

ONLINE TRADING OF MILCH ANIMALS IN INDIA: REVOLUTIONIZING THE DAIRY INDUSTRY

Abstract

The advent of online trading platforms has brought about a transformation in various industries, and the dairy sector in India is no exception. This article explores the concept of online dairy animal trade in India, its benefits, drawbacks, and implications for the dairy industry. Online platforms have leveraged technological innovations like artificial intelligence (AI) and machine learning (ML) algorithms to improve animal selection and matching, making it easier for farmers to find suitable milch animals. These platforms offer a quick and convenient way for buyers to explore and purchase dairy animals, with a focus on high milk productivity breeds. The advantages of online trading platforms include enhanced accessibility, transparency, increased efficiency, quality assurance, and additional support services. They have capabilities to positively impact the dairy industry by promoting efficiency, productivity, breed improvement, market integration, and creating entrepreneurship opportunities. However, challenges like the digital divide, lack of knowledge, trust, and logistics need mitigation to ensure the widespread adoption of these platforms.

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I. INTRODUCTION

The Indian livestock industry, supporting 20.5 million livelihoods and contributing 4.11% to GDP, is witnessing rapid digital transformation. (Bordoloid, 2023)The introduction of Internet platforms has changed many industries, and the dairy sector is no exception. The development of online trading platforms for dairy animals has transformed the way farmers purchase and sell cattle in India, where the dairy industry is important to the agricultural economy. The idea of online dairy animal trade in India is examined in this article, along with its advantages, drawbacks, and implications for the dairy sector.

Online trading platforms have leveraged various technological innovations to enhance their services. For example, integration of artificial intelligence (AI) and machine learning (ML) algorithms has improved animal selection and matching algorithms, making it easier for buyers to find suitable milch animals.

II. OVERVIEW OF ONLINE TRADING PLATFORMS

Online marketplaces that allow buyers and sellers to connect and trade remotely function as online trading platforms for farm animals. These online platforms offer a quick and easy method for exploring, choosing, and buying dairy animals, especially cows and buffaloes, with a special emphasis on breeds with high milk productivity.

This online way of trading is beneficial in multiple ways which directly increases the effectiveness of business.

The major benefits include:

1. **Enhanced Accessibility:** Milch animal markets now have a wider audience since online marketplaces make it possible for participants from far-off places to deal. Geographical restrictions are now lessened since farmers have access to a greater variety of animals.

Access to a wider range of superior breeds through online platforms has encouraged farmers to upgrade their milch animal stock, leading to breed improvement and genetic diversity. Online trading platforms can facilitate the dissemination of superior genetic material, which can be resulted in the development of high-yielding and disease-resistant milch animal breeds.

2. **Transparency and Information Sharing:** Online platforms provide detailed information about the animals, including breed, age, milk yield, health records, and lineage. This transparency helps buyers make informed decisions and ensures fair pricing.

3. **Increased Efficiency:** When buying or selling milch cows in the past, there were usually middlemen involved, which added time and expense. Online platforms streamline the process and save expenses associated with transaction by doing away with the need for middlemen.

Online trading platforms have improved market efficiency in the dairy industry by enabling better price discovery and reducing information asymmetry among buyers and

sellers. The online platforms led to a significant reduction in transaction costs and improved price transparency, benefiting both buyers and sellers.

4. **Quality Assurance:** Authenticity of vendors and animal health data can be confirmed by reliable internet marketplaces. By doing this, the possibility of fraudulent transactions is decreased and purchasers are guaranteed to receive healthy animals with appropriate records.
5. **Support Services:** It is more convenient for purchasers to complete the full deal smoothly since many online platforms include extra support services like transportation, insurance, and veterinary aid.
6. **Socio Economic Impact:** Online trading of milch animals has had a positive socioeconomic impact on farmers in India. These apps do is making it easier and cheaper for both buyers and sellers. Not only are prices, photographs and histories of the animals listed in advance, but many of them also offer regular services to the cattle owners where veterinarians check and certify the animals.

