

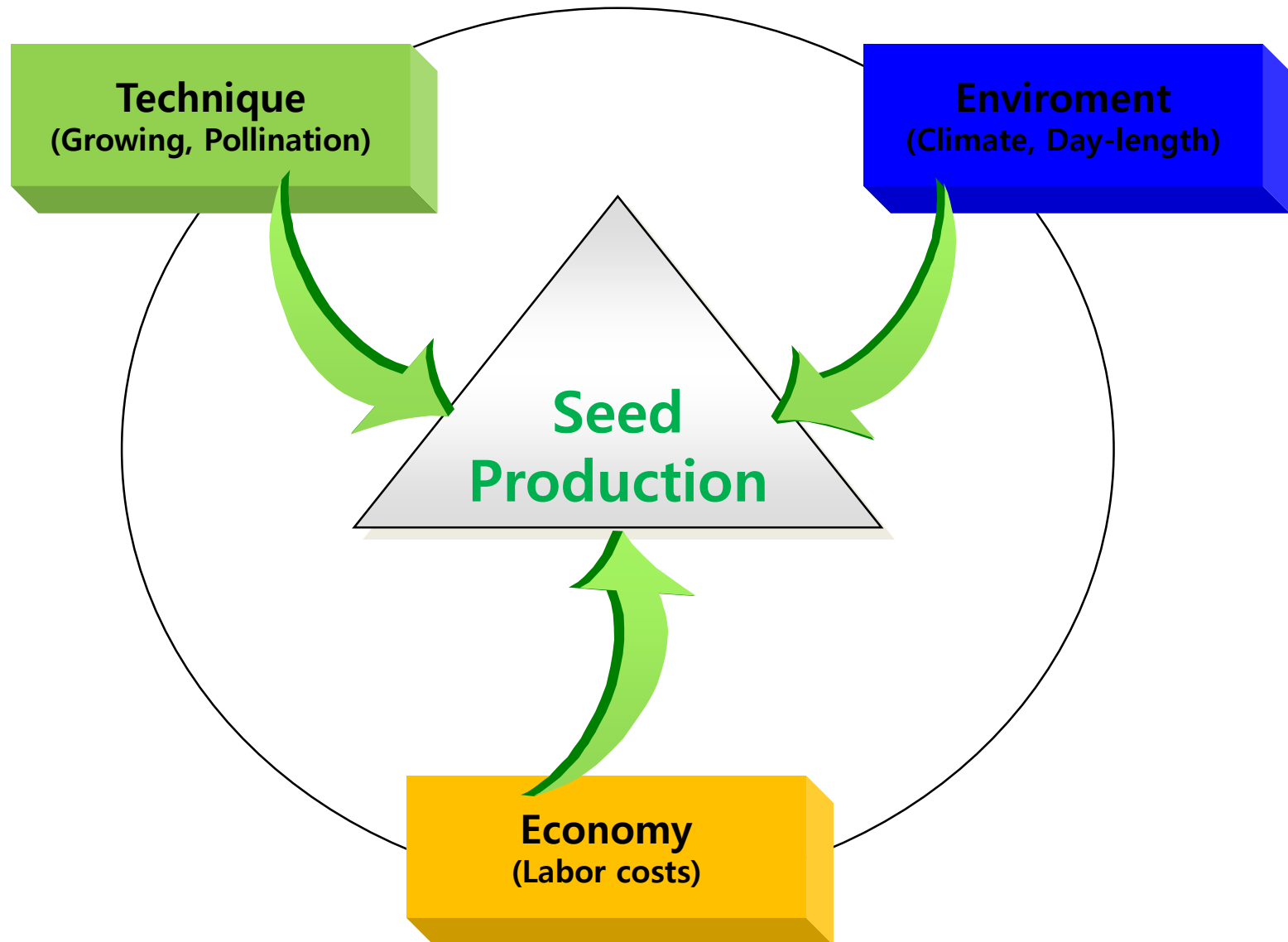


Onion seed production in Korea And introduce my company.

