

Current Status of GM Corn in the Philippines



Gabriel Romero, PhD

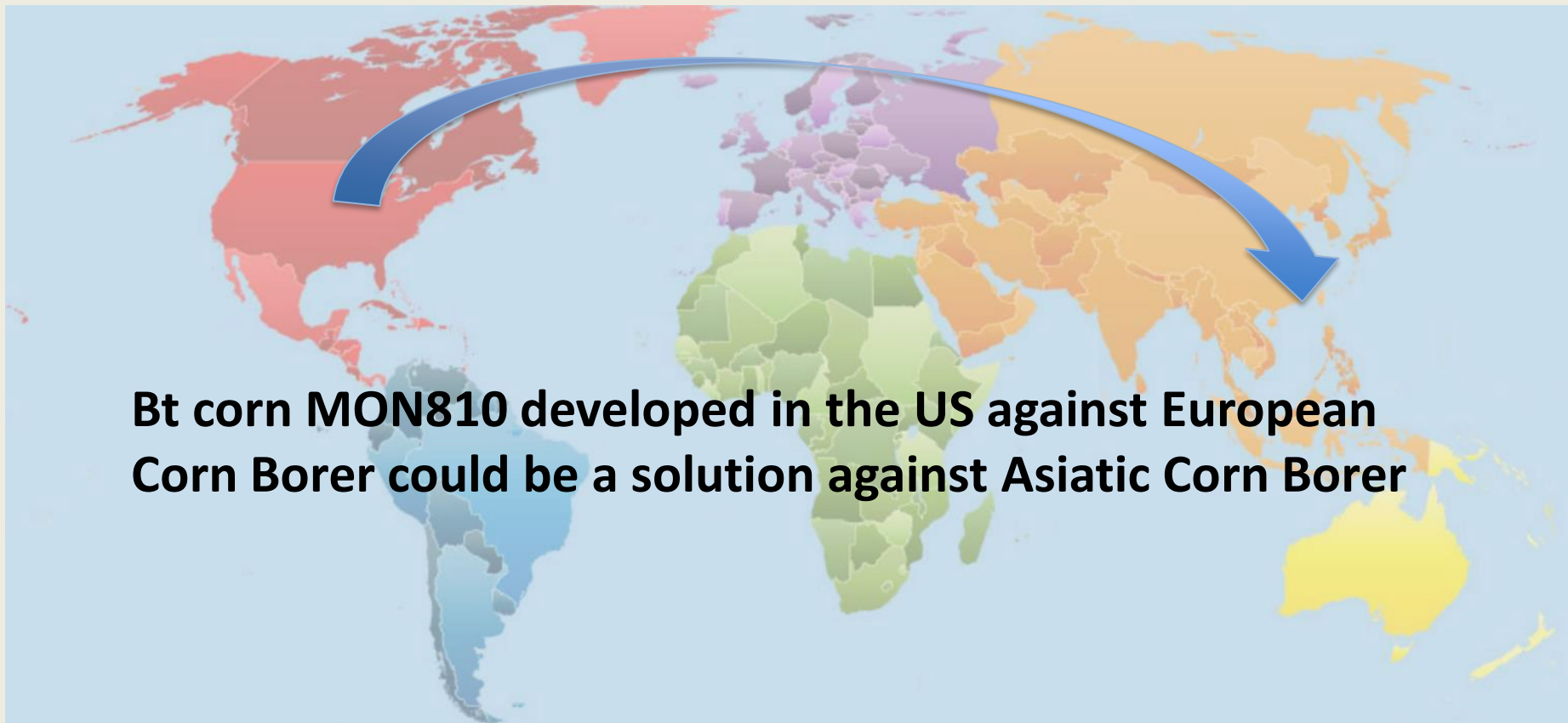
Executive Director

Philippine Seed Industry Association

Current Status of Commercialized GM Crops in the Philippines: Biotech Corn and Golden Rice

ISAAA

October 11, 2022



Bt corn MON810 developed in the US against European Corn Borer could be a solution against Asiatic Corn Borer

