

DRAFT UGANDA STANDARD

DUS DARS 1104

**First Edition
2025-mm-dd**

Dairy cattle farms — Good production practices



Reference number
DUS DARS 1104: 2023

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The committee responsible for this document is Technical Committee UNBS/TC 213, *Live animals, meat and meat products*.

Wherever the words, "African Standard" appear, they should be replaced by "Uganda Standard".

Dairy cattle farms — Good production practices



Table of contents

1	Scope.....	1
2	Normative references	1
3	Terms and definitions	1
4	Quality requirements	1
5	Guidance for good production practices for dairy cattle farm	5
	Annex A (normative) Guidance for good agricultural practices for dairy cattle farms	6
	Annex D (informative) Units	19
	Bibliography	20

Foreword

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Introduction

Dairy farmers' production systems need to be able to combine profitability with the responsibility of protecting human health, animal health, animal welfare and the environment [1]. Dairy farmers, as the primary producers in the supply chain, should also be given the opportunity to add value to their product by adopting methods of production that satisfy the demands of processors and customers.

This Good production practices (GPP) has been formulated for dairy farmers engaged in the production of milk from bovine species. When adopted, it will support the production and marketing of safe, quality-assured milk and dairy products. The GPP focuses on the relationship between consumer safety and economic, social and environmental management at the farm level. The objective is to produce healthy dairy cow for the production of milk that meets the safety and quality requirements for human consumption or for further processing without environmental impact

The GPP contains many individual practices that contribute to good dairy farming practice, covering the key aspects of animal health, milk hygiene, nutrition, welfare, the environment and socio-economic management.

Good Production Practice for dairy farmers is about implementing sound practices on dairy farms – collectively called *Good Dairy Farming Practice*. These practices must ensure that the milk and milk products produced are safe and suitable for their intended use, and also that the dairy farm enterprise is viable into the future, from the economic, social and environmental perspectives.

Most importantly, dairy farmers are in the business of producing food for human consumption so they must be confident in the safety and quality of the milk they produce. Good dairy farming practice underpins the production of milk that satisfies the highest expectations of the food industry and consumers.

Good dairy farming practice also ensures that the milk is produced by healthy animals in a manner that is sustainable and responsible from the animal welfare, social, economic and environmental perspectives. So implementing good dairy farming practice is good risk management for the short and long term future of the dairy farming enterprise. This GPP encourages dairy farmers to adopt 'proactive' preventative practices rather than waiting for problems to occur.

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Dairy cattle farms — Good production practices

1 Scope

This Draft African Standard establishes the criteria for good production practices of dairy cattle farms. It covers dairy cattle rearing at farms to transportation of raw milk to a collecting centre or to a processing plant. This excludes other dairy animals.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ARS 53, *General principles of food hygiene — Code of practice*

ARS 56, *Prepackaged foods — Labelling*

CAC/RCP 057, *Code of hygienic practice for milk and milk products*

Terrestrial Animal Health Code (OIE TAHE), World Organization for Animal Health (WOAH)

3 Terms and definitions

For the purposes of this standard, the following terms and definitions shall apply.

3.1

dairy cow

female animal in Genus *Bos* (*Bos indicus* and *Bos taurus*) reared for producing milk for human consumption

3.2

dairy cattle farm

premise where dairy cattle are reared with the main objectives of producing dairy cattle and raw milk, covering areas of feed storage, dairy cattle rearing, milking, carcass destruction, garbage and waste collecting, office and accommodation etc.

3.3

milk collecting centre

premises or establishment where raw milk is received, collected, handled, stored, or cooled and prepared for further transportation

3.4

Good Agricultural Practices (GAP)

rules to be followed by producers in order to adjust profitability of the operation with other tangible factors such as environments, food safety and social aspects

4 Quality requirements

Requirements and inspection methods are given in Table 1.

