

Pesticide Information Request Response
Arid Southwest IPM Network
Arizona Pest Management Center
November 25, 2008

Data Request: Registration Review Data Needs

Request from Al Jennings: “At this point, we would like your comments on the draft list of needs. Specifically, for typical pesticide chemicals, what information either exists or is easily obtained? What information could be obtained with a reasonable amount of time and effort? What are alternative sources of the information and what other data and information are available that might help illuminate the usage and use practices?”

The APMC has invested considerable resources into data mining of pesticide use information as well as other exercises that acquire and develop pest management information and user behaviors. These activities are part of our core mission and function; however, they are not fully supported intramurally. As a result, and with the guidance of two advisory groups, we prioritize our needs in the area of pest management behaviors and IPM assessment according to the available resources. Grant support from a variety of programs is critical to maintaining this capacity within our system. “Reasonable time and effort” is therefore dependent on available resources and compatibility of the request with our existing data sources.

We have at least two major sources of information and data for inferring pest management behaviors. A pesticide use reporting database (described below) and data from Crop Pest Losses surveys of pest control advisors for certain key crops (cotton, lettuce and melons). The crop pest losses surveys in melons and lettuce have been ongoing since 2004, with pilot data collected as early as 2001. The cotton survey is an extension of the cotton beltwide survey, and data are available for Arizona extended back to 1979, although the interactive survey process engaged in since the early 2000’s has yielded better quality data than in the past.

Point by Point Responses:

LIST

Contact information for people at the USDA who could help direct us to the relevant local 'agricultural experts'. **Comment: The Arid Southwest IPM Network is a point of contact to help connect federal agencies to local agricultural stakeholders in Arizona and throughout the low desert area of AZ, NV, NM and southern CA. Stakeholders include researchers (USDA and universities), Cooperative Extension personnel, growers, pest control advisors and other agricultural industry representatives.**

USAGE DATA

- Median and 90th percentile reported use rate (lbs ai/acre) from usage data – County/Hydrological Unit Code (HUC)* (if possible). National and State use rate may be requested for active ingredients on a case-by-case basis. (BEAD has current use rate data for many, but not all, active ingredients at the national and state levels).

- Application Timing (date of first application and application intervals) by Crop - National, State, County, and HUC¹ (if possible).
- Sub-county level crop location data.
- Directly acquired county-level and/or HUC-level usage data (not derived from state-level data):

Comment: In Arizona, we have developed a statewide pesticide use reporting (PUR) database for agricultural applications, built from data submitted to the Arizona Department of Agriculture (ADA). Our database exists because of a significant investment at the University of Arizona to develop the data for research and education (non-regulatory) purposes. The ADA requires applicators to report all pesticides that are applied for hire (i.e., custom), applied by air, that are under Section 18 exemptions, or that are listed on Arizona’s Department of Environmental Quality’s Groundwater Protection List and all restricted use pesticides. These data are entered into a database, processed, and then sent to the Arizona Pest Management Center for use in research and education. We currently have complete, verified data for 2001 to 2005, and are working on developing the historical data back to 1991 and up through 2006. We do not have access to “real time” information with respect to pesticide use, although this is something we hope to invest further effort into in the future. Information included in the PUR system includes location, target crop, county, township, range and section, product and active ingredient applied, amount applied (rate), application date (timing) and target pest. Although certain kinds of applications are not included in the data (e.g., grower-applied, non-restricted use, ground applications), we estimate that the database represents a high proportion of insecticide applications for many crops. Depending on the specific request, we would have to estimate how well the PUR data represent typical practice. Our database does not currently include HUC information. For other participating states, Nevada and New Mexico, we have to rely on information from our Network contacts in these states. (See “Additional Comments” below.) California has 100% use reporting, although we have not previously incorporated their information into our pesticide information responses. Requests of this nature from CA should be directed to the W-IPM Center, CalEPA, or CDFG. Specific requests about southern CA user needs or expert opinion may be made through the Arid Southwest IPM Network.

