

The GM Threat Time To Take Action

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GM Education/Beyond GM

www.gmeducation.org

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What we hear...

- GE crops are widely grown
- GE crops can contribute to food security (in the future) because they can deliver crops with...
 - Increased yield
 - Drought tolerance
 - Nitrogen-fixing cereals
 - Enhanced micronutrients (e.g. Golden Rice)

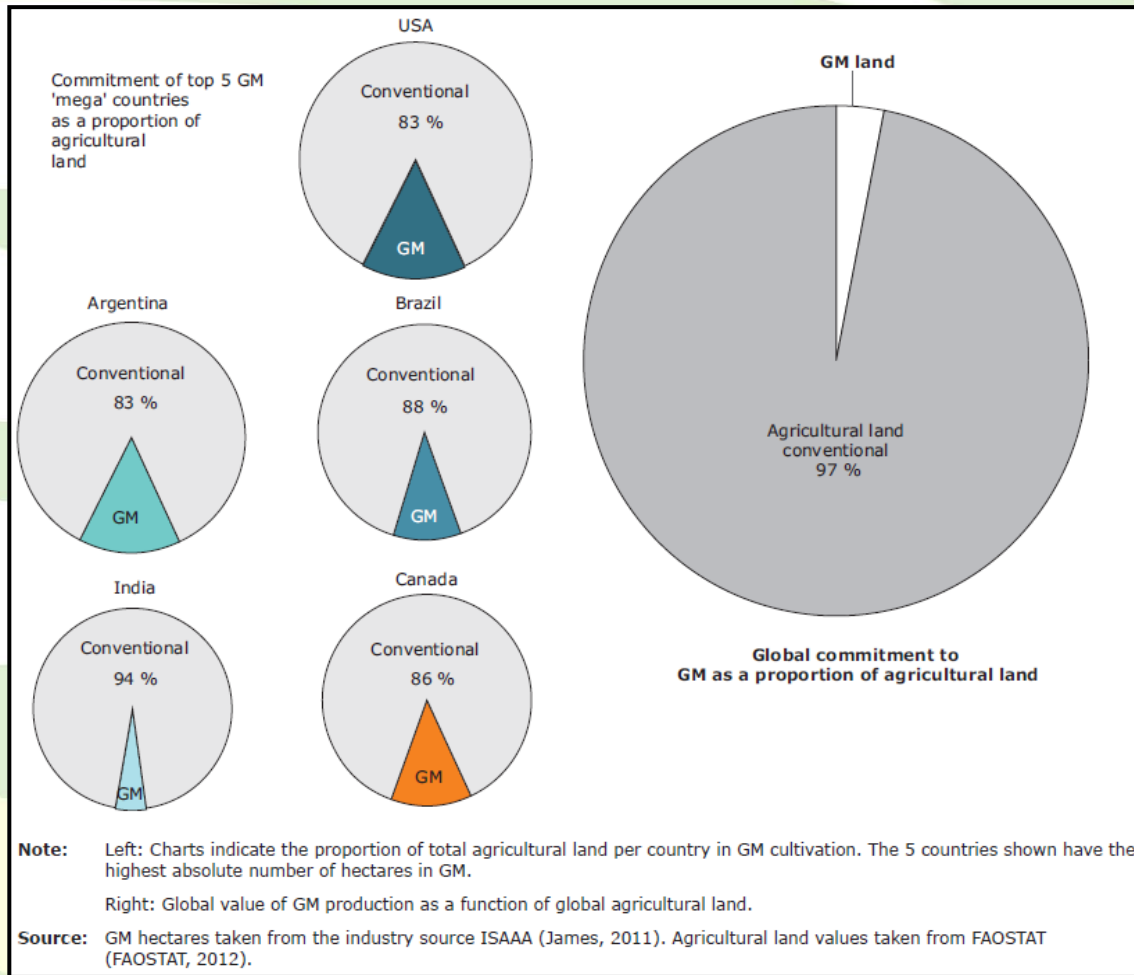
GM crops – some facts

Only four crops and two traits dominate GM based agriculture:

- **Soy beans**
 - **Maize or corn**
 - **Canola or oilseed rape**
 - **Cotton**
- **All the GM soy and some corn varieties are engineered to be tolerant to glyphosate based herbicide application (mostly Roundup formulations)**
 - **Most corn and cotton are predominantly engineered to express versions of the insecticidal Bt toxin protein; some combine both Bt toxin and glyphosate tolerance**
 - **Cultivation restricted to a few nations: N & S America**

Source: J. Cotter -
Greenpeace

The Reality...



