



24 countries grew 190 million hectares of biotech crops in 2017

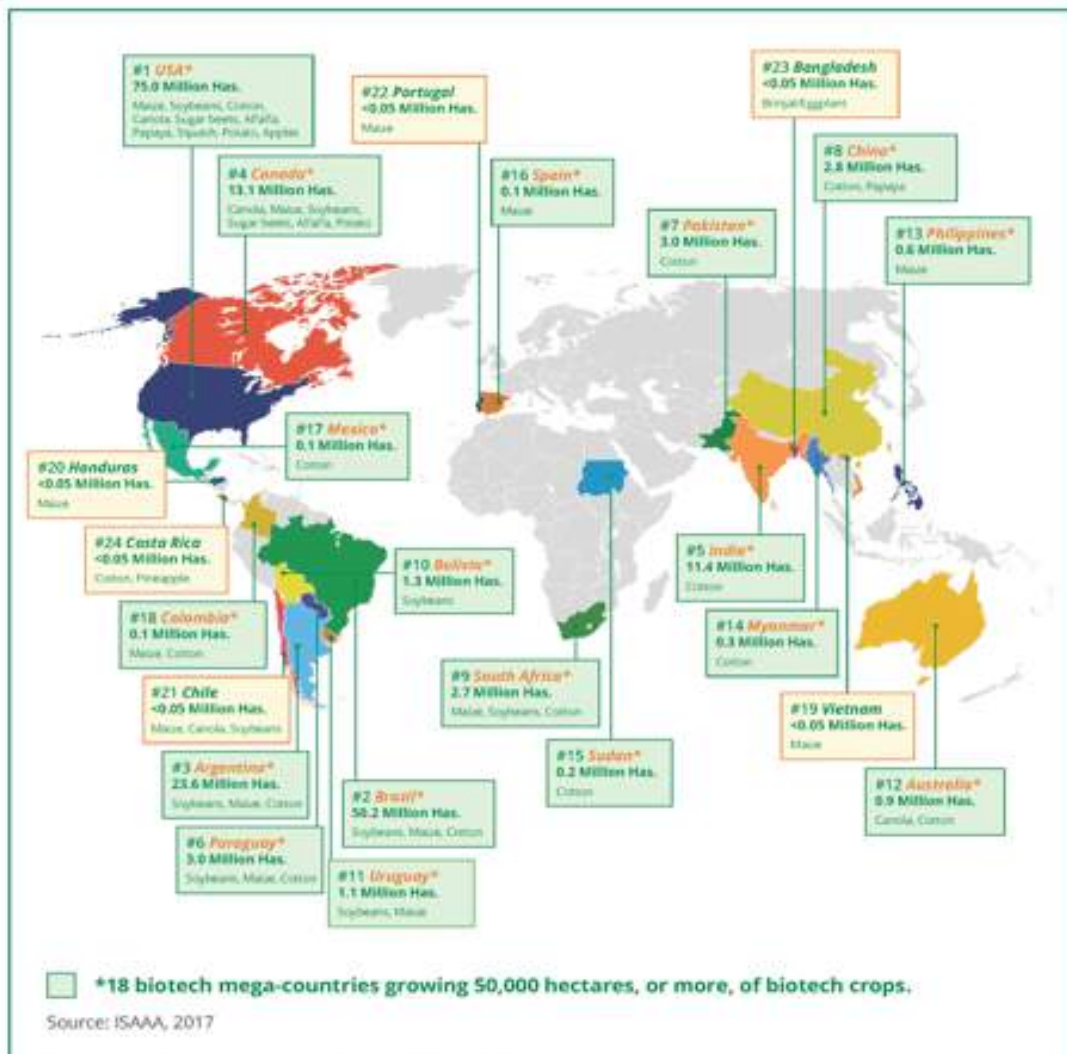


Figure 1. Global Map of Biotech Crop Countries and Mega-Countries in 2017

Planted by 18 million farmers

~90% were small and resource-poor farmers in developing countries (primarily planting Bt cotton)



USA: lead grower: 75 Million Hectares of GE Crops

80% - 85% US Maize
Of this, 75% double/triple stacked IR and HT (US & Canada 99%)

86% - 93% HT Canola
in Canada (US 95% & Canada 83%)

Non-Browning
Innate Potato

VR Squash

VR Papaya - saves the
industry in the US

HT Soybean (US 92% & Canada 73%)

