

1. Preface

Document captioned "Criteria for Establishment of Dairy Cattle Breeder Farm " was first published by the following expert team in 7th of July 2022 focusing on cattle and buffalo breeder farm establishment.

Former Committee:

Chairman : Dr. M.B.D. Lakmalie (Head, Animal Breeding Division, Veterinary Research Institute).

Member : Dr. K.G.J.S. Disnaka (Assistant Manager -Veterinary & Regional- NLDB)

Member : Dr. R.A.C. Rabel (Senior Lecturer, Faculty of Veterinary Medicine & Animal Science, University of Peradeniya)

Member : Dr. N.W.M.R.B. Bothota (Veterinary Surgeon, Central Province DAPH)

Member : Dr. U. Wejesinhe (Veterinary Surgeon, Human Resource Development Division)

Member : Dr. U.D. Ramanayake (Veterinary Surgeon, Animal Breeding Division)

Since it has been over two years from last publication a need arose to revise these selection criteria. Accordingly this document has been revised by a Revision New Committee appointed by the Director Animal Breeding.

New Committee:

Chairman : Dr. A. P. Bodaheewa (Veterinary Surgeon, Animal Breeding Division)

Member : Dr. U. Wejesinhe (Deputy Director, Human Resource Development Division)

Member : Dr. U.D. Ramanayake (Deputy Director, Animal Breeding Division)

Dr. B.M.M. Ekanayake

Director (Animal Breeding)

Department of Animal Production & Health

2. Objective

The establishment of a dairy cattle breeder farm aims to:

- **Register:** Identify and register cattle farms that adhere to the rigorous standards outlined in this document.
- **Develop:** Foster the growth of breeder farms to attain superior breeding and reproduction benchmarks.
- **Supply:** Provide other farms with access to certified, high-quality breeding materials.

3. Site Selection & Approvals

- **Land Suitability:** Secure land inherently suitable for dairy cattle breeding operations.
- **Environmental Clearance:** Obtain requisite approval from the Environment Authority for farm establishment.
- **Public Health Approval:** Acquire necessary permissions from the Local Government (Public Health).
- **Resource Accessibility:** Ensure convenient access to clean water sources, well-maintained roads, reliable electricity, and other essential utilities.
- **Veterinary Registration:** Register the farm with the appropriate regional Veterinary Office.

4. Land Requirements

- **Water Availability:** Guarantee a consistent and sufficient water supply throughout the year to support all farm operations.
- **Cultivation Capacity:** Possess adequate land area to cultivate both pasture and fodder crops for livestock feed.
- **Construction Suitability:** Ensure soil conditions are conducive to the construction of robust and permanent farm buildings.
- **Accessibility:** Maintain a well-maintained access road suitable for vehicular traffic.
- **Non-Reserved Status:** Verify that the land is not allocated for any other governmental development projects.
- **Legal Availability:** Confirm that the land is legally obtainable.

5. Farm Design & Layout

- **Veterinary Approval:** Obtain approval for the farm plan from the regional veterinary surgeon, certifying compliance with DAPH guidelines regarding space allocation, ventilation, drainage, slope, building heights, feeder and waterer provisions, and overall animal welfare.

6. Housing Infrastructure

- **Comprehensive Facilities:** Establish all essential housing structures required for a breeder farm:
 - Cow sheds
 - Calf sheds
 - Calving pen
 - Sick pens
 - Milking parlor
 - Milk collection unit
 - Feed storage and mixing area
 - Restraining crush
 - Farm office
 - Secure storage for drugs and chemicals
- **Durable Construction:** Employ high-quality materials in building construction to ensure longevity and resilience in the face of environmental challenges.

7. Operational Management

- **7.1. Animals & Breeding:**
 - **Pedigree Documentation:** Maintain comprehensive pedigree records for all breeding animals.
 - **Veterinary Selection:** Engage a veterinarian to assess and select animals for breeding purposes.
 - **Breed Alignment:** Choose breeds aligned with the National Breeding Policy recommendations, considering the farm's geographical location and management system.
 - **Herd Composition:** Develop a sustainable herd composition plan that adheres to established standards.

- **Minimum Breedable Females:** Maintain a minimum of 25 breedable females within the herd.
- **Optimal Body Condition:** Ensure all animals maintain a standard body condition, as verified by regular veterinary inspections.
- **7.2. Feeding:**
 - **Ingredient Selection:** Collaborate with a veterinarian or qualified animal nutritionist to determine the optimal combination of ration ingredients, considering availability, nutritional value, and cost-effectiveness.
 - **Balanced Ration:** Formulate and provide a well-balanced ration that meets the specific nutritional requirements of the herd.
 - **Daily Feeding Protocol:** Adhere to a strict daily feeding schedule, ensuring each animal receives their allocated ration without shortages.
 - **Quality Assurance:** Regularly test feed samples for quality and make necessary adjustments based on analysis reports.
 - **Veterinary Oversight:** Conduct routine veterinary inspections to verify that animals are receiving proper nutrition.
 - **Water Access:** Provide unrestricted access to clean, fresh water at all times.
 - **Total Feed Costs:** Maintain feed costs below 60% of total milk production costs.
 - **Milk Income Less Feed Costs:** Strive to maximize this value.
- **7.3. Reproduction:**
 - **Breeding Plan:** Implement a structured breeding program encompassing crossbreeding strategies and breed maintenance protocols.
 - **Performance Targets:** Strive to achieve key breeding indices: age at first calving of 26 months, annual replacement rate of 20%, one calf per year (calving interval under 1 year), and overall death rate under 5%.
 - **Percent Productive Cows:** Aim for 60-74% of adult cows to be productive (milking or dry), with 40-48% of the total herd being milking cows.

