



# Herd Health Plan

Farm Name: \_\_\_\_\_ Farm Owner: \_\_\_\_\_

Veterinarian of Record: \_\_\_\_\_ Farm Manager: \_\_\_\_\_

Date Created: \_\_\_\_\_

Date(s) Reviewed: \_\_\_\_\_

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Date(s) Updated: \_\_\_\_\_

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Farm Owner: \_\_\_\_\_ Date: \_\_\_\_\_

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Farm Manager: \_\_\_\_\_ Date: \_\_\_\_\_

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Veterinarian of Record: \_\_\_\_\_ Date: \_\_\_\_\_

Initials: \_\_\_\_\_ Date: \_\_\_\_\_ Initials: \_\_\_\_\_ Date: \_\_\_\_\_



# Herd Health Plan

## Employee Training

**Objective:** To establish and maintain skilled and well-trained employees to enhance herd and farm operations.

1. Farm owner, farm manager, veterinarian, and/or otherwise qualified individual will provide training to all new and existing employees at least once per year, in the languages understood.
  - a. Clear expectations are outlined as a part of training.
2. All employees with animal care responsibilities will be trained in proper stockmanship, promptly after hiring, in the languages understood, before starting work with any animals, that includes:
  - a. Zero-tolerance for abuse of all animals.
  - b. Basics of low-stress animal handling.
3. Employees will receive training for their specific role of responsibility, as well as cross-training, through farm owner, farm manager, veterinarian, and/or otherwise qualified individual guidance and/or shadowing of other employees in their assigned areas of responsibility. Training should also emphasize prompt reporting to farm owner/manager any emergent situations as well as any violations of the Dairy Cattle Care Agreement.

## Animal Health Product Storage and Administration

**Objective:** To ensure the proper handling, storage and administration of all cattle health products, and to ensure proper record keeping for all treatments. The primary goal is to keep animals comfortable and to return them to health as soon as possible.

### *Receiving Health Products:*

1. Only purchase and use FDA/USDA-approved health products for treating animals.
2. Record all purchased health products in the Inventory and Use Records.
3. Store products according to label directions in the refrigerator or the marked cabinets in the medication room. Do not store food in refrigerators that are used for animal medications.
4. Maintain cool, dry conditions in the medication storage areas.
5. Place all label inserts of all animal health products used on the farm with other labels in the medication room.

### *Administering Health Products:*

1. Farm managers must authorize administration of any product.



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2. Read label directions before using a medication to ensure the proper use, dosage, route of administration, frequency and timing of administration, withdrawal period and negative side effects of the medication.
  - a. Behaviors or adverse reactions that may be associated with drug administration should be recorded and reported to herd's veterinarian.
3. Herd veterinarian must authorize any extra-label use of a product and set appropriate withdrawal times.
4. Check expiration dates on all products before use.
  - a. Discard any expired or contaminated products in appropriate containers and record disposal date on the Inventory and Use Record.
5. Record individual or group treatment details before animal or group is treated.
6. All injections should be administered in the front shoulder slope (DIAGRAM 1) and subcutaneously if the health product allows.
7. Use separate, labeled syringes for different products.
  - a. Never put an injection needle back into a drug bottle.
  - b. Clean syringes after use and before using a different drug in the same syringe. Do not use disinfectants to clean syringes for modified-live viral vaccine.
8. When products requiring refrigeration are used over long periods in field conditions, persons responsible for administering these products should maintain these products in cool conditions (cooler with ice or ice packs).
9. Change needles frequently (every 10-15 uses), or when bent, dull, burred or dirty.
  - a. When treating sick cattle, change needles after every animal is treated.
10. If a needle breaks in the animal during injection, immediately identify the animal and contact a veterinarian to remove the needle.
  - a. If the needle cannot be retrieved, make a note on the individual animal's Treatment Record.
  - b. If the animal is going to be shipped for slaughter, inform the packer of the needle and send the animal to slaughter as a "suspect."
11. Use only zero-day withdrawal products in the last 50 days before slaughter.

