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Slide Materials on Genetically Modified (GM) Crops



バイオテック情報普及会

COUNCIL FOR BIOTECHNOLOGY INFORMATION JAPAN

Genetic modification technologies are developing possibilities for contributing to people's everyday lives.

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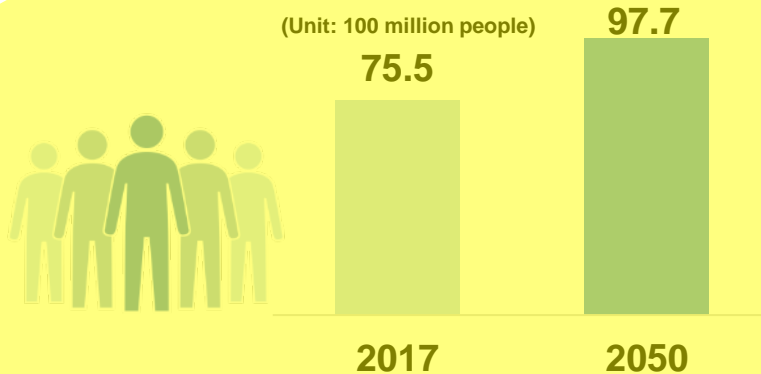
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Future Global Challenges Related to Agriculture

Rapidly increasing global population¹



Environmental impact of agriculture

25% of greenhouse gas emissions by humans are caused by the agriculture, forestry, and livestock industries.²



Increasing food demand

By 2050, due to rapid population growth and dietary changes associated with economic growth,

60% more food will be needed.²



Climate change

- Rise in temperature
- Increasing pest and disease threats
- Shortage of water resources
- Extreme weather



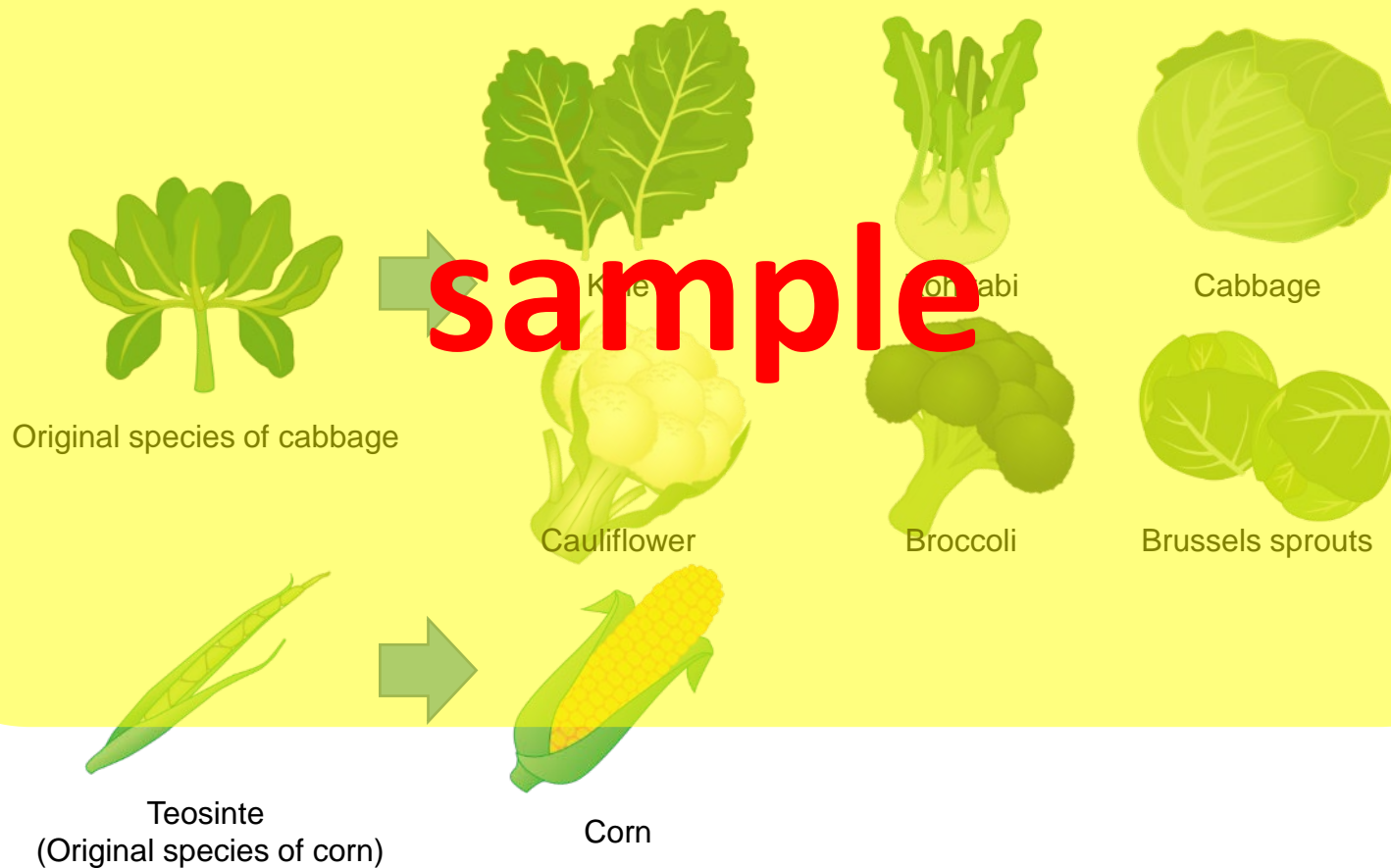
1. World Population Prospects 2017 (UN, 2017)

