

Viewpoint: CRISPR crops poised to help global food insecurity and limit farming's environmental impact

Increased crop productivity, including the use of genetically modified and other forms of biotechnology crops, leads to more affordable food through reduced production costs, less pesticide spraying, decreased soil damage, fuel use and carbon dioxide release through reduced ploughing. Farm income gains through the use of biotechnology crops for 1996-2014 reached \$150 Bn globally. Environmental security can be enhanced by conserving biodiversity and maintaining forests through increasing productivity of the world's 1.5 Bn ha of arable land. More efficient production will reduce the eco-footprint of agriculture.

...

As technology continues to advance, new ways of approaching issues of food and environmental security emerge. Spraying crops with synthetic RNAs to stimulate responses linked to e.g. drought stress is one such example, whilst such RNA spraying can also convey resistance to pests such as Colorado beetle in potato for several months.

...

Meta-analysis of 52 peer-reviewed articles since 2014 confirms use of CRISPR to increase yield, tolerance to biotic and abiotic stress and biofortification.

...

Initiatives such as these may be some years away from commercial reality, but emphasise that biotechnology is making considerable progress in addressing issues of food and environmental security, which remains one of the great global challenges.

Read full, original post: Contributions of biotechnology to meeting future food and environmental security needs