

Improving Animal Health

Your dog may need that special medicine for seizures, or the veterinarian caring for sheep may not have the pharmaceuticals to keep the flock healthy and the US farmer competitive with global markets for lamb. The seizure medicine is a minor use in a major species (dog), and sheep are minor species. Market size and profit margins are low and capital investment is high for these drugs. It is generally not economically feasible for animal drug sponsors to pursue approvals for these indications and species. Accordingly, very few new animal drugs for these indications exist, or what drugs do exist cannot be used legally in those animals that need the therapeutics. Appropriately labeled drugs are greatly needed. The shortage of approved drugs results in animal suffering, loss of animal life, and financial loss.

Minor species are by definition, any species other than dogs, cats, horses, cattle, swine, chickens and turkeys. Terrestrial minor species include sheep, goats, llamas, alpacas, game birds, emu, ranched deer, elk, rabbits, caviar (e.g. guinea pigs), snakes, lizards, tortoises, caged birds, free-ranging wildlife and those in zoos, and small pet mammals or “pocket pets.” All aquatic animals, including all finfish, aquatic turtles, crustaceans, and molluscs are minor species. Minor species include a wide range of animals including those that are kept as household pets, those kept for display and educational purposes in zoos and public aquariums, and those that are raised commercially as food or for recreational fishing. While there is a great variety of minor species, they all share a significant need for pharmaceuticals to improve their health.

A *minor use* is a use of a drug in a major species for an indication that occurs infrequently or in limited geographical areas. Pharmaceutical manufacturers have developed drugs for common indications, but the small market place for uncommonly used drugs restricts drug development and leaves these species without adequate care.

A recent survey demonstrated that 62% of all US households shared their home with at least one species of pet animal.¹ Dogs, cats, and horses are major species and drug manufacturers have developed products to treat the most common indications in these pets. But dogs, cats, and horses that suffer from less common conditions, including those that affect the urinary tract, digestive tract, heart, and brain are less fortunate. The needed drugs are not approved for them in the necessary dosage forms.

If that pet is a minor species, there are not any approved drugs available for treatment of medical conditions. For example, medications for the routine treatment of parasites of dogs and cats have never been approved for small mammals such as hamsters, rabbits or guinea pigs, or for pet birds, fish or reptiles. Nearly 2 million American homeowners share their house with a pet rabbit,² yet rabbit breeders must raise our future pets without the legal availability of any drugs to treat common problems such as ear mites, snuffles, or intestinal parasites. More than 12 million exotically colored pet birds are enjoyed as companion animals,³ yet no approved drugs exist for use by bird breeders to treat diseases, including those that can spread among wild and pet birds and potentially to humans. Consumers spend \$13 million annually on treatments to ensure their complex aquarium ecosystems and garden pond fish are maintained in healthy condition,⁴ yet this sector could be better served if these aquatic remedies were marketed through an FDA-recognized system.

Livestock, poultry and aquaculture producers have an ongoing need for appropriate therapeutics. Cattle, swine, turkeys, and chickens, being major species, benefit from drugs that have been developed for common indications. But numerous, less common conditions exist for which drugs are not marketed in appropriate dosage forms.

Aquaculture is the fastest growing sector of US agriculture and employs over 10,000 individuals in the United States. There are over 54 different species being raised for production. The US catfish industry is the largest sector producing 600 million pounds annually, but other sectors include trout, striped bass, salmon, tilapia, bait fishes, goldfish, ornamental fishes, oysters, clams and lobster. There are only five therapeutic drugs approved for use in US aquaculture and two of these are limited to just catfish and salmonids. The loss of aquatic animals due to disease can be significant and very costly (several million dollars per year) to producers.⁵ The Florida ornamental farmed-fish industry raises ornamental aquarium and garden pond fish, and thus avoids collecting fish from the wild. The industry is valued at \$43 million,⁶ but has no approved drugs to treat and protect its fish from parasites and other disease.

Producers raise 47.6 million game birds in the United States,⁷ including pheasant, partridge, and quail. Growers of these birds critically need dewormers for administration in the appropriate dosage form. Without treatment, substantial numbers of young birds suffer and die, and the industry incurs economic loss.

Approved drugs do not exist to treat threatened or endangered wildlife, including birds and mammals in rehabilitation or restoration programs and species in zoological collections and aquaria. State and federal fish hatcheries have limited access to approved treatments to provide fish for stocking and restoration of our natural resources. In order to meet the demand of increased levels of sophistication of wildlife management and wildlife disease surveillance, wildlife veterinarians must have the safest and most effective pharmaceuticals possible for sedation, anesthesia, disease, or population control.

