

Save the soil

A fourth-generation farmer in Portugal dreams of the potential of biotech crops for a dry country prone to soil erosion.



Gabriela Cruz says, "Biotech crops are the way to keep farmers on the land."

Gabriela Cruz, 47, is one of the few lucky people in Portugal whose family has had a farm for more than 100 years.

"It is hard to buy land and become farmers," says the fourth-generation farmer with a master's degree in farming management. "There are not many female farmers in Portugal. Many young women studying agriculture at colleges prefer to work for food companies these days."

Over the years, her family has grown durum wheat, barley, peas and corn on her 500-hectare farm in Elvas, she says. It has even grown rice again in recent years to meet domestic demand for short-grain rice favored by Portuguese for risottos.

Yet she is facing one of the hardest periods for farmers in Portugal – working on the farm is not only hard work, but

production costs have been rising. "If the trend continues, people may eventually abandon farming altogether," she says.

Her problem is, ironically, a happy result of conservation agriculture in the erosion-prone soils of southern Europe. Fields can lose up to 17 tons of top soil on average annually.

Cruz has used no-till and reduced-till farming methods since 1998 to combat soil erosion. This has cut erosion by as much as 70 percent and improved soil fertility. This has helped her grow biotech corn which is resistant to the European corn borer.

In addition, Cruz says farmers need wide-spectrum herbicides to control weeds as it is expensive to hire workers for weeding. Otherwise, they would have to till the land to control weeds, a move which will increase soil erosion, she adds.

“If we don't have biotech crops, we will become less competitive and have to import more food.”

Biotech crops in Europe

Despite efforts by the European Commission to get governments to allow farming of the only European Union (EU) approved biotech crop – an insect-resistant corn – several countries including Greece, Germany, France and Luxembourg have imposed illegal bans. In addition, since the late 1990s, this one variety of biotech corn has been the only biotech crop approved for cultivation, with many more stuck in the EU approval system.

However, not all EU Member State governments are opposed to the cultivation of biotech crops. Indeed, the *New York Times* notes that Spain leads the EU in adopting biotech crops, with some 80,000 hectares of biotech corn. Other countries such as Portugal, the Czech Republic, Poland, Slovakia and Romania have also been cultivating biotech corn for several years.

“We need a biotech crop that is resistant to herbicides,” she says. This is not currently available in Europe.

She explains, “The problem is due to the fact that farmers in Europe are facing restriction on what pesticides, fungicides and herbicides they can use for the near future.”

In general, there is much resistance in Europe from certain member states against the cultivation of biotech crops. Says Cruz, “Some farmers are afraid to grow biotech crops as they are afraid they cannot sell such crops to industries that are afraid they will lose consumers.”

The net result of this resistance to biotech crops is that farmers have to employ workers to remove weeds. Production costs have gone up in 2008 as corn prices fell from the highs of 2007.

“It is an economic strain as it is very difficult to find people who want to work in the field as fewer and fewer pesticides are allowed,” observes Gabriela. “If there isn't enough labor to

remove weeds, farmers will have to go back to tilling the land which will provoke soil erosion.”

This is one of the hardest times in farming in her family, she adds.

Gabriela believes biotech crops allow farmers to use conservation agriculture practices that leave crop residue on the surface to fight water and wind erosion. Biotech crops also allow a significant increase in carbon sink in the soil.

“Biotech crops are the way to keep farmers on the land,” she says.

One example is drought-resistant corn, which is important to a dry country like Portugal. Another is cold-resistant corn, which would allow planting at an earlier time, resulting in greater productivity for farmers. This is because yields can increase by two or three times. Also, biotech crops that use less nitrogen would help reduce pollution.

“If we don't have biotech crops, we will become less competitive and have to import more food,” she notes.

Indeed, drought-resistant corn is already being grown in Central Africa. In 2008, some 90 percent of the 13.3 million farmers who grow biotech crops were small, resource-poor farmers living in developing countries such as Brazil, Argentina, South Africa, China and India. Switching to biotech crops can also save fuel, as in the case of biotech soy farmers in Argentina, who cut the use of diesel in ploughing by a third.

According to PG Economics, farmers in developing countries saw a 58 percent share of farm income gains in 2007, and achieved a 50 percent of the total gains last year.

Gabriela believes in educating the public – and ultimately governments – to change their attitudes toward biotech crops. As the president of the Portuguese Association for Soil Conservation, she makes it a point to speak at conferences worldwide to highlight the predicament of farmers like her.

For her, farming is not just a livelihood but a vocation for life. Gabriela believes farmers have a duty to farm their land sustainably and to protect natural resources.

Quoting from *Gone with the Wind*, written by Pulitzer Prize winning author Margaret Mitchell, Cruz says, “Land is the only thing in the world worth working for, worth fighting for, worth dying for, because it's the only thing that lasts.”

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