

FARAD and Chemical Food Safety

Food safety is an important consumer issue throughout the world, especially in the US, where safety concerns can profoundly affect the marketing and consumption of animal-derived foods, including meat, milk, and eggs. Veterinarians and others involved with food animal production strive to maintain animal health while remaining in compliance with state and federal regulatory requirements. The **Food Animal Residue Avoidance Databank (FARAD)** program has become integral for maintaining a proper balance among animal health, food safety and regulatory controls. FARAD is a unique national program staffed by highly-trained veterinary pharmacologists, toxicologists and food animal specialists at four colleges of veterinary medicine: **University of Florida, University of California-Davis and North Carolina State University and Kansas State University.** This unique consortium of scientific experts enables this program to address myriad chemical food safety issues, including **prevention of harmful drug residues** in foods and **mitigation of chemical exposures** associated with accidents or incidents of agro-terrorism. Owing to the multi-center location of FARAD experts across the country, the program is well-suited to address issues that are unique to livestock in different regions and to ensure continuity of service in the event of natural or man-made disasters that might otherwise impact a centralized location.

How FARAD Operates

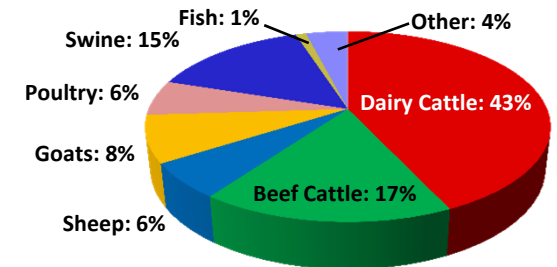
The US Food and Drug Administration (FDA) establishes **tolerances** for drug residues in all food products derived from animals as a means to ensure the safety of our nation's food supply. In addition, the FDA establishes appropriate **drug withdrawal intervals**, which represent the required waiting period after drug treatment when edible products are not to be used for human food. As a service to veterinarians and producers, FARAD provides a comprehensive on-line database that includes all regulatory information for

approved drugs in food animals. This searchable database is called the **Veterinarian's Guide to Residue Avoidance Management (VetGRAM)** and is accessible via the FARAD website, Google Play, and Apple and Amazon stores. VetGRAM is also used as a resource by FARAD responders at our **Regional Access Call Centers** when answering questions from veterinarians, producers, regulators and others associated with chemical food safety.

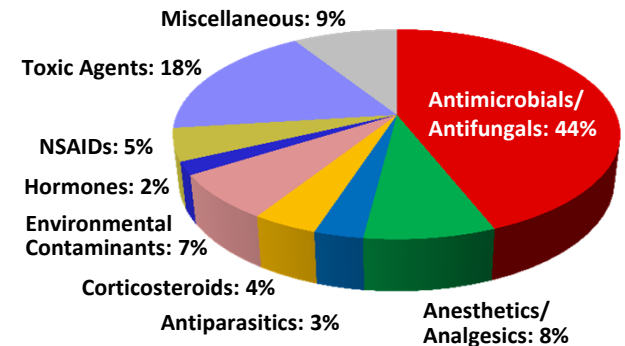
Owing to the limited availability of approved drugs for treating diseases in food animals, veterinarians must often use drugs that have not been specifically approved for a particular indication in a given species. Such uses, which are classified as **extra-label drug use (ELDU)**, are allowable under the law as specified in the **Animal Medicinal Drug Use Clarification Act (AMDUCA)**. However, in order to be in compliance with AMDUCA, veterinarians must **"...establish a substantially extended withdrawal period prior to marketing of milk, meat, eggs, or other edible products..."** and, furthermore, the extended withdrawal period must be **"...supported by appropriate scientific information."** Most veterinarians lack the time, expertise and resources to calculate a science-based extended withdrawal period and, therefore, must seek expert assistance. This assistance is provided by FARAD. Throughout the program's existence, FARAD personnel have gathered and analyzed information pertaining to drugs and chemicals in food-producing animals and other agricultural species. Information has been amassed from numerous resources, including scientific publications, pharmaceutical company reports, information from regulatory agencies as well as other public and proprietary sources. This information along with relevant US drug approval information and regulatory tolerances in edible animal tissues have been organized into a group of interrelated pharmacokinetic databases that can be accessed in real time by all members of the FARAD team. With over 43,000 entries taken from

over 8,000 sources, these databases are the most comprehensive collection of residue data available in the world. FARAD responders use this unique data source in conjunction with state-of-the-art kinetic modeling approaches (proprietary software and algorithms, statistical analyses, validation strategies, etc.) to conduct real-time calculations of drug withdrawal intervals. In addition, similar approaches are used to develop appropriate guidelines for mitigating accidental exposures to **harmful agricultural, industrial or radiological agents.** Each year, FARAD handles more than 1000 calls with an estimated impact on more than 6 million animals.

Annual Distribution of Calls by Species



Annual Distribution of Calls by Drug Class



In light of the international trade and marketing of many food products, FARAD has established an international program called **Global FARAD (gFARAD)**, with the overarching goal of fostering global food safety standards.

FARAD Outreach Programs

EXPERT-MEDIATED CONSULTATIONS

FARAD personnel provide scientifically-derived answers to residue questions from veterinarians, extension specialists, regulators and producers. Questions cover a wide range of drugs and chemicals in nearly all food animal species. Questions concerning drug withdrawal intervals or recommendations for mitigating accidental exposures to chemical toxicants may be submitted through FARAD's toll-free hotline or via our website.

INTERACTIVE WEB APPLICATIONS

FARAD maintains an informative, accurate and up-to-date web site (www.farad.org) that provides ready access to a library of informational documents and interactive databases. **VetGRAM**, the Veterinarian's Guide to Residue Avoidance Management, is an on-line searchable database of all drugs approved for use in food animal species. The **WDI Lookup** is a searchable database of withdrawal interval recommendations for drugs used extra-label, which have been published in *FARAD Digests*. Calculate a future withdrawal date and time using our **Withdrawal Date Calculator** (WDC). Recently, FARAD launched an online search of its **Bibliographic Database for Citations**. FARAD also maintains a unique proprietary database of pharmacokinetic (PK) data for numerous other drugs, chemicals and radionuclides. Information in this database has been extracted from multiple sources (peer-reviewed scientific publications, drug company releases, etc.) and has been analyzed to derive unique and important PK information.

PUBLICATIONS & PRESENTATIONS

FARAD scientists publish peer-reviewed articles in scientific journals, including a regular series of **FARAD Digests** in the *Journal of the American Veterinary Medical Association*, as well as books detailing unique aspects of FARAD's kinetic databases. FARAD members make regular presentations at local, national and international scientific meetings, and are available to meet with interested groups.

Access our **Veterinarian's** **Guide to Residue Avoidance** **Management (VetGRAM)**



Scan to search mobile friendly VetGRAM

Also available for download
(no internet required to run)



FARAD

Food Animal Residue Avoidance Databank

a component of the
Food Animal Residue
Avoidance &
Depletion Program

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*A national consortium to
promote Chemical Food Safety*

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University of California-Davis
University of Florida

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