

Look What's Out There

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Herbicides help protect the environment

According to a report by the National Center for Food and Agricultural Policy, soil erosion from cropland in the United States was about 3.8 billion tons in 1938. Soil erosion from cropland was only 1 billion tons (still a lot of mud pies) in 1997. Most of the decrease can be attributed to the reduction in tillage. Herbicides make no-till agriculture possible. Without herbicides, this report contends that cropland erosion would increase 15 percent. Erosion has two serious consequences. The loss of soil reduces our ability to produce crops, and the eroded soil degrades our waterways.

In addition to environmental savings, herbicides help the U.S. economy. This report examined the loss of herbicides for 40 crops. If cultivation and hand weeding were substituted for herbicides, the cost of controlling weeds would increase by nearly \$8 billion, and crop losses would exceed \$13 billion. Increased cultivation would also cause additional air pollution caused by operating farm equipment for longer hours. You can read the entire report at this web site:

<http://www.ncfap.org/benefits.htm>

This story is not intended to advocate the increased use of pesticides. Everyone is concerned about the presence of herbicides in drinking water, and it is not difficult to point out environmental damage caused by pesticides. However, every technology offers benefits if we can manage the risks, and pesticides are no different.

California Advocates Renew Fight To Limit Hand Weeding

Hand weeding would be banned if farm worker advocates are successful in their campaign to convince the California Division of Occupational Safety and Health that it's so harmful to workers' backs that it should be eliminated from most fields. California would be the first state in the nation to restrict the hand weeding of crops. Growers, including many organic farmers, argue there are no reasonable alternatives to hand weeding because long-handled tools are too imprecise and would damage the crop. They say hand weeding reduces the use of often-criticized herbicides. Vanessa Bogenholm, chairwoman of the board of California Certified Organic Farmers and owner of V.B. Farms in Watsonville, was quoted as saying, "This isn't something we are doing to circumvent the law. It is something we have to do to harvest a marketable crop."

Hand weeding is widely used on several major crops, such as strawberry, lettuce, nursery plants, and broccoli. Nearly all the state's 228,000 acres of lettuce, for example, are hand weeded at some point each growing season, as are the state's 26,000 acres of strawberries. After failed attempts to persuade the legislature to restrict hand weeding in 1995 and 2002, farm worker advocates are pressing the safety board to impose stiff restrictions. Growers say they also fear that hand weeding restrictions are a Trojan horse for a ban on hand harvesting, which requires stooped labor similar to hand weeding. "One of the things that is really disturbing about this whole (proposed rule) is they are banning something that is essentially the same task as hand harvest," said one organic farmer. "If what you

are really trying to do is say that this form of motion is damaging to the human body, it seems like a slippery slope." The Farm Bureau and others are pushing hard to prevent the loss of hand weeding as growers prepare for the end of the widely used fumigant methyl bromide, one of the most effective chemical tools against weeds in strawberry and lettuce. (Knight-Ridder Tribune, 4/30/03).

Pesticide News

* A new *Bacillus thuringiensis* protein is being introduced for Bt cotton. The new exotoxin is reported to be structurally, functionally and biochemically different from Bt delta-endotoxins currently incorporated into Bt cotton. Vip cotton (for "vegetative insecticidal protein") is said to offer broad spectrum, full season control of major lepidopteran pests and, potentially, *Spodoptera* species. However, selected field testing in 2002 produced mixed results, with a report of excellent control of several key insects and unsatisfactory control of others.

Extensive field testing is planned for 2003, perhaps including head-to-head comparative trials between current Bt-cotton and Vip cotton. The new cotton is expected to hit the market in 2004. (IPMnet NEWS, 5-03)

* Carbaryl Undergoing Reregistration Scrutiny.

Under a legal agreement, EPA's Office of Pesticide Programs must issue its Interim Reregistration Eligibility Decision for carbaryl by June 30, 2003. Carbaryl (N-methyl carbamate) is one of the most widely used insecticides in the United States. Thirty-nine million pounds of carbaryl are used yearly, with approximately 60 percent of the use in agriculture and the majority of the remainder in residential settings. Although the compound doesn't persist in the environment for long periods, it is detected in surface waters, particularly in streams that drain urban watersheds.

The results from the dietary component of the risk assessment reveal values that are below levels of concern (LOC), and drinking water risk

also appears to be below any LOC. There were concerns with regard to residential risks. With regard to residential handlers, eight of the 17 exposure scenarios modeled were over the target for combined dermal and respiratory exposure. Scenarios include garden and ornamental dusting, hose-end garden spraying, dog dusting, lawn belly-grinder, and hand-sprinkling granulars. It also has become clear that the current 12-hour restricted entry interval for carbaryl will most likely be modified to a longer period, such as two or three days. During a conference call regarding agricultural use, many use groups were asked about their flexibility for changing this period.

Also a concern is the environmental risks of carbaryl. Levels of concern were exceeded from all uses at the maximum label rates and for 89 percent of the uses at "average" use rates. Granular and bait formulations exceeded acute-risk LOCs for all 40 registered uses. All acute LOCs for freshwater and marine invertebrates were exceeded from carbaryl use at maximum and "average" application rates. The division responsible for the assessment has stated that perhaps the biggest mitigation option is the restriction of aerial application, since carbaryl is sufficiently volatile to result in aerial transport of the chemical. Longer reapplication periods would also reduce estimated environmental concentrations by 30 to 40 percent. (*Pesticide & Toxic Chemical News*, 4/7/03 & 4/14/03, EPA conference call of 5/7/03)