Production Managing Team

Baek Kwanghyun

1. The factors of Commercial Seed Production ①②



2. About Korea ③

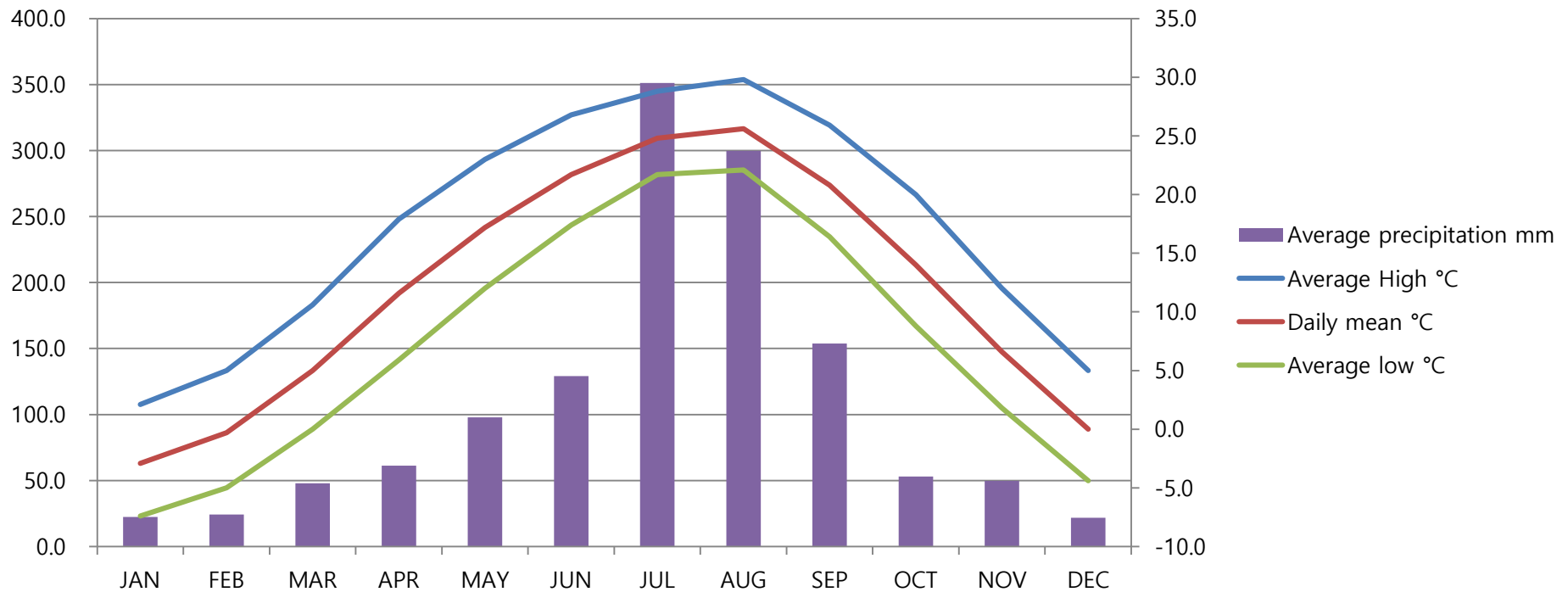


2. About Korea ④



2. About Korea ⑤

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Average High °C	2.1	5.0	10.6	17.9	23.0	26.8	28.8	29.8	25.9	20.0	12.0	5.0
Daily mean °C	-2.9	-0.3	5.0	11.6	17.2	21.7	24.8	25.6	20.8	14.0	6.6	0.0
Average low °C	-7.4	-5.0	0.0	5.9	12.0	17.4	21.7	22.1	16.4	8.8	1.8	-4.4
Average precipitation mm	22.4	24.2	47.9	61.3	97.8	129.2	351.1	299.8	153.9	53.1	49.7	21.8



2. About Korea

- * GDP(2015y): Total \$1.853 trillion
 - Increased production costs
- * Agricultural population: Only 7.5% of the population in 2010.
- * Agricultural population is aging.
 - Shortage of labor
 - quality of labor is deterioration

In respect of the economy, seed production is minimized in Korea.

