



Producing mangoes to **supreme** quality standards



The
Thailand
Mango
Project



Bayer CropScience

The challenge of GLOBALGAP implementation

Where it all started

The production of Thai mangoes for export is increasingly expanding to the world market, mainly Japan, Korea, Russia and the EU. For this reason the crop is not only expected to deliver excellent yields, but also needs to be of the best quality.

In order to ensure best mango quality, the mangoes have to fulfil customers' expectations and importers' requirements on food safety and comply with agrochemical residue limits, as well as with National Good Agricultural Practice. Moreover, importers also request international quality standard certificates from growers to gain consumers' confidence, particularly in the EU market where GLOBALGAP certification is required. It is quite difficult for mango growers to plan and organise production in accordance with the numerous quality requirements, but they clearly search for the most efficient way to respond to market demands.

After the launch of the food chain partnership in 2008, Bayer CropScience recently signed an MOU on a high-quality mango project with Dole Fresh Produce (Thailand), aiming to provide tools and support important activities complying with importers' requirements as well as the relevant legislation in Thailand and other countries of destination.

The Chiang Mai University's Postharvest Technology Research Institute, which also realised the benefits from the project to mango growers, was directly contacted and signed an MOU with Bayer Thai's food chain partnership to produce enhanced off-season mango quality production in the northern part of Thailand.

Prof Dr Vichar, Post Harvest Research Institute, Chiang Mai University (below left)



From left to right:

**Pornchai Pravestonsopon
Plant Protection Specialist Agricultural Development of
Dole Fresh Produce (Thailand) Ltd.**

**Anan Jaroensuk
Food Chain Partnership Coordinator of
Bayer CropScience Thailand**



**Wasan Rattana
Agricultural Development Manager of
Dole Fresh Produce (Thailand) Ltd.**

**Weeradej Chaianongsak
Farmer, Head of Mango Growers in north-east of Thailand**

Implementing a crop solution that meets market quality demands

Bayer CropScience has experience in protecting mangoes by offering integrated crop solutions with innovative crop protection products regarded as a key success factor in achieving high-quality production.

Bayer CropScience has designed plans, together with their food chain partners, to optimise the use of crop protection products as follows:

- Training courses for farmers and exporters on crop protection and new technology in cooperation with specialists from government agencies and academics in each area
- Crop solutions based on the Bayer CropScience comprehensive portfolio of innovative crop protection products
- Follow up/field visits to evaluate through the season and updating of the crop protection programme according to local conditions in order to optimise the correct use of plant protection products

- The first pre-harvesting MRL tests were done locally in an accredited laboratory with very good results
- Fruit Passport: This tool has been developed for traceability and record management by Bayer CropScience and was issued and implemented at farmer level for those who obtain national GAP and GLOBALGAP certificates
- Take responsibility for waste management within the project

During 2010, mango growers have received GLOBALGAP certificates which enable them to offer highest-quality mangoes both for domestic and export markets.





What we aim to achieve

The ultimate goal of all partners in this project is to produce highest-quality mangoes and introduce GLOBALGAP standards to farmers in order to increase market opportunity and competitiveness of Thai mangoes in the world market.

The benefits farmers have received are added value for mangoes on the following aspects:

- Safe yields
- High-quality crops
- Market opportunities for both domestic (high end) and export markets
- Quality control of harvested goods
- Traceability

However, by providing quality and quantity, the food chain partnership project has also succeeded in creating added value for other food chain stakeholders who were not directly involved in the project, such as importers, retailers and consumers.

And last but not least, the mutual trust of all partners in the project – a key element for future success – has become even stronger.

For consumers increasingly conscious of healthy nutrition, the food chain partnership helps to provide high-quality/fresh produce, which is the basis of a healthy diet. Finally, partnerships are successful if all partners of the food chain are involved, including farmers, processors, exporters/importers and retailers. Bayer Thai has the global experience and cutting-edge expertise to create a successful partnership at all levels.

Punlert Sodsee
Business Development Director of
Dole Fresh Produce (Thailand) Ltd.

Dr Harald Printz
Country Head of
Bayer CropScience Thailand





Who got involved in the project

Thai Mango Growers Association: established in 2008 by key mango clusters across the country, with support from the Ministry of Agriculture and Bayer's food chain partnership. The Association has been involved in organising meetings and trainings to widen farmers' knowledge on mango production and cooperation with involved parties in order to help encourage the mango growers to increase their mangoes for export.

Dole Fresh Produce (Thailand): one of the biggest fruit-producing and export companies was looking for the methodology and process to support the required importers' and consumers' demands. In the past, Dole mainly concentrated on banana and pineapple crops. Today, Dole is also interested in high-quality mangoes for export to the world markets after realising Bayer's food chain partnership project and after meeting with Thai Mango Growers Association's key personnel, led by Bayer Thai at Asia Fruit Logistica in Hong Kong in 2009. Immediately after this meeting, joint activities to produce high-quality mangoes in accordance with GLOBALGAP standards commenced.

Postharvest Technology Research Institute, Chiang Mai University: It is commonly known that the mango has a high potential for export markets due to the year-round demand for mangoes. The Postharvest Technology Research Institute, Chiang Mai University through "Integrated Supply Chain Management of Exotic Fruits Project from ASEAN Region" (ISCM), a project funded by the European Union in cooperation with Bayer Thai's food chain partnership project, have co-initiated for enhancing the capacity of producing off-season high-quality mangoes. This will help expand production as far as possible by introducing technology for high-quality mangoes to the farmers in Chiang Mai, a potential area for producing off-season mangoes to meet such high demand.

Bayer CropScience: has long been recognised not only as a leading innovative company, but also as a partner offering complete crop solutions for high-quality production by developing tailor-made crop protection programmes including intensive training programmes for farmers on the safe use of agrochemicals and optimal use of crop protection products.



Manop Krewwongnukul
Chairman of Thai Mango Growers Association (left)



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.



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