95% HT Sugar beet in
US and Canada

90% US IR Cotton
Of this, 75% double stacked

HT Alfalfa





GE Crops Grown by Michigan Farmers



Soybean



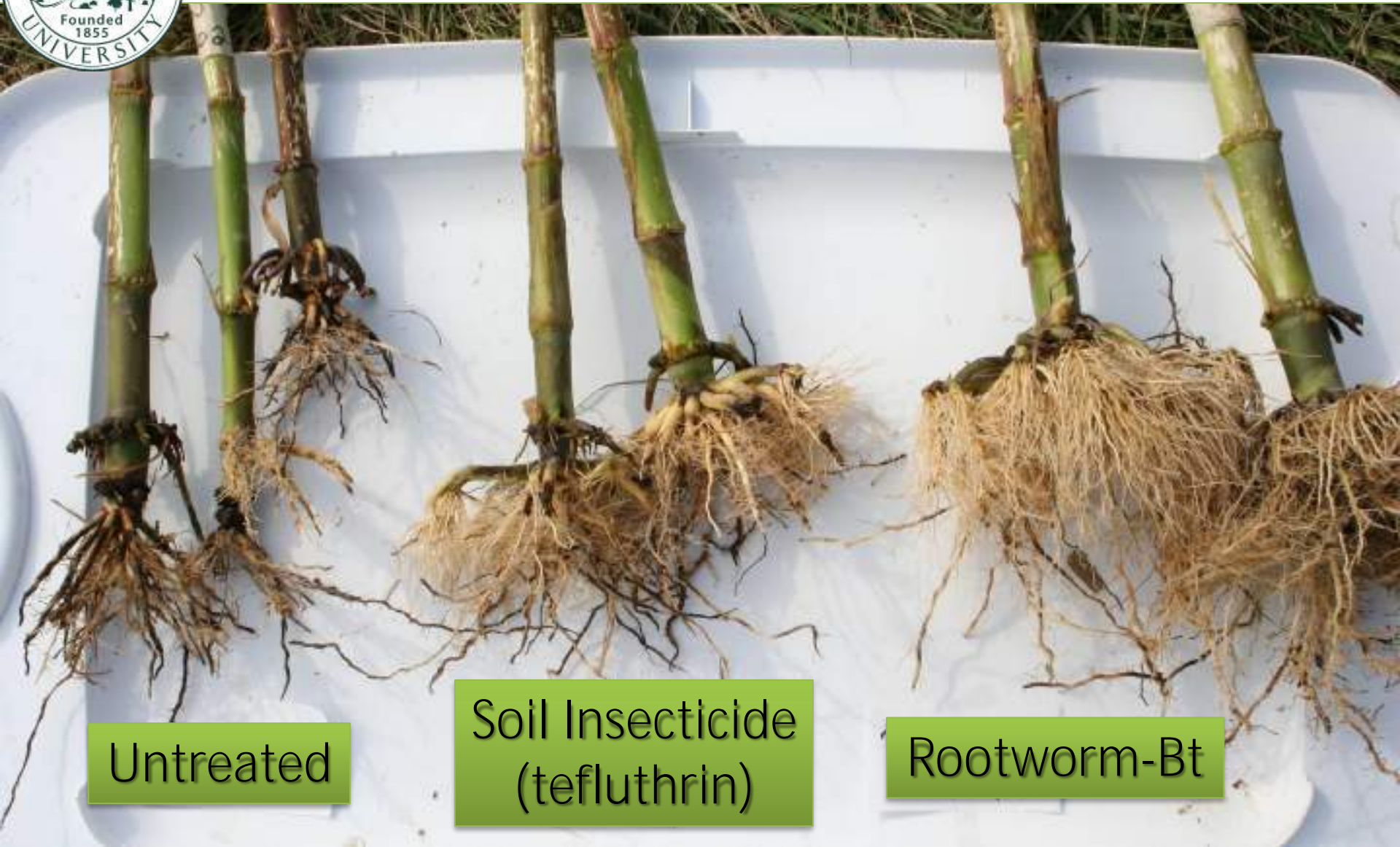
Corn/Maize



Sugar beets



Alfalfa



Untreated

Soil Insecticide
(tefluthrin)

Rootworm-Bt



Biotech Bt. Maize Reduces: Insect Damage Yield loss Aflatoxin

Bt



Non-Bt





GE Soybean (Round-up Ready)





Insect / Pest Resistance GE Soybean Whole Plant Bioassay



GE Soybean

Infested with Soybean Looper
(*Chrysodeixis includens*) and
Velvetbean Caterpillar
(*Anticarsia gemmatilis*)

Non GE Soybean



Virus Resistance GE Squash





Insect Resistant B.t. Cotton in India







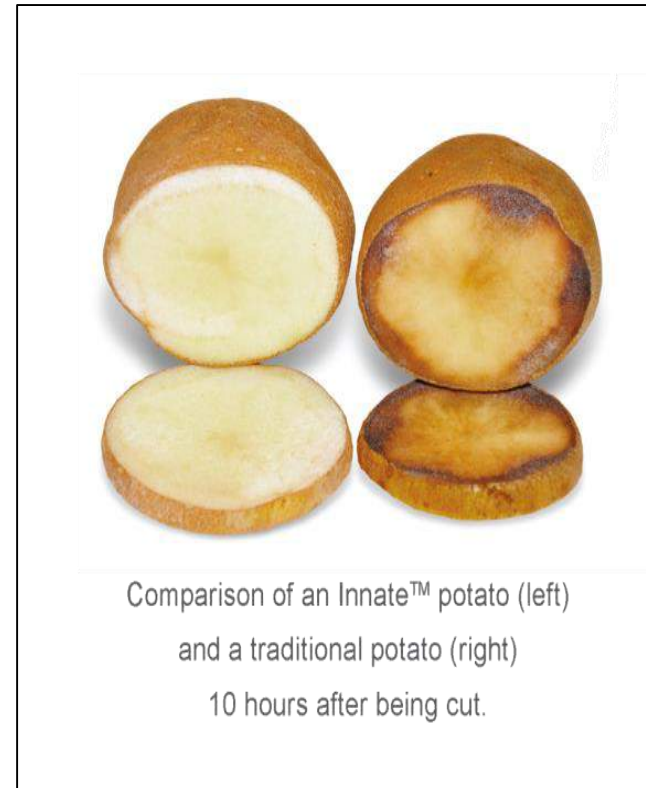
Innate™ Potatoes

Traits - 1.0 (Commercialized)

1. Low bruise
2. Non-browning
3. Low acrylamide

Traits - 2.0 (Soon!)

1. Blight resistant
2. Longer storage
3. Reduced pesticides





Arctic Apple[®]



- Non-browning
- USDA approved
- Canada approved
- First biotech apple



NUTRITIONAL QUALITY



"Golden Rice"

- * Expression of enzymes of β -carotene pathway in rice endosperm
- * Amelioration of Vitamin A deficiency