



Science For A Better Life

Working together
for sustainable production
to satisfy value chain
expectations



food chain partnership



How it all started

Rocha is a Portuguese pear variety with a Protected Designation of Origin (PDO). Besides its delicious flavor, Rochas have a longer shelf life of up to ten months and a resistance to handling that is superior to other pear varieties. This opens up the possibility of supplying markets for a longer period of time, while maintaining a constant quality.

Rocha pears are the main kind of fresh fruit exported from Portugal. The UK market is the most important market for Portuguese pear exports (nearly 36%). Since consumers' awareness of food safety and sustainability has increased in recent years, food chain stakeholders have to comply with production standards (e.g., GLOBALG.A.P., HACCP, and BRC) and specifications in order to supply the UK market.

Rocha pear growers and exporters face the growing challenge of how to optimize the production of Rocha pears to meet consumers' needs, and yet comply with a complex framework based on quality, processes, environmental requirements, specifications, and plant protection standards, e.g., Integrated Crop Management/Integrated Pest Management (ICM/IPM).

All the partners involved in the Portuguese Rocha pear project share the goal of producing and marketing safe, high-quality Rocha pears in a sustainable way in order to meet consumers' expectations.



Who is involved

SOCIEDADE AGRÍCOLA QUINTAS DO CADAVAL, the sample farm, is one of the most traditional farms at the heart of the pear-producing region and a first-class reference for Rocha pear production. The farm is owned by Armando Torres Paulo, an agronomic engineer. He is also President of ANP, the Portuguese Rocha Pear Growers and Exporters Association, and manages FRUTUS and TRIPORTUGAL.

FRUTUS is a growers' organization owned by twelve fruit growers. This highly professional company has significantly improved its growers' productivity over the past few years. FRUTUS has a technical team to support their growers and an excellent reputation in the Rocha pear community as a result of its experimental fields, demonstration trials, training, implementation of good agricultural practices, and development of innovative techniques and solutions to achieve safer and sustainable production.

TRIPORTUGAL is the trading company owned by FRUTUS, O Melro, and Eurohorta, companies certified to BRC, ISO 2200:2005, HACCP, and GLOBALG.A.P., among others. In recent years, TRIPORTUGAL has always been one of the top three Rocha pear exporters. The main market for TRIPORTUGAL is the UK, followed by Brazil, Ireland, France, and many other countries.

CHINGFORD Fruit Ltd. operates globally and is one of the UK's leading fresh fruit importers and supply companies. CHINGFORD specializes in supplying a wide variety of fresh fruit to leading supermarkets. For CHINGFORD, one important goal in this project is to ensure that pears are produced in a manner that respects the environment in order to meet consumers' expectations.



What we aimed to achieve

The aim of the project is to produce safe, high-quality Rocha pears by applying a crop protection program that optimizes the use of plant protection products according to Integrated Crop Management (ICM) and Integrated Pest Management (IPM) principles, and retailers' specifications and requirements, while at the same time contributing to sustainable agriculture.

An optimized spray program was set up to achieve the lowest possible residue levels at harvest time. It involved environmentally friendly crop protection products and the use of alternative protection methods. Every decision taken was in accordance with good agricultural practices for sustainable production.

The Food Chain Partnership concept and the implementation of this pear project reflect the aim of continuously improving standards to achieve safe and sustainable food production.

The sustainable solution

An integrated crop approach was developed with a tailor-made solution adapted to the project partners' needs and expectations. An optimized spray program was set up as part of this integrated approach. The products were extremely effective in controlling the major diseases (scab and stepthylium) and the main pests (pear sucker, *Aphanostigma piri* (filoxera), and codling moth). A new pear sucker strategy was implemented, using a new, state-of-the-art insecticide from Bayer CropScience, MOVENTO®, with the active ingredient Spirotramat. Two different cropping strategies were compared with regard to quality, efficacy, and residue levels at harvest time and storage. LUNA EXPERIENCE® (fluopyram) was also part of the program applied in a demo trial for the optimization of fruit waste.

The program also included alternative methods such as massive traps and sexual confusion, all within the framework of IPM and GLOBALG.A.P. standards and other additional traders' requirements.

Further contributing proactively to sustainable pear production, the following challenges have been tackled: point source pollution, reduction of water usage in cleaning sprayer operations, and increased operator safety, by developing a set of good agricultural practices and an integrated effluent management in the farm.



What we achieved

After the first year, the results are promising. The quality of the fruit was as high as expected given the fact that FRUTUS is a high-quality fruit-growing company with high-quality standards.

In the plots treated with MOVENTO® there was a better control of pear sucker and San José scale. One less insecticide treatment was needed at the end of the season – the one that usually results in detectable levels of residues at harvest time. First results with LUNA® seem promising for the future.

Residues analyzed from 20 different analyses were found to be lower than the average values of the UK Pesticide Residues Committee (PRC) in terms of both the level and number of active ingredients.

The feedback from the partners involved was very positive and even exceeded initial expectations. The outcome is genuine added value for the food chain partners.

Next steps

The initial results underline the project partners' interest in, and commitment to, the Rocha pear project. There are more challenges ahead, but in future there will also be the opportunity to continuously optimize the spray program and strengthen the integrated offer. The ongoing goal is to produce safe and sustainable high-quality Rocha pears to meet consumers' expectations through the commitment and involvement of the project partners.



From left to right:
Hans-Joachim Wegfahrt,
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Délia Fialho
Technical Coordinator of FRUTUS
Maria do Carmo Romeiras
Food Chain Manager of Bayer CropScience
Portugal
Armando Torres Paulo
Owner of SOCIEDADE AGRÍCOLA QUINTAS
DO CADAVAL and Director of FRUTUS

food chain partnership



Consumers are becoming increasingly conscious of the need for healthy nutrition. Food Chain Partnerships help to supply consumers with high-quality fresh produce, which forms the basis of a healthy diet. But such partnerships can only succeed if they involve every player in the food chain – from the farmer and processor to the exporter or importer and retailer. Bayer CropScience has the global experience and cutting-edge expertise to create a successful partnership at every level.



Bayer CropScience

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FCP-13-1567

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