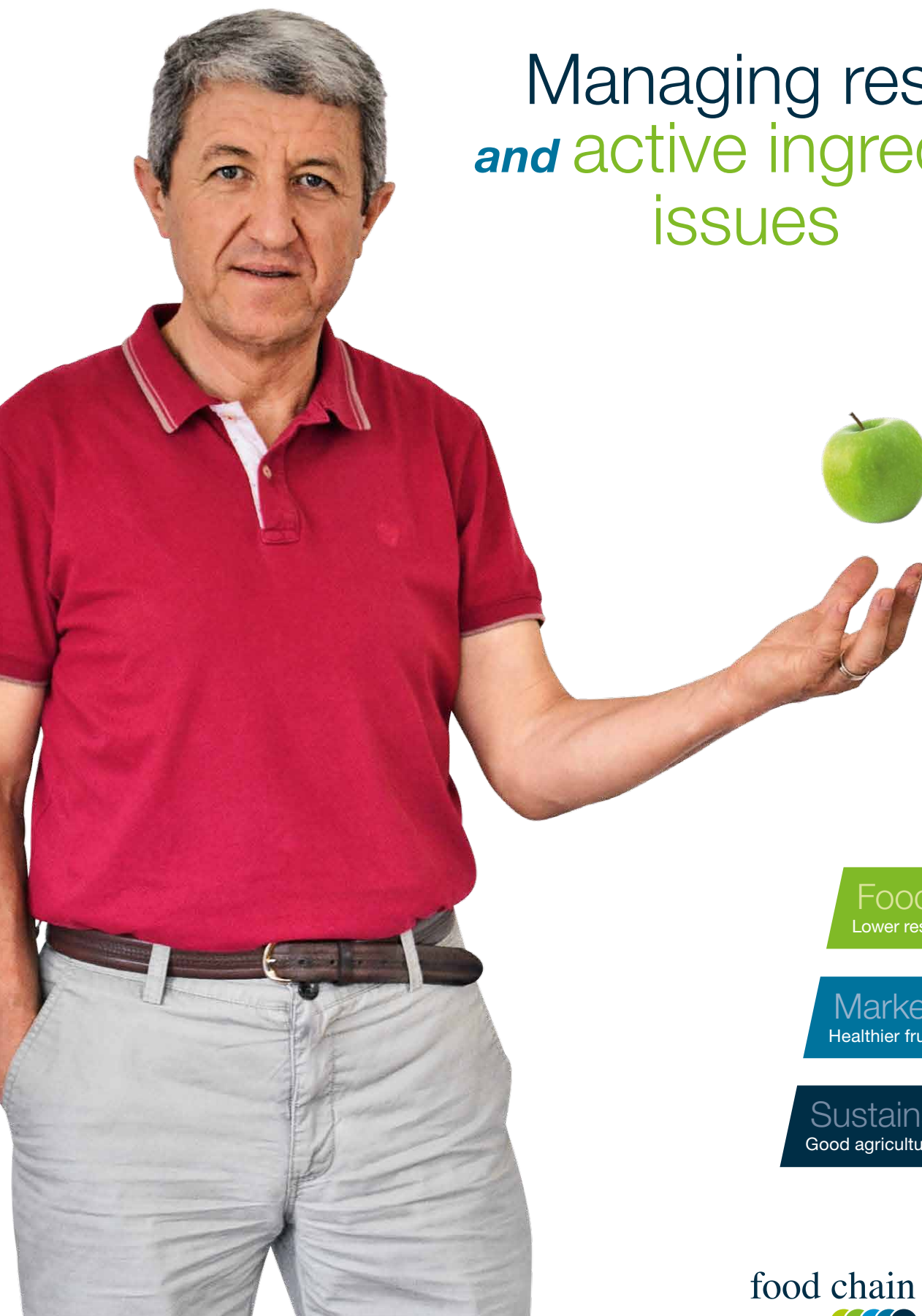




Managing residue *and* active ingredient issues



Food Safety

Lower residue levels

Marketability

Healthier fruit

Sustainability

Good agricultural practices introduced

food chain partnership



What was *the market situation?*

Apples are grown on around 180,000 hectares (ha) of land in Turkey and are one of the most important fruit crops. With an average production of nearly 2.5 million tonnes a year, Turkey is the world's third-highest apple producer. Local consumption accounts for almost the entire harvest and only around 4 % is exported. In recent years, however, exports have been increasing, in particular to the Middle East, India, and other Arab countries, with Israel and Russia now the target markets.