3. Alternative production areas



It has the following advantages

- * America, Oceania, Europe: 1. Farm mechanization, 2. Large surface
- * China, South East Asia: 1. Cheap labor, 2. Pollination technique

4. Onion seed production in abroad



4. Onion seed production in abroad

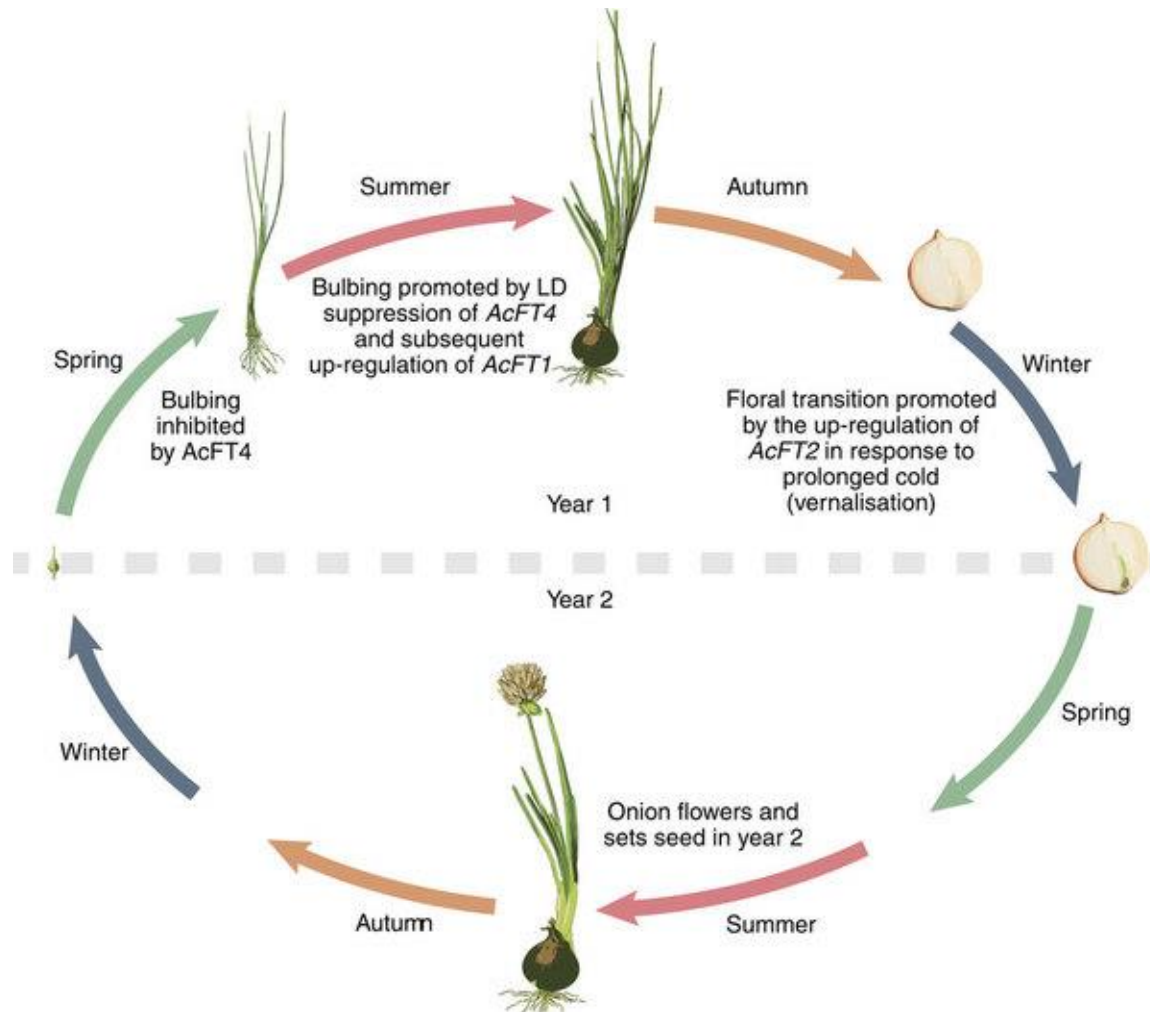
Advantages

1. **Mass Production. (productivity is low, 20kg/10a)**
2. **Production cost is low**
3. **It is possible mechanize**

