



Improving export quality and marketability



Food Safety

Compliance with residue requirements

Marketability

125 % increase in proportion of export-quality grapes

Sustainability

Enhanced energy, soil, biodiversity, water and crop health efficiency

food chain partnership



What was the market situation?

The table grapes covered by this Food Chain Partnership initiative are mainly grown in Corinthia, in the Peloponnese region of south-central Greece. The main cultivation period begins in early March and harvesting lasts from mid-July until the end of October. The most popular varieties are Thompson Seedless and Crimson. Although domestic consumption is a significant factor in Greece, exports are economically important, and not just for this Food Chain partner's business. Table grapes for export have to be of a specified size, color and sugar content. Moreover, any residues of active ingredients must be within the limits set by the respective export market. This initiative got off the ground when Pegasus Agrifood Coop, a growers' cooperative that started with seven farmers and currently comprises 51 contract farmers, was looking for a partner in improving the quality and marketability of its table grapes, which are sold as 7Grapes. Pegasus' business is driven by a vision of

farming, eating and living sustainably. Its mission is to inspire and enable sustainable farming, which benefits the growers, enriches the environment, and engages local communities.

To meet EU market requirements, this initiative has aimed to:

- Improve the quality and marketability of the table grapes
- Optimize the crop protection spray calendar and reduce the chemical load and levels of crop protection residues
- Monitor and improve the sustainability of table grape production
- Expand the shelf life of the table grapes
- Achieve certification to a variety of standards
- Ensure traceability at the farm level





Challenges:

- Protecting grapes from pests and diseases
- Ensuring compliance with residue limits in EU export markets
- Enabling sustainable and prosperous farming



Solutions:

- Developing a customized integrated crop solution
- Training growers in application technology and sustainable crop protection techniques
- Regularly testing samples for residues and taste sensor evaluation



Benefits:

- Enhanced grape quality and marketability
- Compliance with Maximum Residue Levels (MRLs)
- More environmentally, economically and socially sustainable business model



Achievements:

- Export-quality produce up from 40 % to 90 %
- 23 % reduction in cultivation costs
- Secure access to key export markets, e.g., the UK and Germany

“Our **farming practices** have been **positively affected** by **Food Chain Partnership models** and our culture adjusted to **sustainability principles**.”

Markos Legas, farmer and President, Pegasus Agrifood Coop



What were the challenges?

The key challenges have been reducing residue levels while maintaining the high quality of the produce in the face of threats from pests and diseases, such as powdery mildew, mealy bugs, downy mildew, mites, botrytis, and grape berry moths. But how could Pegasus table

grapes be effectively protected against such threats without exceeding the MRLs in export markets? That was the challenge Pegasus and Bayer Greece tackled together.

“Working in partnership with other stakeholders provides an opportunity to deliver change effectively and efficiently.”

Chrissi Kotonias, Sustainable Agriculture Manager, Bayer Greece

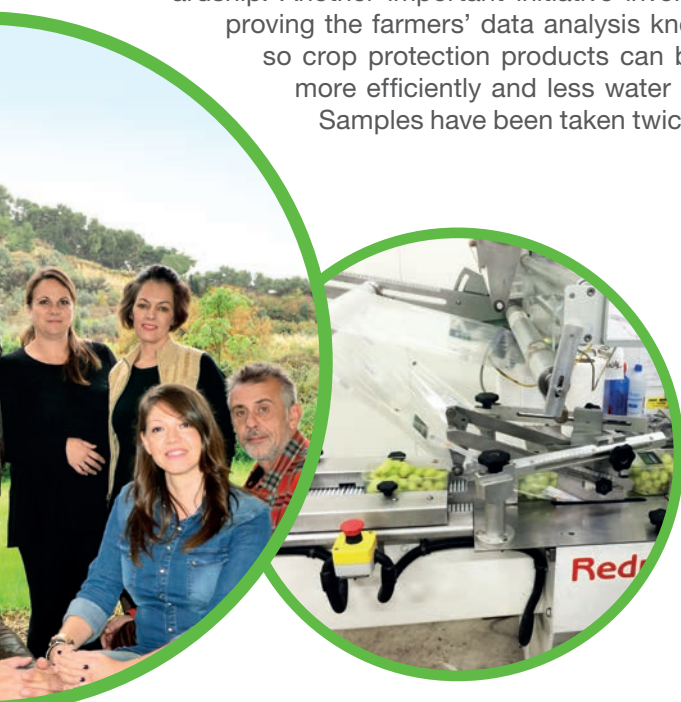
What was the solution?


In the seven years since this initiative began, Bayer Greece and Pegasus have been working hand in hand to implement a partnership offering integrated crop solutions tailored to the precise needs of the Pegasus farmers. The optimized crop protection spray program includes conventional chemical products, such as Prosper™, Movento™, Profiler™ and Envidor™, as well as biological products, e.g., Serenade™ ASO, which has been tested for controlling botrytis and has delivered excellent results. Bayer specialists have staged group training sessions on application technology and stewardship. Another important initiative involved improving the farmers' data analysis know-how so crop protection products can be used more efficiently and less water wasted. Samples have been taken twice a year

for residue analysis purposes, as well as taste sensor evaluation. What's more, Pegasus has intensified its focus on traceability by providing insights for implementation of the Bayer Field Passport. The vision in the near future is the implementation of a new business model by which tailored integrated crop solutions (including crop protection, agro-services, application techniques, irrigation, etc.) will be offered to the farmers under the umbrella of “Agropharmacy.” Last but not least, Pegasus Agrifood Coop is now a participating partner in IOF2020 (www.iof2020.eu/trials/fruits/fresh-table-grapes-chain), an EU-funded project coordinated by Wageningen University for implementing real-time monitoring and control of water supplies, crop protection for table grapes, and predicting their shelf life.

“We Pegasus farmers believe that our business is now more environmentally, economically and socially sustainable.”

Thodoris Kokiousis, a Pegasus farmer





What did we achieve?

The prime objective of improving the quality and marketability of Pegasus table grapes was achieved within five years after this Food Chain Partnership began. In the first year, only 40 % of the marketable harvested grapes were suitable for export; now this figure has risen to 90 % from young and irrigated vineyards and to 60–70 % from old or non-irrigated vineyards. Thus, access to strategic export markets in the EU, primarily the UK and Germany, has not only been secured but significantly extended. This is due to the increased quality of the Pegasus grapes and to compliance with residue requirements. Another important achievement has been an average reduction of 23 % in cultivation costs for Pegasus growers over these past five years. This has been achieved through more precise and proactive agricultural activities, e.g., crop protection spraying programs. Moreover, this initiative is helping Pegasus farms to qualify for additional income streams, e.g., from agro-environmental schemes, and making farming operations more efficient in areas such as energy, soil, biodiversity, water and crop health.

Pegasus describes what was achieved in this way:

“Bayer helps our Pegasus farmers to secure access to new market opportunities with premium potential for their grapes, as well as to change their mentality as farmers, i.e., growing locally but thinking globally. We understand our significant food chain role as farmers and are working together to fight global hunger. We feel proud to be farmers in this little corner of our planet.”

About 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. The Crop Science Division of Bayer has the global experience and cutting-edge expertise to create a successful partnership at every level.



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