



# Environmental News

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EPA PROPOSES  
NOT TO INITIATE  
SPECIAL REVIEW  
OF PESTICIDE  
2,4-D

The U.S. Environmental Protection Agency is proposing not to initiate a special review of the pesticide 2,4-D at this time after determining that existing epidemiologic and animal oncogenicity data are inadequate to assess the carcinogenic potential of 2,4-D

In addition to 2,4-D (2,4-dichlorophenoxyacetic acid), the agency is also proposing not to conduct a special review of the 2,4-D structural analogs 2,4-DB (2-(2,4-dichlorophenoxy) butyric acid) and 2,4-DP (2-(2,4-dichlorophenoxy) propionic acid).

EPA's action is based on a consensus of opinion from EPA scientists, national experts on epidemiology and the Scientific Advisory Panel established by the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

Taking into consideration all the evidence now available, EPA believes that continued use while waiting for other data will not pose a significant hazard to the environment or public health.

2,4-D, first registered in 1948, is a systemic herbicide widely used to control broadleaf weeds. There are approximately 1500 products containing 2,4-D registered with EPA. An estimated 60 million or more pounds of 2,4-D and its analogs are applied in the United States each year. The primary weed-control uses of 2,4-D products are in wheat, field corn, grain, sorghum, sugar cane, rice, barley, and range and pastureland. In addition, these products are used on aquatic weeds, in forest management, on home lawns, golf courses and rights of way and as a growth regulator in orchard crops.

There are established tolerances for residues of 2,4-D in a variety of agricultural commodities, including meat, milk, eggs, poultry, fish, shellfish, milled wheat, barley, oats, rye and sugarcane molasses.

In 1979 and 1980, EPA conducted a review of the toxicological studies supporting the registration of 2,4-D and concluded from the studies that continued use of this product would not pose a significant hazard to public health or the environment. However, the agency determined that more information was necessary and requested the registrants to submit studies in the following areas: acute toxicity, oncogenicity (cancer) in the rat and mouse, reproductive effects, teratogenicity (birth defects), neurotoxicity and metabolism. Since that time these studies have been received and reviewed by the agency.

The agency has also reviewed a number of epidemiologic studies relevant to these pesticides, including a new study conducted by the National Cancer Institute and the University of Kansas published in 1986. This study concluded that the use of phenoxy herbicides, including 2,4-D, was linked to an increased cancer risk (non-Hodgkins lymphoma) among farmers handling such herbicides. Based on this epidemiologic evidence, the agency issued a preliminary notification of special review to the registrants of 2,4-D and its analogs, 2,4-DB and 2,4-DP.

EPA scientists and four national epidemiology experts who reviewed the Kansas study generally agreed that the study was well conducted and served as a good basis for a hypothesis of a non-Hodgkin's lymphoma and phenoxy herbicide association. However, because of the numerous areas of uncertainty in the study, the reviewers concluded it was impossible to pinpoint 2,4-D as the causative agent in these non-Hodgkin's lymphoma cases. This uncertainty limited the usefulness of the study for regulatory purposes.

Some of the key areas of concern about the study are the lack of appropriate controls, exposure to multiple chemicals and insufficient information on actual exposure to 2,4-D. The control group was composed of the general population, not just farmers; therefore differences in lifestyles of the farmers may account for the difference in results. Therefore, the agency concluded that the Kansas study provided "inadequate" evidence of cancer in humans attributable specifically to 2,4-D.

A number of other epidemiologic studies pertaining to 2,4-D were also evaluated by the agency, but were found inappropriate for assessing a cancer risk for 2,4-D users. In addition, another recently published (1987) epidemiologic study on 2,4-D use by farmers in Western Washington, conducted by the National Cancer Institute, does not confirm the Kansas study's conclusions.

Among the laboratory animal studies reviewed by the agency, a rat oncogenicity study found an apparent treatment-related increased incidence of brain tumors in male animals at the highest dose level. However, the

increased incidence of tumors seen in the male rats at the high dose level was not statistically significant when compared to control male rats, although a marginally statistically significant trend was observed. No tumor response was found in mice or female rats. The agency tentatively concluded that the tumor induction from the rat study provides limited evidence of oncogenicity in animals.

Given the conclusions of the animal oncogenicity study, EPA considered classifying 2,4-D as an Interim Category C carcinogen (possible human carcinogen). In June, the FIFRA Scientific Advisory Panel, a committee of scientific experts from outside EPA, reviewed the agency's classification of 2,4-D and concluded that the increased incidence of brain tumors in male rats was considered equivocal evidence of oncogenicity and recommended additional testing. The panel also concluded that the available epidemiologic evidence was inadequate to classify 2,4-D with respect to carcinogenicity. Based on EPA's own assessment and on the opinion of the panel, EPA has now decided to classify 2,4-D in Category D (not classified as to human carcinogenicity) and will require additional testing in the rat and mouse.

The agency will review the results of further National Cancer Institute studies and additional oncogenicity studies and may initiate a special review at a later time depending on the findings of such studies. In addition, the agency is expected to issue registration standards on 2,4-D, 2,4-DB and 2,4-DP this year which will assess all health data available on these chemicals.

EPA has established a public docket on 2,4-D which is available for public inspection in room 236, Crystal Mall 2, 1921 Jefferson Davis Highway, Arlington, Va. The agency is also providing a 60-day comment period on this proposed notice. Comments should be submitted to:

Information Services Branch  
Program Management and Support Division (TS-767C)  
Office of Pesticide Programs  
U.S. Environmental Protection Agency  
401 M St. S.W.  
Washington, D.C. 20460.