Table 1 — Requirements and inspection methods

Item	Requirement	Inspection method
1. Components of farm		
1.1 Location	1.1.1 Farm shall be located in a risk free environment of any contamination of physical, chemical and biological hazards.	1.1.1 Visual inspection
1.2 Layout	1.2.1 Farm shall have sufficient and suitable size for dairy cattle rearing and not pose any problem to environment. 1.2.2 Farm layout shall be set up in a manner that facilitates hygienic operation, and separated according to the farm activities such as dairy cattle rearing, feed storage, carcass destruction, and worker accommodation.	1.2.1 Visual inspection of farm size and environment 1.2.2 Examination of farm layout and visual inspection of operating area
1.3 Housing	1.3.1 Space for dairy cattle shall be adequate for hygienic cattle rearing. 1.3.2 Housing shall be strong, hygienic and easily cleaned and maintained. Floor of milking area shall be slightly tilted with good drainage. Raised roof for good ventilation with no construction or object obstructing the air flow shall be provided. 1.3.3 There shall be sufficient light for operation. 1.3.4 There shall be adequate equipment and tools appropriate for operation which shall be stored in a separate area, especially the equipment used for milking shall be hygienic.	1.3.1 Visual inspection 1.3.2 Visual inspection 1.3.3 Visual inspection of light intensity within housing 1.3.4 Visual inspection of equipment and tools storage
2. Feed	2.1 Feed shall meet the quality standard. 2.2 Feed containers shall be clean, not harm cattle or cause contamination to raw milk. Truck used for feed delivery shall be cleaned and disinfected regularly. 2.3 Feed shall be preliminarily physically checked. Feed shall be checked physical, chemical and micro biological hazards 2.4 There shall be separate places for feed storage; and feed shall be protected from contamination and deterioration.	2.1 Check record of feed source or analytical results. 2.2 Check farm record. 2.3 Visual inspection of feed containers and feed transport truck. If there is evidence or suspicion that feed may be contaminated, feed shall be sampled for residue and microbiological analysis. 2.4 Check feed receiving record. Visual inspection of feed storage place, such as cleanliness, dryness, good ventilation, insects and pests free, pallets for placing feed

DARS 1104:2023(E)

Item	Requirement	Inspection method
		bags and check the validity(Expiry date) of the feed.
	2.5 All cows shall be able to access to sufficient feed with nutrients according to age and breed.	2.5 Visual inspection of dairy cattle feeding; and check feeding record, compared with the manual, along with the raw milk quality test results.
	2.6 Traceability of feed stuff brought on to the farm	2.6 Available records.
3. Water supply	3.1 Water source used on farm shall be located in an area safe from contamination of hazardous substances.	3.1 Visual inspection of water source
	3.2 There shall be sufficient supply of clean water for dairy cattle and suitable for intended farm use.	3.2 Visual inspection and the water shall be tested in a competent laboratory regularly.
4. Farm management		
4.1 Farm manual	4.1.1 The farm management manual shall be provided, illustrating the details of the important farm operations, i.e. cattle rearing system, feeding and watering, farm and animal health management, milking, and raw milk storage.	4.1.1 Inspection of manual and related documents
	4.1.2 Laboratory test records shall be checked.	4.1.2 Inspection of records
4.2 Personnel	4.2.1 Provision of sufficient personnel corresponding to the number of cattle.	4.2.1 Visual inspection and documents related to personnel
	4.2.2 Persons responsible for cattle rearing shall acquire knowledge and be trained to manage the dairy cattle farm.	4.2.2 Check training records on dairy cattle rearing course
	4.2.3 Provision of dairy expert to supervise dairy farm and a licensed veterinarian to manage the animal's health.	4.2.3 Check licenses of veterinarian and dairy cattle farm supervisor
	4.2.4 Personnel shall have good personal hygiene to prevent contamination and spread of disease.	4.2.4 Visual inspection of personal hygiene, and check record of personnel health including periodic health check-up.
4.3 Cleaning and maintenance	4.3.1 Housing and equipment shall be cleaned, disinfected and maintained in good and hygienic conditions.	4.3.1 Visual inspection and check cleaning record of housing and equipment in accordance with the cleaning and maintenance program
	4.3.2 Milking house and equipment shall be cleaned and disinfected.	4.3.2 Visual inspection and check cleaning and disinfection record of milking house and equipment in accordance with the cleaning and maintenance program
5. Animal health		

