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## VetPestX: Finally! An Online, Searchable, Pesticide Label Database Just for Pests of Animals

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## VetPestX: Finally! An Online, Searchable, Pesticide Label Database Just for Pests of Animals

### Abstract

Almost all online pesticide databases contain crop-specific product labels; very few include products labeled for animal use. A single online location for veterinary pesticide labels was needed. Led by Alec Gerry of the University of California at Riverside (UCR), veterinary entomologists from California, Washington, New Mexico, and Oklahoma contributed information on animal pesticide products registered in five western states (CA, WA, OR, ID, NM) and OK to a new, online, searchable, veterinary pesticide labels database named VetPestX, developed and maintained on UC Riverside's website. Animal producers and owners requesting pesticide information to manage pests are now routinely directed to VetPestX.

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## Introduction

Extension professionals with animal pest management expertise are frequently queried for information on pesticides used to control pests of animals. These requests are common because clientele may (1) have difficulty navigating state-operated pesticide registration databases, (2) want to know about new products or technologies they should be considering, and/or (3) be interested in managing pests using the most effective and environmentally sensitive materials that may be incorporated into existing integrated pest management (IPM) programs. Animal managers need to know what products can be used both effectively and safely against pests of animals. This also provides a window of opportunity to educate these managers on IPM practices and technologies applicable to their operations.

Many online pesticide databases are available for use by the public, but they focus primarily on agronomic crop pesticide labels, with less attention given to livestock/poultry/pet product labels. Two recent examples of electronic databases developed for crop-specific management that include

pesticide information are: (1) the CD-based IPM module for small grains (Resel & Arnold, 2010) and (2) the turfgrass management smart-phone application (McCullough, Waltz, Hudson, & Martinez-Espinoza, 2011). Veterinary pesticide product information is scattered widely on the Internet and is not easy for animal managers or Extension professionals to access.

Recently, in Baton Rouge, Louisiana, a group of livestock entomology experts from across the country gathered to develop a 5-year proposal for multi-state collaboration on research projects fitting under the umbrella title of "Fly Management in Animal Agriculture Systems and Impacts on Animal Health and Food Safety" (Roeder, 2013). A new requirement for this 5-year cycle was an Extension objective, Community and Stakeholder Engagement. A key component of this objective was to compile a database of registered pesticides used in animal production. With product manufacturers' help and support, we would create an online database for all pesticides registered for use in animal agriculture in the United States. In so doing, we would bridge a gap between industry and Extension by providing industry with a mechanism to self-report their current products, state registrations, and label revisions, while ensuring oversight of the process by university Extension personnel.

## Database Development and Use

In early 2014, Gerry initiated the development of the database on his University of California webpage and later received funding from the Western Integrated Pest Management Center (<http://westernipm.org/>) to support the development of a user interface for Web queries. Data from the Microsoft® Access Database were exported as Microsoft® Excel files and uploaded to the search database via an Application Programming Interface (API). The database is now accessible at [http://veterinaryentomology.ucr.edu/vet\\_pesticides.html](http://veterinaryentomology.ucr.edu/vet_pesticides.html). Each product record in the database is linked with its active ingredient(s), IRAC code, manufacturer, and EPA registration code. IRAC (Insecticide Resistance Action Committee) code refers to the active ingredient's mode of action (<http://www.iraac-online.org/eClassification/>) and can help users determine how to properly rotate pesticides to reduce resistance development.

Initially, the database contained only California products. Products included those registered for use on cattle, horses, sheep, goats, swine, poultry, dogs, and cats, and those for use on/around animal housing. Ferguson contributed product labels from Washington and Oregon by comparing California product names with those found on PICOL (Pesticide Information Center Online, <http://picol.cahe.wsu.edu/labels/Labels.php>). Ferguson also contributed product labels from Idaho by cross-checking Idaho's pesticide label database at <http://www.kellysolutions.com/ID/>. Gerry presented the prototype to livestock entomologists at the 2014 Livestock Insect Workers Conference in June (Gerry & Ferguson, 2014), and invited Extension personnel from other states to participate in the development of the database. In addition, Gerry met with industry representatives present at the conference to garner support for the maintenance of the online database. Talley contributed Oklahoma product registrations by checking the state's label database at <http://www.kellysolutions.com/ok/pesticideindex.htm>, and Smythe provided product labels from New Mexico's state database at <https://nmag.nmsu.edu/USAPlants/ProductRegFSA/BrandSearch.aspx>.

To query the database, a user would first choose their state, the host animal or animal usage area to be treated, and the type of pest. In the example illustrated in Figure 1, "California," "lactating dairy

cattle," and "house fly" were chosen. Users may then choose any or all application methods and any or all formulation types. In the example, "All" was chosen for both. Clicking on "Search" executes the query and returns all products currently registered in California for use on lactating dairy cattle for control of house flies (Figure 2). Users may choose to print the list of product names by clicking on "Print Result" (Figure 1). If desired, users may search for product labels by clicking on "US EPA Pesticide Product Label System" (Figure 1).

