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Rural California Report is a quarterly publication of the California Institute for Rural Studies (CIRS). CIRS is an independent non-profit research and advocacy group which has studied rural issues and policies since 1977. The institute's goal is to build a society that is ecologically balanced, socially just, and economically sustainable. Toward those objectives, CIRS conducts research and public education projects, and works with individual activists in rural communities.

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LETTERS

Rural California Report welcomes letters from its readers. If you have a comment, criticism or suggestion, we would like your feedback. Address correspondence to: The California Institute for Rural Studies; RCR/ Letters to the Editor; P.O. Box 2143; Davis, CA

Pesticide Use—Which Way, California?

by Don Villarejo

Pesticide use in California has increased in recent years, according to data just released by the California Department of Pesticide Regulation (DPR).

Reports show in 1993 and 1994 nearly 200 million pounds of pesticides were applied by farmers and commercial applicators in the state (see Figure 1).

Last March Gov. Wilson and the republican-rural democrat dominated legislature set the direction for state policy on pesticide use by quickly eliminating a requirement of the Birth Defects Prevention Act (Sen. Nicholas Petris, 1985) that would have prohibited the use of methyl bromide in California after March 30, 1996.

The original law specifically directed manufacturers to determine whether or not the chemical causes birth defects or otherwise harms human genetic material. If the required health effects studies were not submitted by a specific date, the registration and use of that material would be suspended.

When the required studies for methyl bromide were not submitted several years ago, as required by the Act, the California Legislature postponed the "final" submission deadline to March 30, 1996. Thus, methyl bromide's registration was to have been canceled on that date.

Methyl bromide is one of the most important pesticides used in California, although its use has declined somewhat in recent years (Figure 2). According to the Montreal Protocol, an international agreement addressing global environmental issues, this ozone-depleting chemical will be prohibited on a worldwide basis in the year 2000.

Methyl bromide is an important soil fumigant and is currently the only pesticide available for the treatment of soils used to grow commodities such as strawberries.

Additional uses include fumigation of plantings of a number of crops as well as stored agricultural commodities and structures, such as homes and warehouses (see Table 1).

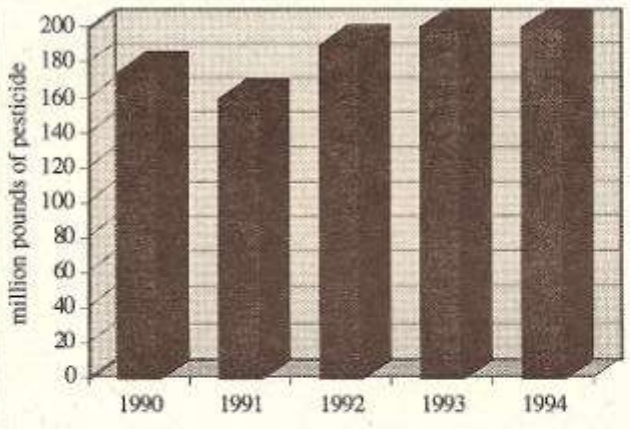
It is a dangerous chemical—a gas that returns to the atmosphere after being applied to the soil.

Methyl bromide also ranks eighth in the state in the annual number of occupational injuries and illnesses it causes.

It also has been found to be a minor component of chemicals that cause destruction of the ozone layer in the upper atmosphere, but is believed to have a destructive power

(see **PESTICIDES** *on page 3)*

Figure 1
Total Reported Pesticide Use in California



(PESTICIDES *from page 2)*

hundreds of times greater than chlorofluorocarbons (CFCs).

On the other hand, most strawberry farmers and many orchard growers strongly support retaining the chemical until effective alternatives are developed.

Recent field research comparing conventional vs. organic strawberry production on the same farm, showed that harvest yields were about one-third lower in the organic crop (see Stephen R. Gliessman et al, *California Agriculture*, Vol. 50, No. 1, January-February 1996, pp. 24ff.)

On the other hand, the same study indicated that organic strawberries brought a 50 percent higher price to farmers. Thus, dollar returns per acre were actually larger in the organic berry plots.

CIRS' contribution to informing public debate on the methyl bromide issue was a report critical of the doom-saying economic analyses issued on behalf of the agricultural industry.

The most important findings of the CIRS study are:

- 38 percent of conventionally planted strawberries and 71 percent of wine grape vineyards established in California during 1993 did not require methyl bromide soil treatments;
- major reporting errors in the methyl bromide use data published by the California Department of Pesticide Regulation, rendering a significant portion of their findings useless;
- serious errors overstating the imputed economic impact of banning methyl bromide in the report prepared for the California Department of Food and Agriculture by University of California agricultural economists.

CIRS research findings on methyl bromide (*A Critique of the Report, "Economic Impact of Methyl Bromide Cancellation"* by Charles V. Moore and Don Villarejo) were released in January. For a copy of this special report, contact CIRS.

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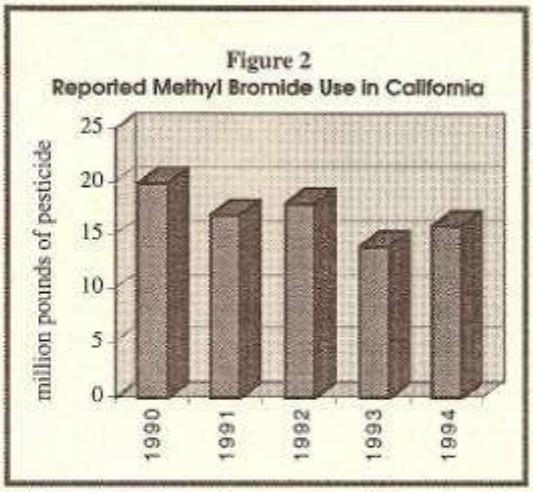

Table 1
CROPS WITH LARGEST REPORTED METHYL BROMIDE USE, CALIFORNIA, 1994

Strawberries	4,134,643 lbs.
Grapes, wine	1,575,593 lbs.
Carrots	1,330,165 lbs.
Soil, preplant for seed, etc.	941,657 lbs.
Almonds	885,113 lbs.
Nursery, outdoor containers, field grown plants	864,180 lbs.

What is the Economic Effect of Canceling a Pesticide Registration?

CIRS has just published a new report that provides a concrete answer to this provocative question. "*A Review of Economic Models Used to Assess the Impact of Canceling Pesticide Registration*," by Charles V. Moore and Don Villarejo, examines the economic impacts of canceling the registration of the insecticide ethyl parathion in late 1991.

The predictions of published economic models in the context of cancellation of a specific pesticide (parathion) are examined in detail in this paper. Its purpose is to carefully examine both the predictions of the economic models in this specific case and to analyze the general validity of the models.

Ethyl parathion was canceled in late 1991 and, at that time, reports were published describing imputed crop yield losses, increases in producer costs and other economic effects that were predicted to result from the removal of this chemical from the marketplace. Adequate information is now available to examine the validity of these predictions.

A review of the economic models used in the cancellation decision for parathion in California revealed the following:

- Total annual parathion use in California was decreasing slightly before cancellation.
- An ex-post analysis of statewide acreage, yields and production of almonds, plums and prunes found there was no significant difference in these variables before and after cancellation.
- In reviewing the lettuce study conducted for U.S. Environmental Protection Agency (EPA) using field level data, statistically we found no difference between yields before and after cancellation, despite the EPA prediction of a 25

(see **CANCELING** *on page 6)*