Item	Requirement	Inspection method
5.1 Prevention and control of diseases	5.1.1 Provision of effective disease surveillance, prevention and control as well as measures to prevent disease introduction to the farm via persons, animals and vehicles.	5.1.1 Visual inspection of pre-entry farm disease prevention system and check record of farm entry and exit and animal health examination for example, the test results of tuberculosis and brucellosis and the vaccination
	5.1.2 Source of dairy cattle shall be identified. New purchased dairy cattle shall be quarantined and health certified.	5.1.2 Check record of dairy cattle source
	5.1.3 Dairy cattle health shall be monitored daily.	5.1.3 Check cattle health report and indication of sick animal
	5.1.4 If there is an outbreak or suspicion of epidemic disease, the requirements under the Animal Epidemic Act shall be complied.	5.1.4 Check record on the operation according to the law.
5.2 Treatment	5.2 Treatment shall follow the recommendations of licenced veterinarian.	5.2 Check record of treatment and veterinary drug use
6. Animal welfare	6. Care shall be taken for the welfare of dairy cattle. In case of injury, sickness or deformity, cattle shall be appropriately treated to avoid suffering.	6. Visual inspection and check treatment document
7. Environment	7.1 Appropriate disposal of refuse and waste to prevent odour and pathogens to affect residents, neighbourhoods or environment.	7.1 Visual inspection and check waste management records
	7.2 Waste water shall be treated prior to discharge to public water resources.	7.2 Visual inspection and analytical results
8. Raw milk production		
8.1 Milkers	8.1.1 Milkers shall have good health certificate verified by competent authority, no infectious diseases that are able to transmit to dairy cattle or milk.	8.1.1 Visual inspection of milkers' health and check health records
	8.1.2 Milkers shall follow good personal hygiene principles.	8.1.2 Visual inspection of milkers' personal hygiene, check training records on good personal hygiene, check health records.
8.2 Preparation of dairy cows before milking	8.2.1 Before milking, dairy cows shall be cleaned and free of stress. Raw milk shall be tested for abnormality before milking.	8.2.1 Inspection of operation during preparing for milking, check raw milk test results
	8.2.2 If dairy cow is treated with veterinary drug, withdrawal period of such drug shall be observed and sample shall be randomly and periodically tested for antibiotic residue before selling.	8.2.2 Check record on animal sickness, drug use and animal treatment including the test result of antibiotic residue in milk
8.3 Milking	8.3.1 Good milking techniques shall be	8.3.1 Visual inspection of

Item	Requirement	Inspection method
	practiced. Milking shall be carried out within 24 hours. After each milking, teats shall be treated in teat dipping solution.	milking practice, check records of teat dipping solution
	8.3.2 Equipment and containers used for raw milk shall be clean, without musty smell, and have smooth, seamless surface and no reaction with milk. They shall be cleaned and disinfected before and after use.	8.3.2 Visual inspection of operation and inspection of equipment and containers, check cleaning records
	8.3.3 After each milking, equipment used for milking shall be cleaned and disinfected and if milking equipment is used, the equipment components shall be disassembled, cleaned and dried every time.	8.3.3 Visual inspection of operation after milking is completed, check cleaning records of machine
	8.3.4 The cold chain shall be maintained through the entire process	8.3.4 Visual inspection of the cold chain temperature and records.
8.4 Raw milk delivery	8.4.1 Raw milk collected in a container shall be delivered immediately to milk collecting centre or dairy processing plant.	8.4.1 Visual inspection of raw milk delivery, records of delivery
	8.4.2 Raw milk containers shall be cleaned, disinfected and dried immediately after delivery.	8.4.2 Inspection of operation after delivery, check cleaning records
8.5 Raw milk quality	8.5 Raw milk shall satisfy the quality requirements of milk as specified in Annex B.	8.5 Check of raw milk quality test results
9. Record keeping	9.1 Important operations on farm management that affect animal health and disease control shall be recorded.	9.1 Check record
	9.2 Records shall be kept for at least 3 years, except for the cow history record shall be kept throughout the animal life.	9.2 Check record

