

# Pesticide Use Trends in the U.S.: Pesticides for Industrial/Commercial/Governmental Uses<sup>1</sup>

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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, 2006 – 2007. This document focuses on pesticides used by the industrial/commercial/governmental market sector. 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 following:

- 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
- Others from private pesticide marketing research companies.

## 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 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

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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 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 were approximately \$2 billion averaged over 2006 and 2007. Expenditures on herbicides/plant growth regulators accounted for the largest portion of total expenditures, nearly 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 2006 and 2007 was more than 100 million pounds averaged over the two 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, and the relative percentages of use by class, 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 2007 compared with 2003 and 2001. 2,4-D was the most-used active ingredient across years, totaling between 16 million and 22 million pounds. The active ingredient, glyphosate, was second in use rankings, also consistent across years. Of the top ten active ingredients, six were herbicides; two each were fungicides and insecticides. Because 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**

Grube, A., T. Kiely, D. Donaldson, and L. Wu. 2011. Pesticide Industry Sales and Usage: 2006 and 2007 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/opp00001/pestsales/07pestsales/market\\_estimates06-07.pdf](http://www.epa.gov/opp00001/pestsales/07pestsales/market_estimates06-07.pdf).

**Table 1.** U.S. industrial/commercial/governmental pesticide expenditures by pesticide class – 2006 and 2007.

<b>Class</b>	<b>Millions \$</b>	<b>% of Total</b>
<b>2006</b>		
Herbicides/PGR	873	46
Insecticides/Miticides	694	37
Fungicides	240	13
Other	71	4
<b>Total</b>	<b>1,878</b>	<b>100</b>
<b>2007</b>		
Herbicides/PGR	896	47
Insecticides/Miticides	709	37
Fungicides	243	13
Other	73	4
<b>Total</b>	<b>1,921</b>	<b>100</b>

**Table 2.** U.S. industrial/commercial/governmental pesticide amount used by pesticide class – 2006 and 2007.

<b>Class</b>	<b>Millions Pounds a.i.</b>	<b>% of Total</b>
<b>2006</b>		
Herbicides/PGR	45	42
Insecticides/Miticides	14	13
Fungicides	20	19
Nematicides/Fumigants	24	22
Other	4	4
<b>Total</b>	<b>107</b>	<b>100</b>
<b>2007</b>		
Herbicides/PGR	46	43
Insecticides/Miticides	14	13
Fungicides	19	18
Nematicides/Fumigants	24	22
Other	4	4
<b>Total</b>	<b>107</b>	<b>100</b>

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

Active Ingredient	Type *	2007		2003		2001	
		Rank	Range**	Rank	Range	Rank	Range
2,4-D	H	1	19-22	1	19-22	1	16-18
Glyphosate	H	2	13-15	2	13-15	2	13-15
Chlorothalonil	F	3	3-5	4	3-5	5	2-4
MSMA	H	4	2-4	5	3-5	8	2-4
Diuron	H	5	2-4	6	2-4	7	2-4
Pendimethalin	H	6	2-4	8	2-4	4	3-5
Triclopyr	H	7	2-4	7	2-4	9	1-3
Copper sulfate	F	8	2-4	3	4-6	3	4-6
Malathion	I	9	1-3	9	1-3	10	1-3
Sulfuryl fluoride	I	10	1-3	10	1-3	---	---

\* H = herbicide; F = fungicide; I = insecticide.

\*\*Range is the estimate taken from several data sources.

A dash (---) indicates that an estimate is not available.