



# Cattle Producer's Handbook

Animal Health Section

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## Recommendations for Producer Disposal of Livestock Antibiotics and Vaccines

*James J. England, DVM, Professor and Extension Veterinarian,  
Caine Veterinary Teaching Center, University of Idaho, Caldwell  
Danielle Gunn, Agricultural Extension Educator, Fort Hall Indian Reservation, Idaho*

The growing public concern regarding environmental health and the increased public pressure against the use of antibiotics in animals has created a need to dispose of animal pharmaceutical products safely and in an environmentally friendly manner. Proper disposal of all animal pharmaceutical products, including containers in which they are stored, at the farm and ranch level is as important as proper antibiotic use in the animal.

Unused and/or expired animal products that are disposed of incorrectly (i.e., dumped in sinks or drains or flushed down the toilet) can enter the environment and have an adverse environmental impact. Environmental contamination, particularly of lakes, rivers, streams, and groundwater with hazardous or potentially hazardous biological wastes is among public environmental concerns.

Once pharmaceutical products enter water sources, they cannot simply be removed by water treatment facilities. Therefore, veterinarians and livestock industry representatives should be at the forefront of educating livestock producers about the proper disposal of animal pharmaceutical products, including containers and vials in which products are stored, needles, and syringes.

Antibiotics and vaccines are important and necessary for maintaining animal health and are used judiciously by veterinarians and livestock producers. Consequently, questions arise as to the proper disposal of these products and the associated syringes, needles, empty vials and bottles, and outdated products that are no longer efficacious for animal treatment. As of 2014, few regulations exist regarding the disposal of these pharmaceutical products. The Department of Environmental Quality and Western State Departments of Agriculture do not have regulations that are specific to the disposal of veterinary medical or bio-hazardous animal pharmaceutical product waste. However, some general guidelines should be followed to ensure animal health products do not enter or have an adverse impact on the environment.

Animal vaccines containing live attenuated virus may be disposed of in most municipal solid waste landfills without being autoclaved or otherwise treated to inactivate the virus. Reconstituted live virus vaccines are unstable immediately and begin to inactivate at unrefrigerated temperatures and will become inactive within a few hours. However, some local landfills may have special treatment requirements and policies for discarded modified live (MLV) and attenuated animal vaccines. MLV vaccines can be inactivated by filling the vial with diluted bleach, however, this process may make the vaccine acceptable for disposal to landfills with specific requirements.

Many county landfills accept veterinary waste as non-hazardous provided the material is adequately packaged. **DO NOT USE ORANGE BIOHAZARD BAGS**—use “plain brown wrappers” or black construction strength plastic bags to wrap these products in before disposal to avoid any possible confusion with human bio-waste materials at the landfill.

Animal vaccines, both modified live and killed/inactivated, can also be disposed of via trash or incineration. Many killed or inactivated veterinary vaccines that contain thimersol, an ingredient containing mercury, are best disposed of via incineration or discarded in a lined landfill. As an endpoint user, producers or veterinary practices using thimersol-containing vaccines are not considered “thimersol generators” and are not subject to thimersol reporting and waste management regulations.

Outdated or unused antibiotics and vaccines should be placed into a rigid plastic container with cat litter, coffee grounds or compost, sealed and placed into a trash receptacle (Fig. 1). **DO NOT** pour any animal health products into sewer or septic systems, down sink drains, or flush down toilets. Empty antibiotic bottles should also be disposed in trash containers or incinerated.