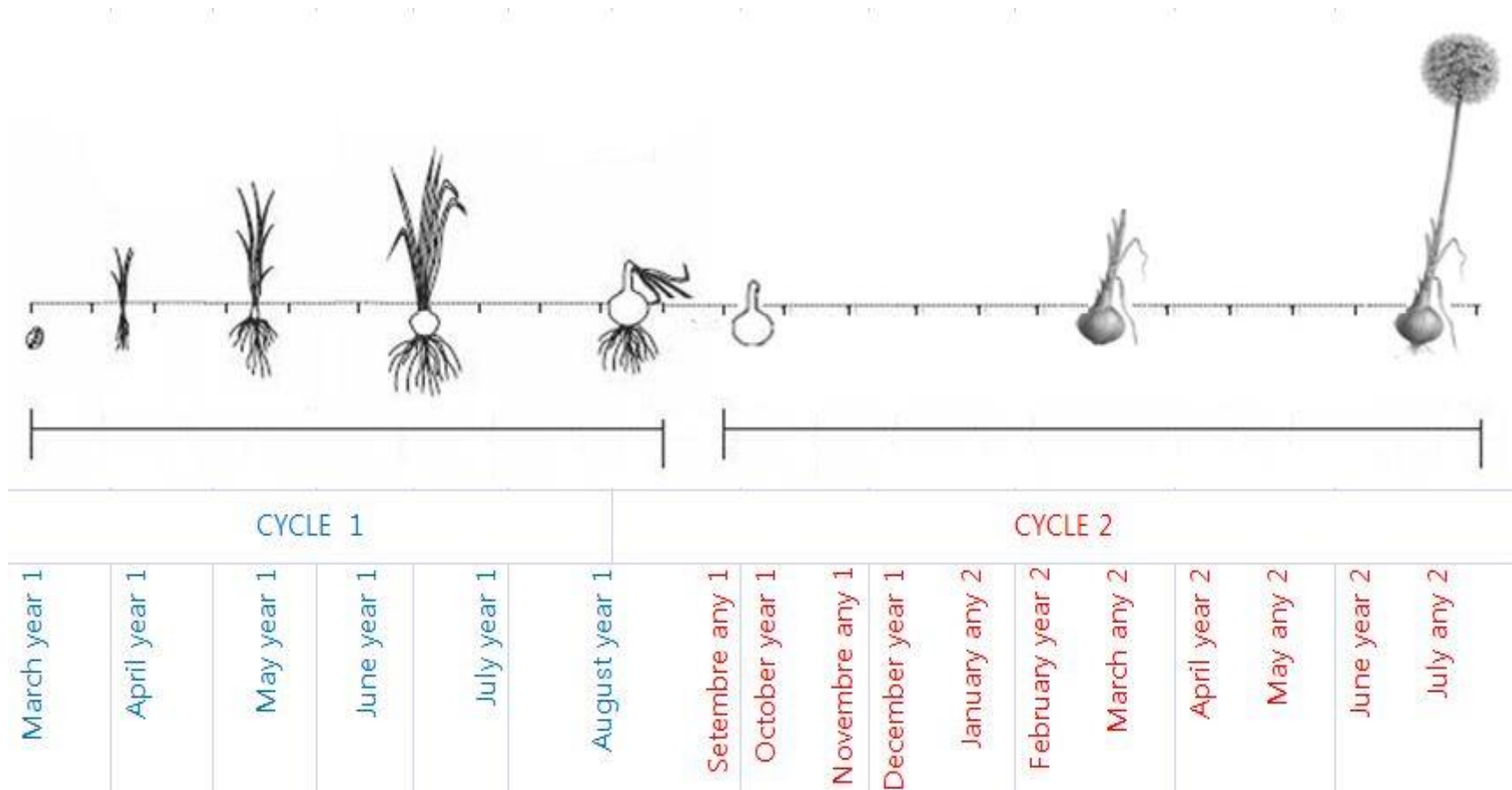
Weakness

1. **The quality is low(Germination and Purity)**
2. **It is a risk of failure in seed producing.**
3. **It is influenced by the climate.**