## ***After Administration of the Product:***

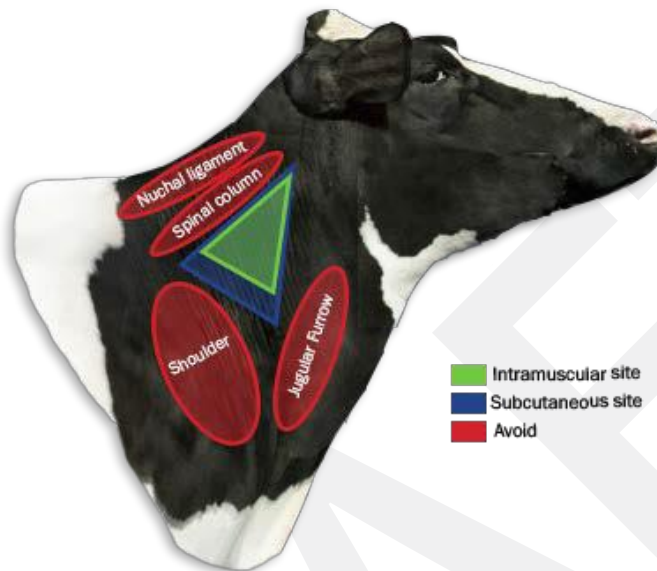
1. Return all remaining products back to proper storage location.
2. Update Inventory and Use Record.
3. Return any unused needles back to the needle storage container.
4. Dispose of used sharps in the container marked specifically for SHARPS and not in the garbage.

## ***IV Injections:***

1. All intravenous (IV) injections should be administered by the veterinarian, dairy manager or trained employees, and treatment should be recorded.



# Herd Health Plan



## Newborn and Milk-Fed Calves

**Objective:** To support the birth of live, healthy calves and to transition cows into lactation.

### Calving:

1. Cows and heifers should be moved to individual calving pens (as available) when they are close to calving.
2. To determine if calving intervention is required, consult the dairy manager. If the manager can't be contacted, call the veterinarian.
  - a. If the calf must be delivered with assistance, the animal should be walked or transported to the hospital or calving area.
  - b. In the event that the cow is non-ambulatory or cannot be moved, offer the assistance in the current pen.
3. Follow the calf delivery procedures provided by the herd veterinarian.
4. Once calf is born, update the calving record by recording the birth date, identification and vaccinations provided.
5. Do not leave the calf in the calving barn for an extended period of time. Warming the calf in the barn under heat lamps is recommended when delivery has been difficult or the temperature is below 32 degrees F.
6. Thoroughly clean out calving pen and re-bed with fresh bedding. This is to be done between every calving.



# Herd Health Plan

## Newborn Calves

1. Spray navel with disinfectant immediately following birth.
2. Administer any health products as designated in the Herd Health Plan by herd manager or veterinarian.
3. Provide 4-5 quarts of high quality colostrum, as determined by a Brix refractometer, within the first 6-8 hours of life.
  - a. Pasteurize colostrum from Johne's cows or use colostrum from Johne's free cow to prevent spread of disease.
4. Move the calf by lifting, walking or using a clean, well-designed mechanical transport to a clean, well-bedded living area.
5. House in a clean environment that:
  - a. Shields from drafts.
  - b. Provides ample and dry bedding that allows for nesting, especially in cold weather.
6. In cold weather, consider use of heat lamps, calf jacket or supplemental heat to maintain body temperature.
7. Provide constant access to clean and fresh water at all times.
8. Feed at least 8 quarts of milk or milk replacer in 2 or more feedings per day with the introduction of starter feed by day 3.
9. At time of weaning, weaning should be done in a gradual, step-down process over a 7-to-10 day period.

## Disbudding

1. Conduct disbudding at the earliest age possible, before 8 weeks of age.
2. Administer local anesthesia, non-steroidal anti-inflammatory drugs, and/or sedatives, as recommended by veterinarian, prior to and after conducting disbudding to mitigate and manage pain associated with process.
3. Protect recently disbudded calves from external elements and extensive social interaction to allow for healing of disbudded area.
4. For animals that develop scurs, remove the bulk of the horn.
  - a. If animal is older than 8 weeks of age, surgery should be conducted by or in consultation with veterinarian with aforementioned pain mitigation options.

## Other Planned Medical Procedures (Castration, Branding, Extra Teat Removal)

1. Consult with veterinarian for recommended medical procedure.
2. Conduct any planned medical procedure at the earliest age possible.
3. Administer local anesthesia, non-steroidal anti-inflammatory drugs, and/or sedatives as recommended by veterinarian, prior to and after conducting medical procedure to mitigate and manage pain associated with process.



# Herd Health Plan

## Milking Procedure

**Objective:** To ensure animal well-being and productivity while safely and efficiently procuring milk from lactating cows.