- Usage/use information for non-agricultural uses (e.g., forestry, residential, right-of-ways).

Comment: This information is not included in the Arizona PUR database. We would have to contact individual experts for opinions on these uses.

- Maximum reported use rate (lbs ai/acre) from usage data – County/HUC **Comment: In Arizona, this can be calculated from the PUR database.**

- Percent Crop Treated – County/HUC **Comment: In Arizona, this can be estimated from the PUR database, possibly in conjunction with other data sources.**

¹ Data at the HUC 8 level would be useful.

- Median and 90th percentile Number of Applications – County/HUC **Comment: In Arizona, this can be estimated from the PUR database, possibly in conjunction with other data sources.**
- Total Pounds per Year – County/HUC **Comment: In Arizona, this can be estimated from the PUR database for those years with available data, possibly in conjunction with other data sources.**
- The year the pesticide was last used in the county/sub-county/HUC area. **Comment: In Arizona, this can be determined from the PUR database for the years available in the data.**
- The years in which the pesticide was applied in the county/sub-county/HUC area during a specified period of time **Comment: In Arizona, this can be determined from the PUR database for the years available in the data.**
- Crop acreage trends through time (over years) (*i.e.*, how crop acreage - for specific crops - has changed through time). **Comment: In Arizona, this can be inferred from the PUR database for the years available in the data. However, more directly, application x acres are calculated through time. Other sources are needed (e.g., NASS acreage estimates) to determine planted acreages for each crop through time.**
- IPM ‘success stories’ – what IPM strategies have worked to decrease pesticide usage (*e.g.*, what have been some useful alternatives to pesticides) (this could be useful for mitigation purposes)? **Comment: Evaluation of adoption and impact of IPM strategies has been one of our primary goals in development of the database. This type of analysis takes a significant time investment of faculty and resources, but can be accomplished. We recently completed an evaluation of adoption of cross-commodity IPM guidelines for whitefly control as a Regional IPM Competitive Grant project. The final report on this project indicates the type of analysis that can be accomplished with these data and is available on the Arizona Pest Management Center website at http://cals.arizona.edu/apmc/APMC_RIPM2005.html. In addition, behavioral data related to pest management practices in key crops are developed in an interactive process through our Crop Pest Losses and Impact Assessment Working Groups. Reports and publications from our Crop Pest Losses surveys are available online, for cotton, at <http://ag.arizona.edu/crops/cotton/insects/cil/cil.html> and for melons and lettuce at <http://ag.arizona.edu/crops/vegetables/insects/vegiloss.html>. In addition, we produced a publication of IPM impacts called “IPM Delivers,” which is available on the Arizona Pest Management Center website at <http://cals.arizona.edu/apmc/>.**

LABEL INFORMATION

- Typical treatment Interval (days) [the label provides minimum intervals] **Comment: In Arizona, no data capacity available at this time.**
- State or local use restrictions (may not always be on the EPA label) **Comment: In Arizona, some of this can be determined for most years from data available through the ADA.**

Additional Comments:

Arizona Pest Management Center personnel, Al Fournier and Peter Ellsworth, reviewed this data request and developed this response. In addition, this information request was sent out through the Arid Southwest IPM Network to our key contacts in other southwest states (NM, NV and Southern CA). We received only one response, from Earl Creech, Extension Weed Specialist at University of Nevada. He indicated that Nevada does not collect any of the data indicated in this information request. The Nevada Department of Agriculture collects some information on restricted use pesticide (RUP) applications made by commercial applicators, but that would account for a very small portion (probably well below 10%) of the total pesticide applications made. This very limited data would only be broken down by crop (not geography or anything else). Any specific usage questions for Nevada could be addressed to either Earl Creech or Jay Davison, but in many cases they would lack data to form a sufficient and accurate response.