DISEASES CAUSED BY CONSUMPTION OF TOXIC FODDER BY ANIMALS

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ABSTRACT

Toxic fodder consumption poses a significant risk to livestock health and productivity, especially in regions facing fodder scarcity or inadequate animal care. While animals generally avoid harmful substances instinctively, poor-quality feed or contaminated forage can lead to accidental ingestion of toxic compounds. Common toxins include hemagglutinins from legumes, cyanogenic glycosides from sorghum and cassava, and phenols like gossypol and tannins. Other harmful agents include nitrates, mimosine, atropine (from Datura), parthenin (from Congress grass), and cardiac glycosides from Oleander. These substances can cause a range of health issues, from gastrointestinal distress to respiratory failure and even death. Preventive measures, such as proper feed selection, detoxification through soaking or cooking, and timely veterinary intervention, are essential. Traditional home remedies using tulsi or fenugreek can help mitigate early symptoms. Educating farmers about fodder toxicity and ensuring adequate, safe feed availability can greatly reduce the risk of poisoning and promote animal welfare.

KEYWORDS: Animal poisoning, Hemagglutinins, Cyanogenic glycosides, Gossypol toxicity, Nitrate poisoning, Mimosine

INTRODUCTION

Consumption of toxic fodder by animals is a major concern in the agricultural industry as it can lead to various health issues, causing devastating consequences for the animals, farmers, and the broader community. Although animals have the instinct to identify what they should eat, due to fodder scarcity or the negligence of the caretaker, they sometimes end up consuming harmful substances.

TOXIC SUBSTANCES IN FODDER AND THEIR EFFECTS

Hemagglutinins (Lectins)

Found mainly in soybean, castor beans, and other legume seeds.

Symptoms: Lectins bind strongly to red blood cells and cause agglutination.

Cyanogenic Glycosides

Ingestion leads to HCN (hydrogen cyanide) poisoning. Found in almonds (amygdalin), sorghum (dhurrin), flax, and cassava (linamarin).

Symptoms: Mental confusion, respiratory distress, abdominal pain, and vomiting. Common in ruminants.

Phenols (e.g., Gossypol, Tannins)

Gossypol is found in cottonseeds; tannins are present in blackberries, grapes, pomegranates, persimmons, bananas, and apples.

Symptoms: Loss of appetite, weight loss, fluid retention, and reduced hemoglobin.

Nitrate Toxicity

Caused by consumption of nitrate-rich water or fodder, like oats.
Symptoms: Abortion, weight loss, reduced milk production, and poor performance.

Mimosine Toxicity

Caused by amino acids in young green fodder.

Symptoms: Hair loss, excessive salivation, thyroid enlargement, low serum thyroxine, weight loss, and even death.

Datura (Jimsonweed)

Contains atropine alkaloids. Leaves and seeds are toxic if not processed properly.

Symptoms: Loss of appetite, bloating, heart, and respiratory issues.

Congress Grass (Parthenium)

Common weed found in gardens and roadsides. Contains toxic substance parthenin.

Symptoms: Allergies, itching, asthma, and respiratory issues.

Oleander (Nerium Oleander)

All parts contain glycosides (oleandrin and neriin).

Symptoms: The white sap contains oleandrin, which can cause heart failure.

Precautions and Treatment

If signs of poisoning are observed, contact a veterinarian immediately.

Use home remedies like tulsi (basil) or fenugreek seed infusion to slow down toxicity.

Soak and cook fodder to detoxify and improve digestibility and quality.

Ensure sufficient food is given to animals to prevent them from eating harmful substances.

Provide fresh green grass during monsoon for better digestion and health.

References

Radostits, O. M., Gay, C. C., Hinchcliff, K. W., & Constable, P. D. (2007). Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs and Goats (10th ed.). Saunders Elsevier.

Gupta, R. C. (2012). Veterinary Toxicology: Basic and Clinical Principles (2nd ed.). Academic Press.

Payne, J. M. (1990). Poisoning in Farm Animals. Veterinary Record, 126(25), 620–623.

National Research Council (NRC). (2005). Minerals and Toxic Substances in Animal Nutrition. National Academies Press.

Hovda, L. R., & Hooser, S. B. (2012). Toxicologic Emergencies in Large Animals. In Peterson, M. E., & Talcott, P. A. (Eds.), Small Animal Toxicology (3rd ed., pp. 879–892). Elsevier.

Indian Council of Agricultural Research (ICAR). (2020). Manual of Veterinary Toxicology. ICAR Publications.

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