

Dairy Management Scenario

Background

- The following dairy farm wishes to join an accredited welfare labeling scheme.
- You have been hired as a consultant, based on your animal welfare expertise.
- This is your second visit and you must now prepare a final assessment, indicating issues which should be addressed:
 - immediately (within days)
 - short-term (within a month)
 - longer term (within six months)in order to compete for accreditation.

Basic Farm Information

- Northeast USA
- Milking herd= 90 cows with 15 dry cows
- Replacement herd= 100 heifers and calves
- Holsteins and Jerseys
- Average milk production = 85 lb/cow/day
- 6 full-time employees, 12 part-time employees
 - Training is provided to all employees on milking procedure and standard herd procedures.
- Purchase all forage and feed

Calving: Care of Calf and Dam

- Dry cows are moved to box stalls when calving is imminent.
- Twinning rate is 12%.
- Rate of assisted birthing = 25%.
- Percent of live calves = 90%



Care of calf:

- Within 8 hrs of birth, calves are removed from the dam and bottle fed 1 gallon (3.8 liters) of colostrum.
- Colostrum quality is tested. If the quality of the dam's colostrum is poor, frozen colostrum is given.
- Navels are dipped in iodine.
- Calf vaccines are given.

Care of dam:

- Warm water given after calving.
- Hay provided in addition to total mixed ration.

Calf Housing and Feeding



- Calves are housed in calf hutches (1.2 x 1.8 m).
- Calves remain in hutches for 6 weeks.
- Straw is used for bedding.

Feeding:

- 2 quarts (1.9 liters) of waste milk and/or milk from the bulk tank 2x/d in buckets.
- Water limited: 1 quart (0.85 liter) 2x/d after milk
 - Electrolytes mixed with water and given to calves with scours.
- At 4 wks free choice calf starter is provided in buckets.

Calf Care



- Bull calves are shipped at 2 wk for beef production.
- Female calves are ear tagged at 2 wk with plastic tags.

Before moving from hutches:

- Dehorning with hot cauterizing iron occurs at 6-7 wk of age.
 - Frequency of head shakes:
 - After procedure= 8-10/ hr
 - 24 hr post-procedure = 2-4/ hr
- Vaccinations given immediately after transporting to heifer barn at weaning.
- Feed intake severely depressed for 4 days after weaning.

Heifer Barn



- Heifers are grouped by age and size from 6 wk just weaned calves to bred heifers.
- Heifers move through the barn- from pen to pen- in the same group.
- Greenhouse-type barn with curtains on the side that can be raised for increased ventilation.
- Barn floor is grooved (1/3") and cleaned out daily.
- Locomotion score of all heifers is 1 on a scale of 1 to 5.

Heifer Barn



- Free stall barn with headlocks.
 - Bedded pack for youngest (just weaned) animals.
 - Stall partitions for all other groups.
 - Stalls are 60" by 30" on one side and 100" by 50" on the other side.
 - Stalls have mats filled with shredded rubber.
 - Stalls are bedded with 1-2" of sawdust.

Heifer Nutrition



- Heifers are fed a total mixed ration 2x/ day to meet their requirements and hay is top-dressed to provide adequate fiber.
- Water is available from automatic waterers (1 per pen).
- Average body condition score of bred heifers is 3.75 on a scale of 1 to 5.



Dry cows

- Housed in the heifer barn.
- Cows have a dry period of 60-50 days.
- 2 groups: Far-off and close-up pens; Mature cows and bred heifers are grouped together.
- Dry cows are fed a single total mixed ration 2x/ day and hay is top-dressed to provide adequate fiber.
- BCS of dry cows is 4.0 on a scale of 1 to 5.
- Cows are transported to the main barn and housed tie-stalls within two weeks of calving.
- Average locomotion score is 2 on a scale of 1 to 5.

Transportation

- At weaning, calves are transported from main barn to heifer barn.
- 2 wk prepartum- dry cows are transported from heifer barn to main barn.
- Distance of trailer ride = 0.05 mi.
- Transported in stock trailer with no restraint during transportation.
- No ramp on trailer; Cows must “step up” to load. The “step up” is 26” high
- Loaded on trailer with assistance of 2-3 personnel, and gentle prodding.

Lactating cows: Housing



- Lactating cows are housed in a freestall barn.
 - Holstien stalls are 102” by 52”.
 - Jersey stalls are 88” by 52”.
- Stalls have mats filled with shredded rubber.
- Stalls are bedded with 1-2” of sawdust.



- Barn floor is slotted.
- Barn is cleaned out 3x/ wk.
- Average locomotion score is 2.5 on a scale of 1 to 5.

Hoof Care



- Hooves are trimmed 2x/ year using a trimming chute/ table, a hoof knife, and grinder.
 - 60% of cows kick and shake head during hoof trimming.
- Foot bath is used at each milking.
 - Alternate between copper sulfate and tetracycline solution.
- 15% of the herd has hairy heel warts.
- 25% of the herd shows signs of moderate lameness.



Lactating Cow Nutrition



- Lactating cows are fed haylage, corn silage, high moisture corn, a protein mix that includes vitamins and minerals.
- Ration is formulated for cows producing 90 lb of milk/ day.
- Cows are fed 4x/d.
- Old feed is removed from the bunk every morning.
- 18" of bunk space/ cow.
- Antagonistic interactions during feeding = 2-3/ cow/ hr.
- Average body condition score is 3.25 on a scale of 1 to 5 with a range of 1.5 to 4.0.



Lactating Cows: Daily Time Budget

Activity	Time devoted per day
Eating	4.0
Ruminating	8.5
Drinking	0.5
Milking Parlor	4.5
Lying Resting	6.5
Total	24.0 hrs

Milking Parlor/ Procedure



- Double 4 parlor
- Cows milked 3 times/ day.
- Milking procedure:
 - Spray teats with iodine based spray.
 - Wipe off teats with paper towel.
 - Attach milking machine.
 - Spray teats again.
- Holding area floor is grooved (1/4").
- 5-6% of cows slip during mounting and riding in the holding area.
- Cows spend about 1 hr in holding area/ milking.
- Return alley is 45" wide.

Reproduction and Herd Health



- Regular herd health check by vet every 2 wks for pregnancy checks and fresh cow checks.
- Normal vaccination/ deworming program
- Pregnancy rate = 25%
 - Voluntary waiting period is 100 days
 - Poor heat detection due to lack of mounting activity by cows.
 - Use an Ov-synch program. Cows are locked in headlocks when shots are given.
- Fresh cow disorders:
 - Displaced Abomasum = 9%
 - Hypocalcemia = 3% (mostly Jerseys)
 - Metritis/ Retained Placenta = 18%
- SCC = 182,000; high incidence of *Klebsiella* and *E. Coli*.
- Average life span = 4.0 yrs