

Fighting against TR4, *future-proofing* bananas



What was *the market situation*?

The world's banana production faces a serious threat. Tropical Race 4 (TR4), a fungal disease that causes a lethal wilt in banana plants, is spreading fast – and the Cavendish banana variety, which accounts for nearly all commercial production, is susceptible to it. Nowhere is the threat bigger than in Ecuador, the world's most prolific banana-exporting country – and a country where smallholder farmers, who operate on small acreages, dominate. A TR4 infestation would be a disaster for these farmers: since there is no fungicidal treatment available, they will simply have to stop production, isolate the area and burn affected plants, losing

their banana yield for the season and potentially several more seasons afterwards. In 2019, TR4 was reported in Colombia, and in 2021 it reached Peru, close to Ecuador's southern border. Several of the main roads from Peru into Ecuador pass directly through banana-producing areas – and traffic along these roads was only set to increase as COVID-19 restrictions were slowly lifted. Ecuador's banana industry faced a race against time to get itself protected against TR4, one farm at a time.

What were *the challenges*?

The only defense against TR4 is good biosecurity: measures to control the on-site movement of water, tools, vehicles and people – all of which can spread TR4 – and monitoring systems to gauge risk and detect early outbreaks. But merely designing these measures isn't enough – we need outreach programs to encourage uptake of the measures, since we aren't safe until every farm is safe. In a market populated by small individual producers, outreach is harder to achieve. Rather than working centrally with a major exporter or collective, campaigns must be devised to reach every farmer separately, bringing biosecurity messages and training as close to them as possible. Sometimes, even reaching farmers individually isn't enough. There are many places in Ecuador where multiple farms occupy the same parcel of land, sharing entrances and communal areas such as yards. Here, a collective inter-farm approach to biosecurity is essential. The Ecuadorean government had launched a wide training program, deploying experts to different banana-producing areas to encourage good TR4 safety. However, with the scale of the task at hand, time might run out before the government teams made it across the country alone. An integrated team, combining government and private sector, would contribute better to the cause.



What was *the solution*?

Bayer had some useful materials that had been developed in 2020 – such as new module of BayG.A.P., Bayer's agricultural service program, specifically focused on TR4 prevention. Together with growers' organizations such as OBSA and APACSA, this training was rolled out in the at-risk areas of Ecuador, with the course content adjusted to match the realities of Ecuadorean farmers. To maximize the reach of the training, the partners devised a multi-level communications campaign, including text messages, radio advertising and a joint project with a local bank. Training materials were also made available online, giving practical and accessible information on TR4 prevention in three one-hour blocks that farmers could fit around their own schedules. The aim was not just to give technical training, but to raise awareness and increase attention to the risks TR4 poses. To really become resilient to TR4, growers need to be vigilant, actively enforcing good practices and looking for ways to rework systems on-farm – or collectively with neighboring farms – in ways that meet their individual needs and budgets. In addition, Bayer introduced APACSA members to more of its technical innovations – small-molecule crop protection products and digital solutions – that can power greater precision in farming activities, reducing passes of machinery and people.

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“All the information we got in the TR4 modules was very useful. The program has a very good structure and very friendly time-flexible system. Every student was able to participate at the best time according to their schedule. To defeat TR4, we are open to adopting any product or practice needed. We will try any idea. But we are growers and exporters – we can't do scientific research ourselves. That's why technologies and practices pioneered by Bayer make such a difference, when combined with our networks. The more we both invest, the more we grow together.”

// Jorge Alex Serrano, OBSA



ECUADOR



What did *we achieve*?

The communications campaign quickly achieved a broad reach. Nearly 1,000 farmers – as well as many consumers – were reached by the radio, text and banking campaign. And the online seminars received around 22,000 downloads. TR4 is still spreading and presents a real risk. But farmers in Ecuador now feel better educated about a disease that was going “under the radar” before, and better equipped to ward off its threats with robust biosecurity measures and new protocols for farm visitors. In addition, there was a co-benefit: by adopting integrated practices and solutions, along with precise use of chemical compounds as part of an integrated pest management approach, they have been able to reduce the amount of active ingredients they apply on their land, without affecting pest or disease control. This safeguards their access to the export market, since European supermarkets and other major international buyers are constantly asking suppliers to meet stricter residue standards and become more sustainable. Ecuadorean banana growers are committed to keeping production going no matter what, and always striving for greater sustainability and efficacy. With the right support from value chain partnerships, they can succeed, even when faced with an enormous challenge such as TR4.

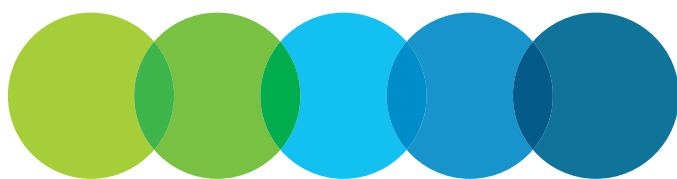
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“To make a difference at speed, you need to be smart and understand what is really happening in the marketplace. That’s why we believe enterprises like OBSA and APACSA are ideal partners. They are big enough to have a significant footprint, but small enough that they still have integrated services and processes, allowing us to move fast. There is still work to be done, and a large area at risk, but in general terms, I am optimistic. Together, we can manage risks, move forward, and continue to put at least the same volume of bananas into the market as we do now.”

// **Gerhard Adam, Global Food Chain Partnership Lead, Bayer**

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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