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INSTITUTE OF AGRICULTURAL SCIENCE FOR SOUTHERN VIETNAM

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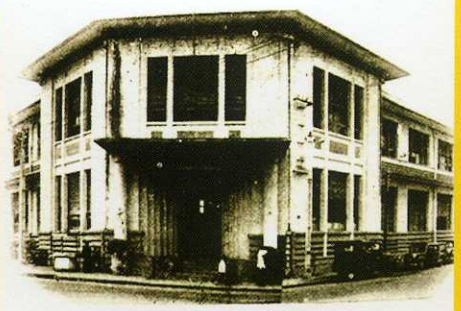


Brief History

The Institute of Agricultural Science for Southern Vietnam (IAS) has over 85 years of development history. It was originally established as the "Institut des Recherches Agronomiques de Indochine" in 1925. IAS is a government institution under the jurisdiction of Vietnam Academy of Agricultural Sciences and is responsible for the research and application of new technologies in agriculture and rural development in southern Vietnam.

Functions and Responsibilities

Keeping nucleus stocks, germplasm conservation, research and application of biotechnology; selection, breeding and development of plant varieties and animal breeds

Research on the occurrence and development of pests, and control methods; agronomy; agro-forestry farming systems; agro-ecological environment protection and agro-products processing and storage

Research on the development of a safe livestock production system, disease prevention and treatment for animal health protection

Research on the market economy and on the development of agricultural and rural infrastructures

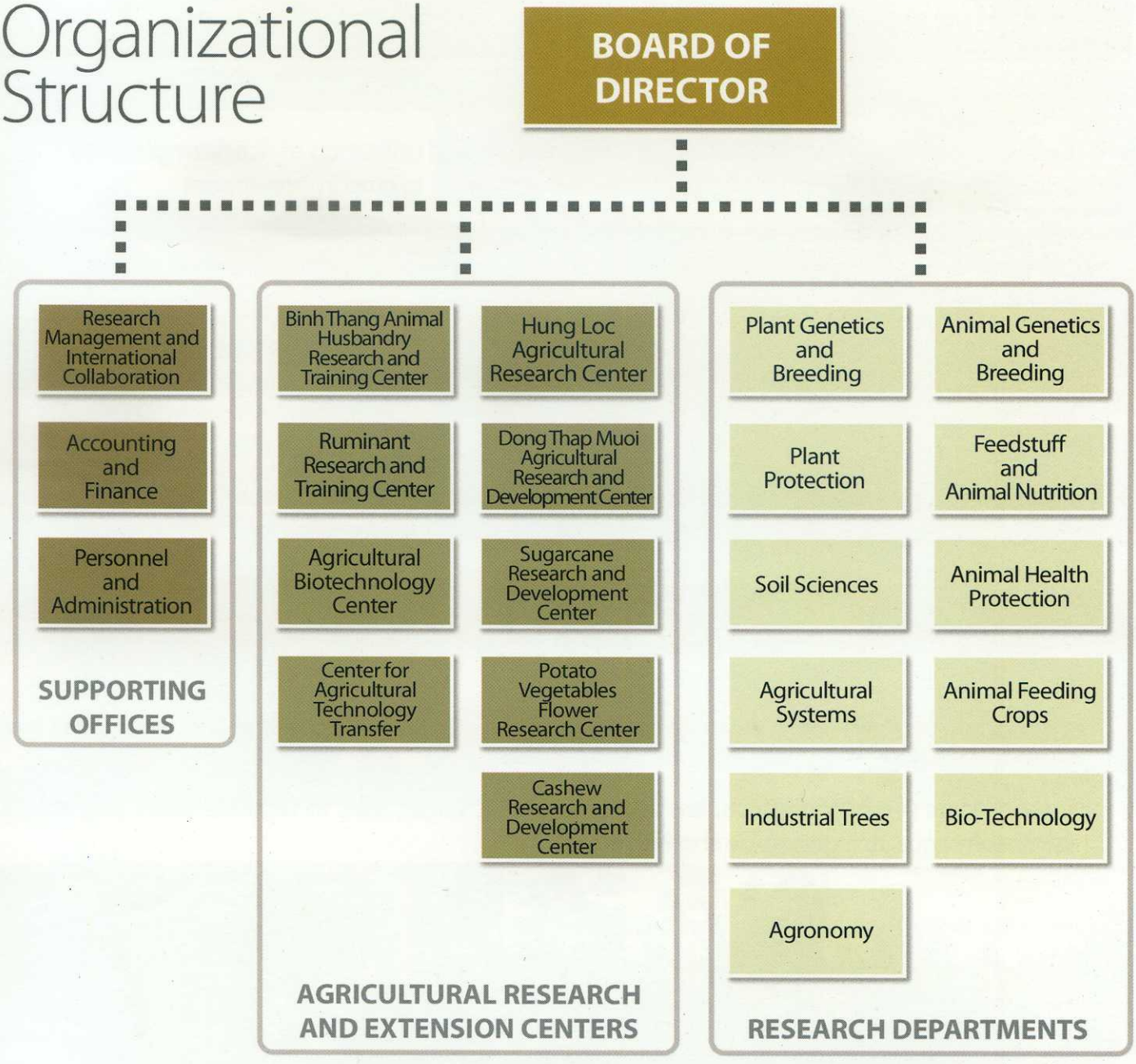
Research on policy and strategic development, and on techno-economic criteria in agriculture

