FARAD Digest

Evaluation of the advisory services provided by the Food Animal Residue Avoidance Databank

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As part of its mission to help ensure that foods of animal origin are free of violative chemical residues, the **Food Animal Residue Avoidance Databank (FARAD)** offers 2 advisory services to veterinary practitioners. The first is a comprehensive online database (VetGRAM) of drugs approved by the US FDA/**Center for Veterinary Medicine (CVM)** for the treatment of food-producing animals. Second, FARAD offers expert-mediated advice on residue avoidance and mitigation for chemical contamination incidents and the extralabel use of drugs. This service is provided by FARAD pharmacologists and toxicologists, who can be reached by e-mail[a] as well as a toll-free telephone number.[b]

VetGRAM

VetGRAM is a relational database that contains regulatory information about the indications, directions for use, and withdrawal periods of drugs used in food-producing animals for therapeutic as well as production-enhancement purposes. The database is maintained and regularly updated by members of FARAD at the University of Florida at Gainesville. The first online version of VetGRAM was launched in the summer of 1999. An interface was developed that made the database searchable by species. It was made available through the Internet via the FARAD Web site,[c] and users could also request digital copies. Users were required to register, after which they received a user name and password that gave them access to VetGRAM. The interface has recently been updated, and a new version of VetGRAM was launched in the spring of 2003. This new version is more versatile, and the database can now be searched by any combination of species, active ingredient, trade name, drug classification, manufacturer, or **new animal drug application (NADA)** number.

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An e-mail-based survey was conducted approximately 20 months after the launch of the first version of VetGRAM. During this period, there was a mean of 50 daily hits to the FARAD Web site. Three hundred and seventy-six e-mail addresses were randomly chosen from the 1,150 subscribers to VetGRAM and compiled for the initial mailing. Of the 376 initial e-mail addresses, only 279 were found to be viable addresses. There were 143 respondents who replied to the survey (51% response rate) with 122 respondents who replied to 1 or more questions (44% adjusted response rate). The majority of respondents (86/122 [70%]) accessed VetGRAM from the United States; 12 (10%) respondents were from Canada, and 2 or more respondents were from Argentina, Australia, Mexico, Taiwan, and Turkey.

Private practitioners represented the largest group of respondents (54/143 [38%]), but there were also a

Table 1—Respondents' reasons for using VetGRAM (n = 112)

Reason for using VetGRAM*	No. of responses (%)
As a guide to administering drugs in animals	57
As an aid in making and evaluating policies	22
As a teaching tool	15
As a research tool	13
As a learning tool	11
Other	7
Total	**125**

*Some respondents checked more than one answer for this question.

Table 2—Typical responses regarding satisfaction with VetGRAM system

Statements used to evaluate satisfaction with the system	Typical response (1–7)*
VetGRAM Online is easy to use.	4.8
VetGRAM Online is worth the time it takes to use it.	5.3
VetGRAM Online is well organized.	5.1
I have difficulties finding the information I need.†	3.3
Information found in VetGRAM Online is very useful.	5.3
I would recommend VetGRAM Online to other veterinarians.	5.6

*1 = Strongly disagree, 7 = strongly agree. †Statement d is a negative statement; the score 3.3 corresponds to a 4.7 positive score.

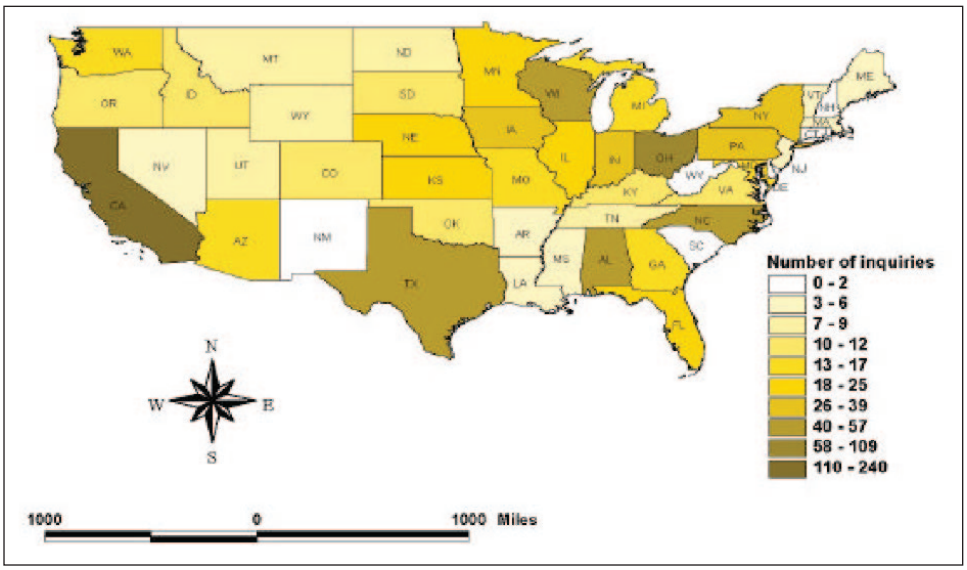

Figure 1—Number of inquiries to Food Animal Residue Avoidance Databank (FARAD) from the different states of the continental United States.

substantial number of respondents from academia (36/143 [25%]) and government (24/143 [17%]). More than half of the respondents (74/143 [52%]) had heard of VetGRAM by word of mouth. Other major channels through which users had heard of VetGRAM were journal articles (51/143 [36%]) and Internet search engines (31/143 [22%]). The reasons for using VetGRAM were numerous (**Table 1**). Most respondents were moderate users of VetGRAM (more than once a year, but less than once a month). None of the respondents accessed VetGRAM more than once a week. The majority (139/143 [97%]) of respondents rated their level of computer skills as either medium or high.