5 Guidance for good production practices for dairy cattle farm

Recommendations for good agricultural practices for dairy cattle farms are aimed to provide animal rearing operators, farmers and personnel working in dairy cattle farms to use as the guidance for effective, hygienic and safe management and operation of dairy cattle farms. This will result in good health and hygiene of cow to produce raw milk as its full potential for further processing of safe and good quality milk and milk products for human consumption, including the responsibility for social and environment. The details of such recommendations are explained in Annex A, and in the regulations and the relevant agencies.

Annex A

(normative)

Guidance for good agricultural practices for dairy cattle farms

A.1 Components of farm

A.1.1 Location

A.1.1.1 The farm shall be located in an appropriate area for good dairy cow rearing management, such as the area with convenient transportation, good drainage; and permitted by the competent authority.

A.1.1.2 The farm shall be located in an environment with minimal risk from any contamination of physical, chemical and biological hazards which may adversely affect the sanitary of dairy cattle and raw milk, such as not being in vicinity of industrial area or waste disposal site. The history of farm land shall be investigated before establishing the farm.

A.1.1.3 The farm shall be located at an adequate distance from community, slaughterhouse and live animal market and able to prevent animal disease spreading from outside into the farm.

A.1.1.4 The farm shall be located close to milk collecting centre in order to conveniently deliver raw milk with good quality and receive proper services from milk collecting centre.

A.1.2 Layout

A.1.2.1 The farm shall have sufficient and suitable size for dairy cattle rearing and not pose any problem to environment and animal health. The farm shall have surrounding fences and one entrance and exit with a disinfection basin at the entrance.

A.1.2.2 The farm shall have a good layout with area separation in accordance with the operations. The housing area for dairy cows, calves, young cattle and heifers, and the storage area for feed and veterinary drugs shall be separated and protected from pets, such as dog and cat that may be disease carriers.

A.1.2.3 The farm shall be an open area with good air flow and have appropriate pasture area and adequate shades.

A.1.2.4 Accommodation and office shall be located only in the residential area, where they are distinctly segregated from dairy cattle rearing area. No dwelling shall be in area of dairy cattle houses. Accommodation shall be well constructed, clean and tidy.

A.1.3 Housing

A.1.3.1 The stall of a dairy cow shall have a minimum area of 4 m² (square metres) per cow.

A.1.3.2 Housing shall be well constructed using durable materials that are easy to be cleaned and maintained. It shall not cause any harm to animals and workers. Housing shall protect animals from sunlight and rain.

A.1.3.3 The floor of milking area shall be made from non-slippery concrete, slightly tilted with good drainage to prevent waste accumulation within the house. It shall be lifted up from the ground as same as the dairy cattle house floor and installed with an effective waste drains to prevent waste accumulation which may be the source of pathogens.

A.1.3.4 The roof of housing shall be elevated with the eaves above the ground of at least 3 m for good ventilation with no construction or object obstructing the air flow.

DARS 1104:2023(E)

A.1.3.5 Appropriate and adequate feed and water troughs shall be designed to facilitate cleaning in each house.

A.1.3.6 The floor area connecting to the feeding trough, where dairy cattle stand during feeding, should be made of concrete or other appropriate material which is resistant and cleanable, with the width of not less than 1.5 m to facilitate cleaning.

A.1.3.7 There shall be adequate light for operation. If natural light is not enough, electric light shall be provided to facilitate animal caring and health check at all times. Emergency light shall be provided in case of power failure.

A.1.3.8 Equipment and tools for farm operation shall be in good condition, adequate, and cause no harm to dairy cattle.

A.1.3.9 Separate storage shall be provided for equipment and tools that are easily cleaned, operated, and cause no contamination to milk.

A.2 Feed

A.2.1 The dairy cattle feed shall comply with the relevant quality requirements.

