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Race on for GM crops to stop riots

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AGRICULTURAL technology company Monsanto hopes to double crop yields by 2030 as well as reduce the amount of fertilisers, chemicals and water used by a third, by combining conventional plant breeding with genetically modified lines.

Harvey Glick, Monsanto's senior director of scientific affairs, said gains made by conventional breeding have slowed down and argues the next step will be "the gene revolution", a combination of conventional plant breeding with biotechnology.

Global shortages of grain last year led to price hikes, food riots and more hunger.

The UN has warned global food production will have to increase by 70 per cent by 2050.

The world population is expected to reach 9 billion by 2050, up from 6.8 billion today.

The last great leap in food production was the "green revolution", which doubled cereal production between 1970 and 1995, while increasing the area by less than 5 per cent.

The green revolution introduced high-yielding cereals into developing countries, along with modern agricultural techniques.

The father of the green revolution, Norman Borlaug, is credited with saving more than a billion people from starvation.

Dr Glick said that, for seven of the past eight years, "we have been consuming more of our (grain) stocks than we're producing, so we're in a very precarious situation".

Dr Glick said the gene revolution "will produce the next significant increase in yield to help us deal with the challenge of producing enough food for the planet". He said conventional breeding will continue to develop high-yielding varieties

of the major cereal plants, corn, rice and wheat and soybeans.

"But then the second part of the yield equation is biotechnology, to help protect the yield that you have put in that seed using conventional breeding."

Dr Glick said crops genetically modified to give the plants pest resistance, or herbicide resistance, had already produced increases in yields.

The CSIRO reports that in the only well-established GM crop in Australia, cotton, farmers now use about 20 per cent of the insecticide they previously used on conventional cotton.

GM canola is being grown in commercial quantities for the first time this year.

Australian farmers were anxious to grow GM canola to compete with the world's biggest canola grower, Canada, where GM canola has shown a yield increase of between 6 and 10 per cent and a 40 per cent reduction in herbicide.

Work is under way in the US on drought-tolerant corn, which could be on the market by 2012.

He said almost 60 per cent of the 125 million hectares of biotech crops grown last year were in developing nations.

Monsanto has joined with the non-profit International Maize and Wheat Improvement Centre in a public-private partnership to deliver drought tolerant maize to smallholder sub-Saharan farmers.

"We recognise there's a real need to improve the lives and capabilities of the poorest of the poor, but it is very difficult to do this," Dr Glick said. "That's why we're partnering with the AATF (African Agricultural Technology Foundation), the Bill and Melinda Gates Foundation and others who can help us get this technology into the hands of farmers who need it."