1986

**R&D and
US Approval**

1996

**Regulatory Approval
in PH**

2002

**Commercialization in
PH**

2020

Regulatory trials under DOST and DA evaluated the efficacy and safety

1996

1998

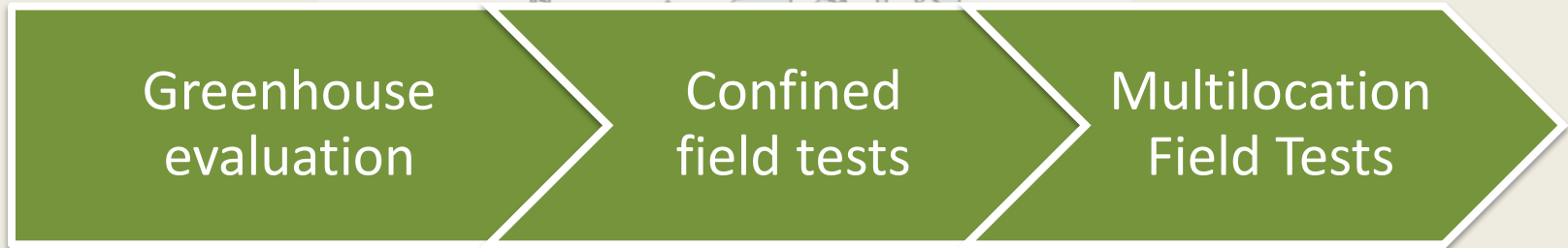
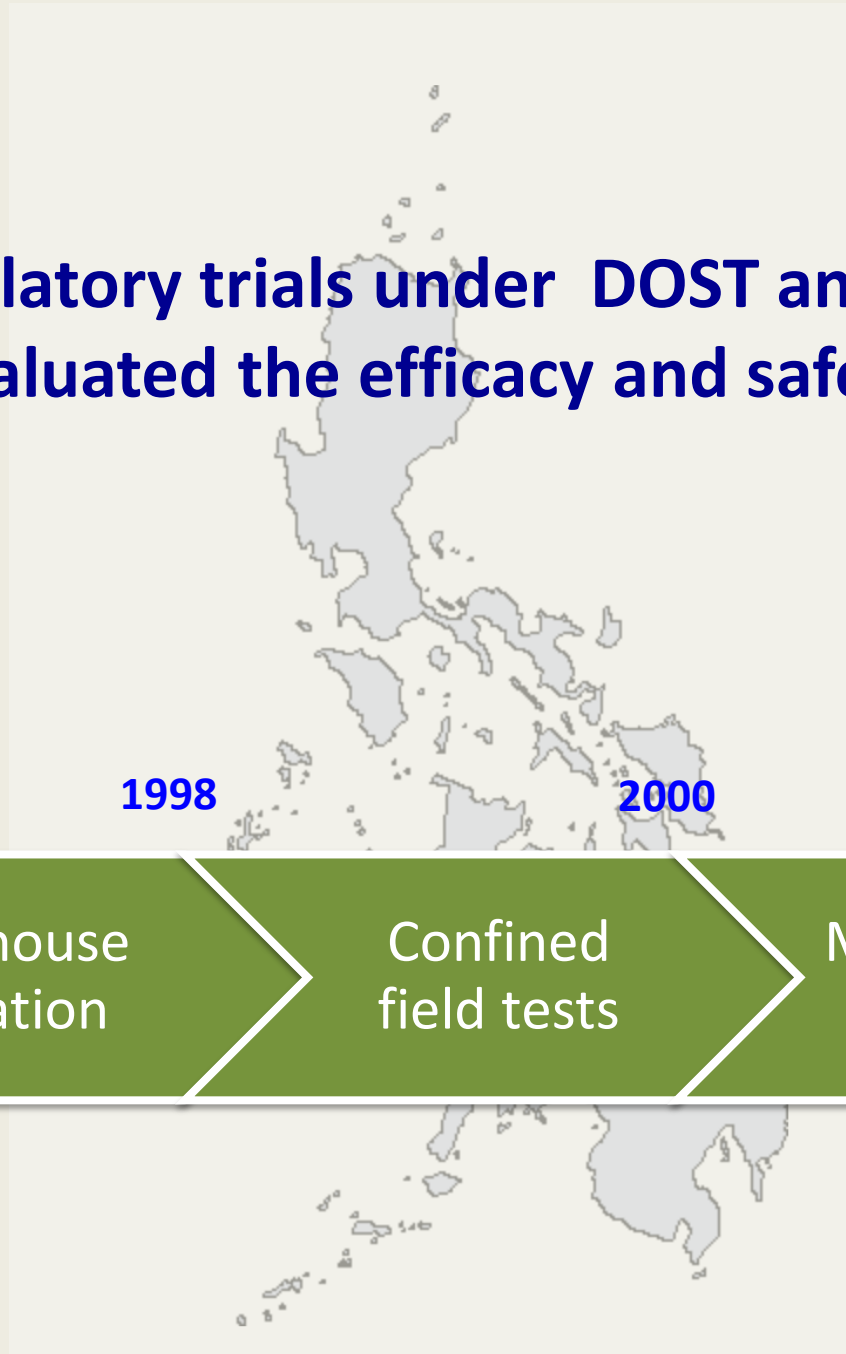
2000