2. Building a common vision for sustainable food and agriculture - Principles and Approaches 2014 (FAO, 2014) <http://www.fao.org/3/a-i3940e.pdf>

Wild and Cultivated Species

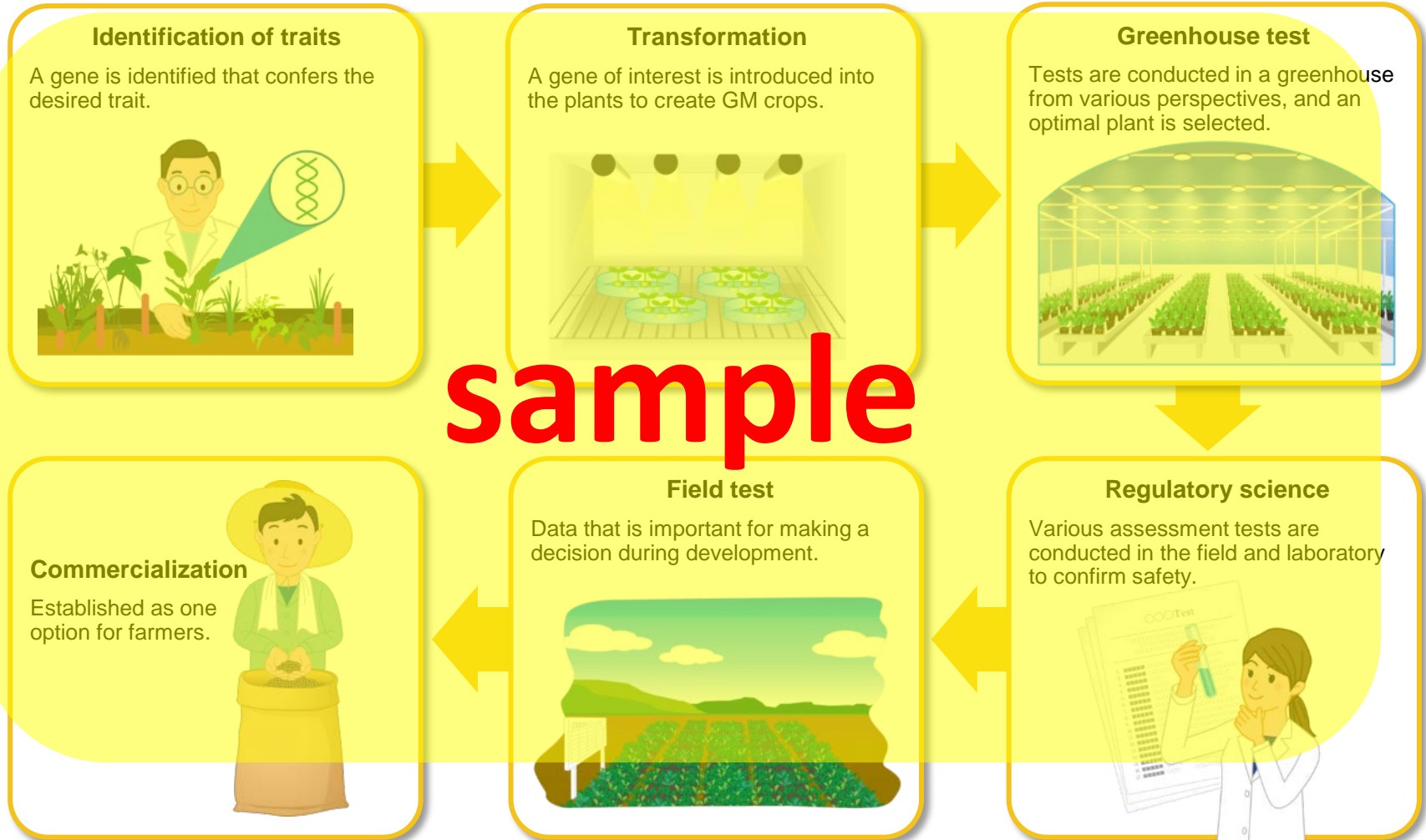
The agricultural products we consume have not always had their current appearances and tastes.

