



BRASIL THE TECHNOLOGICAL INNOVATION PROMOTED BY BRAZILIAN FARMERS

THE ENTREPRENEURIAL SPIRIT OF BRAZILIAN FARMERS WAS CRUCIAL FOR BRAZIL'S TECHNOLOGICAL DEVELOPMENT AND PRODUCTIVITY INCREASE.

In the past, when public investment in research did not meet the Brazilian farmers' needs, they joined efforts and resources to promote innovations in the agriculture and livestock sectors. In the past, when public investment in research did not meet the Brazilian farmers' needs, they joined efforts and resources to promote innovations in the agriculture and livestock sectors.

MIGRATORY MOVEMENT OF AGRICULTURE AND LIVESTOCK FARMERS IN BRAZIL



European immigrants, who settled in Brazil from the second half of the 19th century, facing the challenges of the new homeland, were responsible for innovations which greatly contributed to the development of the Brazilian agriculture, by introducing no-till farming, soil fertility management, and crop varieties such as maize, soybeans, wheat and cotton which were adapted to the local conditions.

Initially, those farmers and cattle breeders settled in Southern and Southeastern Brazil. Over the past four decades, they began moving towards the Midwest and the Northeast where they would produce cereals and oilseeds, tropical fruits, and pursued extensive cattle farming. That gradual migratory movement has shaped the current Brazilian agriculture: imbued with a pioneering spirit and seizing every new opportunity, they adopted new technologies enabling the development of the Brazilian countryside through agricultural production.

1900

Development of the **first genealogical records of Brazilian herds and promotion of genetic improvements** with the creation of an association of cattle breeders in the southern region of the country.

1954

The **first agricultural school with experimental fields was set up by the Castrolanda Cooperative in Paraná**, which, years later, also created the Training Center for Milk Producers (CTP), for training and development of human resources for the dairy herd sector.

1969

The **Sugarcane Technology Center (CTC, Centro de Tecnologia Canavieira)**, currently, the world's largest sugarcane germplasm bank was set up by the Cooperative of Sugarcane, Sugar, and Alcohol Producers of the State of São Paulo (Copersucar). The CTC has developed a genetic improvement program with over 80 varieties of sugarcane.

1974

The **Central Cooperative for Agricultural Research - COODETEC, was founded as a Research and Development Department of the Organization of the Cooperatives of the State of Paraná- OCEPAR with the aim of fostering research at the public institutes of the state**. COODETEC has since managed a comprehensive genetic improvement program (wheat, soy, maize and cotton), a germplasm bank, which has developed over 200 new seeds and also 5 research centers benefitting from over 900 hectares of experimental fields.

1984

A no-till farming system was adapted to Brazil's tropical soil through the creation of the ABC Foundation, financed by contributions of producers of three cooperatives in the South of the country, Capal, Frísia, and Castrolanda. The ABC Foundation established agreements with EMBRAPA, the Brazilian Agricultural Research Corporation and other research institutes to disseminate the technology to other regions of Brazil.

1993

Farmers who had previously migrated from Southern Brazil launched the **Mato Grosso Agriculture and Livestock Research Support Foundation - Fundação MT**. Its goal is to create solutions to the specific challenges of agriculture and livestock in the Brazilian Center-West region.



INTEGRATED PRODUCTION SYSTEM

BETWEEN LIVESTOCK FARMERS AND FOOD PROCESSING UNITS

Based on smallholding farm production, the poultry, egg and pork industries in Brazil provide a means of income stability for hundreds of thousands of farming families.

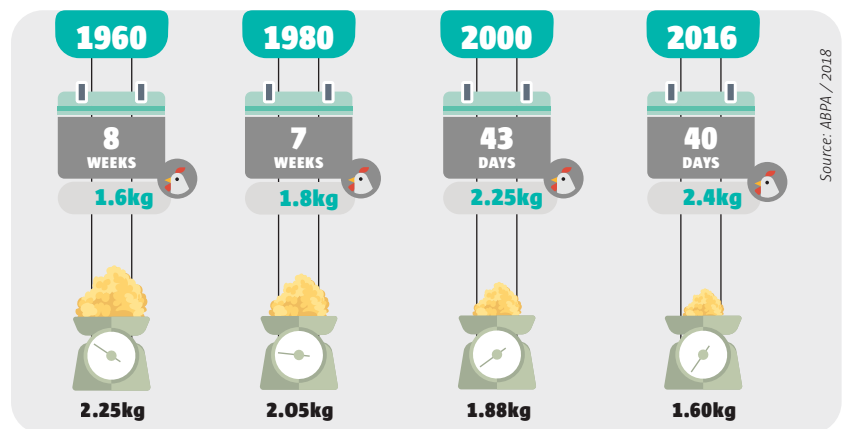
The integration of smallholdings and food processing units in a single large productive chain. Not only does it create income with excellent quality standards, it has the benefit of keeping control of the whole process with the benefit of providing full traceability.

EVOLUTION IN CHICKEN BREEDING PERFORMANCE

FOOD CONVERSION X BODY WEIGHT X SLAUGHTER

Genetic improvement and nutritional aspects promoted by technological advances over the last decades made it possible to promote greater weight gain for chickens in a proportionately smaller amount of time.

Innovation and scientific breakthroughs in agriculture have ensured an increased Brazilian crop and livestock productivity. These advances have enabled a gradual decrease in the cost of staple foods in Brazil.



135,000
FAMILIES OF INTEGRATED PRODUCERS THROUGHOUT BRAZIL

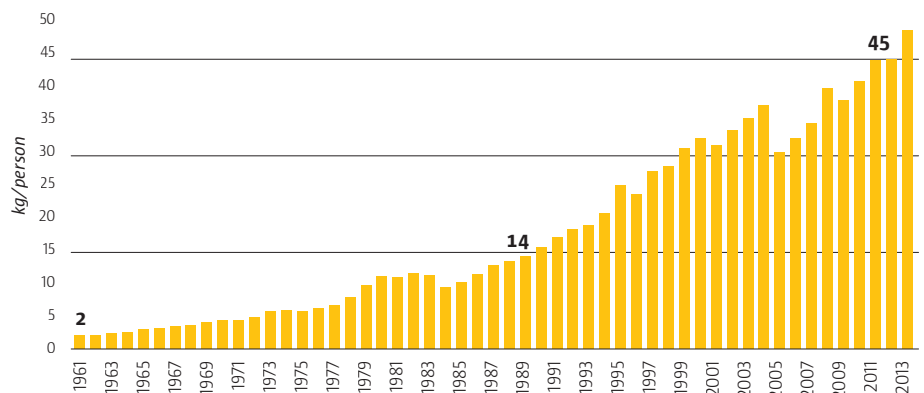
13.17 MILLION TONNES
CHICKEN MEAT PRODUCTION IN BRAZIL (32% FOR EXPORT)

4.05 MILLION TONNES
BRAZILIAN PORK PRODUCTION (19% FOR EXPORT)

Source: ABPA/2019 and SECEX, Comex.stat/2019

EVOLUTION OF THE DOMESTIC SUPPLY - CHICKEN MEAT

Source: FAO / 2018



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Research in chemistry, physics, soil fertility, plant physiology, crop management, pest, disease and weed control, nutrition, animal health, genetics, agricultural meteorology, and irrigation have thus had a strong impact on the livelihoods of Brazilians.

THE ACTUAL PRICE OF STAPLE FOODS INDEX

Source: MAPA / Prepared by MBAgro

