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Airplane spraying a field with STK's hybrid fungicide Regev.

The hybrid solution that facilitates the transition to the use of biologics in crops

Israeli firm STK Bio-AG technologies is targeting Latin America with a product that combines active ingredients of a chemical nature with botanicals. With this, he points out, he has managed to reduce the barriers in farmers by trying inputs that escape from the conventional.

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In the agronomists' decision to use a chemical pesticide or a biological one for crops, Yair Nativ says there is an intermediate solution: apply a mixture of both. The commercial vice president of the Israeli firm STK Bio-Ag Technology, explains that a formula that combines traditional chemicals with others of organic origin has been an option that has helped many producers in

Latin America move towards biological options. "It's a bridge to the future," he says. "It makes it much easier to adopt in the field towards management with biological options."

He and his company have seen it firsthand. A few years ago, STK launched a biofungicide whose active ingredient was a tea tree oil. An all-natural product marketed under the timorex Gold or Timorex Act brand names, which is registered for use in much of Latin America. However, he says, farmers in the region have been reluctant to try the new products, which they usually see as more expensive and less effective.

"When you have a product that's just biological you have to be very specific about how to use it, with what disease to use it and when to use it," Nativ says. "You have to be very technical."



"When you come to a farmer and tell him that you are purely organic, his first impression will be that you are expensive and that your effectiveness is low. And when you come in with a chemistry, usually the perspective will be that you're cheap and you work well, but you have a lot of waste problems."

Yair Nativ, de STK Technologies.

That began to change when in 2017 they launched Regev, a hybrid solution that combines its tea tree extract with difenoconazole, a chemical traditionally used to prevent a large group of pathogens from completing their infection processes in plants. This hybrid product comes in two formulations: one with two biological and one chemical parts, and another that goes in equal parts.

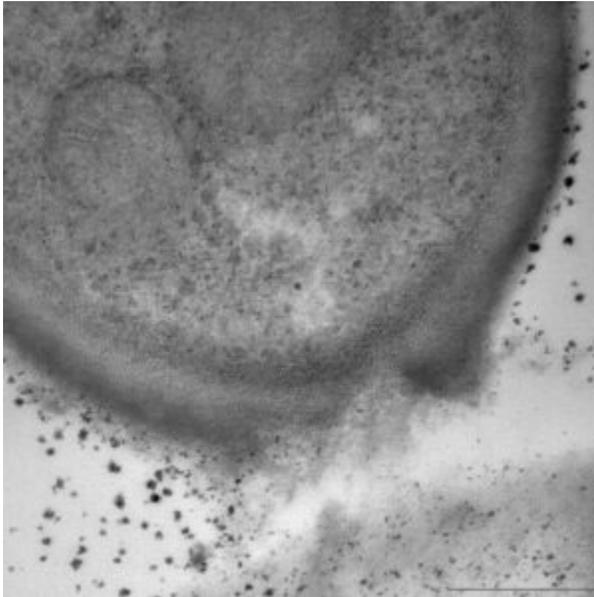
Although he does not give sales figures, the Israeli points out that the hybrid solution has allowed a significant advance in the company's figures, because it is more suitable for the transition.

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Focus on export

The hybrid product, although it cannot be considered as biological, has the advantages of both modes of action: with simplicity of use, high effectiveness and low levels of waste, a key factor to export to highly regulated markets in this regard, such as Europe.

Nativ says that Regev is justly designed for export agriculture: although its use in Europe's crops is not yet authorized ("an authorization process that takes a long, long time," he points out), its low levels of chemical residues are below the maximum required by the regulations in the old continent (the MLR, for Maximum Residue Levels).



Photomicroscopy of the breakdown of diseased cells by the hybrid fungicide REGEV

Regev has a wide range of uses in crops, from vines to leafy vegetables and large-area crops such as soybeans and sugar beets. Thanks to its unique biological action, it can gain ground as a resistance management tool for a wide range of producers.

It works like a conventional product: its storage and application are the same, which makes it easier for farmers to handle.

Latin American Origin

The firm, which also has an important business in the United States, has a special relationship with Latin America. In fact, it began its turn in 1994 marketing chemicals made in China to sell in Latin America, under the name Stockton. However, the company's founder, Peter Tirosh, came into contact with a laboratory located in the Golan Heights in northern Israel, which was experimenting with a botanical solution: a fungicide made from a tea tree extract. The story is told quickly then: they bought the start-up and soon abandoned the commercialization of all chemicals to focus on biologicals.

In 2012 they launched Timorex Gold, the first product based on tea tree oil and in 2017 they launched their first Regev hybrid. In 2019 and 2020 they signed distribution agreements with firms such as Syngenta, Adama, with which it operates in Latin America, and the Iberian Company Ascenza.



STK's hybrid formula combines a biofungicide created from tea tree and the chemical difenoconazole

One of the decisions they had to make when launching Regev was with which chemical to formulate it. Difenoconazole was chosen because it is "the one with the best chance of maintaining its use registration in the European Union," Nativ says. "We believe difenoconazole is going to be the last member of the conazole family to remain on the market." The company, which in 2015 received a \$90 million investment from a Chinese investment firm in exchange for 50% ownership, is in the process of launching new products, both pure biologics and their hybrid formulations. "We think in 20 or 30 years, the market is going to be totally dominated by biologics," he says. "But it's going to take time, and until that happens, in the next 20-30 years, hybrids are a perfect solution."