

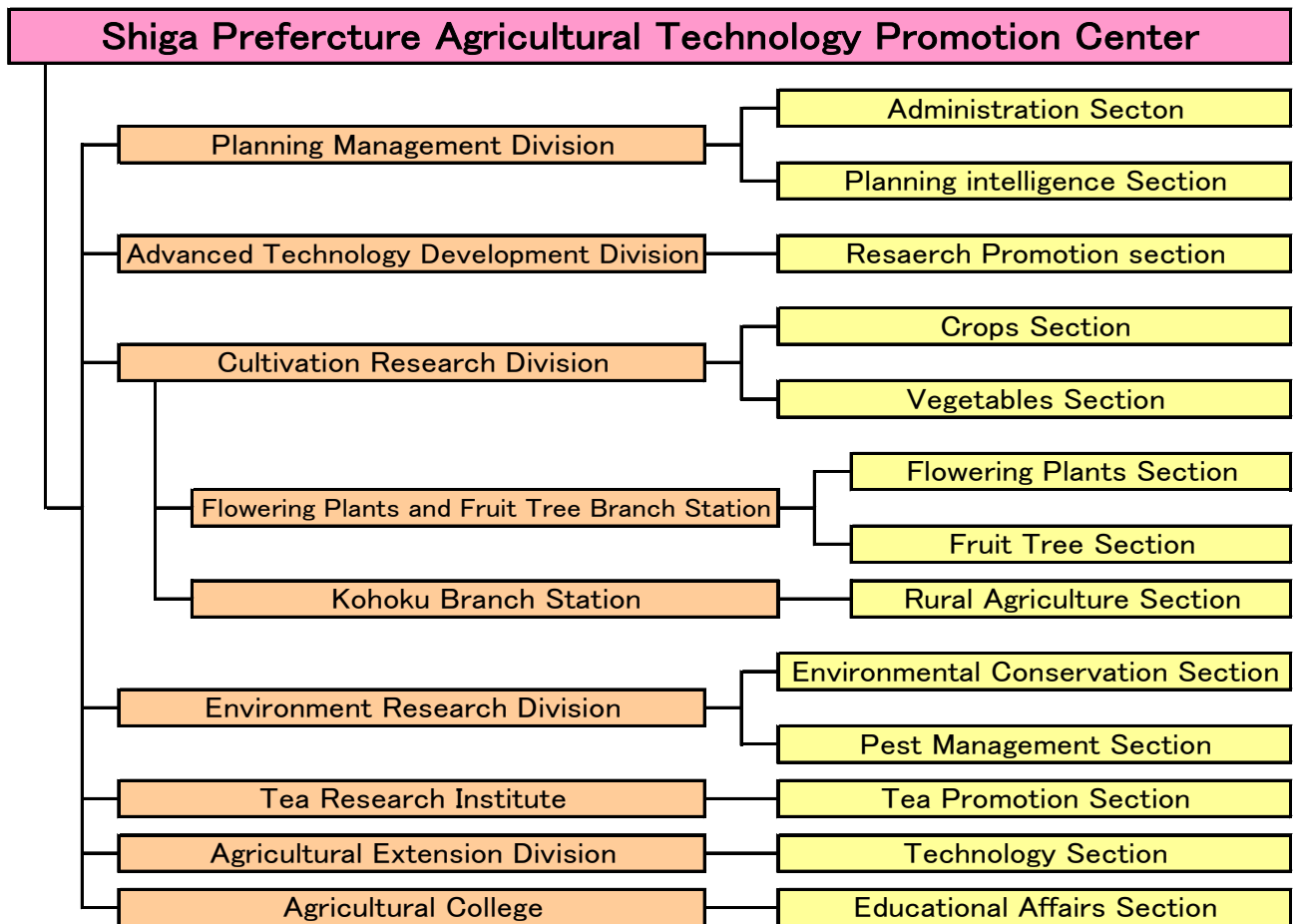
# Shiga Prefecture Agricultural Technology Promotion Center

## ■ Outline of the center

The Shiga Prefecture Agricultural Technology Promotion Center was established in April 2005. The former Integrated Agricultural Center was abolished and reorganized into a departmental system, with the new Center serving as a total base of facilities for test research, extension, and education.