1. Milkers, in a calm and controlled manner, will bring and load cows into the parlor.
  - a. Cows should be moved without excessive vocal or physical interaction.
  - b. Cows should be out of their home pen for less than one hour total.
  - c. Any new animals introduced to the lactating herd should be appropriately acclimated and trained to entering and exiting the parlor in addition to the milking process.
2. Milkers are to wear latex gloves when executing the milking protocol.
3. Using a clean paper towel or dry wash cloth to wipe and clean off teats.
4. Utilizing a disinfecting solution, pre-dip all four teats.
  - a. Allow for appropriate contact time of the pre-dip to kill any existing bacteria.
5. Strip at least two streams of milk from each teat to stimulate let-down and observe for any abnormal milk.
  - a. If milk secretion is abnormal (flakes, hardness of quarter, etc.), take sample to culture for pathogen type.
  - b. If pathogen identified dictates a needed treatment, provide treatment, as recommended by herd veterinarian, and follow milk withdrawal times.
6. If milk is normal, wipe teats with clean, dry paper towel or wash cloth.
7. Attach milking unit to cow.
8. When milking unit fully milks out the cow and detaches, utilizing a protective, disinfecting solution, post-dip each cow.
9. In a calm and controlled manner, allow for cows to return to their home pen.

## Culling and Transport

1. Animals for culling should be identified and decided upon by veterinarian, farm manager or trained farm employee.
2. When culling decision has been made, appropriate transportation plans should be secured.
3. Trucks and trailers used for transportation of culled animals should be clean and optimized for comfort, ventilation and protection from weather elements.
4. Culled animals should be loaded and unloaded in a way that minimizes stress, in areas with proper design, by individuals who have been trained on proper animal well-being and handling.
5. Trucks and trailers should be safe and comfortable to the animal and driven as smoothly as possible to limit the possibility of injury.
6. Transportation length should allow adequate time allocation to check on the condition of all animals periodically.
7. Water and feed should be available to all animals if transportation exceeds 24 hours.



# Herd Health Plan

## Daily Observation

**Objective:** To observe entire herd daily for any signs of disease or injury.

1. Check all cows, dry cows, heifers, calves and bulls for general appearance and any potential health issues.
  - a. Potential issues to look for include uneven or labored respiration, abdominal distension, swollen joints, lameness, diarrhea, unusual discharges from eyes, nose or reproductive tract, ears down, listlessness, body abrasions and injuries.
  - b. Be aware of scoring system for specific animal observations:
    - i. Hygiene: 1-clean 4-dirty
    - ii. Locomotion: 1-sound 3-severely lame
    - iii. Body Condition Scoring: 1-thin 5-fat
    - iv. Hock and Knee Lesions: 1-no hair loss 3-severe swelling and/or abrasion
2. Monitor feed and water intake, health and cleanliness.
3. Monitor animal use of facilities to identify:
  - a. Areas prone to slips and falls
  - b. Areas subject to inordinate amounts of manure or standing water
  - c. Facility maintenance needs

## Lameness

1. Routinely survey hoof, feet and leg health in order to achieve early detection and treatment of any potential lameness.
2. Maintain clean facilities with routine maintenance of barn alleys, walkways and stalls.
3. Employ routine and preventative hoof trimming by a trained hoof trimmer for each animal at least twice per year.
4. Utilize a footbath solution for cows to use as they exit the parlor or in a walkway used routinely.
  - a. New footbath solution replenished 3-5 times per week.
5. If lameness is identified, segregate the animal to allow for proper diagnosis and therapy.
6. Consult with trained hoof trimmer and/or veterinarian to treat the cause of lameness, that minimizes pain to the animal.
7. Once treatment is administered, keep lame animals separated until full recovery and milk and meat withholds of treatment or pain management have been satisfied.
8. Record treatment in individual animal health record.



# Herd Health Plan

## Parasite, Pest and Fly Control

1. Practice routine sanitation and maintain proper ventilation of all facilities to limit and reduce amount of parasites, pests and flies.
2. Utilize chemical insecticide controls such as sprays, baits and larvicides to rid herd of parasites, pest and flies where appropriate.
  - a. Avoid feed areas to avoid contamination.
  - b. Follow all label instructions for application method.
3. Encourage maintenance of natural biological controls (i.e. beetles, parasitic wasps) that will attack and kill pests and flies throughout facilities.
4. Utilize topical chemical controls, such as insecticides, following label instructions:
  - a. Application methods may include self-application devices, whole-animals sprays, pour-ons and dust.
5. All dogs and cats on the farm property are kept up to date on rabies and flea medication to limit spread or exposure to herd.

