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Canola, Pushed by Genetics, Moves Into Uncharted Territories



Carla Gottgens/Bloomberg

IN THE WILD Genetically engineered versions of the canola plant are thriving.

By ANDREW POLLACK
Published: August 9, 2010

Genetically engineered versions of the canola plant are flourishing in the form of roadside weeds in North Dakota, scientists say, in one of the first instances of a [genetically modified crop](#) establishing itself in the wild.

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How much of a problem this might be is subject to debate. But critics of biotech crops have long warned that it is hard to keep genes — in this case, genes conferring resistance to common herbicides — from spreading with unwanted consequences.

“If there’s a problem in North Dakota, it’s that these crop plants are becoming weeds,” said Cynthia L. Sagers, a biology professor at the [University of Arkansas](#), who led the study. Results were presented Friday at the annual meeting of the Ecological Society of America.

Canola, whose seeds are pressed to make the popular cooking oil, is a type of oilseed rape developed by breeders in Canada. In the United States, it is grown mainly in North Dakota and Minnesota, though cultivation is spreading.

The roadside plants apparently start growing when seeds blow from fields or fall out of trucks carrying the crops to market. In the plains of Canada, where canola is widely grown, roadside biotech plants resistant to the herbicide Roundup have become a problem, said

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Alexis Knispel, who has just completed a doctoral dissertation on the subject at the University of Manitoba.

Some farmers, she said, have had to return to plowing their fields to control weeds — a practice that contributes to soil erosion — because they can no longer use Roundup to control the stray canola plants. She also said the proliferation of roadside canola would make it difficult to keep organic canola free of genetically engineered material.

Monsanto, the developer of Roundup Ready canola, one of the modified plants, said the new findings were neither surprising nor worrisome. Even before biotech crops were developed, canola grew on roadsides, it said; now that 90 percent of the canola planted by farmers is engineered, it would be reasonable to expect a similar percentage in roadside samples.

For the North Dakota study, Meredith G. Schafer, a graduate student at Arkansas, and colleagues traversed 3,000 miles of roads, stopping every five miles and taking a sample of one canola plant if there were any growing.

Of the 604 plants collected, 80 percent were genetically engineered, Dr. Sagers said. Some were Roundup Ready, with a gene conferring resistance to Roundup, also known as glyphosate. Others were Liberty Link crops, with a gene conferring resistance to glufosinate.

Two plants were found to have genes conferring resistance to both herbicides, suggesting that the crops resistant to each herbicide had mated.

The biotech canola has also been found growing in Japan, which does not even grow the crop, only imports it.

Scientists [have also reported](#) that genetically engineered grass established itself in the wild in Oregon. Monsanto said roadside canola could be controlled by mowing or by other herbicides. Resistance to an herbicide does not give a plant an advantage over others unless that particular herbicide is sprayed.

Dr. Sagers said that in some areas the researchers sampled, Roundup had been sprayed, leaving only the herbicide-resistant canola standing.

Dale Thorenson, assistant director of the United States Canola Association, said there were many weeds far more troublesome than stray canola plants.

Genetically modified corn and soybeans have not established themselves in the wild, even though they are grown on far more acres than canola.

“They are superdomesticated and they just don’t really like to go wild,” said Norman Ellstrand, a professor of [genetics](#) at the University of California, Riverside.

A version of this article appeared in print on August 10, 2010, on page D3 of the New York edition.

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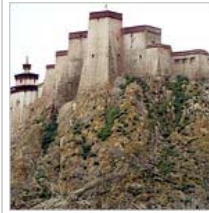


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