2002

Greenhouse
evaluation

Confined
field tests

Multilocation
Field Tests



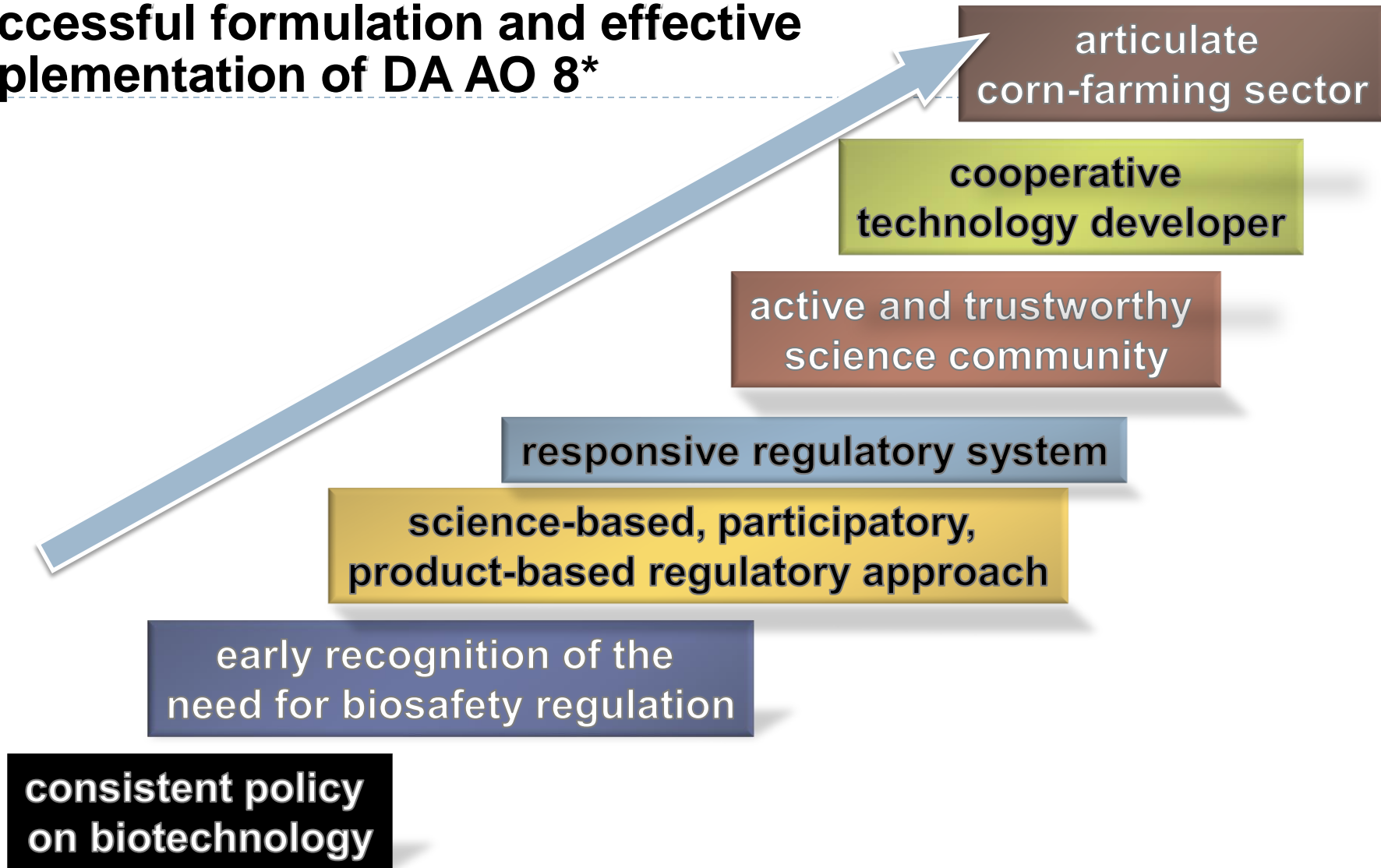
Bt corn - the first GM crop commercialized in the Philippines