A.2.2 Feed shall be purchased from licensed suppliers, distributors, and importers.

A.2.3 Feed ingredients and additives used shall be of good quality.

A.2.4 Feed containers shall be clean, dry, in good condition with moisture proof. They shall never have contained hazardous substances, fertilizers, or other harmful materials to animals. The containers shall be free from any contaminant. If coated with other substances, such substance shall not be harmful to animals and shall have proper label.

A.2.5 Truck used for feed delivery, particularly loaded section shall be cleaned and dried without any leftover materials.

A.2.6 Physical properties of feed shall be preliminary checked such as no rupture of container, correct label. Feed contaminated with fungus shall be rejected and properly eliminated. Feed shall be sampled for further laboratory test.

A.2.7 Feed quality shall be randomly sampled and examined for feed quality and residues. The test results shall be kept and ready for further inspection.

A.2.8 Separate storage shall be provided for feed that is clean, dry, and free from insects and animals. The storage should maintain the quality of the feed. If feed is contained in bags, they shall be placed on pallets for good ventilation.

A.2.9 Good quality roughage shall be sufficiently provided to meet the need of dairy cattle and in an appropriate ratio to the concentrate feed corresponding to the age and breed of the animals.

A.2.10 Feeding containers or tools shall be clean and adequate.

A.3 Water supply

A.3.1 Water source used on farm shall be distance away from an area contaminated by animal manure or wastewater from cattle house or residential areas. Furthermore, water source shall be away from slaughterhouses or industrial factories. If water is supplied from underground, the artesian well shall be completely covered.

A.3.2 Adequate drinking water shall be provided to dairy cattle. Water used for animal and farm shall be clear, clean and free from contaminants.

A.3.3 Potable –water shall be used for cleaning teats and udders of dairy cows and for equipment and tools used in direct contact with milk.

A.3.4 Watering containers or tools shall be clean and adequate.

A.4 Farm management

A.4.1 Farm manual

A farm management manual shall be provided to illustrate details of animal rearing, farm management, animal feeding, animal disease prevention and control, animal health care, farm sanitary, documentation and record system and the precautions of dairy cows on each stage of operation in order to evaluate the effectiveness of dairy cattle farm as follows:

- a) newborn calves to weaning;
- b) young cattle and heifers (from weaning to breeding);
- c) pregnant cows;
- d) milking cows; and
- e) dry cows.

A.4.2 Personnel

A.4.2.1 The farm shall have enough personnel according to the number of dairy cattle. The number of personnel may depend on many factors such as type of housing, animal rearing system, equipment and other facilities available on farm.

A.4.2.2 Persons responsible for dairy cattle shall be trained on dairy cattle rearing from recognized institute or agency or competent authority or business personnel with knowledge in animal welfare and handling. They shall acquire good knowledge and skill in taking care of dairy cattle and shall be continuously trained and developed. Evidence of training shall be recorded in each individual file.

A.4.2.3 There shall be a veterinarian supervising animal health and farm hygiene and giving proper advice on disease prevention, treatment, and drug use within the farm. The farm veterinarian shall possess the veterinary license issued by the competent authority.

A.4.2.4 Every person working in dairy farm shall have annual health check-up and have no diseases such as tuberculosis infection and be issued a health certificate from competent authority.

A.4.2.5 Persons who work in the farm shall follow good personal hygiene practices, that is, dressing with clean clothes, washing and drying hands every time prior to the operation, keeping hands and nails clean, no smoking, no spitting, coughing, sneezing or chewing and eating during operation.

A.4.3 Cleaning, hygiene and maintenance

A.4.3.1 Housing and equipment shall be cleaned and disinfected regularly.

A.4.3.2 Feed and water troughs shall be cleaned immediately after use to remove leftover feed, fungi or accumulated manure. Disinfection shall be done regularly.

A.4.3.3 The immediate areas of housing shall be cleaned and mowed to prevent harbouring of pathogens or disease-carrier insects.

