Treat cattle for lice if needed.
- 4. If not previously done, complete herd sire selection and the culling of replacement heifers. Base decisions on performance records as outlined in the August, September, and October sections.

Spring Calving

- Continue feeding program begun in late October or begin according to guidelines listed in October, if not previously started.
- Check the weaned steer and heifer calves regularly for health problems and feed adequately to produce desired gains. Two to four pounds of protein supplement per head per day is needed to produce a half- to one-pound gain per day, depending on the quality of forage available and weather conditions.
- 3. Treat cattle for lice if needed.
- 4. If culling is not completed in September and October, it should be completed this month.

General Recommendations:

- Discontinue feeding tetracycline for anaplasmosis control after the end of the vector season (30 to 50 days after a hard freeze).
- 2. Check with your Extension office for information on edu-
- cational meetings about livestock and forage production practices.
- 3. Graze native hay meadows after frost.
- 4. Use prescribed fire every other year in dry leaf litter to control hardwood sprouts (less than four inches).

DECEMBER

Fall Calving

- Continue winter feeding program. Vacinate cows 30 days before breeding season with Leptospira/Campylobacter bacterins, IBR, BVD, PI₃, BRSV vaccine depending on the local veterinarian's recommendations.
- Castrate, dehorn, implant, and vaccinate new calves with 7-way Clostridial bacterin and Intranasal IBR, Pl₃ vaccine. Don't implant replacement heifers.
- 3. Treat cows for internal parasites and lice, if needed.
- 4. For wheat or other small grain pasture:
 - a) Limit-graze cows for protein needs.
- b) Provide a special area for calves to creep graze.
- Watch the herd continuously for health problems. Pay particular attention to cattle grazing fescue for signs of fescue foot
- 6. Provide OSU Silver creep for calves.

Spring Calving

- Continue feeding program which was begun in October and November.
- Limit-graze dry cows on fescue three to four days per week.
- Watch the herd continuously for health problems. Pay particular attention to those grazing fescue for signs of fescue foot.
- 4. Continue to monitor herd for lice infestation. Implement control program as needed.
- 5. Identify the purebred herds and test stations at which you want to look for herd sires. Check sale dates and review performance criteria to use.

General Recommendations:

- Cattle afflicted with fescue foot should be removed from fescue pastures and fed a different roughage until recovered. If damage is severe, salvage immediately through slaughter because these severely affected animals do not gain weight normally.
- Begin grazing dormant weeping lovegrass pastures, feeding supplement accordingly.
- Check your financial management plan and make appropriate adjustments before the end of the year.

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, gender, age, religion, disability, or status as a veteran in any of its policies, practices, or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, Director of Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural Resources and has been prepared and distributed at a cost of 42 cents per copy. 0702

3261-8

OKLAHOMA COOPERATIVE EXTENSION SERVICE ANSI-3261



Beef Cow Herd Calendar

David Lalman
Beef Cattle Specialist

Bruce Peverley
Area Livestock Specialist

Jack Wallace Area Livestock Specialist

John Kirkpatrick Veterinary Medicine Kent Barnes Area Livestock Specialist

Greg Highfill
Area Livestock Specialist

Terry Bidwell
Range Management Specialist

Chuck Strasia

Area Livestock Specialist

are also available on our website at: http://osufacts.okstate.edu

Oklahoma Cooperative Extension Fact Sheets

Larry Redmon
Forage Management Specialist

Steve Smith
Area Livestock Specialist

Glenn Selk
Reproductive Specialist

This Beef Cow Herd Calendar was developed as a production practice and management guide for Oklahoma cattle producers. Local adjustments and adaptations in some areas may be necessary due to differences in types of grass and cattle, amount of rainfall, length of growing season or other factors. Assistance in making these adjustments for local farms is immediately available to cattle producers by calling or visiting the county or area Extension office.

JANUARY

Fall Calving

- 1. If a high percentage of cows return to heat after 40 days of breeding, have bulls rechecked for fertility and cows and bulls examined for reproductive diseases by a veterinarian. Change bulls if necessary, and re-evaluate the nutrition program.
- 2. Assign yearling bulls 15 to 20 cows, two- and three-year-olds 20 to 25, and aged bulls 25 to 40.
- 3. Continue supplemental feeding of bulls, cows, and calves. If small grain pasture is available, adjust supplemental feeding to requirements of cows.
- If a creep feeding program is desired, limit-feed a high protein (30-40%) supplement, such as recommended in the Oklahoma Silver program. See your local Extension Agricultural Educator for further details.