The major disease is apple scab, the major pest the codling moth. Insecticides and fungicides are generally applied, with both generics and original products in use. Besides food safety, the main requirement for the growers is to find profitable and sustainable markets.

Located in Egirdir in the south of Turkey, Gülbudak Ltd. Şti., one of Bayer's partners in this project, has been operating in all stages of the fruit-growing sector and servicing both fruit growers and consumers for 15 years. This company, which grows saplings and mature fruit as well as

operating cold storage housing and packaging services on 600 ha, has been playing a pioneering role in the agricultural sector, and especially in apple production, with an electronic optical pre-sizing system for the fruit production process from spraying to warehousing and marketing, and with machines equipped with color calibration and weighing functions. Gülbudak Ltd. Şti. has always aimed for high-quality production, which it sees as a necessary precondition for the development of Turkish agriculture.



TURKEY

**Challenges:**

- Managing residues and number of active ingredients
- Lack of good agricultural practices
- Emergence of new pests

**Solutions:**

- Preparation of environmentally friendly spraying calendar based on international standards
- BayG.A.P. and IPM training courses
- Monitoring system to determine the right time to apply crop protection products

**Benefits:**

- Cost savings
- No crop losses
- Healthy, safe fruit

“We want to offer safe, high-quality apples to end-consumers and to make them traceable.”

Dr. Mehmet Kaya, Bayer





What were the challenges?

The chief challenge was to manage residues and reduce the number of active ingredients. These issues were aggravated by the lack of good agricultural practices and application techniques among apple growers. The

emergence of new pests, such as the Mediterranean fruit fly and spotted wing drosophila, added to the complexity of the problem.

What was the solution?

An environmentally friendly spraying calendar based on international standards was prepared to manage residues and the number of active ingredients. Checks were carried out by means of laboratory analyses. Bayer organized BayG.A.P. and IPM training courses to improve the apple growers' knowledge of good agricultural practices and

integrated pest management. Technical support was provided with respect to the new pests and a monitoring system was introduced to help decide the right time to apply crop protection products. Last but not least, some new applications were demonstrated and checked in the field.



"Our aim is to produce high-quality, healthy apples to international standards and to export them to important markets."

Hasan Ince, Gülbudak





What did *we achieve?*

- Residue and active ingredient issues successfully tackled
- Apple growers' G.A.P. skills improved
- IPM rules applied in the field
- All new pests successfully controlled with no damage to the crop
- Increased applicator performance and effectiveness in the field

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.



For more information contact:

Bayer Türk Kimya Sanayi Ltd. Şti.
FSM Mah. Balkan Cad. No: 53
34770 Umraniye/İstanbul
Turkey

Phone: +90 216 528 38 64
Fax: +90 216 645 38 50
Mobile: +90 533 580 98 70
Email: mehmet.kaya@bayer.com

Bayer AG
Crop Science Division
Alfred-Nobel-Str. 50
40789 Monheim
Germany

Phone: +49 2173 38 4828
Email: foodchainpartnership@bayer.com



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Gülbudak Gıda Soğutma Tekstil İnşaat ve Tic.
Ltd. Şti.
Konya Yolu, 6 km, Köprübaşı, Eğirdir
32500 Isparta
Turkey

Phone: +90 246 313 30 43
Mobile: +90 532 606 84 52
(Mr. Hasan Ince, Owner)
Fax: +90 246 313 28 03
Email: hasan.ince@gulbudak.com.tr



For further information visit our website:
<http://www.foodchainpartnership.com/>

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