



# SUSTAINABLE CITRICULTURE

*THE GOLD FROM TREES*

# CONTEXT

The United Nations (UN) estimates that by 2050 the world population will increase from the current 7.8 billion to 9.7 billion people. One of the main global challenges is to produce food while preserving the environment. The path is through sustainable development, which calls for increased production combined with the protection of ecosystems.

The sustainable development of Brazilian citriculture represents, in a few words, the preservation of an activity that delivers quality food and well-being to consumers in different markets around the world and that:

- Maintains approximately 700,000 hectares of production area in Brazil (590,000 hectares of orange, 56,000 hectares of lemon and acid lime, and 53,000 hectares of mandarin), of which 459,000 hectares are in São Paulo and West-Southwest Minas Gerais (396,000 hectares of orange, 12,000 hectares of orange largely aimed to the fresh fruit market, 39,000 hectares of lemon and acid lime and 12,000 hectares of tangerine);
- Serves as an example for other global large-scale citrus planted areas in terms of yield (1,045 boxes per hectare in the 2019-2020 crop, in São Paulo and Minas Gerais) and in control of citrus greening with technology developed by the citrus sector;
- Accounts for 35% of the world's orange production and 75% of the foreign juice trade;
- Trades US\$ 14 billion yearly and generates US\$ 2 billion in exports;
- Collects about \$ 190 million in taxes yearly;
- Creates about 200,000 direct and indirect jobs (1 job per 9 hectares, one of the highest rates in Brazilian agribusiness).





## FUNDECITRUS

**Fundecitrus – Fund for Citrus Protection** is an institution that dates back to 1977, founded and maintained by citrus growers and orange juice companies in the São Paulo and West-Southwest Minas Gerais Citrus Belt to support the sustainable development of citrus growing. It is a world reference in science and technology focused on the health of groves, economic efficiency and preservation of natural resources. **Fundecitrus** work, along with citrus growers, has helped to ensure the competitiveness of Brazilian citriculture and to maintain its position as a world leader in production and exports of orange juice.

The institution incorporates the pillars of sustainability across all of its research, innovation and professional development activities, as well as in technology transfer to citrus growers and workers in the sector

### FUNDECITRUS FIGURES

- 43 years of history
- 27 years of research
- About 130 employees
- 9 researchers and 7 agronomists
- More than 80 research projects underway
- 68 experimental areas in more than 390 hectares
- More than 100 scientific publications
- 40 partnerships around the world
- Approximately 30,000 trained professionals
- 72 graduates with a master's degree

In view of the global demand for responsible food production, **Fundecitrus** presents a set of actions for **Sustainable Citriculture**, a voluntary initiative by citrus growers and the orange juice industry in São Paulo and Minas Gerais focused on good agricultural practices and committed to the preservation of natural resources for the next generations.

# INITIATIVE

**Sustainable Citriculture** is the contribution of citrus growers, through **Fundecitrus**, so that citriculture continues to take part in the economic, social and environmental development of more than 350 cities in the São Paulo and West-Southwest Minas Gerais Citrus Belt.

With this initiative, **Fundecitrus** seeks alignment with the UN Sustainable Development Goals (SDGs), sharing in the concern for environmental protection and for corporate practices in accordance with universal human rights and labor principles.

**Sustainable Citriculture** is managed by the **Fundecitrus Sustainability Committee**, formed by representatives of the citrus sector to address the topic in all the complexity and capillarity involved in its context and its social and economic impacts.

In order to preserve and increase the economic, social and environmental wealth generated and shared by the activity, the sustainable development of citriculture is based on guidelines that promote:

**Incentive** - Encouragement to good agricultural practices, in compliance with advanced and rigorous Brazilian labor and environmental laws and sustainability standards adopted by the sector, such as the **ProteCitrus – Citrus Protection Products**, in order to support citrus growers so that they can be prepared to fully meet the requirements of domestic and foreign markets;



**Dissemination** - Transfer of technologies, techniques and digital tools that encourage sustainability, the control of citrus pests and diseases, yield, occupational safety and the preservation of natural resources;

**Education** - Graduate studies at the **MasterCitrus – Fundecitrus Professional Master Program** for the technical and scientific improvement of professionals linked to citriculture and the continued use of sustainable agricultural practices;

**Communication** - Publication of the activities developed by **Fundecitrus** that contribute to the sustainability of the sector, providing, in a transparent and democratic way, access to information that enhances the technical knowledge of citrus growers;

**Improvement** - Development and continuous improvement, through research and innovation, of agricultural techniques and procedures, always observing the social and cultural conditions of citrus growers;

**Sustainable Citriculture** is a path towards the future and whose noble mission is to be able to contribute to the sustainability of the citrus sector and ensure a healthy environment for the current and next generations.



