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Cow-Calf M.M. Management Calendar

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Cow-calf Management Calendar

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Cow-calf Management Calendar

Beef cow-calf producers and beef Extension workers often ask how the beef herd at the South Mississippi Experiment Station is managed. This bulletin is in response to those questions. It is not meant to cover every detail of management, but is to be a reminder of key management decisions.

This is not a blanket recommendation to all cow-calf producers in south Mississippi. Each farmer has his own unique resources in land, forages, cattle, labor, etc. and may need to change practices outlined here to adapt to his own calving season, stocking rates, and inputs to increase his economic returns on investment. However, for a 60-day calving period in January and February, and for a year-round stocking rate of one cow-calf per acre, these management practices have worked well. When considering replacement heifers, first-calf cows, bulls, and hay production, about 1.7 acres are required for each mature animal. The average beef cow in the station herd weighs 1,100 pounds, is in moderate body condition, and weans a 550-pound calf.

Pregnancy rate is about 80% for heifers, 85% for first-calf cows, and 90% for mature cows, except when research treatments put undue stress on the cows. Annual cow costs, including fixed costs and interest, are about $295. Labor, land, and tax costs are not included.

Primary research emphasis at the South Mississippi Experiment Station has been to determine management practices that improve economic returns. Many of the practices outlined here will change as more cost-effective practices are found. Current emphasis is on finding ways to reduce wintering costs. Programs for hornfly control, deworming, and mineral supplementation are periodically evaluated. Only pesticides currently registered for use on pastures, hay fields, and beef cattle are used, with strict adherence to all label instructions.

This bulletin does not list some management practices that are repeated every month because a certain level of management expertise is assumed. For example, it is assumed that cattle, water, feed, and fences will be checked daily and that problems with health, nutrition, forages, etc. will be corrected. The ability to recognize and solve problems can determine the profitability of a cow-calf enterprise.

This 12-month management calendar can be used by producers to help remind them of certain key practices. The mention of trade names of commercial products is for clarity and understanding and does not imply warranty of the product by the Mississippi Agricultural and Forestry Experiment Station or its approval to the exclusion of other products that also may be suitable.

JANUARY

1. Calving is from January 8 to March 8. Check cows and calves at least twice daily for calving difficulty, sick and orphan calves, etc. Check first-calf cows more often when possible. If newborn calves become excessively wet and chilled, bring them inside to be dried and warmed. Help them nurse or give colostrum as soon as possible. Calves must get colostrum within 16 hours of birth if it is to be effectively absorbed.
2. Perform the following procedures on newborn calves: tag, weigh, dip navels with iodine, tattoo, dehorn (paste), and castrate within 24 hours while they are still easy to catch. Match calves with mothers and record information in the calving book.
3. Feed large round hay bales free choice in rings. Feed a high-magnesium (Mg) salt-mineral mix free choice in covered mineral feeders to prevent grass tetany. Supplement hay as needed, based on forage analysis, with corn and soybean meal fed in uncovered troughs once daily to meet cow requirements.
4. Move cows with calves to winter pasture as calves are born. If pasture is short, animals may graze 2 hours each day, with only 3 days per week (M-W-F) grazing at first. If pasture is not available, feed the best hay to cows with calves.
5. Replacement yearling heifers should be gaining at least 1.5 lb/day. If heifers must be removed from pasture because of cold weather, feed the highest quality hay plus grain at 1.5% of body weight. It works well to provide 1 lb/hd/day of soybean meal (48%) and then add corn until cattle receive 1.5% of body weight of the grain mixture.
6. Fertilize ryegrass pastures that were not fertilized in December. Fertilize late ryegrass pastures about mid- January with 68 pounds of actual nitrogen (N) per acre (200 lb/A of ammonium nitrate).

FEBRUARY

1. Calving season continues until March 8. Continue all activities listed in January associated with calving season.
2. Fertilize ryegrass pastures about mid-February with 68 pounds of "actual" nitrogen (N) per acre on overseeded pastures and 34 pounds on prepared seedbed pastures.
3. Have a qualified veterinarian conduct a Breeding Soundness Evaluation (BSE) on all bulls. A BSE is more than a simple semen motility check. The BSE scoring system uses physical soundness, scrotal circumference, semen quality, and other criteria as described by the Society for Theriogenology. Deworm with Ivomec® and vaccinate for IBR, PI_3, BVD, BRSV, lepto 5-way, vibriosis, clostridials (4-way or more), and anaplasmosis. BSE's are conducted 30 to 60 days before breeding so there is time enough to replace any bulls that are unsatisfactory breeders.