- **Artificial Insemination (AI):** Primarily utilize AI for breeding, reserving natural service by a screened stud bull for specific circumstances under veterinary guidance.
- **Semen & Storage:** For herds exceeding 200 breedable animals, maintain adequate semen reserves and liquid nitrogen for storage.
- **Veterinary Supervision:** Ensure regular veterinary inspection and meticulous record-keeping of all breeding activities.
- **Reproductive Performance:**
 - 55-60% pregnant within 100 days of calving
 - 13-15% still not pregnant within 200 days of calving
 - 65-70% "80-day submission rate" (inseminated within 80 days of calving)
 - 50–60-day voluntary waiting period prior to insemination
 - 45-50% conception to first insemination
 - 1.8-2.0 inseminations per conception
 - 12–14-month inter-calving interval
- **7.4. Healthcare:**
 - **Disease Prevention:** Adhere to the Department's recommended vaccination schedule and preventive health measures.
 - **Daily Care:** Provide prompt and appropriate treatment for all sick animals, following veterinary guidance and maintaining detailed health records.
 - **Disease Surveillance:** Participate in regular disease prevalence investigations conducted by the regional Veterinary Investigation Centre (VIC), as per DAPH recommendations. Report any disease outbreaks to the Range Veterinary Office.
 - **Postmortem Analysis:** Conduct thorough postmortem investigations on all deceased animals, overseen by a veterinarian, and maintain comprehensive reports.
- **7.5. Culling & Replacement:**
 - **Culling Strategy:** Establish a well-defined culling plan based on predetermined criteria aimed at continuous herd improvement. Obtain veterinary recommendations before culling any animal.

- **Replacement Selection:** Engage the expertise of a veterinarian to select replacement animals for the farm's future breeding stock, adhering to established selection criteria.
- **7.6. Maintenance:**
 - **Cleanliness:** Maintain impeccable cleanliness and orderliness within animal housing and surrounding areas.
 - **Utilities:** Ensure that electrical lines are securely installed and functional, eliminating any risk of electrocution to animals or personnel. Maintain the water supply system in optimal condition, preventing leaks and slippery surfaces.
 - **Equipment:** Keep all farm machinery and equipment, including milking units, harvesters, feed processors, and milk storage units, in good working order through regular maintenance and prompt repairs.

8. Record Keeping

- **Manual Records:** Maintain meticulous daily records in a dedicated record book or history card, ensuring accessibility for inspection.
- **Digital Records:** Utilize a computerized database or software for efficient data entry, storage, retrieval, analysis, and reporting.
- **Data Integrity:** Ensure regular and accurate data recording, with each entry verified and certified by farm staff or the owner.
- **Veterinary Verification:** Allow for periodic veterinary inspection and verification of all farm records.

Farmers should maintain:

- **Farmer details:** (Name, National Identity number, Herd ID, Address, Telephone Number)
- **Pedigree Records:** Detailed information about the ancestry of each animal, including parents, grandparents, and other relevant relatives.
- **History Card:** Comprehensive record of each animal's life, including birth date, breed, parentage, health events, vaccinations, treatments, breeding history, milk production, and other significant events.
- **Breeding Records:** Dates of heat cycles, breeding dates, semen used, pregnancy diagnosis results, and calving information.

- **Health Records:** Details of illnesses, injuries, treatments, medications administered, and vaccination history.
- **Feeding Records:** Daily feed intake, ration composition, feed costs, and any changes in the feeding program.
- **Production Records:** Daily milk yield, milk quality parameters (fat, protein, somatic cell count), lactation curves, and overall milk production.
- **Animal Sold Register:** Details of animals sold, including date, buyer, price, and reason for sale.
- **Birth Register:** Records of births on the farm, including date, calf identification, sex, birth weight, and dam's information.
- **Culling and Mortality Records:** Details of animals culled or died, including date, reason, and disposal method.
- **Income and Expenses Register:** Tracks all financial transactions related to the farm, including income from milk sales, animal sales, and other sources, as well as expenses for feed, veterinary care, labor, supplies, and other costs.
- **Inventory Records:** Records of feed, supplies, medications, and other farm assets.
- **Labor Records:** Hours worked, wages paid, and other employee-related information.
- **Maintenance Records:** Records of repairs, equipment purchases, and other maintenance activities.
- **Veterinary Log Records:** Documentation of veterinary visits, diagnoses, treatments, and recommendations.
- **Waste Management Records:** Documentation of waste disposal practices and compliance with environmental regulations.

9. Biosecurity Protocols

- **Perimeter Security:** Erect a secure fence or perimeter wall to define farm boundaries and control access points.
- **Controlled Entry:** Display clear signage at the entrance, restricting unauthorized entry of personnel and vehicles. Maintain detailed logs of visitors and vehicles.
- **External Parking:** Designate a parking area outside the farm's secure perimeter.

- **Signage:** Utilize appropriate signage throughout the farm to indicate restricted areas or biosecurity zones.
- **Hygiene Facilities:** Provide dedicated facilities at the entrance for visitors and workers to wash, change clothes, and disinfect footwear.
- **Worker Protocols:** On larger farms, assign separate workers to different sections or units. Ensure facilities are available for workers to clean and change attire when transitioning between sections.
- **Footbaths:** Place footbaths filled with recommended disinfectants at the entrance of each unit, with daily replenishment of the solution.
- **Vehicle Disinfection:** Implement a vehicle dip or spray at the farm entrance to minimize the risk of pathogen

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