# GUIDELINES

**Sustainable Citriculture**  
guidelines are as follows:

# ENCOURAGE ENVIRONMENTAL PROTECTION IN CITRICULTURE

*The strategy of the **Sustainable Citriculture** is to meet the demand for sustainable food production, encouraging environmental protection by reducing the use of water and through the rational use of inputs*

It is based on the sequence and implementation of projects for greater precision in the diagnosis of pests and diseases, training in the correct use of inputs, adjustment of the spray volume of mixtures applied and control optimization, helping to decrease the amount of water and agrochemicals used and the CO<sub>2</sub> emission by reducing application time and fuel consumption. And, in the long run, it aims at the systemic integration of all those variables.

# FOSTER THE PRESERVATION OF BIODIVERSITY IN GROVES

*Citriculture is naturally a favorable environment for biodiversity, as it is very attractive to pollinators and wild animals*

One of the purposes of the **Sustainable Citriculture**, the protection of pollinators and other beneficial organisms is achieved by means of training projects in the safe use of inputs, the replacement of products of greater toxicity with others that are environmentally friendly, and research in the use of semiochemicals and biological agents, capable of ensuring the continuity of several preservation actions already implemented by the citrus sector.

MATEUS FIORESI



MARCELO SCAPIN



RAFAEL SMIRNE



ARTHUR TOMASETO





## PROMOTE PRACTICES FOR IMPROVING YIELD, QUALITY AND LONGEVITY OF GROVES

*Keeping growers in the sector is extremely important for the economic and social sustainability of the citrus industry*

Continuous improvement and development of techniques of production and pest control are part of a set of practices that facilitate the activity and increase the value added to the production. Quality and yield also represent gains to society's food security.

## STRENGTHEN THE COMMUNICATION

*Making information available generates deeper knowledge in the field*

Due to the methodological rigor that is in its vocation, **Fundecitrus** is recognized as a source of reliable information both by the industry and the specialized media. Through technical manuals, magazines, articles, videos and news published by the media, the segmented media and **Fundecitrus** itself in its various communication channels – email, WhatsApp, printed materials, website and social networks –, growers, technicians and field workers increase their technical knowledge and incorporate the concepts of sustainability into their routines and society learns the value and relevance of citrus.