Spring Calving

- Continue supplemental feeding of pregnant females, so that they will be in good condition at calving.
- Check first calf heifers (due to calve) several times daily for possible calving difficulties.
- 3. Feed in evening to encourage daytime calving.
- Weigh yearling heifers, adjust weights, and calculate ratios. Base selection on both weaning and yearling information. Also select for good disposition and temperament, sound feet and legs, and dam's udder structure.
- 5. Purebred breeders should send performance data to the national breed association office.
- Review details listed under March for herd sire selection.
- 7. Check body condition score on heifers and cows.

General Recommendations:

- Water is as important in the winter as it is in the summer. Keep tanks or other water supplies open by breaking ice at least daily or by using a heater or freeze-proof stock tanks.
- 2. Provide free choice mineral mix year around (a commercial mix or one part salt and one part dicalcium phosphate).
- When grass tetany is a problem on fescue or small grain pastures, supplement with one and a half to two ounces of magnesium oxide per cow daily in mineral mix.
- Use small grain pasture efficiently. Limit-graze cows to meet protein needs or to stretch limited dry pasture or hay.
- Test the soil to determine phosphorus (P), potassium (K) and lime needs for spring-seeded legumes, such as lespedeza, sweet clover, red clover, and white clover.
- 6. Plan the financial management program for the year, including cash flow and deadlines for payment of interest and taxes. Set both yearly and long-term ranch goals.
- 7. Use prescribed fire to improve forage quality, reduce ticks, and control weeds and brush.

Division of Agricultural Sciences and Natural Resources • Oklahoma State University

FEBRUARY

Fall Calving

- 1. Continue supplemental feeding program.
- 2. Remove bulls after a 90-day breeding season.
- 3. If needed, continue limit-fed creep to calves.

Spring Calving

- Continue supplemental feeding and increase feed amount for cows that calved early, especially first calf heifers and thin cows.
- Thirty days before breeding, vaccinate replacement heifers with 7-way Clostridial bacterin; IBR, BVD, PI₃, and BRSV modified live vaccine; and 5-way Leptospira-Campylobacter bacterin. Consult your veterinarian on vaccine types and other vaccinations recommended in the area.
- Deworm if needed. Also, evaluate growth of yearling replacements. Will they be big enough to breed in April or May?
- Check the cows regularly for possible calving difficulties, and baby calves for scours or pneumonia.
- 5. Complete selection and culling of yearling heifers as outlined in January.
- 6. Prepare for herd sire selection and procurement as outlined in March and April.

General Recommendations:

- On small grain pasture, continue to limit-graze cows for protein needs and creep-graze calves.
- 2. Begin anaplasmosis control program. At the time of this printing Anaplasmosis vaccine is not in production, with no definite time of restarting production. The following recommendations are made with the assumption that a vaccine will be available soon. Consider vaccinating before parasite carriers become active and while cows are open. If cows are not vaccinated and there is a potential problem, begin feeding chlortetracycline in mineral mix in late February and continue throughout the entire growing season. Vaccinate bulls for anaplasmosis, regardless
- of antibiotic use. If the herd is purebred and the cattle are shipped in interstate commerce, consult with your veterinarian on a control program because the vaccine will cause cows to react to the test.
- Fertilize fescue and small grain pastures depending on moisture, soil test, and forage production needs.
- Oats can be drilled in Bermuda sod in February or March.
- 5. Sprig Bermudagrass during late February and March in a clean firm seedbed.
- Use prescribed fire to improve forage quality, reduce ticks, and control weeds and brush.

MARCH

3261-2

Fall Calving

- Continue to creep-graze calves and limit-graze cows on wheat and other small grain pasture.
- Continue supplemental feeding of cattle wintered on low quality forage. If grass is in short supply, feed hay or other supplemental energy.
- Vaccinate all heifer calves between four and ten months of age for brucellosis. Calves may also be vaccinated with 7-way Clostridial bacterin, 5-way Leptospira bacterin, and an Intranasal IBR-PI₃ vaccine or IBR, BVD, PI₃ & BRSV vaccine that may be used around pregnant cows.

