

DRAFT UGANDA STANDARD

DUS DARS 1282

**First Edition
2025-mm-dd**

Good Housing and Practices For Dairy Cattle Farms



Reference number
DUS DARS 1282: 2023

© UNBS 2025

Compliance with this standard does not, of itself confer immunity from legal obligations

A Uganda Standard does not purport to include all necessary provisions of a contract. Users are responsible for its correct application

© UNBS 2025

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilised in any form or by any means, electronic or mechanical, including photocopying and microfilm, without prior written permission from UNBS.

Requests for permission to reproduce this document should be addressed to

The Executive Director
Uganda National Bureau of Standards
P.O. Box 6329
Kampala
Uganda
Tel: +256 417 333 250/1/2
Fax: +256 414 286 123
E-mail: info@unbs.go.ug
Web: www.unbs.go.ug

National foreword

Uganda National Bureau of Standards (UNBS) is a parastatal under the Ministry of Trade, Industry and Cooperatives established under Cap 210, of the Laws of Uganda, as amended. UNBS is mandated to co-ordinate the elaboration of standards and is

- (a) a member of International Organisation for Standardisation (ISO),
- (b) a contact point for the WHO/FAO Codex Alimentarius Commission on Food Standards, and
- (c) the National Enquiry Point on TBT Agreement of the World Trade Organisation (WTO).

The work of preparing Uganda Standards is carried out through Technical Committees. A Technical Committee is established to deliberate on standards in a given field or area and consists of representatives of consumers, traders, academicians, manufacturers, government and other stakeholders.

Draft Uganda Standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments. The committee reviews the comments before recommending the draft standards for approval and declaration as Uganda Standards by the National Standards Council.

This Draft Uganda Standard, DUS DARS 1282: 2023, *Good Housing and Practices For Dairy Cattle Farms*, is identical with and has been reproduced from a Draft African Standard, DARS 1282: 2023, *Good Housing and Practices For Dairy Cattle Farms*, and adopted as a Uganda Standard.

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".

Good Housing and Practices For Dairy Cattle Farms



Table of contents

Table of contents	2
Foreword	3

Foreword

The African Organization for Standardization (ARSO) is an African intergovernmental organization established by the United Nations Economic Commission for Africa (UNECA) and the Organization of African Unity (AU) in 1977. One of the fundamental mandates of ARSO is to develop and harmonize African Standards (ARS) for the purpose of enhancing Africa's internal trading capacity, increase Africa's product and service competitiveness globally and uplift the welfare of African communities. The work of preparing African Standards is normally carried out through ARSO technical committees. Each Member State interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, Regional Economic Communities (RECs), governmental and non-governmental organizations, in liaison with ARSO, also take part in the work.

ARSO Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare ARSO Standards. Draft ARSO Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an ARSO Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ARSO shall not be held responsible for identifying any or all such patent rights.

This African Standard was prepared by ARSO TC 23, Live Animals.

© African Organisation for Standardisation 2023 — All rights reserved^{1*}

ARSO Central Secretariat
International House 3rd Floor
P. O. Box 57363 — 00200 City Square
NAIROBI, KENYA

Tel. +254-20-2224561, +254-20-3311641, +254-20-3311608

E-mail: arso@arso-aran.org

Web: www.arso-aran.org

^{1*} © 2023 ARSO — All rights of exploitation reserved worldwide for African Member States' NSBs.

Copyright notice

This ARSO document is copyright-protected by ARSO. While the reproduction of this document by participants in the ARSO standards development process is permitted without prior permission from ARSO, neither this document nor any extract from it may be reproduced, stored or transmitted in any form for any other purpose without prior written permission from ARSO.

Requests for permission to reproduce this document for the purpose of selling it should be addressed as shown below or to ARSO's member body in the country of the requester:

© African Organisation for Standardisation 2023 — All rights reserved

ARSO Central Secretariat
International House 3rd Floor
P.O. Box 57363 — 00200 City Square
NAIROBI, KENYA

Tel: +254-20-2224561, +254-20-3311641, +254-20-3311608

E-mail: arso@arso-oran.org
Web: www.arso-oran.org

Reproduction for sales purposes may be subject to royalty payments or a licensing agreement. Violators may be prosecuted.

Good Housing and Practices For Dairy Cattle Farms

1. Scope

This draft African standard specifies the recommended layouts and constructional requirements of cattle sheds and ancillary structures for large dairy or breeding farms having an average of about 3 milk cattle and their calves and a bull or bullocks.

2. Normative References

There are no normative references to this document.

3. Terms and Definitions

For the purpose of this standard, the following terms and definitions shall apply:

3.1

paddock or pen or yard

open area enclosed by walls or fencing with an adequate space to provide free movement. It generally contains manger or water-trough with or without ties to control animals for different purposes

3.2

standing

floor space provided within shed for animals to stand or to sit on

3.3

manger

long structure from which livestock feed, and is made from concrete, metal, fiberglass or plastic

3.4

water trough

long structure made from metal, concrete, fiberglass or plastic, and used to hold drinking water for livestock

4. Choice of Site

4.1 The sheds and other ancillary structures shall be located on dry, elevated and well-drained area where there is sufficient scope for future expansion.