## Pain Management

**Objective:** To reduce, minimize or eliminate any pain that may be experienced by an animal due to medical procedure or natural occurrence of injury or disease.

1. Train employees to identify signs of pain in animals:
  - a. Signs of Pain
    - i. Behavioral:
      1. Avoidance/flight
      2. Vocalization
      3. Kicking/stamping feet
      4. Flicking tail
      5. Facial expressions
      6. Change in stride/reluctance to step on foot
      7. Depression
      8. Increased lying
    - ii. Physiological:
      1. Inflammation
      2. Tissue damage
      3. Increased blood cortisol levels
      4. In appetite





# Herd Health Plan

2. Restrain animal to ensure safety of both employee and animal and reduce unnecessary stress or additional pain to animal.
3. Administer local anesthesia, non-steroidal anti-inflammatory drugs, and/or sedatives, as recommended by veterinarian, to mitigate and manage pain.
4. Monitor animal post-process to identify need for additional administration of pain mitigation.
5. Record treatment in individual animal health record.

## Vaccination

**Objective:** To prevent incidence of common dairy diseases by raising level of immunity.

### Calves

#### At Birth:

1. Oral modified-live vaccine, given orally 30-minutes prior to colostrum, for bovine rotavirus and bovine coronavirus.
2. Provide 4-5 quarts of high quality colostrum, as determined by a Brix refractometer, within the first 6-8 hours of life.

#### 4-6 Months of Age:

1. Infectious bovine rhinotracheitis (IBR)/ Parainfluenza-3 (PI-3)/ Bovine Respiratory Syncytial Virus (BRSV)/ Bovine Viral Diarrhea (BVD) modified live vaccine administered intranasal or subcutaneously.
2. Leptospirosis 5-way administered subcutaneously or intramuscularly by injection high on the side of the neck.
3. Clostridium 7-way administered subcutaneously by injection high on the side of the neck.

### Replacement Heifers

#### Prior to Breeding:

1. Infectious bovine rhinotracheitis (IBR)/ Parainfluenza-3 (PI-3)/ Bovine Respiratory Syncytial Virus (BRSV)/ Bovine Viral Diarrhea (BVD) modified live vaccine administered intranasal or subcutaneously.
2. Leptospirosis 5-way administered subcutaneously or intramuscularly by injection high on the side of the neck.
3. Clostridium 7-way administered subcutaneously by injection high on the side of the neck.

#### Prior to Calving:

1. Clostridium 7-way administered subcutaneously by injection high on the side of the neck.
2. E.coli mastitis vaccine administered in a three-injection regimen high on the side of the neck.
  - a. 7 months of gestation
  - b. 8 months of gestation
  - c. Two-weeks post-partum
3. Bovine rotavirus, bovine coronavirus and E.coli scours vaccine injection subcutaneously.



# Herd Health Plan

- a. Six weeks prior to calving
- b. Three weeks prior to calving

## Lactating and Dry Cows

**Modified live virus vaccines may not be able to be used.**

1. Infectious bovine rhinotracheitis (IBR)/ Parainfluenza-3 (PI-3)/ Bovine Respiratory Syncytial Virus (BRSV)/ Bovine Viral Diarrhea (BVD) vaccine administered subcutaneously.
2. Leptospirosis 5-way administered subcutaneously or intramuscularly by injection high on the side of the neck.
3. Clostridium 7-way administered subcutaneously by injection high on the side of the neck.
4. E.coli mastitis vaccine administered in a three-injection regimen subcutaneously high on the side of the neck.
5. Bovine rotavirus, bovine coronavirus and E.coli scours vaccine injection subcutaneously.