MARCH

1. Calving ends March 8 by calculations (cows have their own schedules!). All cows with calves should be on winter pasture.
2. Burn summer pastures and hay fields that have enough stubble. This helps the grass grow earlier and helps control spring weeds. Get a permit before burning.
3. Spray hay fields with Gramoxone® to control little barley. Spray pastures as needed for weeds as early as possible. If herbicides are applied when plants are small, further spraying or clipping may not be necessary. Weed control information sheets are available from the county agent of the Cooperative Extension Service.

APRIL

1. Breeding begins April 1. Work all cattle at this time.
   a. Deworm cows, calves and heifers with Tramisol®, SafeGuard®, or Synanthic®. Vaccinate cows for IBR, PI3, BVD, BRSV, lepto 5-way, vibriosis, and clostridials (4-way or more). (*Example*: CattleMaster 4 plus VL5® in one shot and Vision 8® in another.) Implant steer calves. Dehorn calves that were missed at birth using an electric dehorner. Weigh cows and calves and determine cow Body Condition Score (BCS, scale 1 to 9 with 5 = moderate). See Table 1.
   b. Place fly tags on bulls before turning with cows. Bulls will have a heavier hornfly load than cows when the fly season begins, therefore, they need control earlier than the cows. Place mature bulls with as many as 40 cows but 2-year-old bulls should have no more than 20 cows.
   c. Select replacement heifers that weigh a minimum of 700 pounds. Some producers breed heifers earlier than cows so they will calve earlier and have more time to heal the reproductive tract before being rebred for the second calf. If earlier calving is desired, begin March 15 and breed for 75 days.
   d. Cull cows without calves. These are cows that were diagnosed pregnant in September but the calf was born dead or died after birth. Record problem cows with calves for fall culling.
2. Check bulls daily. Make sure that bulls are breeding cows and are not injured.
3. All breeding females should have the best pasture possible, especially first-calf cows and yearling heifers.

Table 1. Example of deworming and health programs[a]

Date	Merck & Co./MIMS[bc]	Hoechst-Roussel/MIMS[cd]
Jan 8	Calving begins	Calving begins
April 1[e] Breeding begins	Deworm cows and calves with Ivomec Vaccinate cows[f]	Deworm cows and calves with SafeGuard Vaccinate cows[f]
May 15		Deworm cows and calves with SafeGuard block or mineral[g]
June 1[e] Breeding ends	Insert insecticide ear tags	Insert insecticide ear tags Deworm calves with SafeGuard - drench[h]
Aug 1[e]	Deworm cows and calves with Ivomec Vaccinate calves[ij]	
Sept 1[e] Weaning	Deworm calves with Ivomec Vaccinate calves[kl]	Deworm calves with SafeGuard Vaccinate calves[il]
Sept 21		Vaccinate calves[kl]
Dec 1[e] Pregnancy test	Deworm cows and calves with Ivomec Vaccinate cows[f]	Deworm cows and calves with SafeGuard Vaccinate cows[f]

[a]Other dewormers than those listed could be used just as effectively at certain times if they are effective against the inhibited *O. ostertagi* and lungworms.
[b]Merck and Company program for 3 times per year deworming combined with MIMS vaccination program.
[c]MIMS (Maximum Immunity Minimum Stress) program developed by Mississippi State University modified to fit calving season, weigh days, and deworming program. MIMS program requires that calves be dehorned, castrated, and immunized prior to the stress of shipping. Experiment station calves are identified, dehorned, and castrated at birth.
[d]Hoechst-Roussel Agri-Vet Company program for strategic deworming combined with MIMS vaccination program.
[e]Weigh days for cattle at the experiment station. Producers should get calf weights between 160 and 250 days of age to calculate adjusted weaning weights.
[f]Vaccinate cows for IBR, PI_3, BVD, BRSV, vibrio, lepto 5-way, and clostridials (4-way or more). (Example: CattleMaster 4 plus VL5® in one shot and Vision 8® in another.)
[g]Hoechst-Roussel program requires all cattle be dewormed twice in the spring, 6 weeks apart. Free choice mineral mix or a block with dewormer can be used to eliminate corralling cattle.
[h]Deworming of calves at this time is not necessary if calves were dewormed with drench or injectable in previous deworming. Deworming with drench is performed at this time because calves may not have consumed enough block or mineral dewormer previously and they were being caught for weighing anyway.
[i]Vaccinate calves for IBR, PI_3, BVD, BRSV, and clostridials (4-way or more). Heifers should be calfhood vaccinated for brucellosis.
[j]Killed viruses must be used if calves are not weaned.
[k]Booster vaccination for IBR, PI_3, BVD and BRSV 2 to 4 weeks from first vaccination, especially important if first vaccines were killed viruses.
[l]Modified live vaccines can be used if calves are not stressed.