A.4.3.4 Milking house and surrounding area as well as the equipment and tools shall be regularly cleaned and disinfected. Housing and equipment shall be hygienic for the convenience and safe operation. Automatic milking tools and equipment shall be daily cleaned and checked. If there are malfunctions or expiry of use, corrective action shall be taken immediately.

A.5 Animal health

A.5.1 Prevention and control of diseases

A.5.1.1 Effective disease surveillance, prevention and control shall be carried out as follows:

- a) a system of pathogen elimination before entering and leaving farm shall be strictly enforced. There shall be disinfectant spraying facilities or wheel dips. Keep record of visitors and vehicles in and out of the farm for inspection;
- b) limit non-essential visitors to the farm, for example there shall be fences around the rearing area or a warning sign “No trespassing” on site for unauthorized persons and vehicles;
- c) dairy cattle shall be routinely tested for tuberculosis and brucellosis at least once a year by the accredited laboratory and regularly for Foot and Mouth Disease (FMD), Rift Valley Fever (RVF) and lumpy skin diseases and before vaccination;
- d) program for vaccination against diseases and program for elimination of internal and external parasites shall be provided. Hoof trimming shall be provided for lame cattle to walk normally without suffering;
- e) prevention and control of pests shall be in place to avoid the harbouring source of pathogens that affect health and hygienic conditions, that is no water logging or sewage around the cattle house, which can harbour various insects. In addition, programs for prevention and control shall be continuously and regularly implemented; and
- f) there shall be a proper management procedure on sick animal, dead animal and destruction of carcass in order to quickly control the disease and its spread out from the farm. If the farm veterinarian advises to dispose the carcass, it shall be buried at the depth of not less than 50 cm. Proper disinfectants shall be poured or scattered over every part of the carcass, then the pit shall be filled and piled up above the ground of at least 50 cm.

A.5.1.2 Source of dairy cattle shall be identified. Newly purchased dairy cattle shall be quarantined and health certified by the farm/government/official veterinarian. The acquisition of dairy cattle shall be investigated before introduction into the herd and ensured that such cattle shall be free from infectious diseases. The details of dairy cattle history shall be known for the benefits of further farm management.

A.5.1.3 The health of dairy cattle shall be daily monitored and checked for any abnormalities, for example, disease symptom, animal performance.

A.5.1.4 If epidemic disease occurs, the local veterinary official shall be notified and the procedures under the Animal Epidemic Act shall be implemented.

A.5.2 Treatment

A.5.2.1 The farm veterinarian shall practice according to the requirements of Good Practices for Control of the Use of Veterinary Drugs.

A.5.2.2 Disease treatment and use of veterinary drugs, and hazardous substances shall be under the supervision of the farm veterinarian or the authorized person. For the use of veterinary drugs, the farm veterinarian shall recommend with a written prescription and ensure that the use of veterinary drug is recorded. The farm veterinarian shall also take into consideration of the residues in milk especially antibiotics, anthelmintics and others.

A.6 Animal welfare

Animal welfare management shall comply with the *Terrestrial Animal Health Code (OIE TAHE)* and *ISO/TS 34700 Technical specification for animal welfare management*.

A.6.1 Dairy cattle shall be moved freely and live in comfort and safe conditions (shadow, enough space, adequate water, sufficient feed etc).

A.6.2 Dairy cattle health shall be regularly checked by competent authority/farm veterinarian at appropriate intervals. Immediate action for sick, injured or deformed animals shall be isolated and properly handled to avoid suffering.

A.7 Environment

A.7.1 Garbage containers shall be tightly closed. Garbage shall be collected and disposed of at the designated area provided by the competent authorities or destroyed in the specified waste disposal area located separately from the rearing area.

A.7.2 Animal manure shall be removed from housing to avoid accumulation to be a source of bad odour and pathogens.

A.7.3 In case where effluent discharged to public water, the appropriate wastewater treatment device shall be provided and the quality of the discharged water shall comply with the international or regional standards.