**Figure 1.**

Initial Queries That Drive the User's Search for Product Names

**Registered Pesticides**  
Searchable database of pesticides to control pests of animals

Please choose the state in which this material will be applied: CA

Please indicate the type of animal / area to which this material will be applied: Cattle (Dairy, Lactating)

Please choose the type of pest: House Fly

Please indicate the preferred application methods:  All  Feed-through (2)  Fog/Aerosol (7)  On-animal spray (10)  Pour-on/Spot-on (15)  Premise treatment (9)

Please indicate the preferred formulation:  All  Emulsifiable Concentrate (5)  Granulate/Flake (2)  Other (Liquid) (1)  Pressurized Liquid/Spray/Fog (5)  Solution/Liquid (13)  Suspension (1)

[Search](#)

[Print Results](#)

The inclusion of a product listed in this database does not imply an endorsement of that product by the University of California or any other entity associated with the Insect Pests of Animals website.

Read and follow product labels carefully for target pest information, compatibility of the treatment with other management practices and for precautions to avoid contamination of feed, water, meat or eggs.

Veterinary Entomology Pesticide Database accessed on Tuesday, December 02, 2014 12:56pm

Product labels can be found here - [US EPA Pesticide Product Label System](#)

Show  entries

**Figure 2.**

Partial Product List Returned From a Search of California Products Registered For Use on Lactating Dairy Cattle Against House Flies

Registered Pesticides				
PRODUCT NAME	A.I.	IRAC CODES	MANUFACTURER	EPA REG. CODE
ATROBAN 11% EC	Permethrin	3A	INTERVET INC. DB/A MERCK ANIMAL HEALTH	773-59
BRUTE POUR-ON FOR CATTLE	Permethrin	3A	Y-TEX	39038-7
CARDINAL FOOD PLANT 5-1 INSECTICIDE	Pyrethrins + PBO	3A	SOIL CHEMICALS CORPORATION	8536-35
CATTLEMENS CHOICE: DAIRY KONTROL 1% PERMETHRIN SYNERGIZED POUR-ON	Permethrin + PBO	3A	ARIZONA CHEMICAL GROUP	55431-13
CLARIFLY LARVICIDE 0.67% PREMIX	Diflubenzuron	15	WELLMARK INTERNATIONAL	2724-794
CLEAN-UP POUR-ON INSECTICIDE WITH IGR	Permethrin + Diflubenzuron	3A/15	BAYER HEALTHCARE	61483-91
CLEAR ZONE DOUBLE IMPACT FARM FLY SPRAY	Permethrin + Pyrethrin + PBO	3A	WHITMIRE MICRO-GEN RESEARCH LABS	499-320
COUNTRY VET FARM AND DAIRY CV-80D FOR INSECT CONTROL	Pyrethrins + PBO	3A	WATERBURY	9444-210
DAIRY BOMB 50Z	Pyrethrins + PBO	3A	DURVET	9444-210-12281
ECOLAB AERO-MAX SYNERGIZED PERMETHRIN	Permethrin + PBO	3A	ECOLAB	1021-1739-1677
EQUINE USE FLY RID MULTI-PURPOSE INSECT CONTROL AEROSOL	Pyrethrins + PBO	3A	DURVET	9444-210-12281
EVERCIDE PERMETHRIN 10% EC	Permethrin	3A	MCLAUGHLIN	1021-1736

## Impacts and Future Plans

The unique veterinary pesticide labels database is easy to access, use, update, and maintain. Animal producers and owners requesting pesticide information to manage pests (via email, Ask an Expert [part of eXtension], phone calls, etc.) are now routinely directed to this website. The veterinary labels database was highlighted in the September 2014 issue of the *Western Front*, an e-newsletter of the Western IPM Center ([http://www.icontact-archive.com/GRXUtzWNofP2xXJ2hQvOa0\\_o29OKaRFR?w=3](http://www.icontact-archive.com/GRXUtzWNofP2xXJ2hQvOa0_o29OKaRFR?w=3)). The database has also been featured in newsletters and blogs of Extension personnel throughout the western United States and at New Mexico State University's showcase fair in Las Cruces, New Mexico (Nuñez, Gerry, & Smythe, 2014).

We have given the database a name—VetPestX—to reflect its scope and intended use (the "X" is shorthand for Extension). We plan to add labels from additional states to work toward the ultimate goal of including product labels from all 50 states. We will install a mechanism on the website to elicit feedback from database users, which will help guide our strategies for improving VetPestX. Additional grant funding will be sought for the development of a smart-phone application for VetPestX, similar to those created by Beckerman and Sadof (2013) and McCullough et al. (2011).

### Acknowledgements

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