LETTERS

Herbicide Use on Roundup Ready Crops

In his News Focus article "GM crops in the cross hairs" (26 Nov., p. 1662), Dan Ferber refers to the assessment by Charles Benbrook of the effect that the introduction of Roundup Ready crops has had on herbicide use, concluding that the benefits are not clear-cut. We disagree with this conclusion. Changes in herbicide use are largely meaningless unless relative environmental and health risks are taken into consideration, and Benbrook notes the more benign nature of Roundup compared with other herbicides. According to Ferber's article, Benbrook found that farmers apply two to five times more herbicide to Roundup Ready acreage than to conventional soybeans. However, an examination of herbicide use data does not seem to support this finding.

We have compared U.S. Department of Agriculture data on pesticide use in eight major soybean-producing states for 1995, the year before Roundup Ready varieties were introduced, and for 1998, the last year for which pesticide use data are available and a year in which nearly 40% of soybean acres were planted with Roundup Ready varieties (in 1999, more than 40 million acres were planted with Roundup Ready soybeans in the United States). The data show a 16% increase in pounds of herbicides used and a 12% increase in total acreage. This modest increase in herbicide use is not what one would expect on the basis of Benbrook's findings.

Although the total amount of herbicides used with soybeans has changed little with the introduction of Roundup Ready varieties, the data show a substantial reduction in the number of applications made to soybean acreage. From 1995 to 1998, the total number of applications decreased by 8%, even with the increase in total acreage. This demonstrates growers using fewer active ingredients and making fewer trips over the field, which translates into ease of management.

The primary reason growers have adopted Roundup Ready weed control programs is the simplicity of a weed control program that relies on one herbicide to control a broad spectrum of weeds without crop injury or crop rotation restrictions. Before the introduction of Roundup Ready soybean varieties, growers would choose between many herbicides, often applying three or more active ingredients, some of which would cause damage to the growing soybean plants, or cause harm to corn crops that commonly follow soybeans. As for economic benefits, the introduction of Roundup Ready varieties has provided an overall savings in herbicide costs for both adopters and nonadopters of the technology. Competition in the soybean herbicide market resulted in the manufacturers of other products dropping their prices, in some cases by 40%. This resulted in an estimated $278 million cost savings for soybean growers, or 28% of total herbicide expenditures.

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