## Food Safety

1. Check the individual animal treatment records to assure that if the animals have been treated, that they have met or exceeded label and prescription withdrawal times for all products that have been administered.
2. Define that the animal is eligible for market. If unsure, consult with your veterinarian. Animals that are eligible for market include:
  - a. Cattle that meet the withdrawal period for milk and meat of any treatment received.
  - b. Cattle that have not recently have incidence of disease, disease symptoms or evidence of treatment.
  - c. Cattle who are ambulatory. Do not market animals who are non-ambulatory under any circumstances.
  - d. Cattle that are well-fed, hydrated and lively. Delay transport of an animal that appears to be exhausted or dehydrated until the animal is rested, fed and rehydrated.
  - e. Cattle in sound body condition, greater than 2 on the 1 to 5 Body Condition Score scale. Do not market animals who are in poor body condition, generally a Body Condition Score of less than 2 on the 1-5 scale.
  - f. Heifers or cows that are not close to calving. Do not market heifers or cows where calving is imminent and likely to occur during transportation or marketing process.
  - g. Animals that are able to rise and walk on their own. Do not market animals that require mechanical assistance to rise and walk, except to receive veterinary treatment.
  - h. Animals without bone fractures or injuries. Do not market animals with bone fractures of the limbs or injuries to the spine.
  - i. Animals that will be able to pass pre-slaughter inspection. Do not market animals that will not pass pre-slaughter inspection at packing or processing facility.
3. Maintain permanent written records of any treatment provided to animals that are easily accessible to ensure that no animal, outlined above, enters the food chain.



# Herd Health Plan

## Diseased or Injured Cattle

**Objective:** To provide treatment and supportive care to assist the recovery or rehabilitation of animals suffering from disease or injury.

1. Identify the prognosis of disease or how injury occurred.
  - a. Make marketing decisions in a timely manner so animals that need to be transported to a packing or processing plant are fit for transport.
  - b. If euthanasia is deemed necessary (See: "Considerations for when euthanasia is appropriate"), follow Euthanasia Protocol to properly euthanize animal.
2. If likely to recover, segregate sick/injured animal from the herd in a hospital/sick pen that ensures maximum amount of animal comfort and protects from inclement weather and predators.
  - a. Utilize proper special equipment (sled, sling, bucket) appropriate for the animal size to allow for proper movement of the animal.
3. Provide prompt medical care.
  - a. Administer local anesthesia, non-steroidal anti-inflammatory drugs, and/or sedatives, as recommended by veterinarian, to mitigate and manage pain associated with ailment.
  - b. Record all treatments in individual animal treatment record.
4. Provide access to clean water (or milk/milk replacer for pre-weaned calf) and food at all times.
5. Minimize conditions that may increase the likelihood of further injury.
6. Monitor animal post-treatment to determine need for any additional treatment or when disease or injury is overcome.
7. Ensure withdrawal times for any treatment have been followed prior to returning animal back into herd.

## Common Dairy Disease Treatment

### Mastitis

1. Evaluate the milk secretion from each quarter of the udder.
2. If the cow only has flakes and no hardness or related ailments, treatment may not be necessary.
3. If temperature is over 101.5° F, milk is abnormal and/or has a hard quarter, antibiotic therapy and other treatment may be necessary pending pathogen of infection, as recommended by veterinarian.
4. Record treatment in individual animal health record.

### Metritis

1. Identify if the cow has a foul-smelling, watery vaginal discharge with systemic signs of being ill, with or without a fever, through routine monitoring, up to 10 days post-calving.
2. Treat with veterinarian-prescribed antibiotic, preferably with low to no milk withhold time.



# Herd Health Plan

3. Practice voluntary waiting period to allow cows to return to ideal reproductive health before attempting to breed.
4. Record treatment in individual animal health record.

## Milk Fever

1. Identify if the cow is either non-ambulatory, up but unsteady, or abnormally lethargic, typically soon after calving.
2. Trained employee or veterinarian will administer veterinarian-recommended product labeled for treatment of hypocalcemia, following label instructions.
3. Monitor post-treatment to determine recovery or additional treatment.
4. Record treatment in individual animal health record.

## Ketosis

1. Identify if the cow, early in lactation, is showing signs of weight loss, depression, reduced feed intake, slight dehydration and reduced rumen function.
2. Determine ketone body level of animal by utilizing commercially available urine, milk or blood test.
3. If ketone body levels are elevated, follow veterinarian-prescribed treatment that reestablishes glycemic balance and reduces ketone body concentrations such as dextrose solution and/or propylene glycol.
4. Monitor post-treatment to determine recovery or additional treatment.
5. Record treatment in individual animal health record.

## Displaced Abomasum

1. Identify if the cow has a lack of appetite, decreased milk production, and decrease in rumen motility that leads to pinging when the abdomen is tapped.
2. Trained employee or veterinarian will determine treatment protocol of:
  - a. Rolling the cow 180 degrees or,
  - b. Surgical procedure using proper pain and infection management techniques.
3. Monitor post-treatment to determine recovery or additional treatment.
4. Record treatment in individual animal health record.