5. Onion seed production in Korea



5. Onion seed production in Korea



1. In fact, onion seed production is one of the most difficult things to produce seed in all vegetables,
2. It is sensitive to Cold treatment and Day-length.

5. Onion seed production in Korea – Cycle 1



Growing bulb



Harvesting bulb



Harvesting bulb



Bulb storage

5. Onion seed production in Korea – Cycle 2



5. Onion seed production in Korea – Cycle 2



5. Onion seed production in Korea

Advantages

1. Produce premium seed.(Germination and Purity)
2. Productivity is high (70kg/10a)
3. Producing is stable.

Weakness

1. Need a lot of labor.
2. Production cost is high

Need a lot of labor, please well me?

6. My company



Company history

1967. Established NONGWOO SEED

• 2014

2014. Being part of NH Agribusiness Group of NACF

2014. Top 20 million dollar export award of 51st Trade Day

2014. MOU with Shinsegae Food for co-development of superior seeds, new varieties and spread of supply



Top of Korea (Share of the market by 35%)

6. My company

Management vision

CORPORATE PHILOSOPHY of NONGWOOBIO

MISSION Enriching human lives with the dedication to advance of agricultural life science industry which is the basement of human being.

VISION A leading technological innovation company of Agricultural Life Science industry as Global Top 10 in 2020

World's 13th (2015y)

PRIMARY OBJECTIVES

Accomplishing US\$100 million in overseas and US\$81.6 million in domestic sales.

Strengthen R&D capability for developing 385 new main varieties.

Research & Development for new business.

Building up all year round Seed Production System.