4.2 The site shall be such where good water supply would be available preferably at low cost.

4.3 The site shall be away from public road, but be easily accessible through- out the year.

4.4 The site shall be such that the cattle sheds may preferably be oriented east to west.

4.5 The shed shall preferably be located at a place where there is enough suitably placed trees to serve as a wind break and to provide shade in order to break the wind. It is recommended that a row of trees be also planted across the direction of wind.

5. Layout

Two recommended layout plans comprising various building units are given in Figure 1A and 1B. Any one of these layouts may be adopted.

DARS 1282: 2023

NOTE - There could be many variations of layouts with these units depending upon available land, size of enterprise, finance, etc.

6. Sections of Large Dairy or Breeding Farms

Large dairy or breeding farm shall have four important sections of activity namely; beef, dairy, cultivation and administration.

7 Dairy Section

This section, which is the most important section in a dairy farm, shall have various units as described in 7.1 to 7.16. All units shall be so planned as to provide for comfort, protection and operational conveniences.

7.1 Milking Animal Shed

The length and width of the standing shall be decided according to the average size of the animals and may vary from 1.5 to 1.7 m in length and 1 to 1.2 m in width. The width of the central passage may be 1.8 m. The central passage shall have slope of 1 in 25 from the central axis towards both the sides. There shall be two drains laid on either side of the central passage. There shall be two continuous mangers on outer side of the standings. The floor of the standings shall be sloped 1 in 40 towards the drains. There shall be pillars along the length of the shed to support the beams of the roof and walls at the end of the shed. The roof of the shed shall be gabled. The eaves of the roof shall project out 75 cm from the pillars.

7.2 Suckling Calves Room-

When calves are unweaned, four rooms 4 x 5 m shall be provided between two milking animal sheds for housing suckling calves as in Annex 1, figure 1.

7.3 Ration Room

There shall be a room of at least 3 x 4 m near to the milking animal shed to store feed concentrates temporarily to meet the requirements of the animals for the day. The ration room shall be made damp- and rodent-proof.

7.4 Dry Animal Shed

The shed may be of the loose housing type and may consist of centrally placed manger with curbs of 0.6 m and 1.2 m width, and length at the rate of 0.6 m per animal under a roof in paddocks. The manger shall be surrounded by a 2.2 m wide paved platform with drains. The roofed portion will be 5.6 m wide and may be gabled. Ties may be provided on the outside of the manger curb at 1.5 m approximately for occasional use, if required.

7.5 Down-Calver Shed

The down-calvers shed may at least have 8 calving boxes (see 7.5.1) for housing those animals very close to calving and 20 standings (see 7.5.2) adjacent to the boxes for accommodating those animals heavy-in-calf. However, for indigenous breeds of cows having two calving seasons in a year, and due to seasonality of calvings in buffaloes, this provision may be increased. The down-calvers shed shall be a separate unit.

7.5.1 Calving Boxes

The dimensions of each calving box shall be 3 x 4 m with partition of at least 1.2 m high between the two calving boxes. A manger and a water-trough, each 0.5 m wide shall be constructed at the rear end of the calving box. A single-leaved door 2 m high and 1.2 m wide shall be provided for each calving box. The lower half portion of angle iron frame of the door leaf may be of galvanized steel sheet and the upper half of the same may be covered with wire netting. The floor of the calving boxes shall be sloped towards the drains.

7.5.2 Standings

The standings of the down-calver shed shall be constructed with a continuous manger along the wall and provided with tying arrangements so that the animals are tethered facing the wall. The length and width of each standing shall be 2.0 m and 1.6 m respectively. There shall be a drain laid on the other side of the standing.

7.6 Young Stock Shed

7.6.1 Young bulls and heifers should not be kept in close proximity. However, their housing requirements shall be similar.

7.6.2 The shed shall be loose housing type and shall be constructed in such a way that the animals are facing each other with a central manger at a rate of 0.6 m length per animal. The manger shall be surrounded by 1.8 m wide paved platform. There shall be drains on the both sides of the standings. The roof shall be gabled or lean-to type in case of one-way feeding and it shall be supported on the length by a series of pillars. The roofed portion shall be 54 m wide for gable and 3.2 m for lean-to type. The ties may be provided in the outer side of the manger for occasional tying.

7.7 Calf Shed

7.7.1 The dimensions of the calf shed shall depend upon the number of animals. The floor space provided for each calf shall be not less than 1 m². The calves may be kept loose. The manger shall be constructed along with the wall of the shed. The flooring of the shed shall be sloped towards the drains. The drain shall be laid outside the shed. The roof may be gabled. A water-trough shall be provided at one end of the shed.

7.7.2 Calf Boxes - A portion of the calf shed shall provide individual calf boxes for the calves up to the age of 6 to 8 weeks. These boxes shall be arranged in two rows along the two sides of the central passage in the room. The individual boxes shall be of 1.2 x 1.5 m with a manger towards the central passage and a water-trough common to two boxes. There shall be a gate at the front. The height of the box partitions shall be at least 75 cm high. A paddock shall also be attached with the calf room for exercise.