In order to survive in a harsh natural environment, a wild species may possess an uneven growth period, have seeds covered with a thick seed coat or thorns, or contain harmful components. Since humans began selecting wild species and farming, selective breeding has been repeatedly performed over a long period of time, resulting in the creation of cultivated species that are convenient for humans.



Flow from Development to Practical Application of Genetically Modified Crops

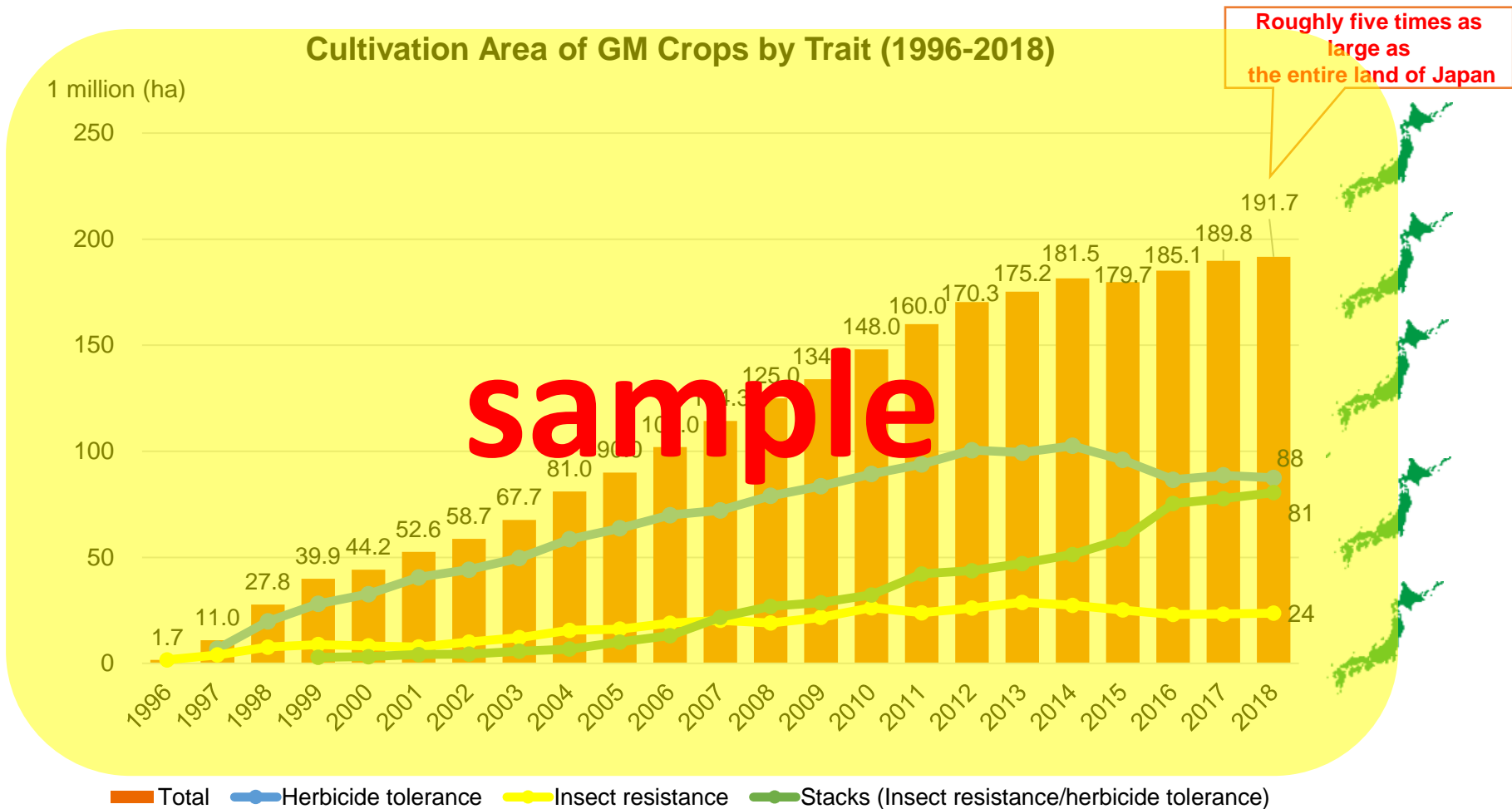
An average of 13 years and 130 million dollars are required from the research and development stage to practical application.¹