Implementation of technology transfer on plant varieties; animal breeds; animal nutrition, housing and reproduction; and agro-products processing and storage

Post graduate and non-degree training for researchers and technical staff in agriculture.

International cooperation on research and training

Organizational Structure



Human Resources

Presently, IAS has 432 staff, include:

- **03** Professors and Associate Professors
- **30** Doctors
- **65** Masters of Science
- **214** Graduates and Post-graduates

More 20 Research students

Board of Director

Director General : Prof. Bùi Chí Bửu
Vice Director : Ass.Prof. Đinh Văn Cải
Vice Director : Ass.Prof. Lã Văn Kính
Vice Director : Dr. Ngô Quang Vinh

Main research fields

PLANT GENETICS AND BREEDING

- Collection, preservation, evaluation, documentation and utilization of rice germplasm to address biodiversity and to effectively use the gene pool in crop improvement
- Genomics and functional genomics are studied in addition to the modern tools of proteomics, transcriptomics and bioinformatics to promote the application of molecular genetics and genetic engineering to conventional crop breeding
- Introgression of target genes from related wild species and landraces aims at enhancing biodiversity and enlarging the gene pool for crop breeding in addition to mutation, somatic and gametic variation, quantitative genetics tools to meet the demand for high yielding genotypes with tolerance to biotic and abiotic stress, and high nutrient quality for biofortification
- Gene transformation, introgression, advanced backcross, marker-assisted selection, genetic gain assessment, QTL analysis, sequencing of target DNA fragments, primer designing and fine mapping are carried out to continuously improve methodologies and protocols used in crop breeding
- Facilitating lab infrastructure for students, PhD scholars and post-doctoral scholars to implement their dissertations on genetics and crop breeding
- Multi-location yield trials are carried out to analyze GxE interaction. Some pilot trials using new varieties are also established in target areas
- International projects (themes) are implemented at target sites to facilitate biotic and abiotic stress tolerance, rice genotype sharing, etc…





ANIMAL GENETICS & BREEDING

- Breeding & development of animal breeds; establishment of management and safe livestock production systems
- Study of disease prevention and treatment for animal health protection
- Research on nutrient requirements of animals, feeding systems, exploitation, and processing and storage of animal feeds

SAFE AGRO-PRODUCTS PRODUCTION

- Implementing sustainable agricultural development
- Establishment of necessary protocols for agricultural practices for target crops for various ecosystems in southern Vietnam
- Safe agro-products production through the application of bio-organic techniques and GAP, with a focus on vegetables

Main research fields

SOIL SCIENCE AND ENVIRONMENT

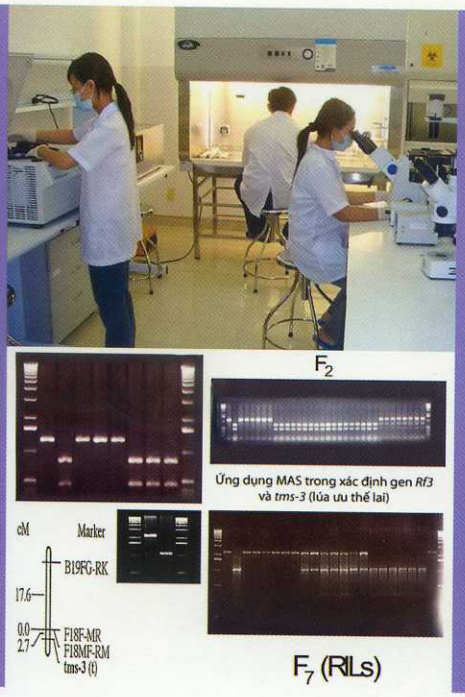
- Study of the physical, chemical and biological characteristics of soils with the aim of soil fertility improvement & sustainable utilization of agricultural lands
- Study of sustainable agricultural development systems that minimize erosion and pollution of soil and water resources
- Development of decision support tools for informing balanced-fertilization regimes for better crop production and profitability
- To study soil micro-organisms in agriculture

AGRICULTURAL SYSTEMS

- Solutions for establishing and improving sustainable agricultural systems with high economic efficiency for different agro-ecological regions in southern Vietnam
- Socio-economic solutions for improving farmer's income and livelihood in rural areas

