

FUMIGANT USE IN NEW JERSEY - 2005 SURVEY

Introduction

The New Jersey Pesticide Control Program (NJPCP) began a series of pesticide use surveys in 1985. These surveys address pesticide use in the state of New Jersey for agriculture, golf courses, termite control, right-of-way, mosquito control, and lawn care. This was the first survey focusing on fumigant use.

All statewide pesticide use surveys are performed under the authority of the New Jersey Pesticide Control Code, N.J.A.C. 7:30-1 et.seq., requiring applicators to maintain pesticide records for two years and to submit use records to the state when requested. This regulative authority provides an accuracy and level of response that is difficult to duplicate in a voluntary, nationwide survey. In fact, these New Jersey surveys almost represent a pesticide usage census rather than a probabilistic survey.

The information collected from the NJPCP pesticide use survey process is used by agencies within the NJ Department of Environmental Protection along with other state agencies to aid in research, exposure management and monitoring efforts in areas such as ground water protection, farm worker protection and education, and residual pesticide sampling. The survey data are also entered into state and federal geographical information systems for geographical distribution.

Methods

The NJPCP's registration records were used to identify all 758 commercial applicators carrying a category 7C (fumigation) and/or 7D (food manufacturing and processing) on their license as of December 2004. A survey form was sent to each applicator, but since two or three applicators can work on the same commercial establishment, the accompanying cover letter requested that only one form be returned for each commercial establishment to avoid duplication of response. A total of three mailings were sent during the first six months of 2006.

The survey requested information on each fumigant used. This included trade name, EPA registration number, percent active ingredient, amount applied, and treatment site (warehouse, ship, etc.)

Survey information was entered into a database file. This information file was then merged with a second database that linked chemical names with trade names, and a subprogram converted total amounts of formulated product to total amounts of active ingredient (lbs ai).

Results

Overall, 86% (653 of 758) of the applicators responded to the survey. The list of non-respondents was turned over to the Bureau of Pesticide Compliance section for follow-up. Table I lists the chemicals and their amounts reported in the 2005 survey. Total New Jersey fumigant use for 2005 according to the survey was 171,590 pounds active ingredient.

Table II lists the amounts and percentages of fumigant use by site.

Discussion

Fumigation in NJ is as diverse as in the rest of the United States. With large and busy port facilities, NJ fumigators treat both commodities for import and for export. Large and small food manufacturers fumigate their operations and the food commodities used in food manufacturing operations. Many commodities are fumigated in warehouses in Newark, Elizabeth and in the Camden area. In addition, commercial buildings and homes are fumigated to control various structural pests. Farmers fumigate their soil and their crop storage areas. Ethylene oxide is used to fumigate and sterilize medical instruments and devices that cannot be autoclaved.

TABLE I. Fumigant amounts (pounds active ingredient) reported in the New Jersey 2005 Fumigant Use Survey.

<u>Compound</u>	<u>Lbs active ingredient</u>	<u>% of total use</u>
Aluminum phosphide	304	<1 %
Carbon dioxide	1275	<1 %
Magnesium phosphide	22	<1 %
Methyl bromide	149033	87 %
Phosphine gas	26	<1 %
Propylene oxide	14158	8 %
Sulfuryl fluoride	6772	4 %
Total:	171590	100%

TABLE II. Total 2005 fumigant amounts (pounds active ingredient) by site applied.

<u>SITE</u>	<u>AMOUNT</u>	<u>% of Total Use</u>
Warehouse	86280	50 %
Trailer	38777	23 %
Railcar	254	<1 %
Ship	0	0 %
Residential Building	474	<1 %
Food Processor	27051	16 %
Silo	8140	5 %
Other/Unspecified	10614	6 %
Total:	171590	100%