



ANIMAL WELFARE ASSESSMENT CONTEST 2022



Dairy Beef Scenario

2022 Animal Welfare Assessment Contest

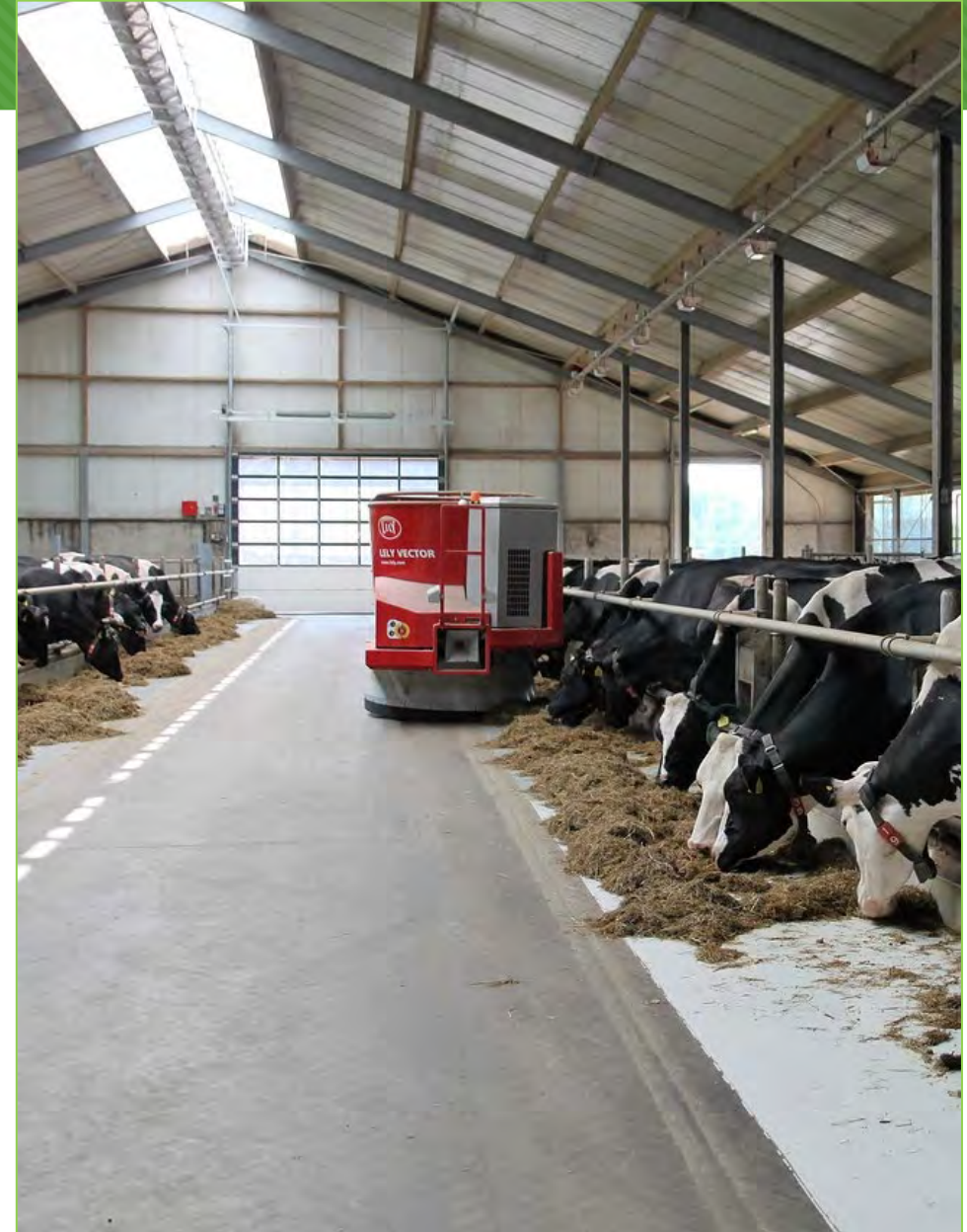
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NOTES

1. THESE ARE FICTITIOUS ANIMALS AND SITUATIONS. They have been created using pictures and information collected from multiple sources to generate realistic, yet fabricated scenarios. Neither situation exists as presented here.
2. Please use the images provided throughout the presentation as well as text when making your assessment.