III. IMPACT ON THE DAIRY INDUSTRY

The rise of online trading platforms for milch animals has positively impacted the dairy industry in India:

1. **Increased Efficiency and Productivity:** Online platforms increase the total efficiency of dairy farms, resulting in better milk yields and increased profitability by making it easier to buy high-yielding breeds.
2. **Breed Improvement:** Farmers are encouraged to update their milch animal stock when they have access to a wider array of better breeds via online platforms. This can lead to enhanced breed quality and genetic diversity.
3. **Market Integration:** Online trading platforms bring together farmers from various areas, integrating the dairy industry. Better pricing can be made possible by this integration, which also lessens information asymmetry between buyers and sellers.
4. **Entrepreneurship Opportunities:** Online platforms have made it possible for people to launch enterprises as aggregators, transporters, or service providers inside the online trade ecosystem, opening up new business opportunities.

The world's largest cattle market is in India. In August 2019, two Indian Institute of Technology graduates Neetu Yadav and Kirti Jangra started this initiative as “Animall” India’s first online marketplace for Cattle trading. Animal intends to make dairy farming business by creating a one-stop shop for everything on cattle because almost one-third of Indian households rely on dairy farming as a source of income. The Animal app enables dairy producers all across India to create their own farms by providing them with rapid and efficient access to high-quality animals.(Animall.in, 2023)

IV. GENERAL SELECTION PROCEDURES FOR DAIRY BREEDS

Selection of dairy cows

The following guidelines will be useful for the selection of a dairy cow (Singh, 2023).

- Whenever an animal is purchased from a cattle fair, it should be selected based on its breed characters and milk producing ability
- History sheet or pedigree sheet which are generally maintained in organized farms reveals the complete history of animal
- The maximum yields by dairy cows are noticed during the first five lactations. So generally, selection should be carried out during the first or Second lactation and that too are month after calving.
- There successive complete milking has to be done and an average of it will give a fair idea regarding production by a particular animal.
- A cow should allow anybody to milk, and should be docile.
- It is better to purchase the animals during the months of October and November.
- Maximum yield is noticed till 90 days after calving.

Breed characteristics of high-yielding dairy cows

- Attractive individuality with femininity, vigour, harmonious blending of all parts, impressive style and carriage
- Animal should have wedge-shaped appearance of the body
- It should have bright eyes with lean neck
- The udder should be well attached to the abdomen
- The skin of the udder should have a good network of blood vessels
- All four quarters of the udder should be well demarcated with well-placed teats.

V. WHAT TO LOOK FOR WHILE SELECTING DAIRY ANIMAL

1. **Production Traits:** They mainly refer to milk volume and the contents, that is, percentage of butterfat level, protein and other non-fat solids. Milk volume should be considered relative to number of feeds consumed since more produce from relatively lesser fodder is proof of a high feed conversion efficiency.

More solids in milk generally increase the quality. It is of no use at all to breed a fantastic looking cow, which produces no milk. Therefore, one must select animals that are positive for milk production.

2. **Conformation Traits:** These traits give a good indication of the performance of the dairy animal and include the udder structure, nature of feet or legs, stature and general dairy character.

The udder should be pliable, silky in texture, sack-like in nature and non-pendulous but firmly attached with strong suspensory ligaments high up near the vulva region. A huge udder is not necessarily a sign of a high milk yield; in fact, it is

recommended that one should choose a cow with a medium-sized (but wide base) udder that should not hang below its hock joint. The teats should be average-sized and evenly placed and oriented (pointing straight down) on the udder.

Good feet and strong legs lead to longevity of a dairy cow and facilitates it to be able to feed comfortably especially when in-calf (on average, a dairy cow is in-calf for about 80 per cent of its lactation duration). For a bull, strong feet and legs enable it to mount successfully though in dairy animals, more emphasis is on the cows and heifers due to the preference and comparative advantages of artificial insemination over natural mating. Observed from behind, a cow's hind legs should stand straight and wide apart while the side view should show a slightly set back hock (sickled) ending with slightly angled feet. The front legs should also be straight with a steep strongly attached pastern.

