PI-140

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Pesticide Use Trends in the U. S. : Pesticides for Home and Garden Uses[1]

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Introduction

The EPA, in cooperation with the USDA and FDA, is responsible for regulating the production and use of pesticides in the U.S. This document is one of a series that provides data on volumes used and sales of pesticides from the latest EPA survey data available, 2001 – 2002. This document focuses on the market sector for pesticides used for the home and garden. Other documents within this series address the agricultural and industrial/commercial/governmental sectors. The intent of this information is only to present an objective profile and does not attempt to interpret, reach conclusions about, or make inferences regarding the data. Conclusions should not be drawn in regards to impacts on human health, the environment, or the economy.

Data sources

The data reported in this document are based upon EPA estimates. EPA does not have a program devoted specifically to estimating pesticide use; rather, they use the best available information from the public domain and proprietary sources. The data are approximate values and not statistically precise. The sources that EPA consults for compiling this information include:

- The Pesticide Data Center in the Biological and Economic Analysis Division of EPA's Office of Pesticide Programs;
- Several national database services for compiling agricultural pesticide use data, including the USDA; and
- Proprietary data sources with vendor permission, including Doane Marketing Research, Inc., Kline and Company, Inc., SRI, Inc., Wood Mackenzie; and Mike Bukley, Inc.

Explanation of data components

The home and garden use category includes pesticides applied to homes, lawns, and gardens by homeowners and tenants occupying those spaces. The expenditure data presented in Table 1 separate broad

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classes of pesticides – herbicides, insecticides, fungicides, and other pesticides. The “herbicide” data combine plant growth regulators (PGR) with them, while “fungicides” and “insecticides” exclude sulfur and petroleum oil. Data summarized for “other” pesticides combine the total for rodenticides, molluscicides, nematicides, fumigants, aquatic, pesticides for the control of birds and fish, and other miscellaneous pesticides. Sulfur and petroleum oil are included in the “other” category as well. The use data shown in Table 2 are presented similarly, except that nematicides and fumigants are presented as a separate category. The EPA survey use data exclude industrial wood preservatives, sulfur, petroleum oil, specialty biocides, chlorine/hypochlorites, and other chemicals used as pesticides. In reporting the amount used, data are presented as pounds of active ingredient (a.i.). Totals may not add precisely due to rounding.

U.S. home and garden pesticide expenditures

Total expenditures for home and garden pesticide use as a whole were slightly higher in 2001 compared to 2000 (Table 1). U.S. home and garden pesticide expenditures totaled an average of slightly more than $2 billion in both 2000 and 2001. Expenditures on insecticides/miticides accounted for the largest portion of total expenditures – approximately 60% for both years, followed by expenditures on herbicides/plant growth regulators, other pesticides, and fungicides. There was relatively no change in percentage quantities of pesticide expenditures for each class of pesticide between years.

U.S. home and garden pesticide amount used

U.S. home and garden total pesticide amount used in 2000 and 2001 ranged from 90 to 102 million pounds, depending upon year (Table 2). The largest portion of total U.S. home and garden pesticides used each year was with herbicides at approximately 70%, followed by insecticides and miticides, fungicides, and other pesticides.

Most commonly used conventional home and garden pesticide active ingredients

Table 3 shows the ten most commonly used conventional home and garden pesticide active ingredients in 2001 compared with 1999. 2,4-D was the most used active ingredient during both years, between 7 million and 11 million pounds. Glyphosate was the second most commonly used active ingredient, consistent for both years. Of the top ten active ingredients, seven were herbicides and three were insecticides. Due to the fact that some commercial applicators apply pesticides in the home and garden sector, there may be some usage that was reported in the industrial/commercial/governmental market sector.

Additional information

Kiely, T., D. Donaldson, and A. Grube. 2004. Pesticides Industry Sales and Usage: 2000 and 2001 Market Estimates. EPA's Biological and Economic Analysis Division, Office of Pesticide Programs, and Office of Prevention, Pesticides, and Toxic Substances http://www.epa.gov/pesticides.

Table 1. U.S. home and garden pesticide expenditures by pesticide class – 2000 and 2001.

Class	Millions $	% of Total
2000		
Herbicides/PGR	596	29
Insecticides/Miticides	1,250	60
Fungicides	41	2
Other	181	9
Total	2,068	
2001		
Herbicides	631	29
Insecticides/Miticides	1,288	60
Fungicides	48	2
Other	184	9
Total	2,151	

Table 2. U.S. home and garden pesticide amount used by pesticide class – 2000 and 2001.

Class	Millions Pounds a.i.	% of Total
2000		
Herbicides/PGR	62	69
Insecticides/Miticides	15	17
Fungicides	11	12
Nematicides/Fumigants	1	1
Other	1	1
Total	90	
2001		
Herbicides	71	70
Insecticides/Miticides	17	17
Fungicides	12	12
Nematicides/Fumigants	1	1
Other	1	1
Total	102	

Table 3. Ten most commonly used conventional home and garden pesticide active ingredients (millions pounds active ingredient).

Active Ingredient	Type*	2001		1999	
		Rank	Range**	Rank	Range
2,4-D	H	1	8-11	1	7-9
Glyphosate	H	2	5-8	2	5-8
Pendimethalin	H	3	3-6	NA	NA
Diazinon	I	4	4-6	5	2-4
MCPP	H	5	4-6	3	3-5
Carbaryl	I	6	2-4	7	2-4
Dicamba	H	7	2-4	4	3-5

Table 3. Ten most commonly used conventional home and garden pesticide active ingredients (millions pounds active ingredient).

Active Ingredient	Type*	2001		1999	
		Rank	Range**	Rank	Range
Malathion	I	8	2-4	9	1-3
DCPA	H	9	1-3	10	1-3
Benefin	H	10	1-3	8	1-3

*H = herbicide; I = insecticide.
**Range is the estimate taken from several data sources.