CORE VALUES

Customer
centric



Globalization



Innovation



Human
resources



Nature
Friendship



6. My company

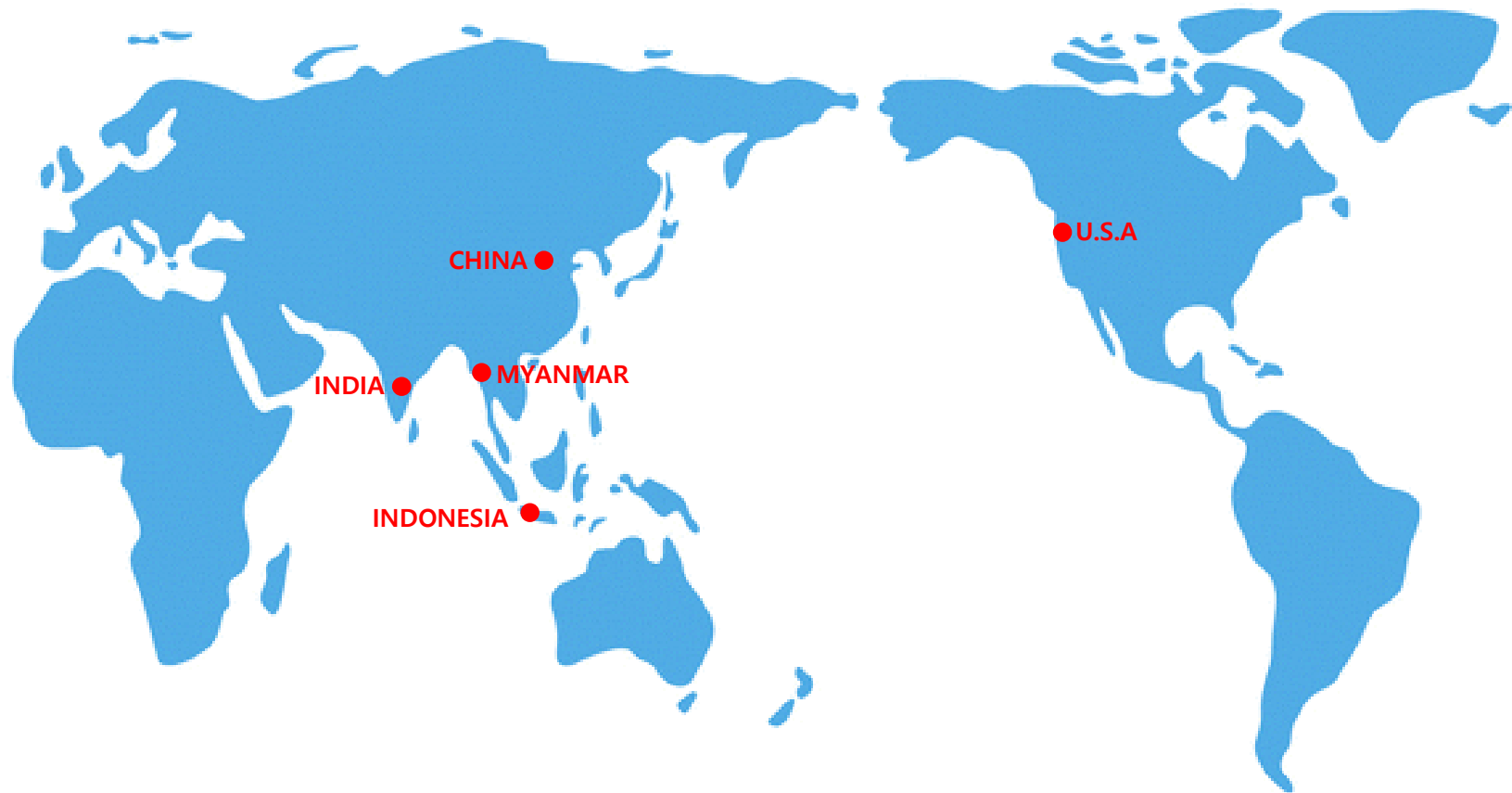
World's Top 10 Seed Companies, 2011

Rank	Company	Seed Sales, 2011 US\$ millions	% Market Share
1.	Monsanto	8,953	26.0
2.	DuPont Pioneer (USA)	6,261	18.2
3.	Syngenta (Switzerland)	3,185	9.2
4.	Vilmorin (France) (Groupe Limagrain)	1,670	4.8
5.	WinField (USA) (Land O Lakes)	1,346 (est.)	3.9
6.	KWS (Germany)	1,226	3.6
7.	Bayer Cropscience (Germany)	1,140	3.3
8.	Dow AgroSciences (USA)	1,074	3.1
9.	Sakata (Japan)	548	1.6
10.	Takii & Company (Japan)	548	1.6
Total Top 10		25,951	75.3

Source: ETC Group, Phillips McDougall

6. My company

BRANCH COMPANY



We are being developed branch company in 5 countries

6. My company

BEIJING SHINONG SEED



NONGWOO SEED AMERICA



6. My company

NONGWOO SEED INDIA



PT. KOREANA SEED INDONESIA



6. My company

R&D HEADQUARTERS

Competitiveness of NONGWOO BIO leading world seed industry

NONGWOO BIO leading seed breeding technology of Korea is a strategic center and creates value of the future for seeds with customer-centric R&D.



