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INTERNAL FACT SHEET ON DACTHAL

Description

Dacthal is a preemergent herbicide registered for use on turf (home lawns, sod farms, and golf courses), gardens, and for commercial vegetable production on onions, cole crops, greens, lettuce, sweet potatoes, horseradish, radishes, watermelons, beans, corn, cantaloupes, cotton, cucumbers, eggplants, garlic, onions, peppers, soybeans, squash, strawberries, turnips, rutabagas, and other crops. The pesticide is one of the most widely used herbicides on home lawns for the control of crabgrass.

Dacthal was first registered in 1958. As of April 1990, there were 96 products registered to 44 registrants. The sole manufacturer is the Fermenta Plant Protection Company (formerly SDS Biotech Corp).

Usage

In 1985, 3 to 4 million pounds of Dacthal were used nationally, of which 1.0 to 1.5 million pounds were for agricultural crops. Since 1986, the use of Dacthal on turf has declined significantly as a result of increased competition from other products. The most recent estimate of total usage for dacthal (1988 data) is 2.25 million pounds on about 275,000 acres. Use on turf is now about one-fourth of total use: it is estimated that homeowners treat about 15,000 acres of lawns, and Dacthal is applied to about 40-45,000 acres of commercial sod farms and golf courses. Turf uses represent about 580,000 pounds of active ingredient annually. Dacthal is frequently used on turf in the eastern and central United States but much more rarely used in western states. However, for agricultural use, 60% of Dacthal is used in California, Arizona, and Washington State.

For agricultural and turf uses, Dacthal has high application rates -- single applications may be as high as 15 pounds per acre although 10 pounds per acre is more typical in turf applications.

Concerns about TCDD and HCB in Dacthal

The Agency has been concerned about potential health risks posed by the small amounts of two contaminants, HCB (hexachlorobenzene) and TCDD

(dioxin), that result from the manufacturing process of Dacthal. The Agency has also reviewed data available on Dacthal itself, and found that a significant number of data gaps for this compound. The registrant is required to submit studies to fill these data gaps as part of EPA's program to "reregister" all older pesticides. All required data should be submitted to EPA by late 1992, and a reregistration decision should be made in 1993.

Concern has focused on the TCDD and HCB contaminants of Dacthal, because both compounds have been classified as probable human carcinogens. TCDD has also been linked to birth defects and other reproductive hazards, a condition known as chloracne, and to immune system effects. HCB has been shown to cause adverse reproductive effects in rats.

EPA announced in 1985 that the registrant was required to remove the "trace elements" of TCDD from Dacthal "if technically feasible." The manufacturer began to voluntarily withhold products containing TCDD at levels greater than 0.1 parts per billion (ppb). The manufacturer subsequently informed EPA that TCDD levels in their products do not exceed 0.01 ppb. and that the levels of HCB do not exceed 0.3 percent.

As part of the reregistration review in 1988, Dacthal was considered for Special Review because of concerns about both TCDD and HCB contaminants in Dacthal products. The Agency estimated the potential health risks from both dietary and non-dietary exposures to the Dacthal contaminants, and concluded that the risks were low and did not warrant a Special Review. However, it was also noted that further toxicity and exposure data on Dacthal were pending, and that EPA could not definitively assess the potential risks without such data.

Current Status

EPA has recently (October 1990) received additional data that will clarify the human exposure associated with turf and lawn care uses of Dacthal. This data is now under review to determine whether it indicates any change from earlier risk assessments that would warrant regulatory action.

Recent findings of Dacthal residues in drinking water wells in EPA's National Pesticide Survey are reported to be well below EPA Health Advisory levels. Thus, it is not likely that these findings would

substantially alter risk estimates for Dacthal contaminants. The cause of Dacthal and HCB detections in drinking water wells will be evaluated as part of the Phase II analysis of the National Pesticide Survey project.

Dacthal is on EPA's "List A" for reregistration, which includes pesticides that are a high priority for reregistration. Because the existing data base had many data gaps, EPA has required many environmental fate, exposure, and toxicology studies to be performed by the registrant. The Agency will have received all data and will be ready to make a decision on the pesticide by Fiscal Year 1993. However, if new information indicates that the pesticide may be posing unreasonable risks of adverse effects to public health or the environment, the Agency will take appropriate action.