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Popular Article

Cattle And Buffalo Housing Management for A Profitable Dairy Venture

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Abstract

In India, cattle and buffalo are the major source of income for dairy farmers by fetching their livelihoods, so maintaining them in a good health and hygiene condition in a shed with proper housing is major task. They also play a vital role in providing proper nutrition by producing milk which is a major source of nutritious food for vegetarians and some less percent of meat consumption is also there in some parts of India. There are total of 193.46 million cattle and 109.85 million buffaloes are there in India. India has 230.6 million tonnes of milk production from all the diary animals and 9768.6 thousand tons of meat production from all type of meat animals. There is a total of 3.62 billion rupees export and 5.73 billion rupees import values, which are generated by total livestock and its by-products (BAHS, 2023).

Key words: Cattle and buffalo, Housing and health, Milk and meat, Export and import

Introduction: As India is the highest milk producing country in the world with 230.58 million tonnes and is ranked 1st to the world. The milk production has increased by 3.83% over the previous year (2021-22). The per-capita availability of milk is 459 grams per day. The total milk production from dairy cattle has increased by 6.38% and that of dairy buffalo has increased by 3.69% when compared to previous year data (BAHS, 2023). So, by this data interpretation we can understand that, the improvement in dairy sector by building proper infrastructure is a vital step in developing livestock sector, which shares 4.75% to total Gross Value Added (GVA) and has 6.54 lakh crores production value in GVA of India (BAHS, 2023).

- **Cattle shed:** If there aren't many cows, cow can be arranged in one row if they are less than ten, or in two rows if the herd is big. Generally, a building should not house more than 80–100 cows. When employing double row housing, the stable should be set up so that the cows, can be faced in (head-to-head system) or out (tails-to-tail system) as per the need.
- **Face to face cattle housing (Face in):** Its easier for the cows to enter their stalls. The gutter is where the sun's rays are most needed. It is simpler to feed cows since you can feed both rows at once without having to go back. It works well in small barns.

➢ **Advantages:**

- Cows make a better showing for visitors when heads are together.
- Because of face-to-face eye contact of milch animals, they can exhibit better animal to animal based behavioural patterns like bellowing, licking, head nodding etc.

FACE TO FACE SYSTEM OF CATTLE HOUSING

- **Tail to tail cattle housing (Face out):**

➢ **Advantages:**

- A major benefit when washing and milking the cows is the broad central lane in this type of housing.
- Disease transmission between animals is less likely.
- There's always more fresh air outside for cows to breathe.
- While milking, the head gowala can check a larger number of milkmen. Milkmen will be milking on both sides of the gowala.

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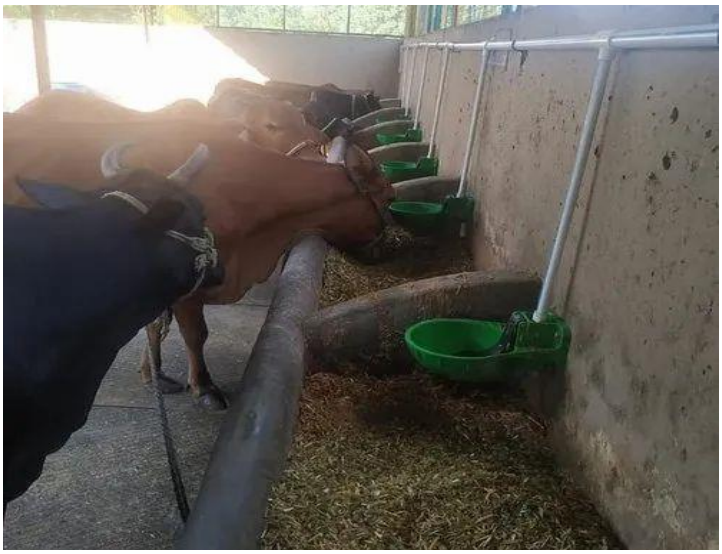
- Any little illness or alteration to an animal's hindquarters can be swiftly and even automatically identified.

TAIL TO TAIL SYSTEM OF CATTLE HOUSING

- **Cattle shed with water bowl and manger:**

Water bowl or waterer is the equipment provided to cattle for drinking water around the manger space. It can be automated as it's a labour and time efficient or it can be filled manually by the shed keepers. The cement concrete continuous manger with detachable partitions is the finest in terms of longevity and hygiene. A height of 1'-4" is considered adequate for a high front manger, and 6" to 9" for a low front manger. Cattle prefer low front mangers because they are more comfortable, yet high front mangers avoid wasting feed. Maintaining a 2'-6" to 3' height at the rear of the manger is recommended. An overall width of 2' to 2.5' is suitable for a decent manger.