7.8 Bull Shed and Semen processing Laboratory**7.8.1 Bull shed**

The bull shed shall have six boxes, each measuring 3 x 4 m. The partition wall between the two boxes may be 1.2 m high with a rail at the top having a clearance of 30 cm. A 0.5 m wide raised manger with feed and water sections shall be provided in each box. The gable roof of the shed shall be supported from all the three sides by walls up to a height of 1.2 m from the floor level and the rest of the height of the shed of 1 m may be kept open. The roof of the shed shall be supported on pillars and walls up to a height of 1.2 m from the plinth level.

7.8.2 Semen processing Laboratory

Adjacent to the bull shed, there shall be a semen-processing laboratory of a 10 x 10 m service yard with a service crate in the centre for the collection of semen. To this a laboratory shall be attached, Where the use of processed semen is contemplated, necessary facilities for testing, processing and storage have to be provided. The minimum dimensions for laboratory shall be 3 X 4 m, and 3 x 4 m each for wash-up room and room for supervising officer.

7.9 Service crate and trevis

7.9.1 Service crate - This shall be used both for artificial insemination and veterinary treatment. It shall be a U-shaped structure and may be made of 5-cm galvanized steel pipes supported by five pillars. One horizontal pipe shall be welded on the sides across the two rear pillars to protect the working technician from side kicks. One adjustable pipe shall be affixed with a chain which may be put across the last two pillars through the clamps fixed on both sides of these pillars to prevent the animals from backing out. One iron ring for tying the animals shall be provided at the top of front pillar to prevent the

DARS 1282: 2023

animal from jumping off the crate. A typical crate with the following dimensions as given in Annex 2: Figure 2.

7.9.2 Trevis

The trevis may be made by fixing five strong ballies in two parallel rows. The distance between rows shall be about 60 cm. The distance between ballies in the same row should be 50 cm. Mild steel rings 11.5 mm thick and 150 to 200 mm diameter placed on strong mild steel inlet shall be fixed securely on the ballies. On each of the two end ballies in the row having three ballies, two such rings shall be fixed at a height of 68 cm and 180 cm respectively from the ground. The ballies shall be embedded in the ground with 60 cm cement concrete base.

7.10 Sick Lines and Dispensary

7.10.1 Sick Lines-The sick lines shall be located well away from the other animal sheds. The dimensions and arrangements for sick boxes and standings for animals shall be the same as given for calving boxes and standings respectively of down-calver shed (see 7.5.1 and 7.5.2). The paddock of the sick lines shall be paved and shall regularly be washed. The washings and other sick line disposals shall not be allowed to flow in the drains which flow towards the healthy animals. A treatment crate shall be placed at one of the corners of the paddocks.

7.10.2 Clinic Room

There shall be a room of at least 3 x 4 m preferably having built-in dispensing counter, shelves, and two or three cupboards. It shall also be provided with a porcelain sink and a power plug for sterilization of materials.

7.10.3 Adjacent to pharmacy room, there shall be a diagnostic laboratory of at least 3 x 4 m. This may also have built-in shelves and cupboards and a working table.

7.11 Isolation

It shall consist of a shed with attached yard. The shed shall be for 2 to 6 animals, the number depending upon the size of the herd maintained at the farm and shall be away from other sheds. The shed shall have independent drain which should be connected to the main drain running behind the shed, so that no animal comes in contact with potentially infective discharges and washings. The yard shall be suitably fenced. Each shed shall be provided with a manger and tie chain and a water-trough and a wicket-gate.

7.12 Post-mortem Platform

A raised platform of 3 x 4 m with a roof shall be provided away from the sick animal shed for performing post-mortem examination. This shall also be away from other cattle sheds. An incinerator shall be provided to incinerate the carcass of animals suffering from contagious diseases.

7.13 Concentrate- and Fodder-warehouse

7.13.1 These shall be located near other animal sheds.

7.13.2 The concentrate warehouse and miscellaneous rooms shall be provided to keep requirements for three months, at the rate of 0.2 m³ per livestock unit. It shall be made rodent-proof and be provided with 3 m wide roller shutter. A good road shall lead to the warehouse to enable feed to be unloaded directly into the warehouse.

7.13.3 The fodder warehouse may be sufficient to hold two-month's requirements of hay or straw. It shall be provided at the rate of 40 m³ per livestock unit per year. The floor of the warehouse may be 30 to 45 cm above ground and roof may be high gabled type to permit hay stacks to be placed therein. The roof shall have sufficient hangover to provide protection from sun and rain. The fodder warehouse shall be enclosed in a strong fence about 5 m away from the warehouse on all sides and having a lockable gate for safety from fire. A water-hydrant and other fire-fighting equipment may be provided in the compound.

7.14 Chaffing shed

7.14.1 The chaffing shed may be preferably located near the fodder warehouse and shall be so positioned as to facilitate the chaffing and removal of the chaffed fodder.

7.14.2 This shall consist of two portions. One portion which shall be used for holding fodder to be chaffed, and the other portion for realising chaffed material.

7.14.3 The floor of the chaffing shed shall be sufficiently hard and preferably be constructed by cement concrete. It may have a gabled roof supported on wooden posts and trusses. The floor area shall be at least 14 m x 4 m.

7.15 Silos

Silos are of two types, namely, tower silo or pit silo. The silos shall be constructed on elevated ground where seepage of water is encountered. The capacity and number of silos shall depend upon the number of animals and also the quantity of green fodder available. A capacity of 200 tonnes of silage shall be sufficient to feed the herd at the rate of 13 kg per day for a month. Full advantage of constructing silos shall be derived if silage is sufficient to feed for a period of about three months. The contents of each silo shall be consumed in about 3 to 4 weeks and the size of the silo determined accordingly. The silage of a good quality shall weigh 0.4 to 0.48 tonnes/m³.

