

## **Vaccines: There and Back Again**

**D. Scott McVey**

Center for Grain and Animal Health Research in Manhattan, Kansas.

Vaccines are essential tools for the prevention and control of infectious diseases in animals. This review will focus on the development of novel vaccine formulations for animals as well as the strategies to achieve regulatory registrations and successful marketing. The review will also include personal and historical examples of vaccine development and use. In addition, the review will cover strategies in the discovery and early development phases that may lead to accelerated development that would satisfy regulatory requirements on a global basis. The discussion of these topics will also include consideration of robust manufacturing strategies based on sound research. In addition, the review will cover clinical studies required for registration and market authority. The effectiveness and disease control implications of vaccine use will be discussed. The discussion will include examples of some specific targets for basic research that could potentially enhance the robustness and efficiency of biologicals development processes as well as the required clinical study components.