



Science For A Better Life

Reducing post-harvest loss and prolonging shelf life



food chain partnership



The French Peach Project

How it all started

Peaches are mainly grown in the southwest of France with around 12,000 hectares under cultivation. As a perennial crop, peaches are harvested at the end of August. Domestic consumption of peaches is much higher than the quantities produced in France, so around 130,000 tons of stone fruits (peaches and nectarines) have to be imported. However, thanks to the high quality of domestically grown peaches around 50,000 tons are actually exported to other countries.

Peaches grown in France have a reputation for top quality – big, tasty, healthy fruit with a relatively long shelf life. That is why such a high proportion of the crop can be exported. However, to achieve such premium quality, you have to wait until you can harvest peaches at their optimum ripeness. But this is a tricky business since ripe fruits also have a shorter shelf life and are more susceptible to decay. The challenge French peach growers face is to harvest ripe peaches in order to meet high flavor and quality expectations, yet ensure the fruit survives long-distance transportation to the supermarket shelf with as little waste as possible.

The need to meet the demands of top quality and taste and ensure sufficient shelf life led the peach producer organization La Melba to approach Bayer CropScience to enter into a Food Chain Partnership project for trying a brand-new solution in growing and protecting peaches.

What we aimed to achieve

The main aim of this Food Chain Partnership project was to demonstrate in trials that Luna®, an innovative new crop protection product from Bayer CropScience, can actually achieve what it claims to do: increase fruit quality, prolong shelf life, and significantly reduce waste. A secondary goal was to roughly evaluate the economic benefits of a Luna®-based spraying program along the food value chain.



Who is involved

For peaches, **La Melba** is the leading producers' organization in France, growing and selling fruits for both domestic consumption and export. The company was created 70 years ago and has never ceased to expand its activities and production since! Today, they represent about 15% of the French peach exports. They have a sales department that enables them to deal directly with the retailers and contract growers that work closely with La Melba in producing high-quality peaches.

Bayer CropScience France is widely recognized for its crop protection expertise. As a consequence, Bayer had naturally been chosen to provide competence in sustainable spraying programs designed to protect the fruits against post-harvest diseases and prolong shelf life. In a common agreement, both partners decided to build a solid residue monitoring and quality assessment plan.



The integrated solution

A high-quality peach is a fruit with plenty of sugar, harvested at full maturity. It can only be achieved when the producer is confident enough to wait until this maturity is attained, without fearing tremendous losses, induced by latent diseases like *Botrytis*, *Monilinia*, *Alternaria*, and *Rhizopus*. Another major threat in peach orchards is Sharka disease, spread by *Myzus persicae* aphids.

As the initial focus of this Food Chain Partnership project was on fruit quality and waste avoidance, the driving component of the integrated crop solution implemented by Bayer CropScience was a Luna®-based spraying program implemented to target post-harvest diseases, in particular *Monilinia* fungi. Luna® is a fungicide with the active ingredient

fluopyram that is applied pre-harvest with a strong post-harvest effect against the occurrence of diseases. Furthermore, La Melba and Bayer CropScience personnel were assisted by Marc Fratantuono from the local Chamber of Agriculture, whose expertise is widely recognized within the peach-growing industry.

In order to check the quality of the results of this spraying program, tests were carried out to measure fruit quality regarding sugar levels, firmness, and disease infestation, as well as yields and residue levels. The results and their synthesis will be presented to the whole group of La Melba's producers to showcase the excellent results and broaden the Luna® protection adoption, which will in turn lead to an increase in its benefits for the whole association.



At the back (left to right):

Florent Dejesus, Grower; Jean-Louis Waeghebaert, Technical Advisor at the Agricultural Chamber; Guy Blanc, Technical Manager of Bayer CropScience France; Patrick Richaud, Technical Engineer of Bayer CropScience France; Guillaume Imbs, Technical Engineer of Bayer CropScience France; Roger Tisane, Grower; Adrien Laborde, Agricultural Consultant at the Agricultural Chamber; Jean-Pierre Bails, President and Grower of La Melba

In the front (left to right):

François Maurell, Grower; Sophie Huvier-Boutin, Food Chain Manager France of Bayer CropScience; Lise Degara, Commercial Manager of La Melba; Etienne Arnaudies, Cherry Production Manager of La Melba; Jean Reig, Grower

What we achieved

The results of the trials clearly show the benefits of a Luna®-based spraying program. The use of Luna® avoided tons of losses: for every 1,000 peaches harvested the Luna® program saved 84 from decay or worse after 14 days of storage. The avoided loss of the 84 peaches happened at different stages in the food chain, so that in comparison with the standard program, the following savings were possible: one at the grower's level, 60 at La Melba's level, 14 at the retail level, and nine at the consumer level. The economic value of the losses avoided through spraying with Luna® are estimated at around €3,000/ha. And this amount does not take into account the money the producer organization might have had to pay for return shipment of damaged fruit.

La Melba now sees these trials as a great opportunity to learn how to better manage post-harvest losses merely through field interventions. The savings achieved through reduced losses have been shown to be economically significant. Moreover, we can assume that a significant reduction in losses during maturing and packaging would induce a reduction in temporary hand labor during summertime, hence, significantly reducing production costs. Both the producer organization and the retailers benefit from the longer shelf life Luna® makes possible. The fact that the peaches can be harvested at optimum maturity, or shipped to remote destinations without too many worries about shelf life, is a win-win situation for all concerned.

Next steps

Discussions on the expansion of this Food Chain Partnership include the control of aphids through Movento®. Further, as Ceratitis fruit fly is causing serious damage in the Roussillon area, the innovative Decis® trap solution, avoiding any insecticide spraying in the month before harvest, could be included in the experimental design. This work would be combined with an assessment of biodiversity and beneficial organism.



left:
Sophie Huvier-Boutin
Food Chain Manager of Bayer CropScience France

right:
Etienne Arnaudies
Production Manager of La Melba

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-14-1583**

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