- ▶ Approved for planting in 2002 after complying with all the requirements and have undergone prescribed set of procedures
- ▶ i.e. conduct of risk assessment and efficacy validation during contained conditions and multi-location field trial

Considered a major strategic development in agricultural biotechnology since Bt corn is the first major transgenic food/feed crop commercialized in Asia (James, 2003)

Factors contributing to the successful formulation and effective implementation of DA AO 8*



Phases of Commercialization

**Approval
(2002)**

**Exponential
growth
(2003-10)**

**Near
saturation
(2011-20)**



CONVENTIONAL CORN

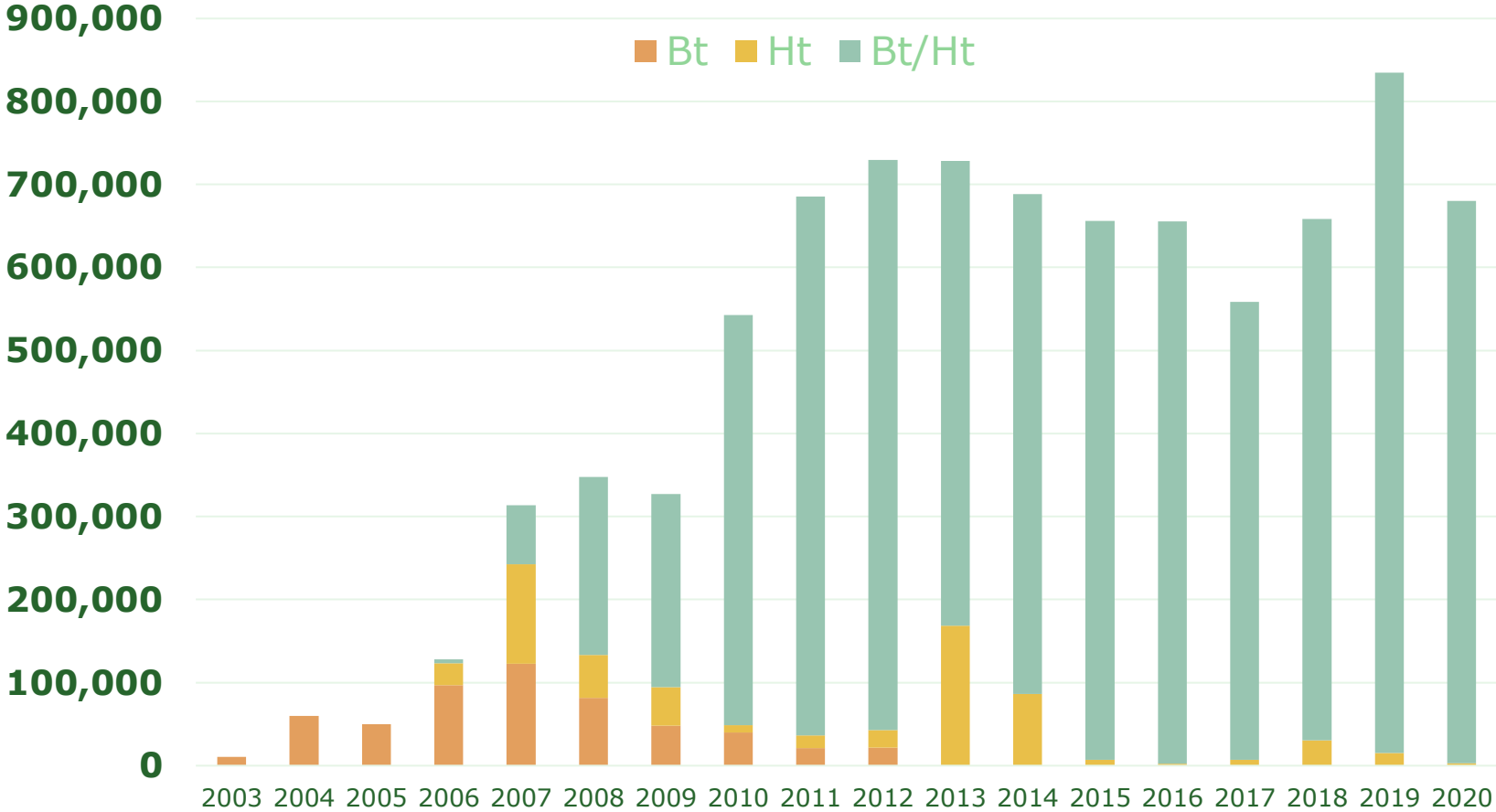
BT CORN



Philippine Biotech Corn Hectarage, 2003-2020

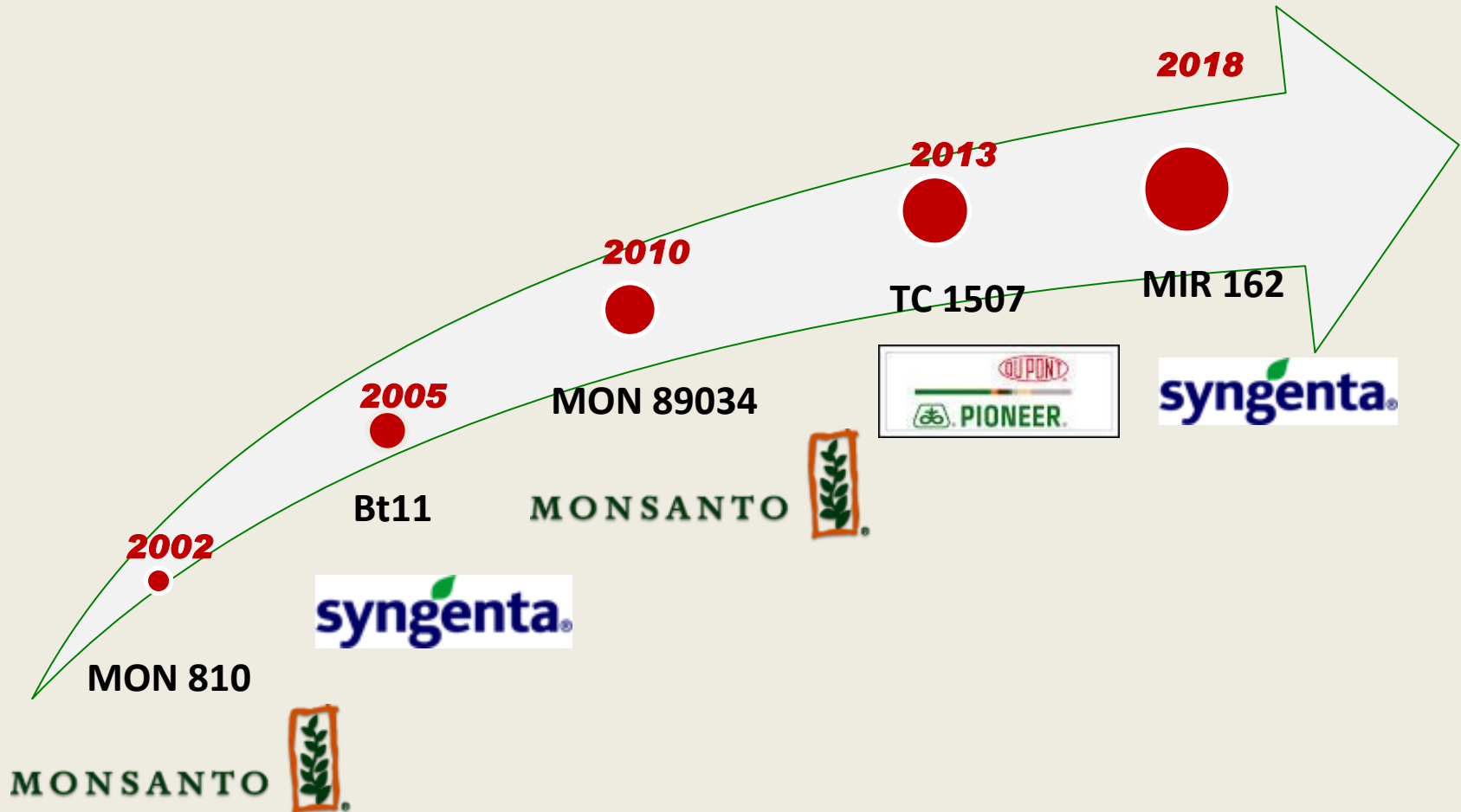
Bt/Ht = 677,644

Ht = 2,720



Source: BPI, 2021

Bt Corn Approvals in the Philippines



Reasons for biotech maize adoption in the Philippines

- Higher yield - 83 % of respondents
- Pest resistance - 49%
- Good product quality - 48%
- Availability of financial assistance - 47%
- Lesser production cost - 38%
- Availability of seeds - 32%
