A Guide to Plant Poisoning of Animals in North America

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According to the National Academy of Science, toxic plants have been reported to be responsible for 8.7% of all large animal illness. In the western United States where range-land comprises the majority of feed for cattle, sheep, and horses, plant poisonings have plagued ranchers from the days of the wild west. This new resource book on toxic plants addresses this problem.

Knight and Walter have put together a comprehensive resource book on toxic plants that will have application to many venues. It can stand alone as well as be a companion to toxicology texts for veterinarians and animal health books for lay people. There is also a CD available that has the search capability to use leaf shape, flower color, flower arrangement, clinical signs, or affected system for a quick identification of a potential harmful plant. Both the book and the CD are backbone references needed by ranchers, veterinarians, and individuals interested in plant poisonings.

The book is attractive with color photographs for most of the plants discussed. There are ten chapters that are separated by blue colored introductory pages. Each chapter introduces the plant toxins affecting one of the ten organ systems; i.e., there are chapters on plants affecting cardiovascular, liver, nervous, kidney, reproductive, and musculoskeletal systems, as well as other systems. The chapters begin with a summary of the clinical signs, diagnosis, and treatment. The chapters conclude with an extensive literature review that gives the reader references to information from other published reports.

There are hundreds of plants that contain toxins; however, in any one geographical region there are only a finite number of plants that present a great risk for animal poisoning. This book provides a geographical indication of where certain toxic plants are generally found. If the clinical case history indicates an opportunity for plant consumption, a toxicologist or rancher can use this type guide in ruling out some plants and ruling in others. The chapter on liver (pages 142-185) describes pyrrolizidine alkaloid poisoning that often exhibits secondary photosensitization. The authors present a clear explanation between biliary occlusive, primary, and secondary photosensitization as compared to pyrrolizidine alkaloid toxicosis. This book is also better than most at helping the toxicologist identify various toxic plants, especially at early stages when plants are not as easily identified.

Toxicology programs usually address toxins from categories based on toxic molecules. Each one has a toxic principle and, in general, a particular outcome. However, in a real life a clinical case does not present itself in this manner; this book addresses toxicology from a clinical perspective. When there is a digestive or a nervous system dysfunction and suspected toxic plant consumption, one can identify any of the possible plants that may have been consumed. Moreover, one can use this book to correlate consumption with observed clinical signs. The real contribution of this book is that it equates the organ function with the toxic plant. Not only does this book describe the toxicity of various species of plants but it also enumerates the probability of poisoning at various stages of plant maturity. An example is larkspur poisoning (page 31).

Finally, this book is a complementary companion to toxicology texts such as Osweiler's Toxicology or Casarett and Doull's Toxicology: the Basic Science of Poisons. It is a reference book that should appear on every veterinarian's shelf as a diagnostic aid to correlate suspected plant consumption with clinical signs. It is an enjoyable book for everyone to read for an

introduction or to review toxic plants. For those in toxicology, this book should be considered a must.