The markets for animal drugs intended for minor uses and minor species are small. Understandably, there are often insufficient economic incentives to motivate sponsors to develop the data necessary to support approvals. The limited availability of approved animal drugs intended for minor uses or minor species, limits the ability of veterinarians, pet owners, livestock producers, and wildlife, zoo and aquarium managers to adequately care for these animals. In many cases, the choices are to leave a sick animal untreated or to treat the animal with an unapproved drug.

Endnotes

¹ American Pet Products Manufacturers Association, Inc., 2001/2002 National Pet Owner's Survey

² American Veterinary Medical Association, US Pet Ownership & Demographics Sourcebook, 1997

³ AVMA, US Pet Ownership & Demographics Sourcebook, 1997

⁴ APPMA, 2001/2002 National Pet Owner's Survey

⁵ National Aquaculture Association, 1999 Fish Disease Survey

⁶ Florida Agricultural Statistics Service, Aquaculture 1999

⁷ United States Department of Agriculture, Cooperative State Research, Education, and Extension Service, 1999

Need for a Legislative Solution

FDA has encouraged the submission of New Animal Drug Applications (NADA) for minor uses and minor species within the confines of the Federal Food, Drug and Cosmetic Act (FFDCA). The FDA's efforts have met thus far with only limited success.

The Animal Medicinal Drug Use Clarification Act (AMDUCA) was enacted in 1994 (Public Law 103-396). AMDUCA and the final implementing regulations permit veterinarians to use approved new animal drugs for unapproved therapeutic uses in certain instances. While the AMDUCA does give veterinarians more legal treatment options, it does not, and was not intended to, facilitate the approval of new animal drugs for minor uses or minor species. Because the best drug for a minor use or minor species often is not available in an appropriate approved formulation or dosage form, or the best drug is not approved for use in any species, AMDUCA may not provide enough legal treatment options for minor species and minor uses.

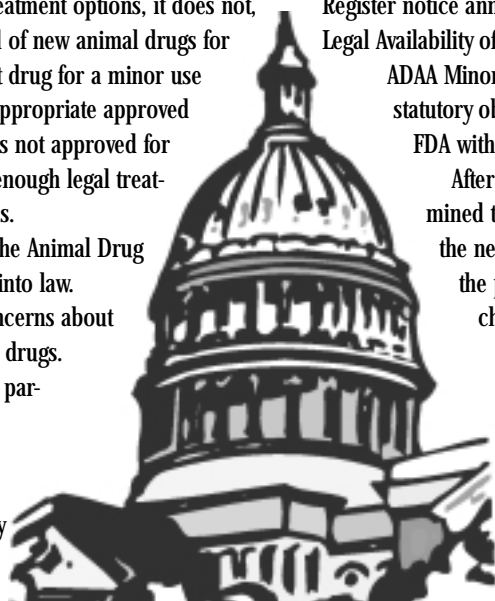
On October 9, 1996, the President signed the Animal Drug Availability Act (ADAA) (Public Law 104-250) into law. Enactment of the ADAA reflected Congress' concerns about the lack of availability of approved new animal drugs. Among other things, the legislation recognized particular problems relating to the availability of approved new animal drugs for minor uses in major species and for use in minor species. Section 2(f) of the ADAA directed the Secretary

to consider legislative and regulatory options for facilitating approval under section 512 of the FDC Act (21 U.S.C. 360b) of new animal drugs intended for use in minor species or for minor uses. The ADAA further required the Secretary to announce proposals for legislative or regulatory change to the approval process for new animal drugs intended for use in minor species or for minor uses.

FDA developed such proposals and made them available for public comment. On October 29, 1998 (63 FR 58056), FDA published a Federal Register notice announcing the availability of "Proposals to Increase the Legal Availability of Animal Drugs for Minor Species and Minor Uses, ADAA Minor Use/Minor Species Working Group" to fulfill that statutory obligation. That document represents significant work by FDA with the participation of other interested parties.

After closely examining the existing statutes, FDA determined that they fail to provide adequate options to fully serve the needs of numerous animal species. Congress recognized the possibility that statutory changes might be needed in its charge at Section 2(f) of the ADAA. To achieve the goal of increasing the availability of safe and effective drugs for minor species and minor uses, FDA concluded that federal statutes should be amended.

FDA's proposals provide the conceptual base for the Minor Use and Minor Species Animal Health Act of 2001.