6. My company

Yeoju Breeding Institute for central seed research



Nambu Breeding Institute for seed research in southern area

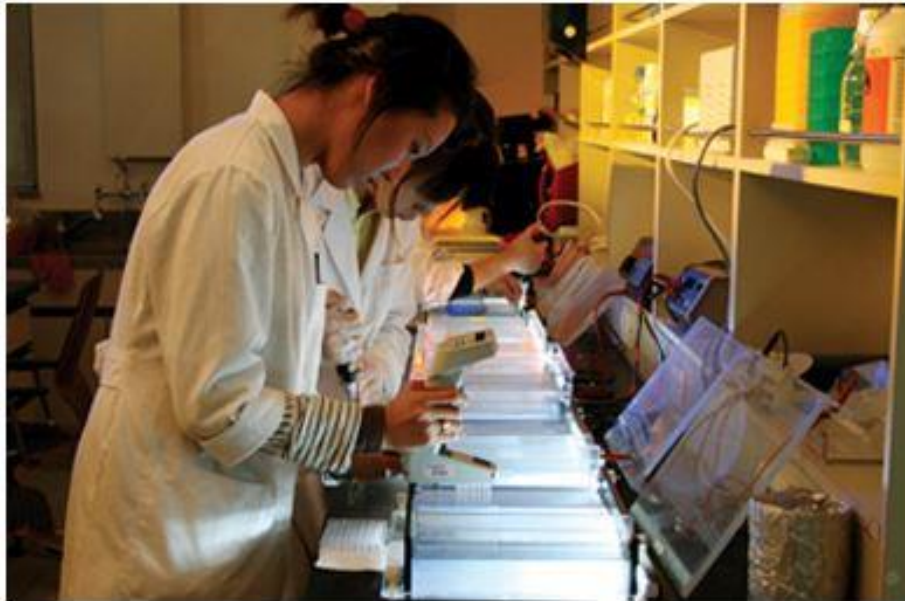


6. My company

BIOTECHNOLOGY INSTITUTE

Growth and future of NONGWOO BIO

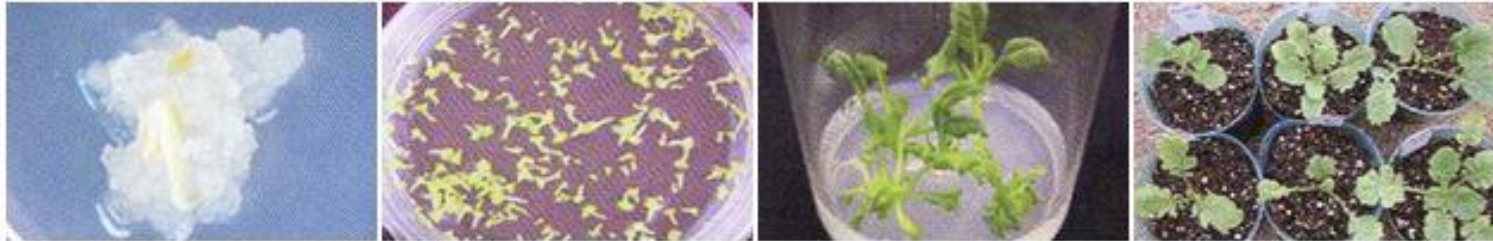
Biotechnology Institute is accomplishing the future of global NONGWOO BIO more rapidly by combining cutting-edge technologies with conventional seed breeding methods for developing high value-added varieties.



