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Agricultural Chemical Drift and Its Control[1]

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INTRODUCTION

Drift is the airborne movement of particles into nontarget areas. It is both undesirable and, to a degree, unavoidable. Drift problems can be minimized by understanding what causes it and following recommended procedures for limiting it.

The fear of chemical drift is out of proportion to the threat that it poses to people and the environment. This statement is supported by a video tape, "Big Fears, Little Risks," presented by The American Council on Science and Health. In this video tape, Dr. Bruce Ames, a scientist at the University of California, Berkeley and the developer of the Ames test, a widely used test to determine the carcinogenic nature of chemicals, states that the low levels of chemicals in the environment are much less of a threat to human health than life-style related factors such as smoking, diet, sexual behavior, and others.

What about the threat of chemicals that drift from treated fields and settle directly onto unsuspecting people? Workers in adjacent fields have been accidently sprayed by drift and received a dose sufficient to cause serious illness. However, the safety specialist at both the University of Florida in Gainesville, FL, and the University of California in Davis, CA, two of the more important agricultural states, do not recall any documented cases of a person 's death being caused by spray drift. People have died from accidental poisoning by agricultural chemicals, but they were either mixing or loading the concentrated chemical and were not using procedures recommended on the product label.

Although hazardous pesticide residues on produce grown in the United States is a rare occurrence, it is still a major public concern. A 1984 consumer survey showed that of all the possible harmful products found in food, the public worried most about pesticide residues. Because the public perceives that pesticides in our food supply is a major problem, applicators of pesticidal chemicals should apply them wisely to minimize drift and to avoid drift problems. Some recommended procedures for minimizing drift are presented in this publication.

Note: The remainder of this publication will primarily refer to pesticidal particles as droplets because the majority of pesticides are applied as sprays. However, small particles of dry material are also prone to drift. Pesticidal dusts were once the most common formulation used in agriculture in the late 1940's when the use of synthetic pesticides became a common practice. Dusts are seldom used in agriculture today because they are so prone to drift from the target area.

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