Global knowledge sharing and capacity building through RDA

Suk Young HONG
1960s~1970s
Tong-il Rice Development
Green Revolution
Self-sufficiency

1980s~1990s
Green House
White Revolution
Year-round Production of Vegetables

2000s~
Technology Hub of Life Science Industry
- Quality, Function
- Value, Safety
- Bio, Eco
- 6th Industrialization
Brings innovation technology

Revitalizes rural communities

Enriches people’s lives
Affiliated National Research Institutes (4)

- NAS Agricultural Sciences
- NICS Crop Science
- NIHHS Horticultural & Herbal Science
- NIAS Animal Science

RDA HQ

- Agricultural Research Extension Services (9 ARES)
- Agricultural Technical Center (157 ATC)

- Foundation of Agricultural Technology Commercialization & Transfer (FACT)
Strategy 1
Incorporate INNOVATION into agriculture

International Cooperation

Research & Development

Technology Dissemination
Climate change

Plantation change to north

+1°C

80km of northing
150m increase in altitude

The location marked with fruits colored in grey is major cultivation areas in the 1980s. The location with fruits in color is major cultivation areas as of 2000, newly formed after the 1980s. Each fruit in the map is being cultivated within the areas marked with the arrow.

Source: RDA(2013)
Development of new crop varieties

Strawberry

Mandarin orange

Stone fruits
= plum + apricot

International Seed Expo
(Kimjae, Korea)
Genome editing in crop plants

Easy design & analysis of CRISP-cas9

Crop productivity, stress tolerance

<Measurement result of the accuracy of CRISP-cas9>
Farm-scale Service

weather forecast and soil information is just one-click away
(1) Saving labor
(2) Improving crop productivity and quality
(3) Managing energy efficiency
Hanwoo DNA microarray chip

Early prediction of meat quality & yield and genetic disorder
Strategy 2
Revitalize agriculture and rural communities

Fostering Young Farmers
Farm-based tourism
Return to farming and rural areas

Expo

Training farming practices
Safety & welfare

Improve farmers’ life quality through safe farming activities

Development of Personal Protective Equipment

Manual and Education on Farming Accident
Strategy 3
Integrate advanced technology with agriculture

Edible insect products, future alternative food

Mealworm

White-spotted flower chafer

Twin star cricket
Smart cooling house + smart farm

- Supplying water & air
- Supplying oxygen & water of the rhizosphere
- Control temperature & day length
- Fog cooling system
- Aluminium curtain
- Oxygen supply
Farmland monitoring using satellite and UAV

- Crop growth monitoring, yield prediction, disaster impact assessment, farming information service
Global agricultural cooperation network
Korea Program on International Agriculture

Mission & Vision

• Transfer agricultural technologies tailored to each development partner, jointly develop agricultural resources, and support local agribusinesses

We Love to Share What We Have Experienced

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