



Pesticide Use Trends in the U.S.: Pesticides for Industrial/Commercial/Governmental Uses¹

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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 pesticides used by the industrial/commercial/governmental market sector. Other documents within this series address the agricultural and home and garden 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 broad industrial/commercial/governmental use category includes pesticides applied to homes, lawns, and gardens by professional applicators. The expenditure data presented in Table 1 separate broad

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The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication does not signify our approval to the exclusion of other products of suitable composition. Use pesticides safely. Read and follow directions on the manufacturer's label.

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, nematocides, 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 nematocides 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. industrial/commercial/governmental pesticide expenditures

Total expenditures for industrial/commercial/governmental pesticide use as a whole were similar each year (Table 1). U.S. industrial/commercial/governmental pesticide expenditures totaled an average of more than \$1.5 billion averaged over 2000 and 2001. Expenditures on herbicides/plant growth regulators accounted for the largest portion of total expenditures – more than 50% both years, followed by expenditures on insecticides and miticides, fungicides, and other pesticides, respectively. There was little change in relative quantities of pesticide expenditures for each class of pesticide between years.

U.S. industrial/commercial/governmental pesticide amount used

U.S. industrial/commercial/governmental pesticide amount used in both 2000 and 2001 was more than 100 million pounds averaged over the 2 years (Table 2). The largest portion of total U.S. industrial/commercial/governmental pesticides used each year was herbicides, followed by nematocides and fumigants, fungicides, insecticides and miticides,

and other pesticides. Total volume of industrial/commercial/governmental pesticides used was similar each year.

Most commonly used conventional industrial/commercial/governmental pesticide active ingredients

Table 3 shows the ten most commonly used conventional industrial/commercial/governmental pesticide active ingredients in 2001 compared with 1999. 2,4-D was the most-used active ingredient during both years, between 16 million and 20 million pounds. The four most commonly used active ingredients use rankings were consistent for both years. Of the top ten active ingredients, six were herbicides; two each were fungicides and insecticides. Due to the fact that some applicators in this sector may also apply pesticides in the home and garden sector, there may be some usage reported in one market that may have occurred in the other.

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. industrial/commercial/governmental pesticide expenditures by pesticide class – 2000 and 2001.

Class	Millions \$	% of Total
2000		
Herbicides/PGR	762	51
Insecticides/Miticides	468	32
Fungicides	172	11
Other	83	6
Total	1,485	
2001		
Herbicides	792	52
Insecticides/Miticides	510	33
Fungicides	172	11
Other	61	4
Total	1,535	

Table 2. U.S. industrial/commercial/governmental pesticide amount used by pesticide class – 2000 and 2001.

Class	Millions Pounds a.i.	% of Total
2000		
Herbicides/PGR	48	42
Insecticides/Miticides	17	15
Fungicides	19	17
Nematicides/Fumigants	24	21
Other	6	5
Total	114	
2001		
Herbicides	49	44
Insecticides/Miticides	15	14
Fungicides	19	17
Nematicides/Fumigants	24	22
Other	4	3
Total	111	

Table 3. Ten most commonly used conventional industrial/commercial/governmental pesticide active ingredients (millions pounds active ingredient).

Active Ingredient	Type*	2001		1999	
		Rank	Range**	Rank	Range
2,4-D	H	1	16-18	1	17-20
Glyphosate	H	2	13-15	2	11-14
Copper sulfate	F	3	4-6	3	5-7
Pendimethalin	H	4	3-5	4	3-5
Chlorothalonil	F	5	2-4	7	2-4
Chlorpyrifos	I	6	2-4	5	3-5
Diuron	H	7	2-4	8	2-4

Table 3. Ten most commonly used conventional industrial/commercial/governmental pesticide active ingredients (millions pounds active ingredient).

Active Ingredient	Type*	2001		1999	
		Rank	Range**	Rank	Range
MSMA	H	8	2-4	6	2-4
Triclopyr	H	9	1-3	10	1-3
Malathion	I	10	1-3	9	1-3

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