Sunrise Dairy

- 500 cow dairy
- Located in New York State, USA
- Established in 1893
- Grade A Holstein herd
 - All heifers are bred to Angus sires
 - Cows are bred to Holstein sires
- All male calves are retained and either raised for beef or sold for veal



Legend Feeders

- 20,000 hd capacity feedyard
- Located in southwest Minnesota, USA
- Established in 1972
- Finishes approximately 5,000 Holstein steers per year for a high-quality grade beef program



Site Information

Sunrise Dairy

- Located in Central New York (43°N)
- Primary business is dairy
- Began retaining and raising male calves for meat 15 years ago
 - Prior to this, all male calves were sold through a local livestock auction with most going to formula fed veal production
 - When the grow/finish facility is at capacity, male calves are sold to a local veal grower

Legend Feeders

- Located in southwest Minnesota (44°N)
- Primary business has been cattle feeding since founding
- Started a calf development facility in 2001 to transition purchased calves through weaning
- Calves are purchased direct from larger dairies by an order buyer that assembles groups of similar sized calves
 - Age at purchase: 3 – 14 days

The Staff

Sunrise Dairy

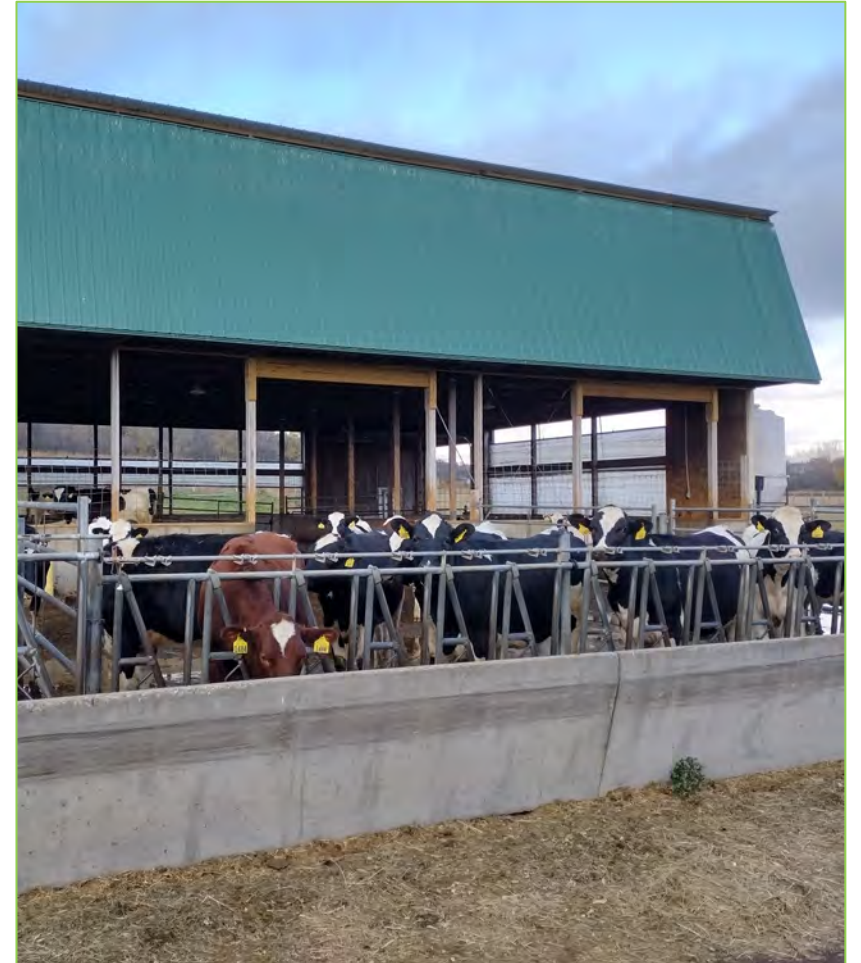
- Owners are two brothers and their partners
- Dairy is staffed by 12 people who share responsibilities for care of the dairy herd and approximately 486 ha (1200 acres) of corn, soybeans, and alfalfa
- Primary caretaker for the dairy beef operation is the 24 yr old niece of the owners
 - Completed a BS degree in animal science and an internship with a cattle feeding company
- Veterinary care is regularly available for the dairy, but veterinary attention has not been requested for the dairy beef operation aside from provision of medications