A.8 Raw milk production

A.8.1 Milkers

A.8.1.1 The milker shall follow good personal hygiene practices, those include clean and disinfected clothes, washing both hands and arms to elbows and drying before milking, keeping hands and nails clean and hygienic, no smoking, no spitting, coughing or sneezing or chewing and eating during working.

A.8.1.2 In case of being sick or suspicious of being sick or disease carrier to milk for example, jaundice, diarrhoea, vomit, sore throat, fever, skin infection, nasal discharge, otorrhea or sore eye, such milker shall be isolated and shall not be allowed to enter the area where milking or milk handling is taking place. If the milker has symptom of sickness or epidemic disease, the milker shall have health checked before milking or handling of milk.

A.8.2 Preparation of dairy cows before milking

A.8.2.1 Before milking, dairy cow udders, teats, medial sides of hind legs, shanks and abdomen shall be cleaned with clean water. Disinfection of udders with appropriate disinfectant shall be done every time before milking.

A.8.2.2 Before a dairy cow is milked, the foremilk shall be extracted two to three times and dropping into milk test container to check for abnormalities and to reduce germs at teat tips.

A.8.2.3 Check for mastitis shall be carried out before milking every time, every cow and every udder. Dairy cow which test positive, such cow shall be milked at the last order and milked completely, and the milk shall be destroyed.

A.8.2.4 If a dairy cow is treated with the veterinary drug, withdrawal period of such drug shall be observed and sample should be tested for any veterinary residues before sale. A register shall be established and updated by the responsible farm veterinarian.

A.8.3 Milking

A.8.3.1 Good hygiene milking techniques complying with CAC/RCP 57 shall be practiced either milking by hand or machine. It is necessary to treat the teats in teat dipping solution every time after each

DARS 1104:2023(E)

milking and avoid injury to teats and udders. During milking, milk shall be prevented from environmental contamination, manure or dust from feeding or bedding.

A.8.3.2 Tools and containers used for raw milk shall be clean and disinfected, made of food grade material, without musty smell, and have smooth surface, seamless and no reaction with milk.

A.8.3.3 After each milking, equipment, tools and containers shall be thoroughly clean and disinfected, and dried as appropriate. If detergent and disinfectant is applied, the equipment, tools and containers shall be rinsed again with clean water, except rinsing is not required according to the label instruction. If milking machine is used, the components of machine shall be disassembled for cleaning for example, air control valve in milk collecting cup, liner rubber, to prevent accumulation of microorganisms.

A.8.3.4 Milking equipment and air pipes shall be cleaned to prevent milk remaining inside and becoming a source of contamination.

A.8.3.5 The components of the milking machine shall be regularly checked for its appropriate working condition to ensure that it will not cause injury to teats and udders during milking. Parts shall be changed when their expiry is due.

A.8.4 Raw milk delivery

A.8.4.1 After milking is complete, if it is not possible to cool down raw milk to 4 °C (degree Celsius) at farm, it shall be immediately collected and transported to milk collecting centre or dairy processing plant within two hours or processed as fast as possible. Raw milk containers shall not be left to stand under sunlight but placed under shade. Raw milk containers shall be labelled with the milking dates and expiry date.

A.8.4.2 The raw milk deliverer shall follow good personal hygienic practices, wear clean and disinfected clothes, and regularly clean and disinfected milk delivering vehicle.

A.8.4.3 After delivery of raw milk, containers shall be cleaned, disinfected, dried and kept in a dry and clean place that can prevent contamination for next use.

A.8.5 Raw milk quality

Raw milk shall comply with ARS....(number ARSO standard for Raw Milk).

A.9 Record keeping

There shall be a system of documentation. The records of important information shall be kept for a minimum period as indicated by the national or regional regulation for the purpose of traceability. These shall cover information on production management that is, history of each dairy cow (keeping cow history record throughout the animal life), feed and water, farm management, animal health, reproduction records production records and test results of raw milk quality (report of such raw milk quality test shall be obtained from milk collecting centre or from the processors, or the authorities responsible for livestock development) for the purpose of traceability.

Annex B (informative)

Sample forms of farm data records

Example of dairy cow registration record

Name of farm owner/farmer..... Name of farm.....

