Mechanism, benefit and risks of herbicide tolerance/resistance crops

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ABSTRACT

Advance in biotechnology have led to development and commercialization of several herbicide-resistance crops(HRCs) in the mid 1990s. Most transgenic HRC's have been created through the stable integration of a foreign gene using molecular biological techniques and plant transformation. Currently, two herbicide resistant cropping systems are common for soybean, maize, rapeseed, and cotton: *RoundupReady* (active agent: Glyphosate) and *Liberty Link* (active agent: Glufosinate). HRCs can be classified as non-transgenic and transgenic. Some gene like cp4- EPSPS which transferred through agrobacterium in plants and can induce HRCs. There are benefits and risks associated with the use of HRCs as a weed management tool. The benefit of HRCs for weed management outweigh the risks based on current knowledge. Crop made resistant to herbicides using biotechnology it expand the utility of proven post emergence, non selective, broad spectrum herbicides.