## Pneumonia

1. Identify if the cow has increased respiratory rate, fever, with potential of decreased appetite.
2. Treat cow with veterinarian-prescribed antibiotics.
3. Monitor post-treatment to determine recovery or additional treatment.
4. Record treatment in individual animal health record.

## Infectious Diarrhea

1. Identify if the calf or cow has abnormal manure, reduced appetite and dehydration.
2. Treat the animal with appropriate electrolytes, buffers, and if necessary, antibiotics, as recommended by veterinarian.



# Herd Health Plan

3. Monitor post-treatment to determine recovery or additional treatment.
4. Record treatment in individual animal health record.

## Retained Placenta

1. Identify if the cow's reproductive tract has not expelled placenta after calving.
2. Trained employee or veterinarian will palpate the reproductive tract to encourage expelling of placenta.
3. Use of hormone therapy to encourage expelling of placenta may also be warranted in addition to veterinarian-prescribed antibiotic use to reduce the risk of infection associated with retained placenta.
4. Record treatment in individual animal health record.

## Dystocia

1. If a cow has experienced a difficult calving that may have required assistance, seek the advice of the herd veterinarian for further treatment recommendations on a case-by-case basis.
2. Administer local anesthesia, non-steroidal anti-inflammatory drugs, and/or sedatives, as recommended by veterinarian, to mitigate and manage pain associated with dystocia.
3. Record all treatments in individual animal treatment record.

## Non-Ambulatory Animal Management

**Objective:** To provide comfort and support to animals aiding in their recovery from injury/disease or to humanely euthanize animals that will not recover.

**Definitions:** Any animal, including calves that cannot stand or walk, is to be considered non-ambulatory. If the animal will not rise, or is unable to rise due to a slippery surface, it is considered non-ambulatory.

## Moving and Handling

1. When a non-ambulatory animal is identified, the designated employee is notified.
2. Non-ambulatory animals that are severely suffering and determined unsalvageable are to be euthanized immediately (see Euthanasia Protocol).
3. A person trained to operate the proper equipment (sled or loader) for moving a non-ambulatory animal is notified to remove the non-ambulatory animal from their current location within two hours or less of being identified.
  - a. Picking up a non-ambulatory animal with the loader requires a minimum of three people: one person operating the loader and two people assisting on the ground.
  - b. The non-ambulatory animal must never be scooped up by the loader; rather it must be gently rolled into the loader bucket by the caretakers on the ground while the loader operator rolls the bucket back.



# Herd Health Plan

4. The non-ambulatory animal is to be carried gently on the sled or in the loader to an area specified for special needs/non-ambulatory animals. This designated area should be away from other healthy animals that can cause harm to non-ambulatory animals.
  - a. Any body parts of the non-ambulatory animal should not be touching the ground while being moved.
  - b. The loader should never be driven recklessly or at a speed that would cause additional harm to the animals. The loader must be able to stop quickly enough in case the animal attempts to get out of the loader. Therefore, the speed of the loader should be slow enough to stop in time if this event were to occur.
  - c. The non-ambulatory animal must be gently rolled off the sled or out of the loader bucket into soft bedding where it will immediately be given clean water and food.

## Treatment

1. Provide access to feed and water at all times, shelter or shade, and protection from predators.
2. Provide prompt medical care:
  - a. Administer local anesthesia, non-steroidal anti-inflammatory drugs, and/or sedatives, as recommended by veterinarian, to mitigate and manage associated pain.
  - b. Record all treatments in individual animal treatment record.
3. All non-ambulatory animals will be rolled from side to side (suggested minimum every 2-3 hours) to try and prevent damage to their muscles.
4. Non-ambulatory animals can be assisted to stand with a sling that is placed around their belly or in a float tank. The sling needs to be wide enough to support the animal's weight over a broad area. The animal should never be left in the sling or float tank unattended. The amount of time an animal is allowed to stand in the sling or float tank will be dependent on the animal.
  - a. In general, hip lifts should not be used as they can cause injuries. If they must be used, it must be minimal and with great care and supervision.
5. When a non-ambulatory animal that has been receiving treatment and is judged to be nonresponsive and unsalvageable by the veterinarian, owner or manager, the animal is to be euthanized per the outlined Euthanasia Protocol and in accordance with AVMA/AABP recommendations.
  - a. Employees are to notify the veterinarian, owner or manager of non-ambulatories in rehabilitation longer than suggested maximum of 3 days. If the animal is deemed to be improving in health, is able to sit upright and appears alert, then rehabilitation may continue as stated in the health plan or directed by the veterinarian.