Farm registration No.....

Farm address..... No.....

Road..... Subdistrict.....

District/Province/County.....

Country..... Telephone No.....

Email.....

Type of rearing.....

No.	I.D. of cattle	Name of cattle	Sex	Breed	Birth date	Birth weight (kg)	I.D. of sire	I.D. of dam	Weaning date	Weaning weight (kg)	Remarks

Example of milk production record (individual cow)

Cow I.D. Milking cycle number.....

Type of Rearing.....

Date	Quantity of milk (kg)			Remarks
	Morning	Afternoon/Evening	Total	

Recorder

DARS 1104:2023(E)

Example of milk production record (individual farm)

Name of farm owner/farmer..... Name of farm.....
Farm registration No.....
Farm address No Road.....
Sub-district..... District Province.....
Telephone No..... Type of rearing

No.	I.D. of cattle	No. of milking cycle	Production periods (days)	Quantity of milk (kg)	Remarks

Example of breeding record of female breeder

Female breeder I.D. Breed..... Sire I.D.(Natural/ A.I).
.....
Dam I.D..... Type of rearing.....

Breeding number	Date of breeding	Male breeder I.D.		Age at breeding	Weight at breeding	Date of parturition				Remarks
		Natural	Artificial				Date	I.D.	Sex	

Example of record on dairy cattle feeding

Name of farm..... Farm registration No.....

Name of farm owner..... Type of rearing.....

Item.	Type of feed	Source of feed (brand/manufacturing date)						Sample No.	Remarks
			Colour	Odour	Dry/moist	Container appearance normal/abnormal	Adulteration		

Example of record on purchasing and use of veterinary drugs and chemicals

Name of farm..... Farm registration No.....

Name of farm owner..... Type of rearing.....

Item.	Veterinary drugs/chemicals	Manufacturer details	Date of manufacture	Date of expiry	Date and quantity purchased	Date and quantity used	Quantity remained	Recorder	Remarks

DARS 1104:2023(E)

Example of record on vaccination and deworming

Name of farm..... Farm registration No.....

Name of farm owner..... Type of rearing.....

Date	Stall/herd	Vaccination		Deworming		Operator	Supervisor
		Type/name of vaccine	No. of cattle (head)	Name of deworming drug	No. of cattle (head) Dose per head		

Example of record on disease treatment and veterinary drug use

Name of farm..... Farm registration No.....

Name of farm owner..... Type of rearing.....

Date	Cattle I.D.	Sex M/F	Symptom	Treatment and result	Veterinary drug use	Treatment person

Example of record on personnel training

Name (Mr./Mrs./Miss)....Family nameAge.....

Duty on farm.....

Employment date.....

Type of training/course.....

Topics	Date	Duration	Venue	Trainer

DARS 1104:2023(E)

Example of record on cleaning, disinfection, housing and equipment inspection

Name of farm..... Farm registration No.....

Name of farm owner..... Type of rearing.....

Date	Cleaning		Disinfection		Inspection		Maintenance		Remarks	Operator
	House	Equipment	House	Equipment	House	Equipment	House	Equipment		

Example of record on farm entry – exit

Name of farm..... Farm registration No.....

Name of farm owner..... Type of rearing.....

Date	Name and Family name	Objective of farm visit	Vehicle Registration No	No. of person	Signature

Example of record on farm entry – exit

Name of farm..... Farm registration No.....

Name of farm owner..... Type of rearing.....

Date	Number of cattle		No. of cattle loss	No. of calves	No. of milking cows	No. of sick cattle	Total	Recorder
	In	Out						

Annex D
(informative)**Units**

Units and symbols used in this standard and the SI unit (International System of Units or Le Système International d' Unités) approved to be used are:

Table B.1 — Units and symbols

Item	Unit	Unit symbol
Length	Kilometre	km
	Metre	m
	Centimetre	cm
Area	Square metre	m ²
Temperature	Degree Celsius	°C
Volume	Millilitre	ml
Mass	Kilogram	kg

Bibliography

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