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Livestock Health Management during El Niño

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El Niño is a naturally occurring climate phenomenon associated with significant changes in temperature and rainfall patterns. It may cause drought, prolonged dry spells and extreme heat in some regions, while other regions may experience erratic rainfall and increased humidity. Such climatic extremes can have a direct and adverse impact on livestock health and productivity. Limited availability of feed and water, heat stress, compromised immunity, increased susceptibility to diseases and decline in milk production and reproductive performance are among the major challenges faced by livestock during such conditions. Scientific livestock management strategies mentioned below can substantially reduce these adverse effects and improve the resilience of livestock production systems.

- 1. Protection against Heat Stress:** Elevated ambient temperatures can induce heat stress in dairy animals altering feed intake, milk production, growth, reproductive efficiency, immune function and overall animal health. Animals should be provided with adequate shade, preferably under trees or properly designed sheds having good ventilation to facilitate heat dissipation. Fans and sprinklers may be used, where feasible, to provide additional cooling. **Grazing should preferably be restricted to the cooler parts of the day, particularly between 5–9 AM and 4–7 PM.** Overcrowding should be avoided to reduce the heat load on animals. Animals showing signs of severe heat stress, including rapid breathing, open mouth panting, excessive salivation, reduced feed intake, lethargy, restlessness should immediately be moved to a cool, shaded and well ventilated area.
- 2. Feed and Nutritional Management:** Feed scarcity is one of the major challenges during drought conditions associated with El Niño. During periods of abundant fodder availability, farmers should prepare and store sufficient quantities of silage, hay, dry fodder and crop residues to meet the requirements of livestock during periods of scarcity. The nutritive value of paddy straw and other agricultural residues can be improved through 4% urea treatment, making them more suitable for livestock feeding. Alternative feed resources such as Azolla and hydroponically produced green fodder can also supplement conventional fodder sources and help maintain feed availability during periods of shortage. Cultivating drought tolerant fodder crops, such as sorghum, pearl millet and cowpea strengthen on farm fodder security. During periods of severe fodder scarcity, leaves from fodder trees, including acacia, peepal, banyan and mulberry, may be incorporated into the ration in limited quantities. A balanced ration supplemented with mineral mixture should be provided to meet the nutritional requirements of livestock. Supplementation of vitamins C and E, selenium and electrolytes, where required, may support antioxidant defense and physiological adaptation during heat stress. During hot weather, feeding should preferably be scheduled during the cooler hours of the morning and evening.
- 3. Access to Safe Drinking Water:** Water availability becomes particularly critical when high temperatures coincide with drought conditions. Livestock should have continuous access to clean, fresh and good quality drinking water. Water requirements may increase considerably during periods of heat stress; therefore, adequate water should be made available throughout the day. Water tanks and troughs should be cleaned regularly and positioned in shaded areas.

Farmers should also make advance arrangements for rainwater harvesting and additional water storage to ensure water availability during periods of scarcity. Adequate availability of clean drinking water and feed is fundamental to maintaining livestock health and productivity.



Image: Provide clean and adequate drinking water and fodder

4. **Veterinary Care and Disease Prevention:** Preventive healthcare becomes particularly important during periods of climatic stress. Livestock should be vaccinated according to the recommended schedule against important diseases such as haemorrhagic septicaemia, black quarter, anthrax and lumpy skin disease. Regular deworming and control of ectoparasites, including ticks, lice and flies, should be undertaken as part of routine herd health management. Animal housing should be kept clean, dry and hygienic, and lime may be applied to floors when appropriate. Periods of high humidity and prolonged exposure to waterlogged conditions increase the risk of foot problems and skin infections. Early diagnosis and treatment can prevent disease progression and reduce the risk of spread within the herd.
5. **Safe Storage of Feed and Fodder:** High humidity can promote mould and fungal growth in stored feed and fodder. Certain moulds can produce mycotoxins, which may adversely affect animal health, feed intake, production and reproductive performance. Feed and fodder should therefore be stored in a clean, dry and well-ventilated storage facility. Feed bags should be kept above the floor on raised platforms to prevent moisture absorption. Mouldy, damp or fungus contaminated feed should never be offered to livestock.

Conclusion: The adverse effects of El Niño cannot be completely prevented, but timely preparedness and appropriate management can substantially reduce the risks to livestock health and productivity.