7.15.1 Tower Silo

The tower silo, when adopted, shall be cylindrical in shape. The height and diameter may be about 15 m and 5 m respectively. There shall be a steel ladder to provide access to workers to enter the tower.. A ramp may be provided from the ground level to entrance hatch of the tower and feed may be loaded into the silo through this door manually or mechanically. After filling, compacting and treating with fermenting materials, a polyethylene or similar impervious sheet may be stretched across the top of the ensiled mass and covered either with cement blocks or stone blocks or with a layer of soil about 30 cm thick.

7.15.2 Pit silos -The pit silo may be of any desired length depending upon the amount of material to be ensiled, but shall be about 5 m wide at the top and 3 m at bottom and about 2 m deep. It may be constructed partly underground and partly above. It shall be situated on a gentle well-drained slope and walls shall slope outwards to some extent. Efficient drainage may be effected by means of a layer of stones with inset drain pipe placed lengthwise. The pit after filling shall be covered in such a manner that it is air-tight, water-tight, and heavy enough to assist in the compression of the mass. A layer of 15 cm earth may be sufficient enough to seal the contents of the pits against sun and rain.

7.16 Paddocks

7.16.1 The paddock, which is provided for free exercise of the animals, may be attached to relevant housing sheds. Suitable trees for shade and windbreak shall be provided where climatic conditions are extreme.

7.16.2 Space per Animal

The following space per animal shall be provided for various categories of animals as shown in table 1

Table 1: Space per animal category:

Category of Animal	Space Required, m ²
Calf	5
Young stock	10
Cow	14
Buffalo	15
Down calver	20
Bull	25

7.16.3 Fencing - A wall of bricks or stone slab or railings may constitute a fence to confine the animals. The effective height of the fence shall be 1.0 m for calf; 1.2 m for cow, buffalo and young stock and 1.5 m for bull.

NOTE – Bigger cows should be provided with 1.5 m high fence.

7.16.3.1 Railings

The railing may be 25 mm nominal bore medium steel tube or 5 mm diameter galvanized steel wire for calves and 32 mm nominal bore medium steel tube for adults. The post to support railing may be either steel pipe of 65 mm diameter or angle iron, stone pillars, timber post of suitable sizes placed 2 m apart. The posts shall project at least 50 mm from the top rail and shall be properly embedded in a firm foundation. The rail may pass through the holes cutting the post or the rail may be riveted or U-bolted to the posts. The arrangement of the rails to the posts shall be as given in Table 2.

Table 2: Heights of railings for different categories of animals

SN	Types of animals	Heights from ground to the centre of each rail of fence, cm			
		First Rail	Second Rail	Third Rail	Fourth Rail
1	2	3	4	5	6
i)	Calf	30	60	100	-
ii)	Cow, buffalo and young stock	40	80	120	-
iii)	Bull	40	80	120	150

7.16.3.2 Gate and shutters

The gates may have one or two shutters. The sheds to accommodate small number of animals may be provided with a gate having a single shutter of at least 1.5 m wide. To permit easy movement of vehicles and large number of animals, the gate may have two shutters each 1.5 m wide. The shutter frames shall be made of 35 mm nominal bore steel tube or angle iron or timber and shall be provided with closely fitted vertical braces so as not to allow the head of the animal to pass through the gaps. The pillars for fixing the gate may be made from steel pipe or steel sections on which the gate shutters shall be hinged.

7.16.4 Manger and Water Trough

7.16.4.1 Manger and water trough may be constructed with reinforced cement concrete, brick with cement mortar or stone slabs with cement joining. These may be of one- or two-way use. A 3m wide well paved platform shall be provided sloping away from the trough to withstand heavy treading of animals, and permit easy washing and cleaning.

7.16.4.2 The manger length at the rate of 0.6 m and water-trough length at the rate of 15 cm shall be provided for adult and half of it for young stock in one way feeding system. In two-way feeding system, these shall be halved. All the corners shall be well rounded off. The dimensions of manger shall be as given in Annex 3: Table 2. .

7.16.4.3 Ties shall be provided for securing animals at the time of cleaning and shall be embedded 1.5 m apart into the curb side or may protrude along its top.

7.16.4.4 A ball valve shall be provided in a box in one of the corners of the water trough. The trough shall have a small pipe outlet for draining out water. This may be mid-way of the length or near each end, if length is long. Each outlet shall have a removable plug.

7.16.4.5 Curb rails to prevent animals from entering into the manger or from throwing the feed out, may be provided. The curb rails for calves, young stocks and adults may be 30, 40 and 50 cm respectively above and outward of the curb. The rail of 15 mm mild steel pipe shall be supported at 3 m intervals by suitable bent posts of 30 x 30 mm angle iron for calf and young stock and 40 x 40 mm for adults. For one way, a feed-saver should run along the outer curb, 20 cm above and 20 cm inwards of it.