4. Stop feeding high-Mg mineral. Feed a salt-mineral mix that has no more than a 3:1 calcium (Ca) to phosphorus (P) ratio and includes the micronutrients (trace minerals) needed.
5. Fertilize bahiagrass and bermudagrass pastures that were not overseeded with ryegrass in the fall. Based upon a stocking rate of one cow-calf pair per acre in a three-pasture rotation, apply 34 lb/A of actual nitrogen (N) in April with plans for another 34 lb/A of N in June. Apply sulfur (S) at 24 lb/A and phosphorus (P) and potash (K) according to soil test recommendations.
6. Fertilize hay fields. Depending upon yield and quality desired, apply 68 to 100 lb/A of N and 24 lb/A of S along with P and K to meet soil test recommendations.
7. Cut excess ryegrass for hay just before it begins to head. Store in a barn or cover with plastic if possible. If covered with plastic, leave ends open for ventilation to reduce spoilage.
8. Spray or clip pastures for weeds as needed.
9. Take soil samples to determine fertilizer needs for fall and the following spring. The county Extension agent can supply boxes and information sheets.

MAY

1. Fertilize overseeded bahiagrass and bermudagrass pastures when ryegrass reaches maturity. Apply 68 lb/A of actual N to pastures in a single application with no additional P or K. Residual P and K from overseeded winter pasture should be sufficient.
2. Rotate pastures as needed.
3. Spray or clip pastures for weeds as needed.
4. The South Mississippi Branch Experiment Station is following a spring program recommended by the Hoechst-Roussel Agri-Vet Company for strategic deworming of cows. The program requires that all cattle be dewormed twice in the spring with 6 weeks between treatments. Free-choice mineral mix or a block with dewormer can be used without corralling the cattle. See Table 1.
5. Replacement heifers and first-calf cows should be grazing the highest quality pasture available. Well-fertilized summer perennial pasture grazed to 2-3 inches height is excellent summer pasture.

JUNE

1. Remove bulls on June 1 for a 60-day breeding season.
2. Apply fly tags on June 1 for hornfly control. Fly tags are usually effective for 3 to 5 months, so waiting until this late gives control for the worst of the fly season. Tags per cow-calf pair vary from one to three in the research herd, depending upon tag used and fly tag research being conducted.
3. Weigh cows and calves on June 1 and determine cow Body Condition Score (BCS, scale 1 to 9 with 5 = moderate).
4. Deworm calves with drench. (See Table 1.)
5. Fertilize summer pastures that received one-half of the fertilizer in April. Based upon a stocking rate of one cow-calf pair per acre, in a three pasture rotation, apply 34 lb/A of actual N.
6. Cut and fertilize hay fields to maintain a 28-day harvest interval. Apply a minimum of 68 lb/A of actual N. It is a balancing act between hay quality and quantity. Higher yields come from increasing nitrogen rates and from longer harvest intervals. Longer harvest intervals (age) decrease hay quality. A 28-day harvest interval will result in good quality hay. If nitrogen rates are reduced to 34 lb/A and a 28-day cutting interval is maintained, yield may not be high enough to economically harvest. Therefore, it may be better to apply 68 lb/A of N on fewer acres than to apply 34 lb/A of N on twice the area.
7. Rotate pastures as needed. Cut hay from pastures with excess grass.
8. Spray or clip pastures for weeds as needed.
9. Replacement heifers and first-calf cows should be grazing the highest quality pasture available. The goal is for calves from first-calf cows to weigh as much as those from mature cows.