CATTLE SHED WHERE COWS HAVING WATER BOWL AND FEEDING SPACE AS MANGER

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- **Roofing of shed:** The barn's roof could be made of tiles or asbestos sheets or thatched. One drawback of corrugated iron sheets is that they can cause significant variations in the barn's interior temperature throughout the year. On the other hand, iron sheets with timber insulated ceilings and aluminium coated tops to reflect sunlight can also accomplish the goal. A height of 8 feet at the sides and 15 feet at the top will work well to give the cows the necessary breathing space. An adult cow requires at least 800 cubic feet of air space in tropical conditions. The best ventilation strategy, according to reports, is continuous ridge ventilation.

CATTLE SHED WITH THATCHED ROOFING

BUFFALO SHED WITH ASBESTOS SHEET ROOFING

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- **Green net as a roofing material:** Especially for buffaloes and other dark-skinned animals, they need to have cooler surrounding environment for ameliorating heat to avoid heat stress in summer season, as they have dark skin, which absorbs more amount of sun rays than that of other livestock animals.

CATTLE UNDER GREEN NET SHELTER ROOFING

- **Loose housing:** A system of loose housing would be one in which animals are maintained free of confinement during aid and milking. It's the most cost-effective system. The following are some characteristics of a loose housing system.
  - Construction costs are substantially less than that of conventional structure.
  - It is feasible to expand boundaries farther without making any changes.
  - Make it easier to identify animals that are in heat.

LOOSE HOUSING OF BUFFALOES

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- Even with minimal grazing, animals prove to be more profitable since they feel free to roam.
- Animals receive the maximum amount of exercise, which is crucial for improved health and productivity.
- Overall, management can be executed better.

- **Flooring of shed:** The barn's interior floor should be made of an impermeable substance that is non-slip and easy to maintain dry and clean. Brick pavers can also fulfill a role. A cement concrete floor with grooves is still preferable. The cowshed's surface should be laid with a gradient of 1" to 1.14" from the manger to the excreta canal. For each adult cow, a total floor size of 65 to 70 square feet should be sufficient.

➢ The crossbred dairy cows get benefit from the rubber mat in terms of lameness, cleanliness, and hock and knee injuries, as Crossbred cows' claw health is still improved by those benefiting factors. For crossbred cows to maintain wellbeing and hygienic conditions, the rubber mat is preferable against the conventional concrete floor.

CATTLE SHED WITH CONCRETE FLOORING

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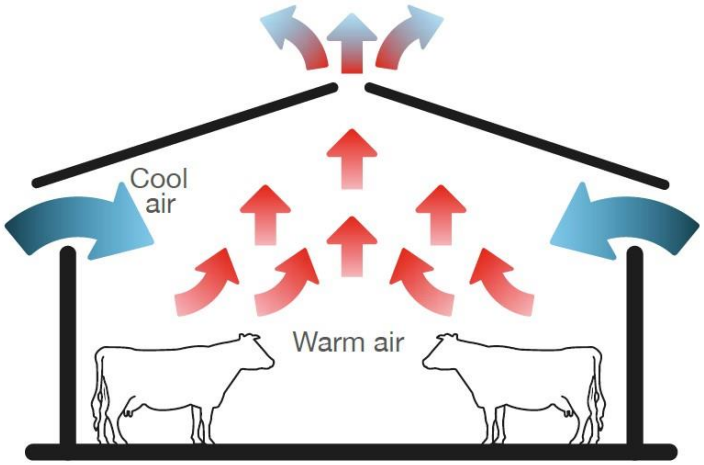
CATTLE SHED WITH RUBBER MAT FLOORING

- **Ventilation of shed:** The proper ventilation of shed for dairy and draught animals is most important to exchange the oxygen and carbon dioxide gases in the shed, as animals inhale the O2 as a part of respiration process, where in cool air enters the shed and exhale CO2 as a part of expiration process, where in warm air exits the shed. The recommended level of wind velocity should be 40–196 ft/m, in the livestock sheds to ease the comfort of animals.
- **Conclusion:** As discussed in the above article, the basic need for maintaining proper housing and hygiene for clean milk production is a pivotal asset for a profitable dairy venture to the rural farmers. By this information, the farmers can have cutting edge idea about good



BASIC VENTILATION PROCESS IN CATTLE SHED

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production practices which are apt for milk producing communities by forming the dairy sheds in the villages of India.

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