Spring Calving

- Continue supplemental feeding. Increase protein and energy intake to offset increased nutrient requirement for lactation.
- Semen evaluate bulls, trim feet if needed and vaccinate with Leptospira/Campylobacter bacterin. Address internal and external parasite problems.
- Purchase new bulls. Use EPD's along with other performance and pedigree information to make selection decisions. Check health history, including immunizations and diseases from farm of origin.
- After calving and before breeding (30 days preferable), vaccinate cows with 5-way Leptospira/Campylobacter bacterin, IBR, BVD, PI₃, and BRSV vaccine. Vaccines used should be recommended by the local veterinarian.
- 5. Supplement cows to maintain body condition at calving to enhance rebreeding performance.
- Monitor development of replacement heifers. Make certain they are gaining enough to reach 65% of their expected mature weight by the beginning of the breeding season (715 pounds if mature weight is 1100).

OCTOBER

Fall Calving

- 1. Semen evaluate bulls and trim feet, if necessary.
- Purchase new bulls using EPD's as major selection criteria. Check history on health, including immunizations and diseases on the farm of origin.
- 3. Monitor cows for possible calving problems.
- 4. Start feeding supplement during winter to lactating mature cows using the following guidelines. Amount depends on the quality and amount of forage available and the condition, age, weight, and milk production of the cows.

	lb. supplement/day	
_	40% crude protein	20% crude protein
Dry grass Dry grass + 10 lbs. good	3-4	6-7
nonlegume hay	2-3	4-5
25 lbs. good nonlegume hay Dry grass + 10 lbs. alfalfa or	none	none
other legume hay	none	none

Young, lactating cows have 20 to 25 percent greater supplemental needs than indicated above. If vitamin A deficiency is likely (i.e., dry year, lactation), provide in supplement or by injection. Green pasture during the fall and winter can replace much of the purchased protein supplement.

Spring Calving

- 1. Wean calves. If green winter pasture is available for cows, delay weaning summer-born calves a few months.
- Pregnancy check cows and bred heifers. Consider culling females that are open, old, poor producers, or have feet, leg, eye or udder problems.
- Vaccinate newly weaned calves kept as stockers or replacements with Leptospira bacterin and IBR, PI₃, BRSV, and BVD vaccine. Consult a veterinarian about this vaccination program and other diseases that are a local problem.
- 4. Treat cows and calves for internal parasites and lice, as necessary.
- 5. Complete selection and culling outlined in September.
- 6. In late October or November, start feeding supplement to mature cows using these guidelines.

	lb. supplement/day	
	40% crude	20% crude
	protein	protein
Dry grass	1 1/2-2	3-4
Dry grass + 10 lbs. good		
nonlegume hay	none	none

Heifers require more supplemental feed than indicated above.

- 7. Heifer calves should gain a minimum of one pound per day during winter, and pregnant yearlings a minimum of a half pound per day. Steer calves carried over to yearlings should gain one half to one pound per day. All these groups should be managed separately.
- 8. If ample forage is available (six inches or more), limit-graze small grain pastures to supplement cows on low-quality roughage. Graze small grain pastures one to two days per week with dry cows, and three to four days per week with lactating cows (for example, graze every other day and skip Sunday).

General Recommendations:

- October 15 is the last date for treating cattle with a grubicide.
- Beginning in late October or November, provide supplemental feed for bulls on dry grass according to age and condition: a) feed mature bulls three to four pounds of a 40 percent crude protein supplement per day; b) feed young bulls eight to 10 pounds of a high-energy, 20 percent protein supplement; and c) additional concentrates
- may be needed during the first month of the breeding season.
- 3. Overseed bermuda grass with small grains.
- 4. Evaluate cows' body condition score at weaning. Develop winter nutrition program to have cows in BCS of five or six at calving to enhance rebreeding performance.