8. Dairy Section

Since from a herd of this size substantial quantity of milk is likely to be produced, suitable arrangements for hygienic handling, processing and disposal of milk shall be made. Some of these farms may act as agency for milk collection and in that case more accommodation and equipment may be provided within the dairy for bulk handling of milk. The building requirements shall be as described in 8.1 to 8.2.2. 8

8.1 Milk Receiving Room

There shall be a room of 3 x 4 m in or near the milking animals shed for collecting, recording and testing of milk. The door and the windows shall be made fly-proof. The flooring of the room shall be of impervious and wear resistant. A suitable platform or a slab shall be provided for testing apparatus. A non-staining dado up to a height of 1.8 m shall be provided on inner side of the room. The milk may be received in the room through a funnel which shall be provided with a movable lid operated by foot paddle.

8.2 Bulk Milk Room and Ancillaries

8.2.1 Bulk milk room shall be near the road by which milk shall be despatched from the farm. There may be verandah on both sides. The floor area shall be related to the amount of equipment to be accommodated and to the amount of milk produced per day. The floor area of the milk room shall be at least 4 x 5 m. The height shall be at least 2.5 m throughout. The milk may be stored in cans which shall be placed in insulated tank filled to the neck of the cans with refrigerating water. The temperature of storage of milk should remain below 4~5°C in order to inhibit growth of bacteria and to prevent spoilage of milk.

8.2.2 The internal arrangement of the room shall be as follows:

- a) Batch cooler in the centre;
- b) Receiving counter at the back side verandah and testing table at the rear end of the room;
- c) Issue counter in front of the room;
- d) The boiler, if electrically operated, may be placed at one corner of utensil wash-up room, and in case of fuel operated, it may be placed at one end of the back side verandah; and
- e) An office room, compressor room, utensil wash-up room shall be arranged in one row by the side of bulk milk room.

9. Cultivation section

To ensure proper performance of cattle and for economy of feeds it is essential that the farm produces its requirements of fodder and feed to the extent possible. The structural requirements shall be as prescribed in 9.1 to 9.2.2

9.1 Implements and workshop shed

9.1.1 The shed shall be located in the centre of the compound so as to have ample moving space around the shed. The shed shall provide bays with minimum width of 3 m between the pillars for easy movement of vehicles. One of these bays shall be provided with an inspection pit. The length of the shed shall depend upon the number of vehicles on the farm. The width of the shed may preferably be 8 m. The eaves shall project out about a metre. There shall be a 10 m wide open space on the three sides and 13 m on the front side of the shed for easy turning and movement of vehicles. There shall be a 8 x 5 m fuel shed at one corner of the compound for accommodating petrol, oil and lubricant and a toilet at suitable place.

9.1.2 At one side of the compound, there shall be a shed having different rooms with 2 m wide verandah as in Annex 4: figure 3. Two office rooms each of 4 x 3 m for officials and their records, and toilet shall be provided. Adjacent to this, a store of 10 x 6 m shall be provided for storing seeds and fertilizers. Next in the series of rooms, shall be a 7 x 6 m spare parts and miscellaneous store room and 10 x 6 m workshop with a hatch window in the partition wall. The bullock shed shall be located at rear parts and miscellaneous store room and 10 x 6 m workshop with a hatch end with a paddock attached to it for exercise at the rate of 14 m² per bullock. All the rooms shall open in the verandah.

9.2 Disposal of Manure

Manure from cattle sheds shall be removed at least twice a day. The manure may be loaded in a trailer or cart and hauled away to the compost pits.

9.2.1 Compost Pits

As there is daily some unused hay left out, the better utilization of it may be done by composting. The number of compost pits shall vary according to the number of animals as also the area of cultivation. Each compost pit may be 4 x 2 x 1 m or 5 x 2.5 x 1 m. These compost pits shall be located conveniently for utilization of decomposed manure directly. After filling and adding starters to the pits, they should be covered with a layer of mud. The contents of the pits should be worked in order to mix them properly so that uniform decomposition takes place. Thus compost shall be ready in about 6 months.

9.2.2 Liquid Manure Disposal - Mixture of sloppy dung and urine known as slurry may directly be disposed of into the field by gravity, if slope permits or by collecting and pumping in the field.

10. Administration Section

This section controlling the activities of the dairy farm shall consist of administration building and staff quarters.

11. Other requirements

11.1 The constructional details of floors, walls, doors and gates, pillars and roofs.

11.2 Mangers in the shed

These shall be of continuous type and constructed with either reinforced cement concrete or brick laid in cement mortar or stone slabs. All the corners of the manger shall be rounded off and finished smooth. Mild steel rings shall be fixed at the bottom of the manger just adjacent to the floor of the standing for tethering animals. These may also be fixed on the curb of the manger or recessed into curb wall in case the curb is made of reinforced cement concrete Figure 4. The dimensions of the manger for milking animals, dry animals and young stock shall be as given in Table 3.

11.3 Lighting and ventilation

11.3.1 Roof lights

For cattle sheds, roof lights may be provided with the use of translucent material evenly distributed over full length of the shed.

11.3.2 Artificial lighting –

Fluorescent lighting shall be used and adaptive lighting. The intensity of the artificial lighting shall be 50 to 200 lux at floor level in all rooms and sheds. Overhead electric light sources shall be at least 2 m above floor level and shall be so placed as to give a good distribution of light without glare. Switches shall be grouped in convenient positions near entrances and all switch covers shall be properly protected. See the Fig. 4.