The Center aims to promote cross-sector research and development of new technologies in the field of agriculture. Furthermore, through measures such as quick distribution of research results, it aims to comprehensively promote environmentally harmonious agriculture and fostering of agricultural workers.

## ■ Organization chart



## Planning Management Division

*This division carries overall regulation with related organizations in the three areas of research, extension, and education.*

### ■ Administration Section

◇ The budget implementation and the facilities maintenance etc.

### ■ Planning Intelligence Section

- ◇ Coordinated regulation of competitive funds and joint research.
- ◇ Management of research topics and public announcement of results.
- ◇ Management of Agricultural technology information systems.



## Advanced Technology Development Division

*This division handles research relating to agricultural biotechnology and the processing of agricultural products.*

### ■ Research Promotion Section

- ◇ Improvement of rice cultivar (Development of new lines, Selection of outstanding lines).
- ◇ Development of techniques for the proliferation of regional agricultural products (Vegetables, flowers, rare plants, etc.).
- ◇ Development of innovative techniques using biotechnology (Development of biomarkers useful for plant breeding, Analysis of agronomically-useful genes).



*PCR-based method for identifying of rice cultivars*

- ◇ Quality evaluation, such as evaluation of functionality of foods – Evaluation of free radical scavenging activities and inhibitory effects on angiotensin converting enzyme in Hinona (*Brassica rapa* L. var. akana (Makino) Kitam.).
- ◇ Research and development of processing suitability and utilization technology of agricultural products in Shiga Prefecture (Utilization of glutinous rice and rice powder).



*Palatability test of bread made with Shiga-produced flour*

## Cultivation Research Division

*This division handles research of cultivation technologies for products such as paddy rice and vegetables, as well as surveying and research of original seed farms, management bodies, and direct-sale farmers' markets.*

### ■ Crops Section

- ◇ Paddy rice (No-herbicide cultivation technology that combines low-element herbicide weeding technology, machine weeding and deep water management. Techniques for producing high-quality rice, and development of growth diagnosis technology using high-tech devices.)
- ◇ Wheat, soybeans, and rapeseed (Selection of high-quality varieties and research of high-quality multi-astrogenicity cultivation technology.)
- ◇ Original seed for primary farm products (Production of original seed and breeders' stock of paddy rice, wheat, and soybeans. Supply of original seed to seed production fields.)
- ◇ Agricultural management research (Survey and analysis of direction of management organizations and direct-sale farmers market development.)



*The Shallow Tilling and Ridging Seeder Method – a new farming system for soybean cultivation*

### ■ Vegetables Section

- ◇ Development of reduced-agrochemical and reduced chemical fertilizer cultivation technology (Spinach, cucumber, and cabbage).
- ◇ Development of reduced chemical fertilizer cultivation technology with Isolated Minimum Soil Bed (Strawberries, tomatoes etc.).



*Prototype strawberries cultivated with Isolated Minimum Soil Bed*

## Flowering Plants and Fruit Tree Branch Station

*We are researching environmentally-friendly cultivation technology along with research of technology for harvesting high-quality products of flowering plants and fruit tree.*

### ■Flowering Plants Section

- ◇Development of low-cost cultivation technology to decrease the environmental burden of raising roses.
- ◇Development of circulation technology using nutritious liquid corresponding to rejected liquid measure.
- ◇Development of cultivation technology to harvest a large amount of short chrysanthemum cut flowers.
- ◇Development of The Culture System with Isolated Minimum Soil Bed of carnations and annual plants.



*Isolated Minimum Soil Bed of Eustoma*

### ■Fruit Tree Section

- ◇Development of reduced-pesticide cultivation technology with rain coating and communication disturbance agent.
- ◇Development of cultivation technology to harvest high-quality and safe fruit.
- ◇Development of cultivation system for labor saving, light work and early cropping in Japanese persimmons, peaches, etc.
- ◇Selection of new cultivar and tree species and development of cultivation techniques to harvest large amounts with stability.
- ◇Establishment of application method for organic substances and organic fertilizer.
- ◇Establishment of technology to prevent damage to farm products caused by harmful animals.
- ◇Technology to prevent damage to orchards caused by deer.



