



D45 Animal Nutrition Investigative Techniques Essential to Obtaining Investigative Forensic Information From Multiple Sites

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After attending this presentation, attendees will understand how careful interpretation of alleged animal nutrition related deaths and abnormalities in the presence of concomitant examination of all husbandry and environmental factors, is critical to scientifically valid conclusions.

This presentation will impact the forensic science community by showing how to use valid scientific principles to help differentiate the consequences of feed and nutritional inadequacies from husbandry practices, improper veterinary care, idiosyncratic drug induced complications, intentional abuse, accidents, and genetic disorders

Contaminated, distressed, or adulterated animal nutrition inputs can result in feed associated dysfunctions (FAD) within an animal population or in a specific individual. Nutrient deficiencies, excesses, and imbalances can result in nutrition associated dysfunction (NAD). NAD is associated with nutritional profile and ingredient mistakes and oversights in the manufacture, preparation, formulation, or the presentation of daily dietary components.

An essential component in the evaluation of animal feed and nutrition related claims is a scientifically valid set of investigative techniques required to accurately evaluate FAD and NAD in animals. As an example of the practical application of these techniques, a case study will be presented involving multiple Alpaca's at multiple sites, and a commercial Alpaca feed alleged to be contaminated with an alleged toxic substance, salinomycin.

Alleged toxic substance exposure from a commercial Alpaca feed requires the professional investigator to consider all other factors, management, environment, infectious agents, additional feeds, nutrition, and accidents; that may influence the appearance of abnormalities in a typical alpaca operation. Checklists and techniques will be provided to attendees, which along with firm scientific reasoning can be applied in the examination of an animal or population, the feed related components, and the facilities that existed at the time prior to, during and after exposure to an alleged toxic substance in commercially prepared feed.

Forensic nutrition requires a specific application of highly specialized and exacting disciplines that require the application of a unique set of interdisciplinary scientific skills and practical experience in animal husbandry and feeds and feeding. Defining the exact nature of the problems reported by alpaca caretakers, owners, trainers, and veterinarians requires the forensic professional to identify those dysfunctions within either the animal's environment or the daily ration, which may have attributed to the problems and financial losses relating to its performance, quality of life, and health.

Standards of what is acceptable evidence for causation in FAD- and or NAD-related illnesses in domestic animals do not currently exist. As a result, cases of commercial animal feed alleged to be contaminated, distressed or adulterated may result in the perpetuation of a misdiagnosed abnormality and the proliferation of erroneous methods of domestic animal FAD and NAD evaluation.

Modern animal forensic investigations cannot separate valid scientific observations from the complexity of the environmental realities that act singly, together, and in a holocoenotic manner. At the same time, it is recognized that the animal or targeted population, in turn, reacts upon their environment, often producing marked modifications. Cases of NAD and FAD are often improperly investigated, documented, and analyzed. This presentation will provide actual details on how to successfully perform feed and nutrition investigations with proven techniques.

Feed Contaminants, Nutrition, Animals