GM crops are grown on only 3 % of agricultural land globally.

Virtually all these GM crops are either herbicide-tolerant, insect resistant or both.

From: Quist et al. 2013. Hungry for Innovation: pathways from GM crops to agroecology. In: European Environmental Agency (EEA) Late lessons from early warnings: science, precaution, innovation. Ch. 19. www.eea.europa.eu

Source: J. Cotter - Greenpeace

GM crops do not currently contribute to food security.

- No GM crops for increased yields.
 - No evidence that current GM crops increase food security – designed for large scale commodity growers.
 - GM crops are patented.
 - Farmers face issues of contamination and liability.
- (see, e.g. IAASTD 2008, www.assessment.org, Quist et al. 2013 op cit.)

“Feeding the world”

“If anyone tells you that GM is going to feed the world, tell them that it is not... To feed the world takes political and financial will.” –

Steve Smith, head of GM company

Novartis Seeds UK (now Syngenta) 29

March 2000

Feeding 9 Billion – a Flawed Argument

- Global production is currently at 4,600 kcal of edible food per person per day - enough to feed 14 billion people (UNEP 2011, from Chalmin & Gaillochet, 2009)
- FAO production forecasts focus only on cereals and meat (Bruinsma 2009; Fischer 2009)
- We currently waste approx 40% of the food we produce (Nelleman et al, 2009; Cabinet Office, 2008)
- There are more people over-nourished (1.6 billion) than under-nourished (1 billion) (FAO, 2009; WHO, 2006)

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Environmental Problems

- The GMO company that contaminated Oregon grasslands is at it again – in towns this time – GM grass spread over 13 miles of Oregon State & cross breeding with other grasses.
- Also oil seed rape/canola story
- Triffid Results for GM Farming – herbicide resistant weeds in US are spreading - glyphosate-resistant weeds 32.6 million acres (2010) to 61.2 million acres (2012)
- Herbicide resistant weeds have developed protection mechanisms which GM can't deal with
- Increased use of both herbicides and pesticides (secondary pest emergence)
- Cry for Argentina: The Devastation of GMO Soya - organic matter of soils and trees going up in pillars of smoke - farmers driven by economic pressure to use GM technology – massive health problems from spraying -industrialization of food production on a devastating scale

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Corporate Control

- The Monsanto Monopoly - more than 80% of US corn and more than 90% of soybeans planted each year are attributable to Monsanto – either direct seed or traits
- Global seed industry - four firms control 40% of supply
- Monsanto controls 60% of EU veg seed (Seminis and other purchases)
- Control of logistics e.g. Soya supply chain

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Organic Farmers Don't Need To Worry About GM

- How else do you explain the almost total lack of engagement?
- GM Free market benefit?
- Some GM might be good – e.g. Feeding the world
- Some GM might be good for organic systems – e.g. Blight resistant potatoes
- Fish farming?

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Organic Farmers Don't Need To Worry About GM



Organic Farmers Do Need To Worry About GM – And Take Action Now

- Weight of contamination within 5 year horizon from GM crops
 - - glyphosate resistant cereals, grasses, legumes, insects
- Contamination of supply chain – glyphosate contamination already happening
- Corporate control of breeding and seed
- “New” and/or unregulated GM methods in breeding e.g. Cisgenesis, protoplast fusion, gene editing
- Loss of consumer confidence as GM moves into food chain.

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What to do next?

- Take Action
- Farmer voices
- GM Free Me
- Beyond GM

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