3261-7

SEPTEMBER

Fall Calving

- 1. Separate cow herd into management groups for the calving season and the winter feeding period (i.e., first calf heifers, mature cows, open heifers).
- 2. Monitor the herd closely for health problems.
- Monitor first calf heifers closely for calving difficulties.
 Assist heifers after one hour of labor, and cows after 30 minutes.
- Thirty days before breeding, vaccinate replacement heifers with 7-way Clostridial, Leptospria/Campylobacter vaccine, IBR, BVD, PI₃, and BRSV vaccines and other diseases the veterinarian prescribes.
- 5. Treat for internal and external parasites, as needed.
- 6. Weigh yearling heifers. Adjust weights and calculate ratios. Base selection on both weaning and yearling information. Purebred breeders should send performance data to the national breed association office.
- 7. Prepare for herd sire selection and procurement as outlined in August.
- 8. Conduct fertility check and provide a breeding soundness exam for all herd sires.

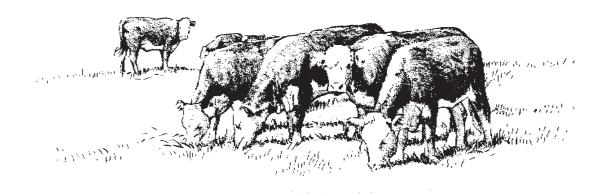
Spring Calving

- Continue to creep graze calves on sudan or other high quality pasture.
- Prepare for weaning. Purchase needed veterinary supplies. Give calves pre-weaning vaccinations. Prepare equipment and facilities for weaning. Reevaluate marketing and retained ownership alternatives.
- 3. Identify and record unsound cows that should not be kept for another year.
- 4. Weigh calves, adjust weaning weights, and calculate ratios. Identify and cull bulls that have sired groups of calves that are significantly below the herd average in weaning weight or feedlot and carcass performance. Purebred breeders should send records to the national breed association for processing.
- 5. Continue creep feeding program for calves (OK Silver).
- Wean calves from thin young cows. Supplement one pound of high protein feed (38-41%) to thin cows in order to allow increase in body condition before winter.

General Recommendations:

- 1. Treat for cattle grubs, if not previously done.
- Obtain laboratory analysis on hay to be fed during the winter. Borrow the special core sample from the Extension office to obtain representative samples. Request protein, TDN, Ca, and P analysis, and nitrate levels on sudan and sudan hybrids.
- 3. Plant clean-tilled small grain pastures in early September, if they are intended for winter grazing.
- 4. Establish hairy vetch, clovers (white, crimson, subterranean arrowleaf, and red), alfalfa, and fescue during

- September and October. Consider planting fungus-free fescue rather than endophyte infected fescue.
- Remove fescue and bermuda forage growth by haying, mowing or grazing. Fertilize fescue and bermuda pastures before Labor Day with 50 lbs. N/acre plus P and K, according to soil tests.
- 6. Do not graze weeping lovegrass between September 1 and December 1.
- With stockers, rotation graze fescue throughout the winter.
 With cows, stockpile fescue for grazing after December
 1.



General Recommendations:

- Vaccinate bulls for anaplasmosis, if not previously done this year.
- 2. Begin grazing Bermudagrass pastures overseeded in fall with small grains. Use for lactating cows, stocker calves, or as a creep for nursing calves.
- Sample soil from established Bermudagrass, old world bluestem, and lovegrass pastures to determine fertilizer needs.
- 4. Remove old growth from weeping lovegrass and old world bluestem by grazing, clipping, or burning.
- Plant spring-seeded legumes, such as lespedeza, sweet clover, red clover, and white clover. Inoculate legume seeds before planting.
- 6. Use prescribed fire to improve forage quality, reduce ticks, and control weeds and brush.

APRIL

Fall Calving

- 1. Although some spring growth may appear, continue to supplement cows grazing lovegrass, Bermudagrass, and native grass pastures.
- 2. Follow vaccine program as outlined in March, if not done at that time.