Legend Feeders

- Owner founded the feeding operation in 1972 and was heavily involved in office operations until 'retirement' 2 years ago
 - Handed-off business operations to a newly-hired business manager (former University extension specialist)
 - Owner spends 6 days/wk assisting staff with cattle care and facility maintenance activities
- Staff consists of the business manager, an office assistant, 4 pen riders, 3 feeders, one full-time veterinarian, and 2-3 seasonal interns

Facility: Sunrise Dairy

- Birth to weaning:
 - Individually housed in outdoor plastic shelters
 - Each calf is fitted with a neck collar and tethered to the individual shelter
- Weaning to finishing:
 - Housed in a monoslope shed with outdoor pens
 - Fed in concrete fence-line U-bunks outside of the shed
 - Inside of the shed contains a bedded pack
 - Composed mostly of chopped wheat straw



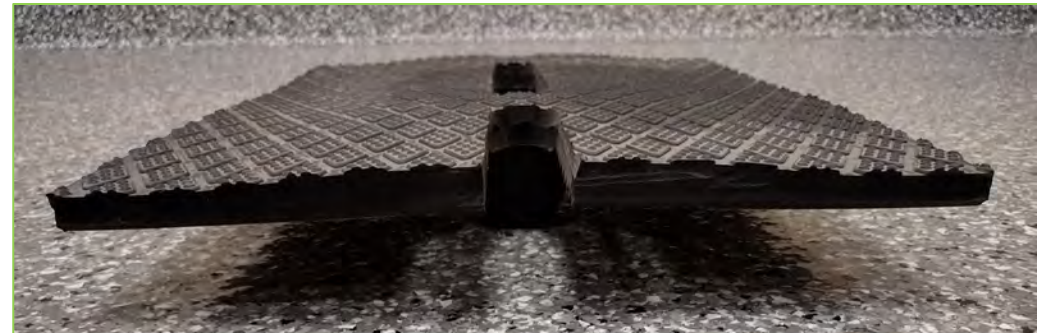
Facility: Legend Feeders

○ Calf Development Facility:

- Individual pens until weaning followed by transfer directly to growing/finishing facility
- Pens are located within a pole barn with curtain sides and forced ventilation
- Bedding consists of wood shavings from recycled shipping pallets and occasional chopped straw
 - Very fine texture with substantial dust development during bedding refreshes
 - Bedding checked during morning feedings and added if needed

○ Growing/Finishing Facility:

- Fully concrete-slatted floors with rubber overlay
- Liquid manure pit located below the slatted floor



Feeding: Sunrise Dairy

○ Calves:

- Provided 2 liters of colostrum by esophageal feeder within 12 h of birth
- Trained to bucket feeding as quickly as possible – fed waste milk from the dairy with milk replacer supplement as needed to reach target volume
- Provided up to 0.5 kg commercial calf starter twice/day

○ Feedlot:

- Provided free-choice dry hay and salt/mineral supplement
- Diet composed of refusal feed from the lactating dairy herd mixed with corn silage



