HOME GROWN WISCONSIN POTATOES

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THE VOICE OF WISCONSIN'S POTATO & VEGETABLE INDUSTRY

WPVGA INDUSTRY SHOW PREVIEW & TRUCKS ISSUE

MEET UP WITH ALL OF AG:
The 2022 Grower Education Conference & Industry Show

THE FUTURE OF
Food is Wild! and ...

THE FUTURE OF CROP
Protection is Hybrid

POTATO NUTRIENTS HELP
Reduce Sodium Retention

INTERVIEW:
ALEX OKRAY
Okray Family Farms

Fresh red potatoes are sorted and graded at the Okray Family Farms packing shed in Plover, Wisconsin.

The Future of Crop Protection is Hybrid

Combining biological and chemical crop protection active ingredients equates to long-term plant health

By Professor Moshe Reuveni, chief scientist, STK Bio-Ag Technologies

Professor Moshe Reuveni received his Ph.D. in Plant Pathology from the Department of Life Sciences of Bar-Ilan University in Israel in 1982. As a post-doctoral research fellow and associate, Prof. Reuveni spent four years at the PlantPathology Department at the University of Kentucky, USA. He continued to work for three years as a senior scientist for Plant Biotechnology Industry in Israel. In 1990, Prof. Reuveni joined the Shamir Research Institute of the University Haifa inIsrael as senior plant pathologist; in 2000 he was appointed Head of the Institute. Since 2002 he has focused on developing new botanical-based biopesticides, including Timorex Gold and Regev at STK Bio-Ag Technologies, where he holds the position of Chief Scientist and IP Leader. Prof. Reuveni has published more than 80 articles in scientific journals plus more than 30 articles in leading trade publications and has provided about 65 abstracts and presentations at scientific meetings, symposia and conferences. Prof. Reuveni is also an inventor and co-inventor, holding seven patents related to biopesticides.

For centuries, farmers have sought to shield their crops from weeds, pests, nematodes and various diseases by using pesticides to protect and continue nourishing the food humans rely on to survive.

However, in recent years, there has been an increasing amount of pressure around the effectiveness of existing products, regulatory demands and consumer concerns.

This has caused an eruption in the industry, forcing us to rethink traditional methods and search for newer, more innovative growth solutions and modes of action.

Three challenges of crop protection are:

- Effectiveness of Existing Products - Fungal pathogens, insects and herbs develop resistance to chemical pesticides leading to a higher risk of their reinforcement through further applications.
- Regulatory Demands - Pesticide residuals can affect people's health and impact the environment, causing an acceleration of stricter regulation to limit chemical residue.
- Consumer Pressures - Consumers today demand healthier food and more sustainable products.

While this perfect storm of pressures is driving a new trend towards safer, more sustainable and environmentally friendly crop protection solutions, the reality is that most of us are not ready to take the leap to go with 100 percent biological products.

New hybrid solutions are now proving a best-of-both-worlds opportunity by combining biological and chemical crop protection active ingredients to provide an effective solution for long-term protection.

Years of farming and inbreeding

Above: Infected plants of control are shown untreated (left) and treated with Regev hybrid fungicide (right).

have led to crops losing their natural immunity or resistance to fungal and bacterial pathogens.