JULY

1. Check hay supply. Plan for 1 to 1.5 tons of hay per cow.
2. Be prepared to begin disking for early winter pasture in late July. It is better to begin disking early when there is adequate soil moisture than to wait and be unable to disk because of drought.

AUGUST

1. Continue to harvest hay on the 28-day schedule. After the August harvest additional fertilizer may not be necessary. One more harvest can be expected without additional fertilizer, though it may be more than 28 days old and of lower quality. Even with additional fertilizer it may be difficult to get two more harvests.
2. If following the deworming program promoted by Merck & Co. to kill the inhibited L_4 larvae of *Ostertagia ostertagi*, work all cattle about August 1. Deworming with Ivomec injectable or pour-on works well. Other dewormers containing fenbendazole, oxfendazole, and albendazole (Safeguard, Synanthic and Valbazen®, respectively) are also labeled for the inhibited *O. ostertagi*. This program makes it possible to follow the MIMS program and vaccinate calves before weaning. Vaccinate calves for IBR, PI_3, BVD, BRSV, lepto 5-way, clostridials (4-way or more), and brucellosis (heifers). See Table 1.

SEPTEMBER

1. Monitor forage availability and cow body condition carefully. Wean calves when the thinnest cows are borderline

in body condition (BCS = 4). Cows should have sufficient time to gain weight and return to a moderate or high moderate body condition (BCS = 5 or 6) before calving (January). Calves should not lose weight before weaning.

2. Weigh cows and calves and determine cow BCS at weaning. This is also a good time to check for pregnancy of cows and replacement heifers. Cull open heifers, open cows, cows with short or missing teeth, those in poor body condition, and those with health or disposition problems (check calving notes).
3. Remove fly tags from all cattle to prevent a buildup of resistant flies. Apply a pour-on grubicide if you suspect a heel fly or grub problem and want to ensure that Ivomec can be used safely in December.
4. Deworm calves at weaning and vaccinate for IBR, PI_3, BVD, BRSV, lepto 5-way, and clostridials. Under the MIMS program the vaccines are boosters. Under the Hoechst-Roussel program, this is the first set of vaccinations so brucellosis vaccine should be added for heifers. See Table 1.
5. Start weaned calves on a preconditioning ration containing antibiotics (Aureomycin®) and a coccidiostat (Bovatec®). No hay is fed until calves consume 10 pounds per head per day of this ration. High-quality hay is then offered free choice. After receiving 10 pounds of this feed for 2 to 3 weeks, gradually replace the medicated ration with a corn and soybean meal ration fed at 1.5% of body weight until winter grazing begins. Give booster vaccinations 2 to 4 weeks after weaning to calves that have been vaccinated only once.
6. Apply lime according to soil test recommendations.
7. Plant and fertilize winter pasture (ryegrass, oats, wheat, rye, clovers) on prepared seedbeds. Most pastures are planted to ryegrass only. Apply 68 lb/A of actual N and phosphorus (P) and potash (K) to meet soil test recommendations before the last disking.
8. Take hay samples for quality analysis using a core sampler. A core sampler is available to producers from the county agent. Sample six representative bales from each field and each cutting.

OCTOBER

1. Weaning may be delayed until October if pasture conditions remain good and cows maintain body condition. An advantage for late weaning is that calves consume less grain before winter pastures are ready to graze. A disadvantage is having to pen cattle to vaccinate heifer calves for brucellosis in September (prior to 8 months of age). This is not a disadvantage to a producer wishing to begin a MIMS health program in September. Another disadvantage of late weaning is a history of low calf prices for calves sold in October.
2. At or soon after weaning, group mature cows for winter management based upon Body Condition Scores.
3. Monitor pasture forage availability carefully. When grass becomes short, start feeding the poorest quality hay to cows. If hay is consumed quickly and grazing is insufficient, supplement hay according to forage analysis. Feed corn and soybean meal in uncovered troughs once daily to supplement forages and to meet cow nutrient requirements.
4. Feed the highest quality hay available to weaned calves.
5. Feed the highest quality hay and the best grazing to replacement heifers. Continue feeding corn and soybean meal to ensure an average daily gain of 1.25 to 1.75 pounds.
6. Assess bull needs and begin buying bulls. Purchase bulls from breeders and from bull sales with a good reputation. The South Mississippi Forage Bull Test at Tylertown has an excellent selection of bulls for sale in November and April. Insist that all the bulls purchased be guaranteed to pass a Breeding Soundness Evaluation (BSE).
7. Plant winter annuals (ryegrass, clovers) by overseeding into summer pastures when sod is grazed or clipped to about 2 inches and nights are cool. Two-thirds of an acre is planted for each mature cow.