The ideal cow's stature should portray a deep, long body with wide, sprung ribs to provide ample space for the rumen and other digestive system organs. A good dairy cow should have a wedge shape, long neck, good width between fore legs, wide pin bones, broad muzzle and strong straight backline.

The classic dairy character is indicated by sharpness across shoulders and slight general leanness all over the body ending with a thin fine tail. A good dairy cow is not stocky or beefy as this shows poor feed conversion efficiency. Generally, pedigree dairy cows portray flatness of bone usually evident on the inner thigh.

- 3. Fertility Traits:** The number of inseminations per conception will always determine the success of a breeding programme. The fewer the inseminations per conception, the better the fertility of a particular animal.

It is important to choose animals with (or from a family renown for) a good conception rate since difficult or repeat breeders are expensive to maintain and cause immense losses.

This will enable a farmer to target a calving interval of one calf annually per cow. For farmers using natural mating, one should choose bulls that do not shy away from mounting receptive cows or those that exhibit excessive libido. A bigger scrotal circumference and fully descended testes are normally indicators of good fertility.

- 4. Longevity Traits:** This determines the amount of total lifetime milk production of a cow but it is usually influenced greatly by other traits such as health and fertility. Choose heifers or bull semen from families with a history of cows that can maintain high production ability across much lactation as well as have as many normal calving as possible in their lifetimes.
- 5. Health Traits:** As much as disease-prevention and control measures are important in ensuring sustained productivity, some emphasis should be laid on choosing disease-resistant and hardy animals to remain in production for long.

In harsh climate areas with a higher prevalence of tropical diseases (East Coast Fever and Foot and Mouth Disease), it may be wiser to undertake crossbreeding between exotic dairy breeds and indigenous lines since in such conditions, hybrid animals normally perform better than purebreds

- 6. Calving ease Traits:** Physical traits that facilitate easy calving include a wide pelvic diameter (observed from behind) and a gentle slope from pin to hip bone (observed from the side). A cow's body frame should portray a strong straight back or loin, which is essential during gestation in enabling the animal to comfortably feed as well as carry its foetus to term.
- 7. Workability:** Milking speed is of essence in maximizing yield since milk let-down is controlled by oxytocin hormone whose concentration levels in blood diminish with time. It is, therefore, important to choose animals with the right teat size, shape and opening (position and orifice size). Bad temperament interferes with oxytocin flow during milking; thus, one should likewise consider docility when choosing a dairy animal.

How to breed heifers of higher quality than parental stock

Many ambitious dairy farmers already have one or two cattle in their backyards and for them, it may not always be feasible to buy superior animals but they would rather want to upgrade from what they have.

VI. CHALLENGES AND MITIGATION

The adoption of online trading platforms for milch animals in India faces several challenges. Below are few identified challenges;

- 1. Digital Divide:** Online trading systems may be difficult to use in rural locations with poor internet connectivity and technology literacy. This gap may be closed by promoting digital literacy and enhancing connection.
- 2. Lack of Knowledge:** This can be resolved by making applications which are easy to understand, with local language. It can be also solved by training and awareness.
- 3. Trust and Verification:** Online transactions must be trusted and authenticated. Platforms must put in place thorough verification procedures, including paperwork and certificates, for both sellers and animals.
- 4. Logistics and Transportation:** Animal transportation must be timely and secure. Long-distance transportation should be done with more care for animal safety. These problems can be solved by working with logistics service providers and developing standardized transportation methods.

VII. CONCLUSION

Online dairy animal trade platforms have significantly altered the Indian dairy business, empowered farmers and improving the effectiveness of transactions. These platforms, which make use of technology, provide transparency, accessibility, and convenience, revolutionizing the way dairy animals are purchased and sold. The effect of online trade will increase with continued improvements in digital infrastructure and usage, assuring a more successful future for the Indian dairy business.

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