



# SHEEP SHEET

by Dr. Lyle G. McNeal, Executive Director, Sheep & Wool Specialist

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## What are Veterinary Biologics?

Veterinary biologics are products designed to diagnose, prevent, and/or treat animal disease. They generally work through some immunological method or process. Immunity is the body's ability to ward off disease, and there are two types:

**1. Active Immunity:** which can be acquired by the body when it successfully overcomes a natural infection or responds to vaccination, and;

**2. Passive Immunity:** which involves the transfer of antibodies from immunized animals to non-immune animals.

This transfer may be accomplished by serum injection or, in the newborn, by oral administration of serum or the mother's first milk, colostrum.

Veterinary biologics are used to protect or diagnose disease in a variety of domestic animals, including farm animals, household pets, poultry, fish, and fur bearers. Most biologics leave no chemical residues in animals, unlike some pharmaceutical products. Furthermore, most disease organisms do not develop resistance to the immune response produced by a veterinary biologic.



## Veterinary Biologics

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### Sheepdex H-2

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#### Types of Veterinary Biologics:

- **Vaccines:** made from viruses, bacteria, spores, or other disease causing agents. The organisms in a vaccine are always living except in certain viral vaccines where the agent is killed. The living organisms in a vaccine may be modified by culture or natural selection so that they do not cause disease.
- **Bacterins and Bacterin-Toxoids:** inactivated cultures of bacteria or other non-virus organisms. If the product contains an inactivated toxin that is immunogenic, it is called a bacterin-toxoid.
- **Bacterial Extracts:** purified preparations that contain selected highly immunogenic portions of organisms.
- **Vaccines with Bacterins or Bacterin-Toxoids:** these combinations may be found in a single container or may be sold in separate containers within the same package.
- **Toxoids:** similar to bacterin-toxoids except that they are purified to remove bacterial cells.
- **Antiserums and Antitoxins:** products containing antibodies, usually from specifically immunized

animals. If the antibody neutralizes a specific toxin, it is called an antitoxin.

- **Allergenic Extracts:** used to diagnose animal allergies to substances like pollen, dust, fleas, and even foods, and to desensitize animals allergic to these substances.
- **Diagnostics:** substances which help detect infection by causing a telltale reaction or in laboratory test systems.
- **Miscellaneous Products:** include immune stimulants which, when properly administered, may be used to treat certain types of tumors and resistant skin infections.

#### **Some General Rules for Administration of Veterinary Biologics:**

- ◆ Read and follow label recommendations.
- ◆ Use sanitary procedures and avoid contamination.
- ◆ Carefully cleanse and disinfect site of injection.
- ◆ Sterilize instruments by boiling at least 5 minutes, or utilized another approved veterinary cold disinfectant.
- ◆ Administer the full recommended dose.
- ◆ Mix biologics only if the instructions specify to do so.
- ◆ Observe withholding times when administering product to meat and/or milk producing animals.
- ◆ Do not save unused contents of multiple-dose containers.
- ◆ Check for expiration dates.

#### **Important Note:**

Should a veterinary biologic prove ineffective, notify the licensed manufacturer and also the Veterinary Biologics Field Office, USDA-APHIS-VS, Ames, Iowa (Telephone number: (515) 232-5785).

For more information about the APHIS role in regulating veterinary biologics contact:

Chief Staff Veterinarian  
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*For more information write The Navajo Sheep Project, Inc. PO Box 4454, Logan, UT 84323-4454. The Navajo Sheep Project is a registered non-profit Utah corporation.*