Drought-tolerant varieties begin global march

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175.2 million hectares of biotech crops were grown globally in 2013. In the United States, the first commercialized drought-tolerant maize (MON87460) expressing *Bacillus subtilis* cold shock protein B (cspB) was planted by 2,000 farmers over 50,000 hectares. Indonesia also approved drought-tolerant sugarcane expressing choline dehydrogenase

(betA), which accumulates membrane-protectant glycine betaine. Other drought-resistant varieties of sugarcane, maize, wheat and rice are also in field trials in Argentina, Brazil, India, Egypt, South Africa, Kenya and Uganda. Brazil continues to lead the world in annual growth (10%) of transgenic acreage.

Global area by transgenic trait

Area of herbicide-resistant varieties shrank, but plantings of crops with stacked traits continued apace.

Source: International Service for the Acquisition of Agri-Biotech Applications.

Global area of transgenic crops by country

Brazil, Paraguay, Argentina and Uruguay continued to expand transgenic plantings, but acreage shrank in Pakistan, Australia and Mexico.

Source: International Service for the Acquisition of Agri-Biotech Applications.

EU transgenic crop field trials

Spain continues to dominate EU field trials. Experimental releases are the lowest in 20 years.

^a2013 figures to be updated 4/26/14. Source: http://gmoinfo.jrc.ec.europa.eu/gmp_browse.aspx

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Historical global area and value of transgenic crops

Transgenic acreage grew 3% in 2013, representing 35% of the global seed market.

Source: International Service for the Acquisition of Agri-Biotech Applications. Value data are explicitly from seeds and licensing revenue rather than from 'crops' themselves.

Transgenic crop adoption rate in the US

A minor blip in cotton plantings but all the other major transgenic crops are approaching complete adoption.

Canola adoption rates are based on global data rather than US data.

Source: International Service for the Acquisition of Agri-Biotech Applications; National Agricultural Statistics Service

Notable transgenic crop/traits receiving approval

Country	Crop	Company	Decision
US	Potato	JR Simplot	F10/F37/E12/E24 (Innate)/Transgenic potato with low asparagine and reducing sugars, resulting in lower acrylamide content after cooking and reduced impact-induced bruise susceptibility via expression of inverted asparagine synthase-1/polyphenol oxidase-5 and the starch-associated genes R1/phosphorylase L gene silencing cassettes under tuber-dominant promoters of ADP glucose pyrophosphorylase and granule-bound starch synthase genes.
Malaysia	Papaya	Malaysian Agricultural Research and Development Institute	pASACO2E1/Transgenic Eksotika papaya expressing an antisense portion of the aminocyclopropanecarboxylate oxidase (ACO2/ACC oxidase) coding sequence and neomycin phosphotransferase II marker, resulting in suppression of ACC oxidase enzyme and delayed fruit ripening via suppressed ethylene production.
EU	Carnation	Florigene	FLO-40685-1(Moonvista)/SHD-27531-4/Transgenic carnation with enhanced blue pigments via expression of a tobacco acetolactate synthase, viola flavanoid 3'5' hydroxylase and petunia dihydroflavanol 4-reductase marker.

Source: <http://www.isb.vt.edu/search-petition-data.aspx> and <http://bch.cbd.int/database/lmo-registry/>