Feeding: Legend Feeders

- Calves:
 - Bottle-fed commercial milk replacer per label instructions twice daily for the first two weeks after receiving
 - Transitioned to bucket feeding after two weeks
 - Free-choice commercial starter feed refreshed each morning
- Feedlot:
 - Diets are managed by a commercial nutritionist with 20 years experience
 - Composition varies due to the inclusion of byproduct feeds including bakery waste and brewers' grains from area food companies when price and availability permit



Cleaning and Maintenance: Sunrise Dairy

- Birth-weaning:
 - Individual shelters are removed from underlying bedding and area is scraped with a skid steer loader after a group of calves is weaned
 - Shelters are replaced and freshly bedded for next group of calves
 - Shelters are not otherwise cleaned between groups
- Grow-finish
 - Bedded pack is removed once per year in the late spring
 - Acute facility damage (broken fences and gates, etc) are typically repaired at the time of bedded pack removal



Cleaning and Maintenance : Legend Feeders

○ Receiving – weaning:

- A weekly facility check log is maintained, but most facility repairs occur on the same day as discovery
- Between groups of calves, all bedding is removed from individual pens, and pens and floors are washed with a high-pressure steam cleaner

○ Grow/finish:

- Facility was designed to be very low maintenance
- Primary repair is for broken gate latches, which are repaired upon discovery by pen riders
- Waterers are drained and debris brushed out each Friday afternoon



Enrichment: Sunrise Dairy

- Within the birth-weaning facility, workers once experimented with mounting a rubber nipple to the wall of each individual enclosure but stopped because calves seemed disinterested
- No enrichment items or activities are provided in the Grow/Finish facility

Enrichment: Legend Feeders

- Receiving – Weaning:
 - Calves are housed in pens with wire panel dividers to allow for social interactions with conspecifics
- Grow/Finish:
 - Each pen has at least one and sometimes two wall-mounted brushes for cattle to use
 - Brushes are used heavily by the cattle and require annual replacement



Health and Welfare I: Sunrise Dairy

○ Painful procedures:

- Male calves are castrated by rubber band at 3 days of age and given one dose of meloxicam HCl orally at a rate of approximately 1 mg/kg bodyweight
- Approximately 30% of calves are disbudded by application of caustic paste to the horn buds at the time of castration
 - Remaining calves are polled due to crossbreeding and selection of polled Holstein sires for the past 10 years

○ Birth to wean mortality: 5%

- Most mortality occurs in the first 4 weeks of life
- Typically caused by failure of passive transfer and/or coccidiosis

Health and Welfare I: Legend Feeders

- Painful procedures:
 - All calves are surgically castrated by scalpel 2 days after arrival (~ 8.5 weeks of age)
 - 5 ml (Total volume) of 2% lidocaine hydrochloride is injected and divided between the two spermatic cords approximately 5 min before excision of the testes
 - At the time of castration, a rubber elastrator band is placed such that 2/3 of the tail will be removed. The lower portion of the tail is removed by bypass shears at least 1 week later
- Receiving to wean mortality: 1.5%
 - Primary cause is failure of passive transfer
 - Provision of 2 feedings of colostrum within 24 hours of birth is a contract requirement between Legend Feeders and the order buyer. Requirement was added in 2003 and reduced mortality by ~6%.



