

Quantitative Usage Analysis for Fenbutatin-Oxide  
Case Number: 245      PC Code: 104601  
Date: September 20, 2001      Analyst: Jihad Alsadek

Based on available pesticide survey usage information for the years of 1990 through 2000, an annual estimate of fenbutatin-oxide total domestic usage averaged approximately 390,000 pounds active ingredient (a.i.) for 503,000 acres treated. Most of the acreage is treated with one pound a.i. or less per application and one pound a.i. or less per year. Fenbutatin-Oxide is a broad spectrum insecticide with its largest markets in terms of total pounds active ingredient allocated to oranges (36%), grapefruit (14%), almonds (10%), peaches (7%), berries and strawberries (4% each), tangerines, apples, grapes, and raisin grapes (3% each). The remaining usage is primarily on raspberries, nectarines, pears, plums, prunes, pecans, eggplant, potatoes, and cotton. Crops with a high percentage of the total U.S. planted acres treated include tangelos (27%), raspberries (26%), grapefruit (25%), tangerines (24%), temples (18%), limes (15%), peaches (14%), and nectarines and oranges (12% each), while registered sites with little or no usage are the rest of the crops in the table. Most of the usage is in CA, FL, MI, GA, NJ, MA, NE, MN, PA, AND MI.

Site	Acres	Acres Ttd (000)		% Crop Ttd		Lbs AI Appl (000)		Average Application Rates			States of Most Usage (% of total lb ai used on this site)
	Grown	Weighted Average	Est Max	Weighted Average	Est Max	Weighted Average	Est Max	lb ai/ acre/yr	# appl /year	lb ai/A /appl	
Berries	166	8	17	5%	10%	15	33	1.8	1.3	1.4	CA 83%
Raspberries	20	5	9	26%	43%	5	9	1.0	1.1	0.9	WA 97%
Strawberries	48	5	9	10%	18%	14	24	3.0	2.8	1.1	CA FL 91%
Grapefruit	188	48	81	25%	43%	56	94	1.2	1.1	1.0	FL 87%
Lemons	67	1	2	2%	3%	1	2	0.7	1.0	0.7	FL CA 100%
Limes	6	1	2	15%	27%	1	2	0.9	1.2	0.8	FL 100%
Oranges	925	110	187	12%	20%	140	219	1.3	1.1	1.1	FL 96%
Tangelos	12	3	5	27%	41%	3	5	1.0	1.1	1.0	FL 100%
Tangerines	37	9	11	24%	31%	10	13	1.1	1.1	1.0	FL 100%
Temples	7	1	2	18%	37%	1	3	1.1	1.1	1.0	FL 100%
Apples	518	8	20	2%	4%	10	26	1.2	1.5	0.8	ID WA OK NY UT CA 76%
Apricots	21	1	2	5%	9%	1	2	1.0	1.0	1.0	-
Cherries, Sweet	68	1	4	2%	6%	1	3	0.8	1.1	0.8	CA 85%
Cherries, Tart	49	1	4	3%	9%	1	4	1.0	1.0	1.0	MI 100%
Nectarines	36	4	9	12%	24%	4	7	0.9	1.1	0.8	-
Peaches	260	37	77	14%	30%	26	52	0.7	1.1	0.6	CA OK 87%
Pears	73	2	5	2%	6%	2	5	1.2	1.3	0.9	WA OR CA 89%
Plums	44	2	4	5%	9%	2	3	0.8	1.0	0.8	CA 100%
Prunes	93	8	30	8%	32%	5	20	0.7	1.2	0.6	-
Grapes	888	13	26	1%	3%	13	34	1.0	1.2	0.9	CA 87%
Grapes, Raisin	284	10	31	4%	11%	11	35	1.1	1.4	0.8	CA 100%
Grapes, Table	107	11	22	10%	21%	1	2	0.1	1.0	0.1	CA MI NY PA WA .%
Grapes, Wine	478	7	33	2%	7%	1	2	0.1	1.1	0.1	CA 100%
Almonds	489	49	77	10%	16%	38	67	1	1	1	CA 100%
Nut Trees, Other	103	1	2	1.0%	2%	1	2	1	1	1	-
Pecans	448	2	7	0.5%	2%	2	3	1	2	0.4	GA 100%
Walnuts	215	5	10	2%	5%	3	7	1	1	1	CA 100%

Eggplant	3	1	2	29%	58%	1	1	0.6	1.6	0.4	CA FL NJ 100%
Peppers, Bell	58	1	2	1.7%	4%	1	2	1.0	1.0	1.0	-
Cucurbits	288	1	2	0.3%	1%	1	2	1.0	5.0	0.2	FL 100%
Watermelons	215	1	5	0.3%	2%	1	8	0.8	1.0	0.8	CA 100%
Potatoes	1,420	4	12	0.3%	1%	7	20	1.8	1.0	1.8	MA 100%
Tomatoes	477	1	2	0.2%	0.4%	1	2	1.0	1.0	1.0	-
Beans & Peas, Dry	2,237	10	20	0.4%	1%	1	2	0.1	1.0	0.1	-
Sorghum	10,263	3	6	0.03%	0.1%	1	2	0.3	1.0	0.3	NE 100%
Corn, Continuous	26,443	88	200	0.3%	1%	1	14	0.01	1.0	0.01	MN PA MI 97%
Corn, First Year	51,336	35	90	0.1%	0.2%	1	5	0.03	1.0	0.03	MI VA PA 91%
Oats/Rye	5,944	1	2	0.02%	0.03%	1	2	1.0	1.0	1.0	-
Soybeans	66,533	1	3	0.002%	0.01%	1	3	0.9	1.6	0.6	-
Cotton	13,232	1	2	0.01%	0.02%	2	5	2.8	1.0	2.8	MO 95%
Lots/Farmsteads/etc	23,987	1	2	0.004%	0.01%	1	2	1	2	1	CA 100%
Woodland	62,167	1	2	0.002%	0.003%	1	2	1	1	1	CA 100%
<b>Total</b>		<b>503</b>	<b>772</b>			<b>390</b>	<b>570</b>				

#### COLUMN HEADINGS

Weighted average--the most recent years and more reliable data are weighted more heavily.  
Est Max = Estimated maximum, which is estimated from available data.  
Average application rates are calculated from the weighted averages.

#### NOTES ON TABLE DATA

Usage data primarily covers 1990 - 2000.

Calculations of the above numbers may not appear to agree because they are displayed as rounded:

#### \* Other/Crop Groups

Cucurbits includes cucumber, squash, and pumpkin.

Melons include cantaloupe, watermelon, honeydew, muskmelon, and winter melon.

Nut Trees, Other includes chestnuts, filberts, hazelnuts, hickory nuts, macadamia nuts, pistachios, lychie nuts, and palm.

Stone-Like Fruit, Other includes apricots, avocados, dates, nectarines, olives, coconuts, mangoes, and feijoa.

SOURCES: EPA data (1990-2000), USDA/NASS (90-00), CAL EPA (93-95), and National Center for Food and Agricultural Policy (CIRCA 92).