Spring Calving

- Check weight and body condition score on replacement heifers and adjust supplemental feeding program as necessary. Begin breeding replacement heifers 20 to 30 days before the rest of the cow herd.
- Although some spring growth may appear, continue to supplement cows grazing lovegrass, Bermudagrass, and native grass pastures.
- If not previously done this year, after calving and at least 30 days before breeding, vaccinate cows with 5-way Leptospira/Campylobacter bacterin, IBR, BVD, PI₃, and BRSV vaccine. This schedule should be approved by your veterinarian.
- 4. If not previously done in February and March, complete sire selection and culling of replacement heifers. Base decisions on performance records as outlined in January, February, and March sections.
- 5. Conduct fertility check and provide a breeding soundness exam for all herd sires.
- 6. Plan and implement MGA based synchronization program for artificial insemination. If the MGA system will be used (14 days of MGA feeding followed by 17 days without MGA and a prostaglandin injection on day 31) for cows or heifers to be bred in early May, MGA feeding will need to begin in early April.

General Recommendations:

- Vaccinate bulls for anaplasmosis, if not previously done this year, and continue other control measures for the herd.
- Plan fly and tick control program. Check spraying equipment, dust bags, and oilers, and purchase needed chemicals or tags for fly and tick control. Use insecticide impregnated ear tags if ear ticks are a problem and there is no resistance in your area.
- 3. For establishing new stands of lovegrass, seed in April and May. Spray or burn weeds in Bermuda and native grass pastures in late April or May.
- 4. Use prescribed fire to eradicate cedars and improve forage quality.
- Utilize a controlled burning program on native range, to control weed and brush. Controlled burning has also been shown to increase weaning performance of fallborn calves.
- As temperature increases, remove cattle from endophyte infected fescue pasture; usually by early May. For fescue or other cool season forages, manage pastures to keep forage from maturing and incorporate legumes to aid in preventing fescue summer slump.

3261-6

MAY

Fall Calving

- Develop marketing or retained ownership plan for calves.
- 2. Look for unsound cows that should be culled due to feet and leg, eye or udder problems.
- Weigh calves, adjust weaning weights, and calculate ratios. Identify and cull bulls that have sired groups of calves that are significantly below the herd average in weaning weight.
- 4. Purebred breeders should send records to the national breed association for processing.

Spring Calving

- Castrate, dehorn, implant (except replacement heifers), and vaccinate new calves for 7-way Clostridial bacterin, Intranasal IBR, Pl₃ vaccine (consult your local veterinarian).
- 2. Vaccinate heifer calves for brucellosis between four and 10 months of age.
- 3. If not previously done this year, after calving and 30 days before breeding, vaccinate cows with Leptospira/Campylobacter bacterin, IBR, PI₃, BRSV and BVD vaccine depending on the veterinarian's recommendations. Also vaccinate all bulls with the above vaccines.
- 4. Vaccinate bulls with the above vaccines on a yearly basis.
- Deworm cows and bulls from mid May to early June, if needed.
- 6. Turn bulls out with cows. Assign yearlings 10 to 15 cows; two- to three-year-olds, 20 to 25 cows; and aged bulls, 25 to 40 cows.
- Critically evaluate body condition in thin cows. If body condition score is less than 4, consider weaning calves early, especially first calf heifers. See Extension agriculture educator for assistance.

General Recommendations:

- 1. Implement a fly and tick control program for all cattle.
- 2. If adequate new growth is available, warm-season grasses provide all nutrients for cow herd except salt and water.
- Fertilize Bermudagrass and old world bluestem with 50 to 60 lbs. N/acre and with P and K, according to soil test. Set temporary fences to establish grazing rotation system.
- 4. Rotation graze or harvest weeping lovegrass for hay at about 35-day intervals (rest four weeks, graze one week).
- 5. Harrow Bermudagrass pastures to scatter manure and reduce internal parasite problems.
- 6. Plant sudan and sudan hybrids for summer grazing or hay, fertilizing according to soil test.
- 7. Continue anaplasmosis control program.
- 8. If a rotational grazing system is used, graze native grass using 40-day intervals (rest 40 days, graze five days).

JUNE

Fall Calving

1. Wean calves in June or July, when warm-season grasses begin to deteriorate in quality.

- 2. Pregnancy check cows and bred heifers. Consider culling problem or low performance cattle.
- Vaccinate all weaned calves kept as stockers or replacement heifers with 7-way Clostridial bacterin, Leptospira bacterin, and IBR, BVD, PI₃, and BRSV vaccine (consult with a veterinarian on this vaccination program and other diseases that may be a problem). Deworm if necessary.
- Implant calves to be kept as stockers, but not replacement heifers.