- Inspired by other farmers - 28%
- Peace of mind - 25%

With 409 respondents in Pangasinan, Iloilo and South Cotabato

Farmers Benefits from Biotech Corn in the Philippines

Lower production costs

- 60 % reduction in pesticide use
- Lower labor costs associated with weeding and spraying

Higher yields

- 34 to 41% higher yield over non-*Bt* corn

Higher income

- P 7,080 to P 10,132 more than non-*Bt* corn

Crop Biotech Benefits to the Philippines

Economic Assessment of GM Corn Use in the Philippines

Flor Alvarez, Abraham Manalo, Ramon Clarete (2021)

- In a period of 17 years, the area planted increased to about 835 thousand hectares, increasing by an average of 31.24% per year.
- A third of all corn farmers in the Philippines or about 460 thousand families are planting GM corn.
- Total factor productivity growth in the corn industry of the country was 11.45% higher due to GM corn adoption.
- All household income brackets gained from the technology.



Filipino Corn Farmers Speak



"The farmers in my small community enjoy the benefits from planting biotech crops. We get **better yields** and good buying price of our clean corn from feed millers. I get **almost 100% profits** with Bt corn... (I have) been able to increase my farm from 1.3ha to 10ha and send my children to school."

Rosalie Ellasus, Corn Farmer – San Jacinto, Pangasinan, Luzon

"Since Bt corn reduces pesticide use, it has **long term benefits** to our health, our ground water and even the beneficial insects such as spiders that control the secondary pests. We have also **more time with our family** and other productive income generating opportunities."

Roger Navarro and his wife Jasmine, Claveria, Misamis Oriental, Mindanao



Unauthorized GM Seeds: A Growing Menace

FAKE GM SEEDS/PIRATED TRAITS

- F1 yellow corn hybrid seeds bred and commercialized by local unauthorized companies containing BT and RR.
- Market share may be around 10% nationwide.
- Fake GM seeds are sold in the market place **as conventional** seeds
 - initially with verbal claims of outlets that they are *glyphosate* tolerant and insect resistant,
 - lately with ostentatious printed claims on seed bags labels
- Priced at **45-55%** of Branded Companies selling stack products.



Thank you!