11.3.3 Ventilation

Adequate air inlets from side walls, and outlets at, or as near as possible to, the highest part of the roof shall be provided. The milk room shall be well ventilated and direction of winds shall be taken into account Adequate openings shall be provided for the proper functioning of the compressors of refrigeration plants. Roof vent pipes may be used to advantage in machine rooms and in those spaces where the layout precludes through ventilation.

11.4 Water and steam supply

11.4.1 Water supply

An adequate supply of potable water free from liability to pollution shall be provided at conveniently accessible points.

11.4.2 Steam supply –

Electrically or fuel operated boiler may be used for generating steam for dairy equipment washing.. Electric boiler may be installed in the milk room.

11.5 Drainage –

An adequate drainage system should be planned to include all farm dairy buildings and to deal with rain-water, surface water, cleansing water, urine, with a recommended size of 30 to 40 cm. The width of the drains may vary from A slope of 1 in 100 shall be provided to the drains. The drain may be trapezoidal or circular. The depth of trapezoidal drain shall be 6 cm towards the standing and 7.5 cm towards outside and depth of circular drain shall be 10 cm in the centre. Building shall be free from depression. The site surrounding the building shall be free from depression.

Normative
Annex 1

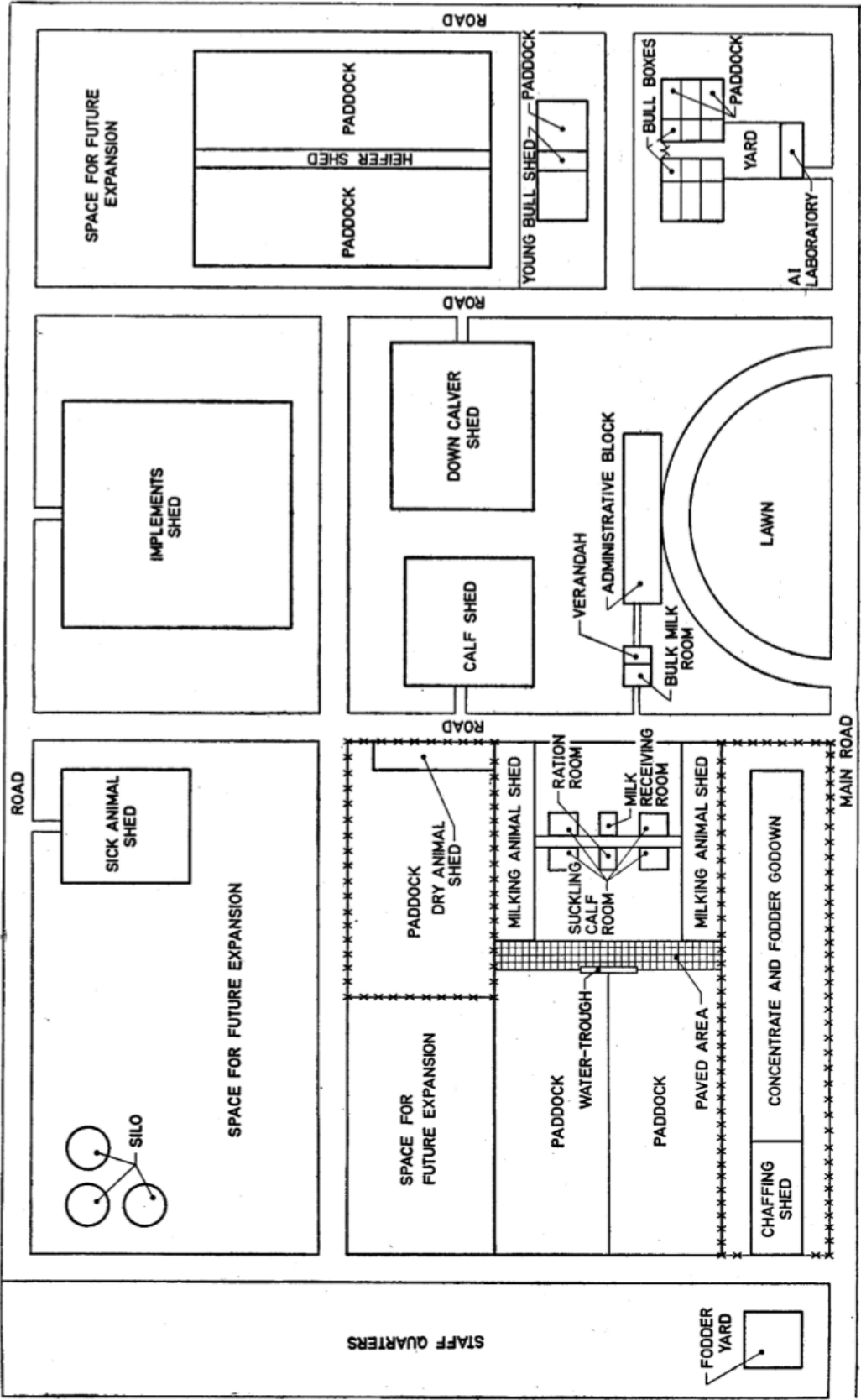


FIG. 1A LAYOUT PLAN FOR LARGE DAIRY FARMS

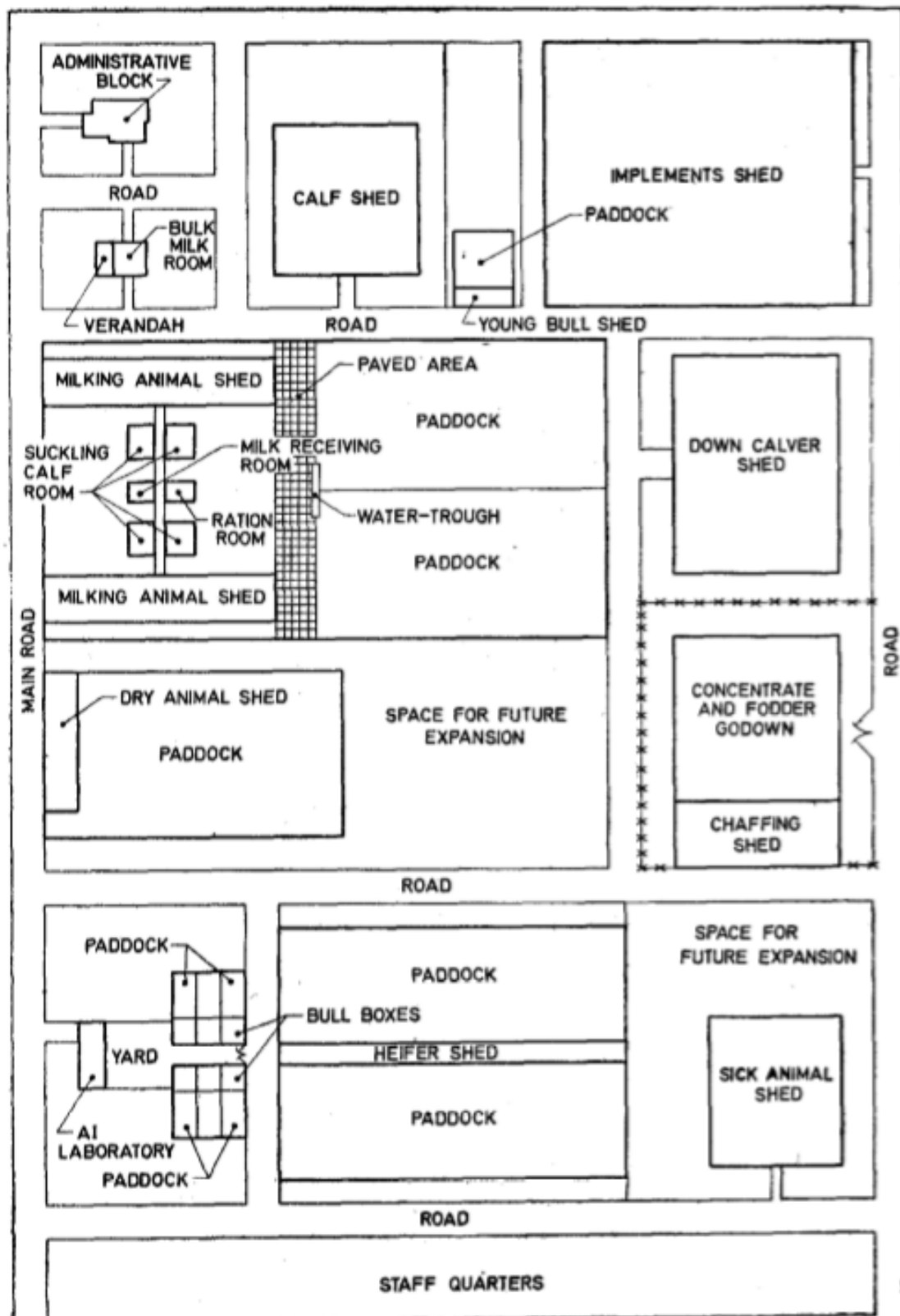


FIG. 1B LAYOUT PLAN FOR LARGE DAIRY FARMS

Figure 1A and 1B: Layout plan for large dairy farms

Normative
Annex 2

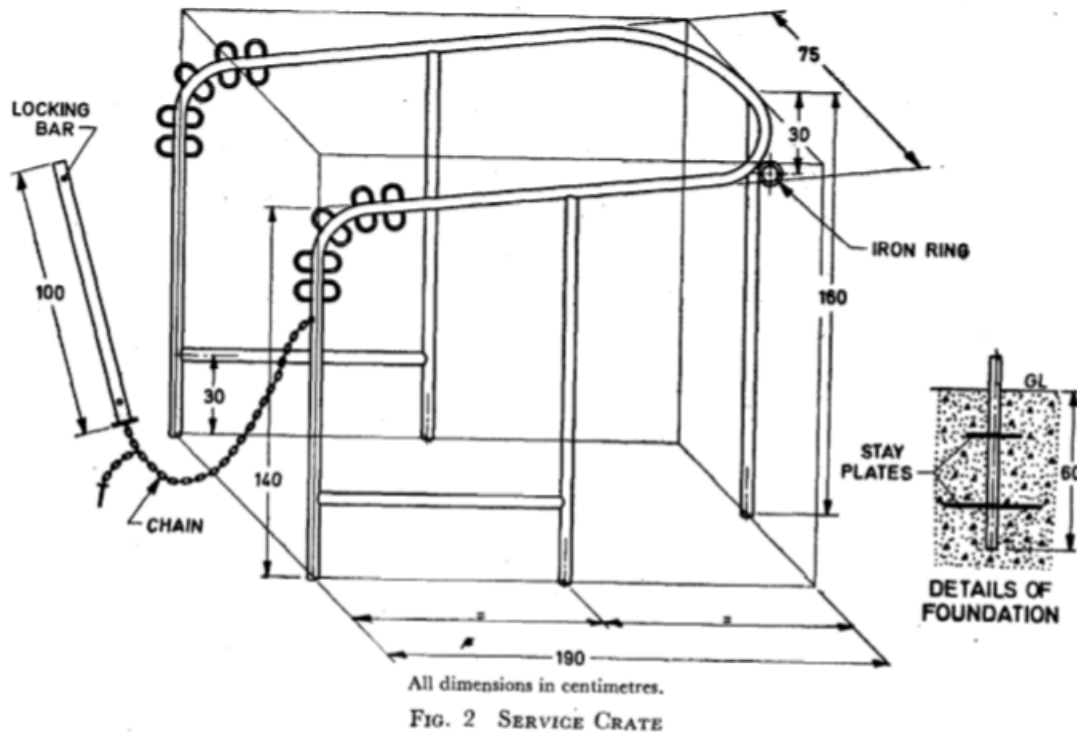


Figure 2: Service crate

Normative
Annex 3

TABLE 3 DIMENSIONS OF MANGER

TABLE 2 DIMENSIONS OF MANGER			
Sl. No.	PARTICULARS	DIMENSIONS	
		Young Stock	Adult
(1)	(2)	(3)	(4)
		cm	cm
i)	Height of manger wall	75	75
ii)	Thickness of curb:		
	a) Reinforced cement concrete	6	6
	b) Brick laid in cement mortar	10	10
	c) Stone slab laid in cement mortar	6	6
	d) Wood plank	2	3
iii)	Inner width at manger floor	40	60
iv)	Height of fore-curb	60	60
v)	Depth of trough floor	30	40

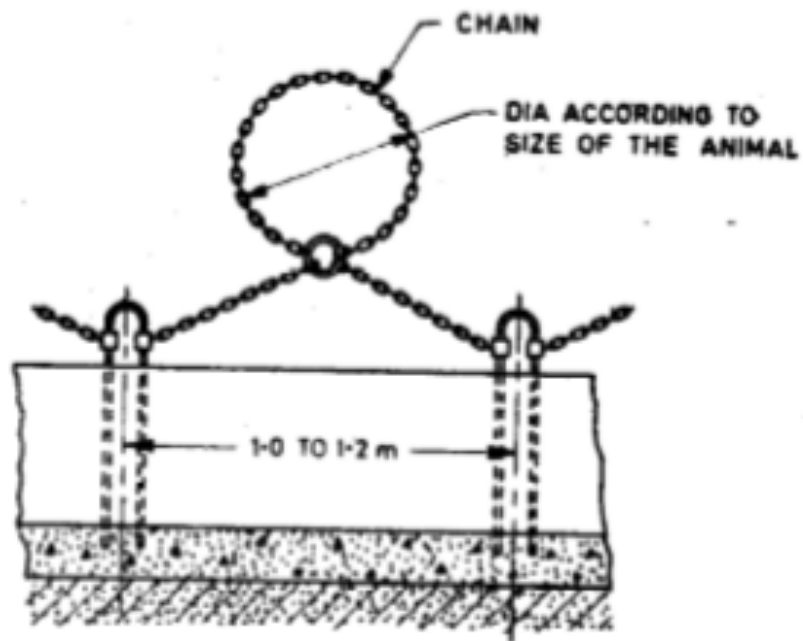
Normative
Annex 4

FIG. 4 TYING ARRANGEMENT