Health and Welfare II: Sunrise Dairy

- On the day of weaning (7-11 weeks of age), all calves receive an 8-way clostridial vaccine per label indications
 - Bottle is stored in a refrigerator with needle inserted into the top of the bottle and syringe attached
- Wean to finish mortality: 0.8 - 1.9% per group
 - Most common cause is respiratory disease
- Euthanasia:
 - All calves and cattle that require euthanasia are euthanized with a .22 long rifle pistol with solid point bullets
 - Shot placement is at the intersection of two imaginary lines from the inside corner of the eye to the opposite ear
 - More than 1 shot is typically required for animals older than 3 weeks



Health and Welfare II: Legend Feeders

- Preconditioning:
 - Before transfer from calf development to grow/finish, groups of calves are castrated, tail docked, and treated with the following compounds following label indications:
 - Oxytetracycline
 - 8-way clostridial vaccine
 - Bovine rhinopneumonitis vaccine
 - Pour-on insecticide (5% permethrin/5% piperonyl butoxide)
 - For injectable compounds, needles are used for the entire processing day and discarded at the end
- Wean to finish mortality: >0.2%
 - Most common cause is respiratory disease shortly after transition to grow/finish facility
- Euthanasia:
 - Moribund calves and cattle are euthanized by .25 caliber penetrating captive bolt by the pen riders, who are trained annually by the staff veterinarian, or the veterinarian herself
 - Each animal receives three shots at or near the intersection of two imaginary lines between the outside corner of the eye and opposite side of the poll, but no corneal reflex has ever been observed after the first shot and no animal has recovered following the procedure

Human-Animal Interactions: Sunrise Dairy

- During the birth-weaning phase, workers are encouraged to avoid contact with calves to prevent transmission of disease
- Minimal direct human-animal interactions occur after weaning. However, when caretaker drains and cleans waterers, cattle willingly approach her to investigate when her back is turned

Human-Animal Interactions: Legend Feeders

- During the receiving-weaning phase, calf feeders often pet and scratch calves that are more precocious
 - Typically change nitrile gloves between interactions with calves and avoid suckling of fingers and clothing
- Pen riders walk through the grow/finish facility pens once per day Monday-Friday
 - On weekends, focus is on feeding and quick observations from the feed truck
- Owner walks through the pens separately from the pen riders on days with pleasant weather
 - Workers often witness the owner attempting to scratch the withers of animals that approach him

Behavioral Indicators: Sunrise Dairy

- 50% of the cattle on feed (N = 102) were recently continuously video monitored for the behaviors listed in this table
- Sampling occurred on one day between 8:00 AM and 4:00 PM
- Cattle were 30 - 150 days on feed
- Data are expressed as the percent of individual animals that expressed a behavior within each hour of continuous observation and averaged for the 8-hour sampling period.

Activity	% of animals/hour
Mounting	0.6
Allogrooming	0.5
Tongue rolling	0.2
Licking of pen walls and gates	0.6
Headbutting other animals	0.5



Behavioral Indicators: Legend Feeders

- Two pens of cattle (N = 100) were recently continuously video monitored for the behaviors listed in this table
- Sampling occurred on one day between 8:00 AM and 4:00 PM
- Cattle were 90 days on feed
- Data are expressed as the percent of individual animals that expressed a behavior within each hour of continuous observation and averaged for the 8-hour sampling period.

Activity	% of animals/hour
Mounting	0.2
Allogrooming	0.3
Tongue rolling	0.9
Licking of pen walls and gates	0.2
Headbutting other animals	0.2
Using pen-mounted brush	1.1



End of production: Sunrise Dairy

- When a group of 5-7 cattle physically appear ready for marketing, a local livestock transporter is hired to haul to a livestock market
 - Distance to market: 50 km
- Sunrise Dairy does not know which slaughter establishments typically buy their cattle, but they have been dissatisfied with the sale prices of their cattle
 - Livestock market manager has reported that discounts appear to be due to horn scurs, obvious lice infestations and physical stature suggestive of the potential for low quality grade

End of production: Legend Feeders

- All cattle are contracted with a large beef processing company
 - May be transported to one of five slaughter establishments as determined by the processing company
 - Distance traveled: 225 – 660 km
- All cattle are transported by double-deck semi-mounted cattle trailers that are owned by a subsidiary of the beef processing company.
- Image was collected from a trailer at time of arrival to pick up cattle



End of Dairy Beef Scenario