

PESTICIDE-RELATED OCCUPATIONAL ILLNESSES
AND INJURIES TO FIREMEN IN CALIFORNIA
AS REPORTED BY PHYSICIANS IN 1980

by

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SUMMARY

During 1980, there were 23 illnesses and injuries of firemen reported by physicians as due to pesticide exposure. All of the reported cases were systemic illnesses. Four cases involved exposure to methyl bromide, 4 were due to DDVP, 4 were due to malathion, 4 were due to phorate, 4 were due to pyrethrins, and 3 involved an undetermined pesticide. Fifteen firemen were exposed while responding to fire calls, and the other 8 were exposed while responding to rescue calls. There were no fatalities, and only 1 person required hospitalization. A total of 24 days of work were lost by 7 firemen. Information for this report was obtained from Doctors' First Reports of Work Injury, other medical reports, and follow-up investigations by the staffs of the local county agricultural commissioners.

INTRODUCTION

Employees in the job classification of "Fireman" include those persons who are exposed to pesticides incidentally in the course of fighting fires or performing emergency rescue operations.

Illness data for this job category was compiled by the California Department of Food and Agriculture, Worker Health and Safety Unit, using reports filed by individual physicians. Under Section 2950 of the California Health and Safety Code, any physician who suspects an illness or injury due to pesticide exposure is required to report it within 24 hours to the county health officer, who subsequently reports it to the county agricultural commissioner, the Department of Food and Agriculture, and the Department of Health Services. Reported incidents were investigated by the county agricultural commissioners' staffs and filed with the Worker Health and Safety Unit. In 1980, there were 2436 reports filed by physicians as possible occupational pesticide exposures. Of these, 1402 were classified as illnesses or injuries due to occupational exposure to pesticides. Each incident involving employees in the classification of fireman is described under "Case Studies."

CASE STUDIES

Systemic Illnesses - 23

During containment of a fire at a storage building, 2 firemen inhaled smoke for approximately 15 minutes while sleeping on the fire trucks. The material inhaled was not determined at the time of exposure. The firemen complained of nausea and headaches and were taken to a hospital emergency room. One worker was treated with atropine and admitted for 2 days. After being released, he was off work for an additional 3 days. The other worker was examined and released with 1 workday missed.

A fire captain inhaled fumes from pyrethrins during a fire-fighting operation. Twenty-four hours later he developed shortness of breath. He was taken to a physician who diagnosed smoke inhalation, asthma, bronchiolitis, and tracheo-bronchitis. He was treated with steroids and aminophylline, and released. He missed 7 days of work.

Four fire fighters inhaled fumes from pyrethrins during a fire-fighting operation. They were all taken to a physician and examined. They exhibited signs and symptoms of rhinorhea, breathlessness, throat irritation, dry cough, dizziness, and congestion. They were all treated and released, with 3 workers missing 3 workdays each; 1 worker's disability time was not reported.

A volunteer fire fighter inhaled fumes containing phorate while trying to contain a fire. He experienced headaches, abdominal pain, and nausea. He was taken to a physician's office where a cholinesterase test was taken and levels found to be normal. He was released, and missed 2 days of work.

Two firemen inhaled smoke from a fire in a shed where Thimet (phorate) was stored. Both workers complained of nausea after fire fighting and were taken to a physician. Blood for a cholinesterase test was taken but the results were not reported. The fire fighters were released with no workdays missed.

Four fire fighters were fighting a small fire from the roof of a bakery that was being fogged with malathion. The firemen were taken to a hospital emergency room complaining of coughing, irritation of the skin on their back, neck, and arms, and a sore throat. They were released; 2 workers missed no workdays, and the other 2 worker's disability was not reported.

Four fire fighters were called to a suspected fire or gas leak in an apartment. Upon entering the apartment, the firemen inhaled fumes from 10 Holiday Home Foggers (DDVP) that had been set off by the tenant. They experienced mild headaches, and 1 fireman also experienced bronchial irritation. They were taken to a hospital emergency room, examined, and released with no treatment given. There were no workdays missed.

A fire fighter was fighting a fire in a barn where Thimet (phorate) was stored. He experienced dizziness and was taken to a hospital emergency room, examined, and given medication. He was released, and no workdays were missed.

Following a soil fumigation at a nearby farm, the residents of the area telephoned the fire department complaining of burning eyes, headaches, and nausea. The fire department responded to the call and identified the fumigant used as Terr-O-Gas 67/33 (methyl bromide/chloropicrin). A house-to-house alert was made within a 3-block area to determine the extent of exposure. Those who had a reaction to the stated exposure were advised to seek medical attention. The four firemen developed symptoms of burning eyes and headaches, and were taken to a physician as a precautionary measure. Pesticide poisoning was diagnosed, but no treatment was given. The symptoms subsided by the following day, and no workdays were missed.

DISCUSSION

During 1980, there were 23 illnesses of firemen due to pesticide exposures. All of the exposures resulted in suspected systemic illnesses. There were 8 separate incidents of exposure. None of the exposed firemen used adequate safety equipment for pesticide exposure. Two firemen were exposed to a pesticide of an undetermined type during containment of a structural fire.

Safety equipment such as a respirator would have limited the exposure. Most of these exposed firemen are unaware when responding to their calls that exposure to toxic substances could be involved. It is good practice for firemen to know the area they serve well, and to expect the possibility of exposure to pesticides at certain locations. It appears that most fire departments do make this type of advance planning; the ones who do not allow their workers to be exposed unknowingly to toxic hazards.

TABLE 1

Occupational Illnesses and Injuries of Firemen in 1980
Reported by Type of Injury and Pesticide

Systemic - 23

| | | | |
|---------------------------------|---|--------------|---|
| DDVP | 4 | Phorate | 4 |
| Malathion | 4 | Pyrethrins | 5 |
| Methyl bromide/ Chloropicrin | 4 | Undetermined | 2 |

* * *

TABLE 2

Type of Accident Leading to Exposure
Firemen to Pesticides

| <u>Cause of Injury</u> | <u>Number of Injuries</u> |
|---------------------------|---------------------------|
| Fire involving pesticides | 15 |
| Emergency rescue | 8 |

* * *

TABLE 3

Estimated Disability of Firemen Injured
Occupationally by Exposure to Pesticides

| <u>Days of Work Missed</u> | <u>Number of Persons</u> |
|----------------------------|--------------------------|
| None | 13 |
| 1-3 | 5 |
| 4-7 | 2 |
| Undetermined | 3 |

1 person was hospitalized for 2 days.

* * *

TABLE 4

Occupational Illnesses and Injuries of Firemen
Reported by County of Occurrence

| | |
|-------------|----|
| Los Angeles | 13 |
| Merced | 2 |
| Tulare | 4 |
| Ventura | 4 |