# COLLABORATE IN THE DISSEMINATION OF GOOD AGRICULTURAL PRACTICES

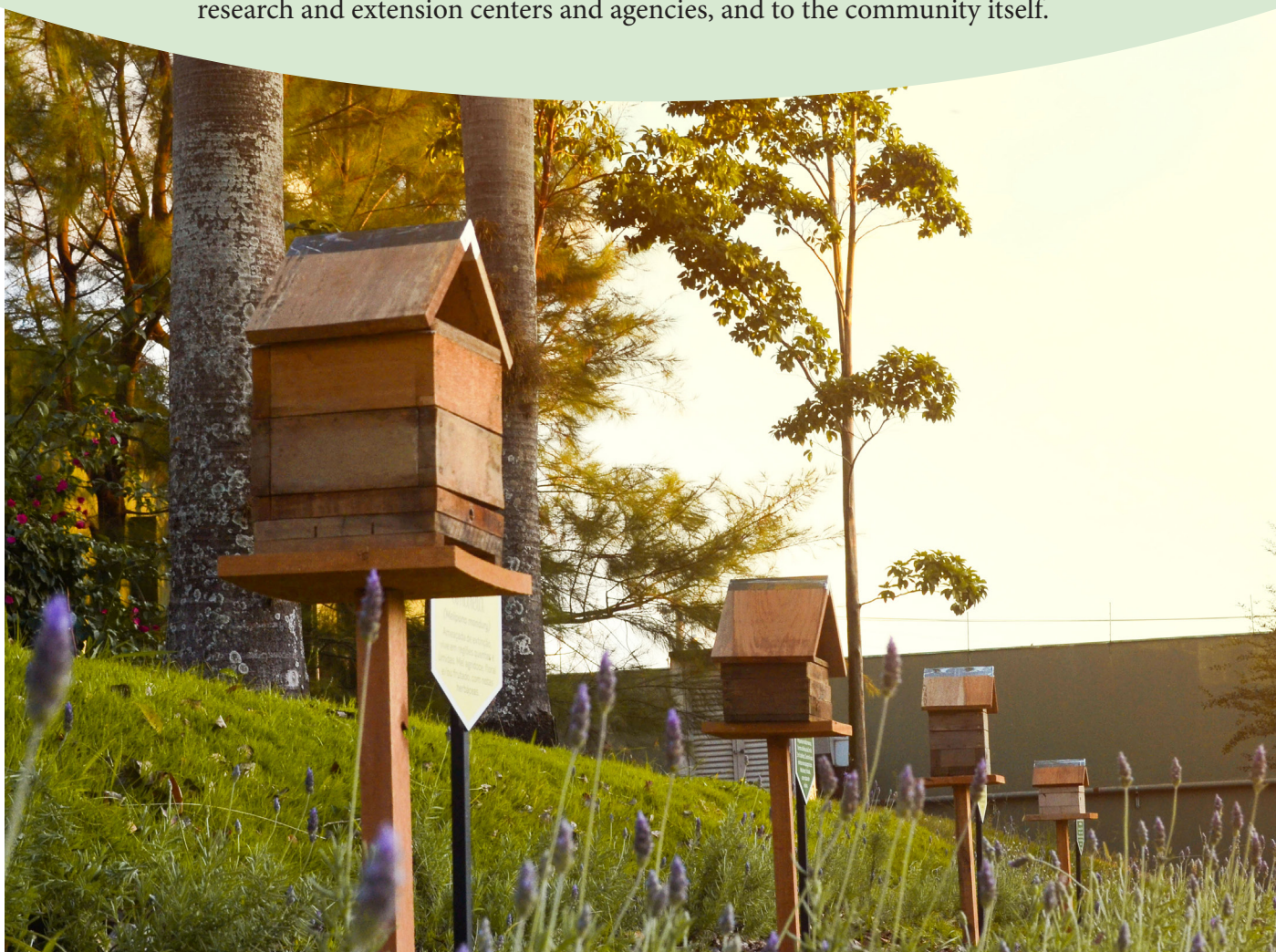
*Research and training contribute to the safety and well-being of citrus professionals*

The training of growers, technicians and workers in the field, an activity that has been performed by **Fundecitrus** for decades, puts good agricultural practices in place, with continuous adjustments in view of the changes that impact fieldwork, and reduces externalities.

## HELP IN TRAINING CITRUS GROWERS AND WORKERS

*The ongoing training of citrus growers, specialized professionals and workers associated with the citrus industry makes the sector ever more efficient*

Training programs and materials on the control of citrus pests and diseases and other agronomic topics, which for more than 40 years have connected the innovation, research, technology and knowledge developed by Fundecitrus to citrus growers in São Paulo and Minas Gerais, contribute to the improvement of management practices and bring the sector closer to research and extension centers and agencies, and to the community itself.



## CONTRIBUTE TO THE EDUCATION OF CITRUS GROWERS AND SPECIALIST PROFESSIONALS

*The training of specialized professionals is a differential factor for citriculture*

Fundecitrus graduate program, MasterCitrus, started in 2009 to meet the demand of the citrus sector for training and qualification of professionals who face the phytosanitary challenges that affect citriculture, educate specialists, masters, doctors and post-doctors to work in citriculture.

## DISSEMINATE THE USE OF TOOLS AND TECHNOLOGIES FOR CITRUS PRODUCTION

*The technification of the citrus sector allows for a more profitable and efficient citriculture*

Providing citrus growers with a package of technological tools, such as the various applications developed by Fundecitrus, ensures improvement in the management of pests and diseases, increases the efficiency of resources and reduces production costs.

## LEARN ABOUT AND BUILD SYNERGY WITH SUSTAINABLE PRACTICES OF OTHER PRODUCTION SECTORS

*Since its inception, the Sustainable Citriculture has been on the lookout for the best experiences in other agribusiness segments*

Learning about initiatives of other agribusiness sectors allows different agencies, each with its specific actions, to contribute to the sustainable development of the citrus sector.

Follow Sustainable Citriculture projects and actions on [www.fundecitrus.com.br/sustainablecitriculture](http://www.fundecitrus.com.br/sustainablecitriculture).