Respondents were asked to indicate their satisfaction with the VetGRAM system by rating statements according to the degree to which they agreed with them (**Table 2**). The typical response to all the statements was positive, indicating that users were generally satisfied with the system.

Telephone and E-mail Inquiries

Veterinarians who require advice can contact FARAD either by using the toll-free telephone number[b] or by e-mail.[a] Telephone inquiries are usually recorded on an answering machine, and callers can expect a response within the same working day. More time may be required to formulate a final response for complicated cases. There are 2 FARAD access centers (North Carolina State University and University of California at Davis), which alternate duties on a weekly basis.

All telephonic and e-mail inquiries made to the FARAD access centers are entered into a relational database.[d] The following information is recorded in this database: geographic location of caller, method of inquiry (e-mail or telephone), drug(s) involved, and species involved. This database was used to determine the number and nature of inquiries received during the period January 2000 through December 2002. These data form the basis of this report.

FARAD received 1,145 inquiries during the period

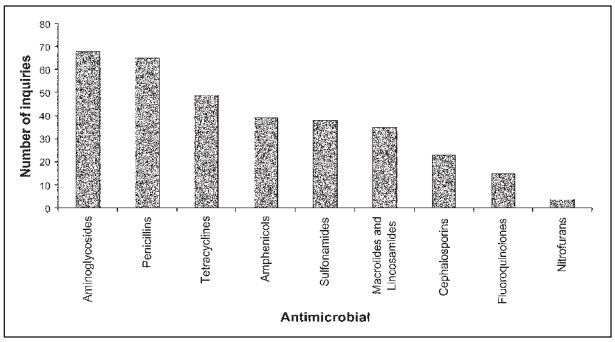

Figure 2—Antimicrobial inquiries by group.

beginning January 2000 through December 2002, with over 90% received by telephone. The largest proportion of inquiries came from California (252/1,145 [22%]), followed by Ohio (115/1,145 [10%]) and then Alabama, Wisconsin, and Texas (57/1,145 [5%]; **Fig 1**). Calls were also received from Alaska (21 calls), Hawaii (1), and outside the United States (total of 42). The latter were mostly from Canada, Spain, and the United Kingdom.

Callers most commonly inquired about antimicrobials (**Fig 2; Table 3**), and almost half were about drugs used in dairy cattle (**Fig 3**). Many inquiries were also about swine and beef cattle. Although most of the inquiries were received from private veterinary practitioners, a substantial number were also received from individuals from academic institutions (175 calls) and governmental departments (109) or from stakeholders from various industries such as feed mills, pharmaceutical companies, and producer groups (44).

Various sectors of the veterinary profession and livestock industry used the services offered by FARAD. The number of inquiries received by the hotline and the amount of hits to the Web site indicate that there is a need for information on residue avoidance, not only for individual cases of extralabel drug use or exposure to environmental contaminants, but also for general information and education. Although the information offered pertains

Table 3—Ten most common groups of drugs for inquiry

Group of drugs	No. of inquiries
Antimicrobials	338
Nonsteroidal anti-inflammatory drugs	143
Tranquilizers, sedatives, and anesthetics	92
Environmental contaminants	81
Ectoparasiticides and endectocides	59
Corticosteroids	50
Anthelmintics	44
Anticoccidials	40
Antifungals	35
Hormones	30
Total	**912**

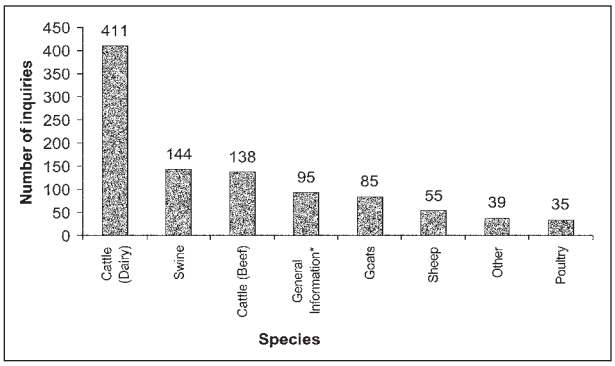

Figure 3—Inquiries to FARAD by species (n = 1,002). *Inquiries for general information and not concerning a particular species.

to products approved for use in the United States, people from other countries also used FARAD as a resource.

The number of inquiries received by telephone and e-mail indicates a need for expert-mediated advice on residue avoidance issues. The large proportion of inquiries concerning drugs used in dairy cattle could be explained by the fact that there are few products approved for use in this class of food-producing animal. Other major food-producing species (swine and beef cattle) were also well represented in the inquiries. There were also a substantial number of inquiries concerning the use of drugs in minor species, such as sheep and goats, probably because of the lack of approved products for these species. Inquiries were received from all over the United States, although those states with large dairy and other agricultural industries based on food-producing animals seemed to be more highly represented. The number of inquiries received concerning specific types of drugs may be reflective of a high level of use in food-producing animals (eg, antimicrobials or nonsteroidal anti-inflammatories) or the need to use certain classes of drugs in an extralabel manner (eg, tranquilizers, sedatives, and anesthetics).

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