Figure 4: Tying arrangement

Normative
Annex 5

TABLE 3 DIMENSIONS OF MANGER

TABLE 3 DIMENSIONS OF MANGER				
Sl No.	PARTICULARS	REINFORCED CEMENT CONCRETE	BRICK LAID IN CEMENT MORTAR	STONE SLABS LAID IN CEMENT MORTAR
(1)	(2)	(3) cm	(4) cm	(5) cm
i)	Height of manger wall, <i>Min</i>	75	75	75
ii)	Height of fore-curb, <i>Max</i> :			
	a) For adults	50	50	50
	b) For calves	30	30	30
iii)	Thickness of fore-curb, <i>Min</i>	6	10	6
iv)	Inner width of manger, <i>Min</i> :			
	a) For adults	60	60	60
	b) For calves	40	40	40
v)	Depth of manger, <i>Min</i> :			
	a) For adults	40	40	40
	b) For calves	15	15	15
NOTE — Where feeding from both the sides is desired, the height of the curb on both sides of the manger shall be equivalent to (ii) and the inner width shall be double of (iv).				

Bibliography

Animal Terrestrial Health code (OIE) - (WOAH) Chapter 7.9 , 7.11

FAO .org Farm structures chapter 10 Animal Housing, Cattle Housing.

IBC International Building Code 2021

IRC International Residential Code 2022 , is designed to safeguard the Public Health and safety of all in communities both large and small foundation of USA .