6. My company

ROLE AND FUNCTION

*Providing genetic sources by tissue culture

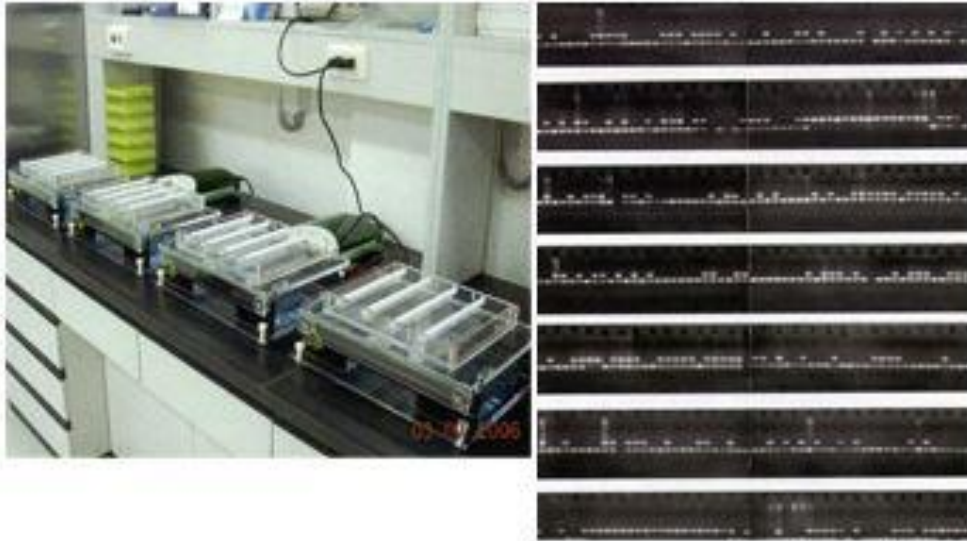


* Development of molecular markers (DNA marker)



6. My company

- * Large scale of genotyping analysis using DNA marker



- * Pathogen identification, and disease resistance screening and selection



6. My company

* Development of GM crops



* Providing somatic hybrids by cell fusion



6. My company

QUALITY ASSURANCE CENTER

Commitment of NONGWOO BIO for providing seeds of high quality to farmers

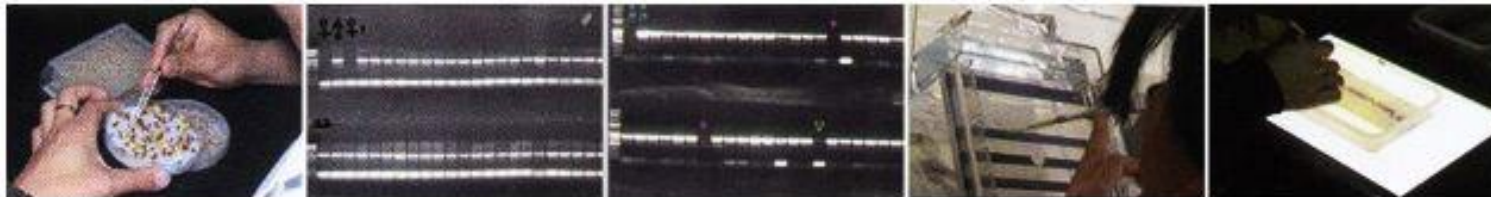
Cutting-edge QA facilities and precision production technologies are improving global competitiveness of NONGWOO BIO.



6. My company

Quality guaranteed for seeds

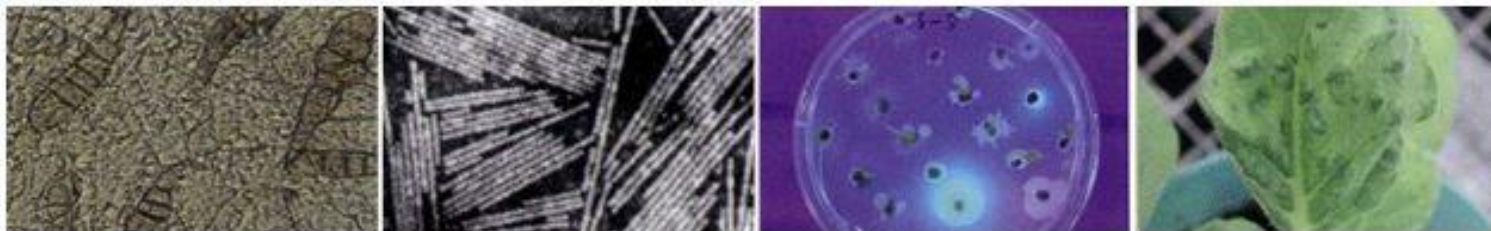
* Purity testing for seeds supply of 100% purity seed



* Germination test of seeds implementing best germination rate



* Pathological test of Seed for supplying pathogen-free seeds



6. My company

Quality management of seeds & products

* Planning inventory of seeds - warehouse and facilities equipped with constant temperature and humidity



* Physical selection and processing of seeds - cleaning, treatment and coating



6. My company

- * Packing seeds - various packing system with good quality
- * Delivering seeds - most updated logistic system with rapid and correct processes



Thank you for attention!