Benefits of the MUMS Act

- allow companies the opportunity to develop and market FDA-authorized drugs that are vital to a large number of animal species
- alleviate unnecessary animal suffering and dying
- promote the health and well being of animals while protecting and assuring human health
- benefit pets in the home and comfort the families that care for them
- benefit various endangered species, zoo animals and wildlife populations.
- reduce economic risks and hardships to farmers and ranchers
- enhance the global competitiveness of our nation's animal producers.

1996

Congress passes Animal Drug Availability Act (ADAA) that requires FDA to propose ways to improve the availability of drugs for minor uses and minor species

1997

FDA seeks public comment on documents including a "Discussion Draft: Proposals to Increase the Availability of Approved Animal Drugs for Minor Species and Minor Uses"

1998

FDA concludes federal statutes should be amended in report "Proposals to Increase the Legal Availability of Animal Drugs for Minor Species and Minor Uses"

1999-2000

MUMS Coalition established; uses FDA proposals and technical assistance to develop draft legislation

2001

The Minor Use and Minor Species Animal Health Act is introduced

MUMS Coalition

- In 1999, diverse groups with interests in animal health consolidated to assist the Food and Drug Administration to address the common need of increasing the legal availability of animal drugs for minor species, and for uncommon indications in major species.
- This Minor Use and Minor Species (MUMS) Coalition has identified specific components of the FDA's original proposals, defined appropriate legislative language, and is providing strategies to assist Congress and industry groups to understand the animal health benefits of the proposed legislation.
- The MUMS Coalition members are in accord with the FDA and the House Co-Sponsors of HR 1956. Introduction of a bill in the Senate is expected soon. MUMS Coalition members support the following elements of the legislation:
 - A program, similar to the Human Orphan Drug program, directed at minor species and minor drug uses, to alleviate animal suffering and improve animal care;
 - A system for FDA to provide conditional approval of safe drugs, that have a reasonable expectation of efficacy, for a limited period of time prior to full approval;
 - An FDA Index of legally-marketed drugs for non-food, minor species for which it is unlikely that there is any incentive for achieving full or conditional approval;
 - Incentives for the development of designated new animal drugs, including limited marketing exclusivity (7 to 10 years), grants for certain animal drugs, and a 50 % tax credit for qualified testing expenses;
 - An office within the FDA Center for Veterinary Medicine to support the objectives of the legislation;
 - Protection of public health and animal health.

The MUMS Coalition is a diverse group of veterinarians, animal owners and producers, and developers of animal products that share an interest in animal health. Members represent terrestrial and aquatic animals, domestic and wild animals, and those kept as pets, livestock, zoological and aquaria collections, and animals in rehabilitation and restoration programs.

Founding MUMS Coalition Members

Alabama Farmers Federation
American Animal Hospital Association
American Association of Small Ruminant Practitioners
American Association of Wildlife Veterinarians
American Association of Zoo Veterinarians
American Farm Bureau Federation
American Feed Industry Association
American Pet Products Manufacturers Association, Inc.
American Rabbit Breeders Association
American Sheep Industry Association
American Veterinary Medical Association
American Zoo and Aquarium Association
Animal Drug Alliance
Animal Health Institute
Arkansas Bait and Ornamental Fish Growers Association
Association of Reptile and Amphibian Veterinarians
Catfish Farmers of America
Florida Tropical Fish Farms Association, Inc.
GDL International
International Association of Aquatic Animal Medicine
International Association of Fish and Wildlife Agencies
National Aquaculture Association and its member associations
National Fisheries Institute
National Turkey Federation
North American Deer Farmers Association
North American Gamebird Association, Inc.
Pacific Coast Shellfish Growers Association

MUMS Bill

The purpose of the Minor Use and Minor Species Animal Health Act of 2001 is to amend the Federal Food, Drug, and Cosmetic Act (FFDCA), as a mechanism to improve the shortage of approved drugs for minor species and minor uses, in an effort to reduce animal suffering, loss of animal life, and financial loss of animal owners, as required by Congress, in Section 2(f) of the Animal Drug Availability Act (ADAA) of 1996.

This bill establishes two new ways to lawfully market new animal drugs. First, it establishes a conditional approval mechanism for new animal drugs for minor uses and minor species. Conditionally-approved new animal drugs must meet the same new animal drug approval requirements for safety as new animal drugs approved under section 512 of the

FDC Act (21 U.S.C. 360b). However, the effectiveness standard for conditionally-approved drugs differs from the effectiveness standard for new animal drugs approved under section 512. An application for a conditional approval must include data to demonstrate that there is a “reasonable expectation of effectiveness” rather than “substantial evidence of effectiveness.” If the Food and Drug Administration (FDA) approves an application for conditional approval, this conditional approval will be in effect for one year, and renewable for a maximum of four additional one-year terms. During this period, which ends five years

from the date of conditional approval, the applicant is expected to conduct effectiveness studies and to demonstrate by “substantial evidence” that the animal drug is effective for its intended use. The conditional approval is intended to allow sponsors to recoup some development costs through marketing of the product prior to full, unconditional approval.