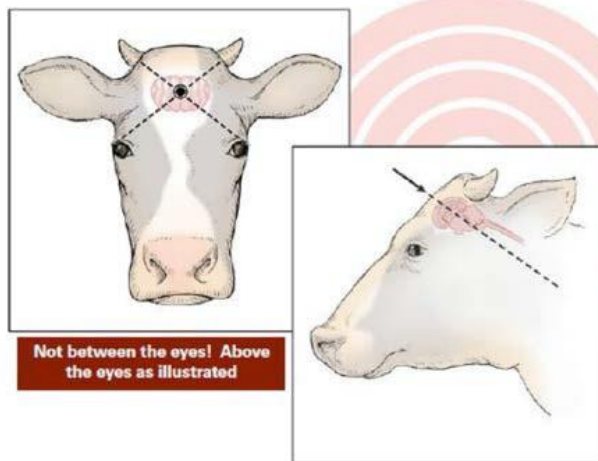
# Herd Health Plan

## Euthanasia

**Objective:** Livestock caretakers have an obligation to ensure the welfare of animals under their care. Euthanasia of an animal that is suffering from irreversible disease or injury is a primary responsibility of caretakers.

1. Employees must be trained in procedure of euthanasia and recognizing when euthanasia is the appropriate option.
2. Considerations for when euthanasia is appropriate:
  - a. Pain and distress of animal
  - b. Likelihood of recovery
  - c. Ability to get to feed and water
  - d. Drug withdrawal time
  - e. Economic considerations
  - f. Condemnation potential
  - g. Diagnostic information
3. Acceptable methods of euthanasia will be conducted in accordance to the AVMA/AABP approved practices, which can include gunshot, penetrating captive bolt or intravenously by barbiturate overdose.
  - a. DIAGRAM 2 for optimal point of entry for gunshot and captive bolt.
4. Upon method of euthanasia completion, death must be confirmed through observation and continued monitoring of medical signs.
5. Carcass of deceased animal must be handled and disposed of in accordance with local, state and federal regulations within 12 hours.
  - a. Options include: rendering, burial, compost, incineration and landfills.
6. After moving the mortality, immediately wash and disinfect equipment used for movement.
7. Record reason of mortality in individual animal record.

**Diagram 2**





# Herd Health Plan

## Reproductive Program

**Objective:** To successfully maintain productivity, reproductive efficiency and replacement herd young stock within a herd.

1. Designated employees will be trained to recognize the signs of heat or estrus in dairy cattle.
  - a. Standing to be mounted
  - b. Mounting other cows
  - c. Increased activity
  - d. Decreased feed intake and milk yield
  - e. Mucus discharge
  - f. Swelling and reddening of the vulva
  - g. Bellowing
  - h. Restlessness
  - i. Rubbed tailhead
2. Employees will observe animals, heat detection aids or activity monitoring records for heat expression at least twice per day.
3. When heat is observed in animals of appropriate physiological maturity and body size, employees will sort animals into a separate pen area, designated as the pen of cows needing to be inseminated.
4. The employee trained to artificially inseminate cows will utilize a chute or gate system to safely isolate, handle and artificially inseminate the cow(s) in heat.
  - a. Semen selection for artificial insemination will be determined by the genetic, phenotypic, health and welfare goals of the herd, which may include but are not limited to overall conformation, soundness of feet and legs for locomotion and health traits such as milk quality (Somatic Cell Count), productive life, calving ease, fertility, etc.
5. Once the artificial insemination process has been completed, the cow(s) will be returned to their home pen.
6. At 28 days post-insemination, veterinarian will check for pregnancy.
7. If cow(s) is not pregnant, restart protocol.
8. Any additional reproductive program work (ET, IVF, etc.) will be conducted by the herd veterinarian.

## Disclaimer

These protocols are to be used as reference only and should be adapted for each individual farm. National Milk Producers Federation cannot be held responsible for any breach of protocol.

This plan is not a legal document and is intended for educational purposes only. Dairy farmers are individually responsible for determining and complying with all requirements of local, state and federal laws and regulations regarding animal care.