PLANT PROTECTION

- Studying integrated pest management for various cropping systems
- Effectively apply biological control in agriculture production to prevent environment pollution from pesticides



BIOTECHNOLOGY

- Exploiting somaclonal variation and embryo manipulation for crop improvement

  Promotion of micropropagation techniques to produce clean and abundant seeds
- Implementing DNA recombinant technology on rice, soybean, cotton, maize to produce "biotec crops" to meet demands for improved yield, biotic and abiotic stress tolerance (resistance), quality, and nutritional value of agricultural products
- Research and development on promoters, reporters and selectable markers to produce "clean DNA" in gene transformations
- Research and development on target gene constructs for crop improvement
- Bioassay implementation of transgenic plants and GM products
- Carrying out basic research on molecular biology related to genomics, transcriptomics and proteomics
- International projects (themes) are implemented at target sites focusing on biotic and abiotic stress tolerance, nutritional quality, etc.
- Research and development on animal diseases prevention and treatment; and in environmental protection
- Application of bio-technology with the aim to enhance nutritive value of feedstuffs and utilization of agro-industrial by-products in animal feeding

Training and International collaboration

TRAINING

- With the experienced senior staff and extensive research coverage, IAS has been entrusted by the Government to fulfill post-graduate training for researchers in six main study fields:

62.62.01.01	Agronomy
62.62.05.01	Plant genetics and Breeding
62.62.10.01	Plant Protection
62.62.15.01	Soil Sciences and Plant Nutrition
62.62.40.01	Animal Husbandry
62.42.80.05	Bio-Technology

- So far, there have been 27 candidates from agri-institutions, universities and provinces who have successfully defensed their Doctorate theses at the National Council. Presently, there are 23 candidates enrolling to pursue their Doctorate theses. As a component of the official training programme, IAS has annually organized short training courses on new technologies for technicians and farmers.

- As well as the in-country training programme, IAS has also paid attention to the external training of Doctor and Master of Science degrees as well as short-training studies through international research collaboration programmes.

1. Agreement signing on production and exporting of Red Amaranth grain with South Korea
2. Meeting with the Governor of Indiana State - USA
3. Capacity building - Training course

INTERNATIONAL COLLABORATION

- International research cooperation is an important component of the research activities of the Institute. Keeping this in mind, IAS has already established a wide network of international relations
- The objectives of international research cooperation are building up research capacity, attracting research funds, staff training, technology transfer, and experience exchange
- IAS has established relation with more than 40 international organizations, government and non-government organizations and agro-business enterprises.

Technology transfer outcomes

1. Hybrid maize VN112 has been transferred and developed widely in South Eastern Region and Central Highlands
2. Upland rice variety LC227 has been transferred and grown widely in South Eastern Region and Central Highlands
3. Improve productive reproduction
4. Boar has been tested prior to be released into production
5. Transferring technology of vegetable growing on white sand for soldiers on Truong Sa islands
6. Sugarcane variety VN85-1427 has been released & grown widely in South Eastern Region
7. High genetic resource for beef improvement
8. New grafted cashew variety has been released for Cashew Development Programme in the Central Highlands
9. Mungbean variety HL115 for South Eastern Region
10. More than 85% of cassava growing areas in South Eastern Region have been planted new varieties developed by IAS
11. Packaged- rice straw for cattle feeding in dry season

Agricultural research and extension centers

1. **Dong Thap Muoi Agricultural Research and Development Center**
   Located in the Plain of Reeds, Long An province, with an area of 100 ha, devoted mainly to research on lowland rice, jute and farming systems of lowland rice areas
2. **Potato-Vegetables-Flower Research Center**
   Located in Lam Dong province, Central Highlands, with an area of 3 ha, devoted mainly to research on potato, vegetables and flowers
3. **Sugarcane Research and Development Center**
   Located in Binh Duong province, South-Eastern region, with an area of 167 ha, devoted mainly to research on sugarcane
4. **Hung Loc Agricultural Research Center**
   Located in Dong Nai province, South-Eastern region, with an area of 89 ha, devoted mainly to research on upland crop varieties, cultural practices and upland crop farming systems
5. **Ruminant Research and Training Center**
   Located in Binh Duong province, South-Eastern region, with an area of 220 ha, devoted mainly to research on ruminants, pasture and fodders
6. **Binh Thang Animal Husbandry Research & Training Center**
   Located in Binh Duong & Dong Nai provinces, South-eastern region), with an area of 12 ha, devoted mainly to research on pigs and poultry
7. **Cashew Research and Development Center**
   Located in Binh Duong province, with the area of 30 ha, devoting mainly to research and development cashew
8. **Agricultural Biotechnology Center**
   Located in Binh Duong province, with the area of 6 ha, devoting mainly to research, technology transfer, consultancy and services from biotechnological research resulting for agricultural development, rural and environment
9. **Center for Agricultural Technology Transfer**