Second, the bill provides for an index of legally marketed unapproved new animal drugs for some minor species. The index is intended to provide a way to lawfully market those minor species drugs for which there is unlikely to be sufficient financial incentive to seek a full or conditional approval. A new animal drug deemed by the Food and Drug

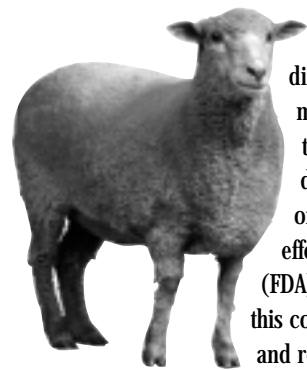
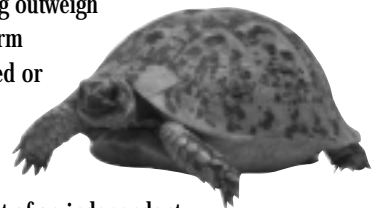
Administration to be eligible for listing on the index will be added to the index if the benefits of using the drug outweigh the risks, taking into account the harm caused by the absence of an approved or conditionally-approved drug for the use in question. The addition of a new animal drug to the index will be based, in large part, on the report of an independent expert panel based on its review of all available safety and effectiveness information.

The bill provides a process for classifying certain new animal drugs for minor uses and minor species as designated new animal drugs. Persons gathering data to support approval of a designated new animal drug may qualify for any or all of three incentives. The first incentive is marketing exclusivity for ten years if the designated drug is a new chemical entity, and seven years in other cases. The second incentive is the availability of grants for development of certain designated new animal drugs. The third incentive is a 50% tax credit for qualified testing expenses for designated new animal drugs. The credit is available to both the taxpayer who received the designation and the owners of animals who are the subject of safety and efficacy testing.

The bill establishes an Office of Minor Use and Minor Species Animal Drug Development, reporting directly to the Director of the Center for Veterinary Medicine of FDA. This office will be responsible for designating minor use and minor species animal drugs, for administering grants and contracts, for reviewing minor species drug index listing requests, and for serving as liaison to those interested in minor use and minor species animal drug development.

MUMS Legislation Authorized Spending

The MUMS bill creates an Office of Minor Use and Minor Species Animal Drug Development within the FDA authorized at \$1.2 million per year. Grants by FDA for development of certain animal drugs are authorized at \$1 million the first year and \$2 million thereafter.



Public and Animal Health Protection

The Minor Use and Minor Species Animal Health Act is based directly on ideas developed by FDA's Center for Veterinary Medicine, and is a result of congressional interest in facilitating minor use and minor species drug approvals. The Animal Drug Availability Act of 1996 established specific time frames for the Food and Drug Administration (FDA) to develop minor use and minor species proposals.

The MUMS bill is the result of the collaboration of FDA and groups that are interested in expanding minor use and minor species drug approvals while protecting public and animal health. The bill contains mechanisms to enhance the health of animals while maintaining the rigorous public safety requirements of the FDA. The Minor Use and Minor Species Animal Health Act does not alter the FDA's obligation to see that the food we eat is safe, the approved medicines for animals are safe and effective, and the drugs are labeled truthfully with the information that people need to use them properly.

The FDA Center for Veterinary Medicine evaluates new animal drug products prior to approval and use. This review process provides

consumers with the confidence that animal drugs are safe for animals and consumers of food products derived from treated animals. The FDA requirements address prevention of harmful residues in foods. FDA's strategies for the containment of antimicrobial resistance will apply to all drugs, including any that might be authorized under the MUMS bill.



Under the MUMS bill, conditionally-approved drugs must meet the same requirements for safety as new animal drugs approved currently under the Federal Food, Drug and Cosmetic Act (FFDCA). Indexed drugs are intended for some minor species in which it is unlikely that there is any incentive for achieving full or conditional approval. FDA will authorize index drugs only for those minor species for which there is a reasonable certainty that humans will not consume edible products from the animal.

Lastly, inadequate treatment of sick animals because of a shortage of FDA-authorized drugs may increase public health hazards. The transmission of parasites or pathogens from animals to humans, or the shedding of disease-producing organisms by untreated animals into the environment, may increase health risks to humans as well as other animals.