Spring Calving

- 1. If a high percentage of cows return to heat after 40 days of breeding, have bulls rechecked for fertility and cows and bulls examined for reproductive diseases by your veterinarian. Change bulls, if necessary, and re-evaluate the previous year's nutrition program.
- 2. Follow vaccine program outlined for May, if not done at that time.
- 3. Implement high protein, limit fed creep (OK Silver) for calves, if so desired.
- 4. Deworm cows and calves on improved pastures.

General Recommendations:

- 1. Treat cattle for grubs between July 1 and October 1 (before larvae reach the back).
- 2. Continue fly and tick control program.
- 3. Cut native grass for hay before July 1. Do not mow or graze again until after frost.
- 4. If additional summer grazing or hay is needed, fertilize weeping lovegrass with 30 to 60 lbs. N/acre.
- 5. Rotation graze or harvest bermudagrass for hay at about

- 30-day intervals (rest four weeks, graze one week).
- 6. Begin grazing sudan and sudan hybrids at 18 to 24 inches in height.
- 7. Continue anaplasmosis control program.
- 8. Begin OK Gold for stocker calves and fall born replacement heifers. Oklahoma Gold consists of one pound per day of 38-41% natural protein with a feed additive such as Bovatec®, Gainpro® or chloratetracycline. See extension educator or feed supplier for further details.

JULY

Fall Calving

- 1. Wean calves and vaccinate as recommended in June.
- If not completed, pregnancy check cows and bred heifers, make culling decisions and vaccinate stockers and replacement heifers.
- 3. Place weaned calves on good quality pasture and watch closely for health problems.

Spring Calving

- 1. Remove bulls after 70 to 90-day breeding season.
- 2. Continue to creep graze calves on sudan pasture.
- 3. Watch the herd closely for health problems.
- 4. Continue creep for calves (OK Silver).
- 5. Deworm intensively grazed cows, if needed.
- 6. Body condition score cows and if thin, consider weaning calves early and/or supplementing cows.
- Complete marketing or retained ownership plan for calves.

General Recommendations:

- 1. Water is extremely important in hot weather. Make routine checks of the water supply.
- 2. If additional summer grazing or hay is needed, fertilize Bermudagrass with 40 to 60 lbs. N/acre.
- Harvest sudan and sudan hybrids for hay in the boot stage (normally three to four feet in height). Top dress with nitrogen to promote growth. It is a good idea to run a routine nitrate test on a field before harvesting hay.
- Treat for cattle grubs after heel fly activity ceases and before larvae reach the back, between July 1 and October 1.
- 5. Continue fly and tick control program.
- 6. Continue anaplasmosis control program.
- 7. Remove intensive early stocking (IES) calves from native grass by July 10.
- 8. Supplement stockers and replacement heifers with OK Gold feed.

AUGUST

Fall Calving

- 1. Continue the newly weaned stockers on the highest quality pasture available.
- 2. Observe all groups of cattle closely for health problems.
- 3. Identify purebred herds and test stations at which you want to look for herd sires. Check sale dates and review performance criteria.

Spring Calving

- Continue to creep graze calves on sudan or other high quality pasture, if available. Manage (rotationally graze or hay) sudan so that it does not become mature and of low quality.
- 2. Observe the herd closely for health problems such as pinkeye and foot rot.
- 3. Continue creep feeding program for calves (OK Silver).
- 4. Evaluate body condition of young cows. Wean calves if body condition score is 4 or lower.

General Recommendations:

- 1. Continue fly, tick, and anaplasmosis control programs.
- 2. Plan winter pasture program. Prepare seedbeds for small grain pastures and fertilize according to soil test.
- 3. Treat cattle for grubs after heel fly activity ceases, between July 1 and October 1, before larvae reach the back.
- 4. Identify pasture weed problems to aid in planning control methods needed next spring. Adjust stocking rate and
- grazing system to control undesirable plants and forage accumulation for prescribed fire.
- 5. Evaluate cool-season pastures, commercial supplements or bulk feed commodities as alternatives for supplemental feed in winter.
- 6. Continue OK Gold supplementation for stocker and replacement heifers grazing moderate to low quality pasture.

3261-4