*Bearing situation of Japanese persimmon 'Taishu'*

## Kohoku Branch Station

*This station carries out research on selection of agricultural products suitable to the environment in the northern region of Shiga prefecture, development of new cultivation technologies, and measures to prevent agricultural damage caused by wildlife.*

- ◇Breed selection and cultivation technology of key crops (Paddy rice, wheat, soybeans).
- ◇Technology for stable, labor-saving production of garden crops (Vegetable and floriculture).
- ◇Developing effective techniques to reduce agricultural damage by wildlife (Development of simple defense hedges. Pasture zoning using domestic animals.).



*Pasturing zoning by Cattle*

## Environment Research Division

*To conserve agricultural land and reduce the burden on the environment, we are studying nutrient dynamics in agricultural ecosystems, and developing technologies for environment-conscious soil management, fertilizer application, and pest management.*

### ■Environmental Conservation Section

- ◇Monitoring of soil fertility and heavy metal pollution in agricultural land.
- ◇Efficient use of fertilizer and organic matter for sustainable food production and prevention of agricultural runoffs.
- ◇Dynamics of nutrients and pesticides in agricultural ecosystems.



### ■Pest Management Section

- ◇Establishment of techniques using ecological functions to manage plant disease and pest insects.
- ◇Research on the control of Fusarium head blight in wheat.
- ◇Research on the control of insect pest damage to soybeans.
- ◇Experiments on the effects of agricultural chemicals in minor acreage crops.
- ◇Experiments on safe use of newly-developed agricultural chemicals.



*Identification of pest insect*

## Agricultural Extension Division

*Along with carrying out direct guidance of advanced agricultural workers, this division also carries out on-site presentations, endeavoring to transmit of new techniques to farmers through rapid dissemination of research results. (photograph) Demonstration of melon cultivation techniques using The Culture System with Isolated Minimum Soil Bed.*

- ◇Demonstration of the Shallow Tilling and Riding Seeder Method (A new farming system for soybean cultivation).
- ◇Demonstration of new cultivation techniques for the Japanese pear based on The Eco-Conscious Agricultural Promotion Ordinance of Shiga Prefecture.
- ◇Demonstration of melon cultivation techniques using The Culture System with Isolated Minimum Soil Bed.
- ◇Demonstration of rose cultivation techniques using the circulated solution culture system.
- ◇Demonstration of The Culture System for flowing plants using The Culture System with Isolated Minimum Soil Bed.
- ◇Demonstration of new topping techniques for fig fruits.
- ◇Demonstration that the quality of tea is improved with slow release fertilizers.
- ◇Demonstration that the quality of barley is improved with slow release fertilizers.



*Demonstration of melon cultivation techniques by using The Culture System with Isolated Minimum Soil Bed.*

## Tea Research Institute

*This institute is involved with test research in the fields of tea cultivation, soil fertilization, pest management, and manufacturing. Furthermore, it sponsors training seminars in cooperation with related organizations, and carries out local guidance as well as education of students studying tea in agricultural college.*

- ◆ Establishment of high-quality and stable production technology for “Omi tea”.
- ◇ Development of management support system for tea cultivation based on growth diagnosis.
- ◇ Innovative tea field nurturing technology using hydroponic pot seedlings.
- ◇ Comprehensive pest management technology using light rays and upgraded insect prediction technology
- ◇ Technology for managing the process of tea production



*Raising of seedlings with hydroponic pots*

- ◆ Establishment of tea field management technology that supports environmentally-conscious agriculture
- ◇ Studies on cultivation technology that decreases chemical fertilizer using various organic materials
- ◇ Soil management technology using organic materials derived from tea plants
- ◇ Tea field soil management technology for quality improvement examination

## Agricultural College

*The Agricultural College provides practical education to outstanding young farmers who represent the future of agriculture in Shiga Prefecture.*

### ■ Special features of our education

- ◇ Students are provided with broad-ranging knowledge, techniques, and management skills in various agricultural fields through practical learning.
- ◇ Through learning agriculture, student are also instilled with rich human values that will make them valuable members of society.
- ◇ A corporate sense for management is also cultivated in students through homestays and on-the-job training at advanced farms.

### ■ Basic Department

The College offers specialized courses in crops, tea, vegetables, flowering plants, fruit trees, and livestock industry.

### ■ Training Department

The College conducts training to provide individuals from other fields with the necessary knowledge and technical know-how to begin new careers in agriculture.



*Training on the farm*