NOVEMBER

1. Summer pastures have ceased production and winter pastures are not ready to graze. Feeding of hay should be underway with the poorest quality hay being fed first. Feed cows corn and soybean meal in uncovered troughs once daily to supplement forages and meet nutrient requirements.
2. Monitor cow body condition and adjust grain to ensure that cows are in moderate body condition by end of December. This is the primary determinant of how quickly cows cycle and rebreed after calving. First-calf heifers should continue to gain but not get fat.
3. When prepared seedbed winter pasture is ready to graze, replacement heifer calves should have first priority. Deworm with Ivomec Pour-On before turning out to pasture.
4. Continue purchasing bulls that are guaranteed to pass a Breeding Soundness Evaluation.

DECEMBER

1. Begin feeding high-Mg mineral to prevent grass tetany.
2. Weigh cows and determine their Body Condition Score (scale 1 to 9 with 5 = moderate) about December 1. Blood test for brucellosis certification. Deworm with Ivomec Pour-On and vaccinate for IBR, PI_3, BVD, BRSV, lepto 5-way and clostridials (4-way or more). (*Example*: Cattle-Master 4 plus VL5 in one injection and Vision 8 in another.) Replace missing ear tags and clip number brands. Easy identification is needed when calving begins. See Table 1.
3. Number brands are placed on heifers.
4. Feed the lowest quality hay to the fattest cows, good quality to thin cows, and save best hay for after calving and before grazing.
5. Prepare for calving. Order numbered ear tags. Check tattoo numbers and ink, iodine for navels, dehorning paste, scissors for cutting hair around horns, sharp knife, scale for birth weights, and calving record book.
6. Continue buying bulls if necessary.
7. Fertilize ryegrass pastures about mid December with 68 lb/A of actual N.

Calving as Two-Year-Olds

Problem 1: Heifers do not cycle early and have low pregnancy rates.

Solution. Estrus is primarily a function of age, size, and nutrition. Heifers should be 13-15 months of age and weigh at least 650 pounds (60% to 70% of mature weight or 750 pounds for larger breeds) if a high percentage are to cycle regularly. Replacement heifers should weigh at least 400 pounds at weaning.

Calculate:

$$\frac{\text{Breeding wt - Weaning wt}}{\text{days between}} = \text{average daily gain desired.}$$

Usually 1 to 1.5 pounds of ADG desired on medium sized breeds. An excess of 1.75 pounds ADG may cause excessive fat on less growthy breeds.

Problem 2: Two-year-old cows have more calving difficulty than mature cows.

Solution. This problem is partially solved by having heifers attain proper size and weight at calving. A second practice is to breed heifers to a bull that is known to sire calves with small birth weights. A third caution would be to put heifers in a special lot where they can be watched more carefully and assisted if necessary.

Problem 3: First-calf cows may wean extremely light-weight calves.

Solution. Meet the young cows' nutritional needs. They will not be a mature cow until they rebreed for their third calf, so don't treat them as such. When they calve, the body needs nutrients for maintenance, growth, lactation, and reproduction **all at the same time**. The priority of needs are in that same order. Feed extra energy feed such as grain or winter pasture followed by high quality summer pasture while they are nursing calves. First-calf heifers should calve in a Body Condition Score (BCS) of 6 and be maintained no lower than a BCS of 5. This body fat can be used to produce milk for the calf.

Problem 4: Difficulty in getting 2-year-old heifers rebred.

Solution. Again, it is a matter of timing and nutrition. Some producers calve first-calf cows 20 to 30 days ahead of mature cows. Whether this is done or not extra energy, such as grain or winter pasture, is needed **immediately** at calving so the cows reproductive system can heal up and begin cycling. Young cows have a high energy and protein requirement because they are growing and lactating and trying to rebreed. Allow heifers to put on body condition on grass and attempt to maintain this body condition with supplemental feeds to reduce input cost.

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