1. Croplife International (2011). https://croplife.org/wp-content/uploads/pdf_files/Getting-a-Biotech-Crop-to-Market-Phillips-McDougall-Study.pdf
Reference https://cbijapan.com/wp-content/uploads/2018/01/Lifecycle-of-a-GMO-Infographic_JPN.pdf

Global Usage Status (1)

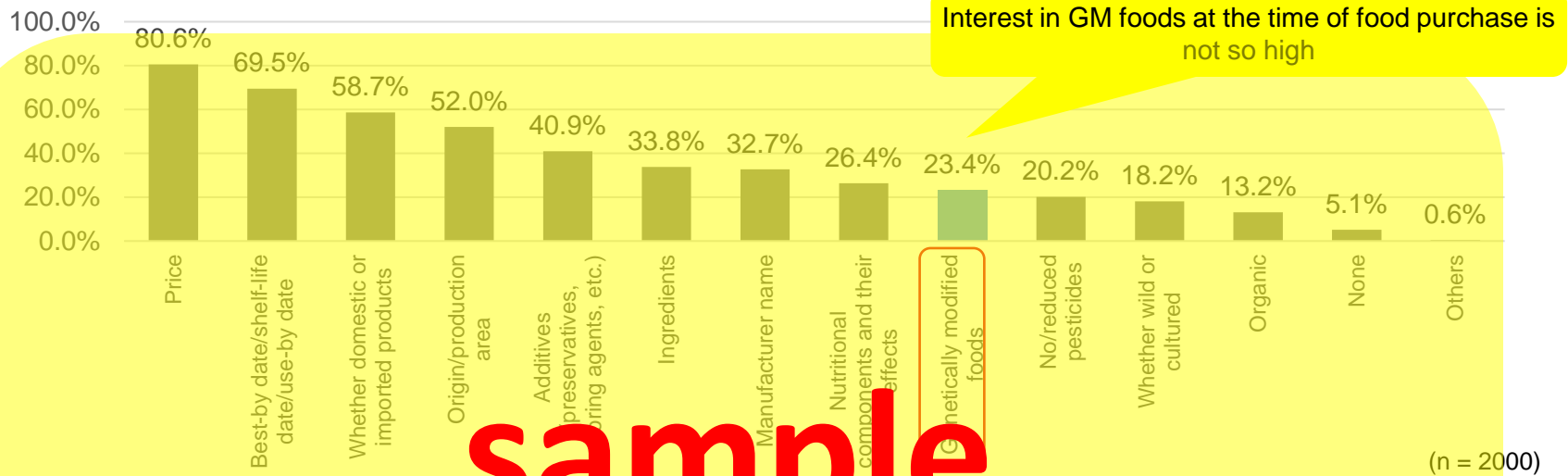
Cultivation Status of Genetically Modified Crops by Trait (2018)



Stacks: Hybrid variety developed by crossing GM varieties with different traits.

Consumer Awareness Survey Conducted by the Council for Biotechnology Information Japan (1)

What have you recently been interested in when purchasing food items? (multiple answers allowed)



In addition, please choose what you are most interested in (one item)