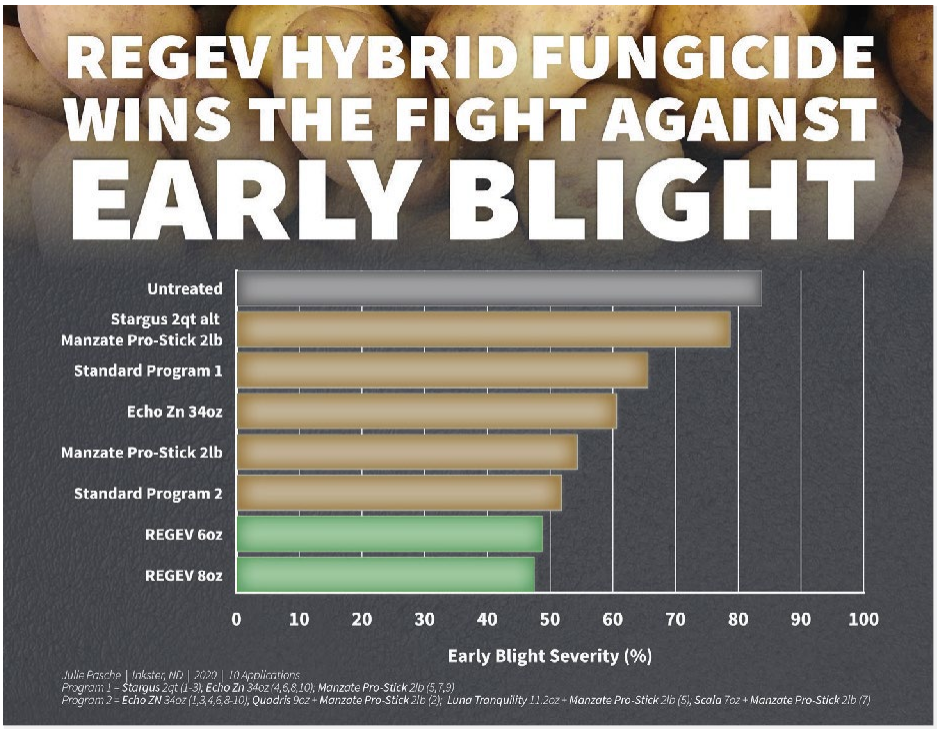
Despite the application of traditional chemical pesticides aimed at combating resistance, either by chemical rotation or mixtures of different chemicals, the result is highly toxic environments that are mostly effective in the short-term.

A hybrid solution approaches crop control differently than traditional pesticides by creating a long-lasting and highly effective solution.

Regev™ by STK Bio-Ag Technologies, the first potent hybrid fungicide on the market, has a unique activity that presents a low probability for the development of resistance or cross-resistance in plant pathogens.

HYBRID FORMULATION

The hybrid formulation contains 200 grams (g)/liter (L) difenoconazole plus 400 g/L tea tree extract.



Recent trial results demonstrate that Regev™ hybrid fungicide delivers remarkable control of early blight in potatoes. Regev unites the disease control of botanical and conventional chemistries, providing growers with multiple modes of action to control devastating disease in potatoes, fruits, vegetables and soybeans, while enhancing plant growth and yield.

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Multiple Modes of Action

The Future of Crop Protection is Hybrid. . .

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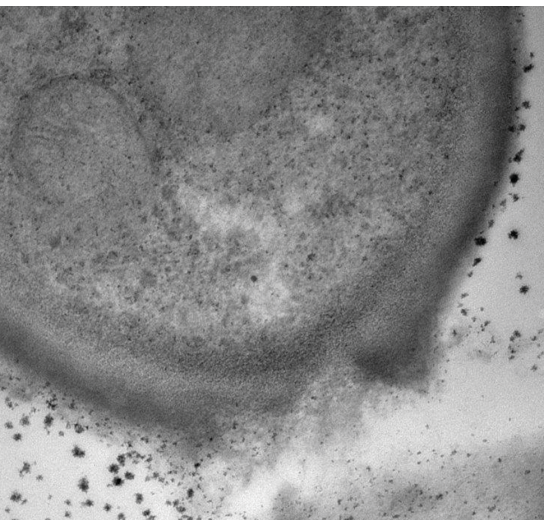
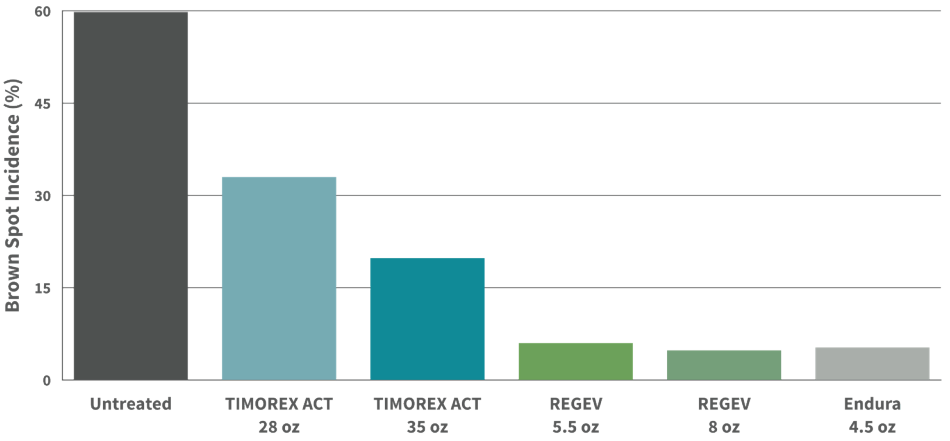




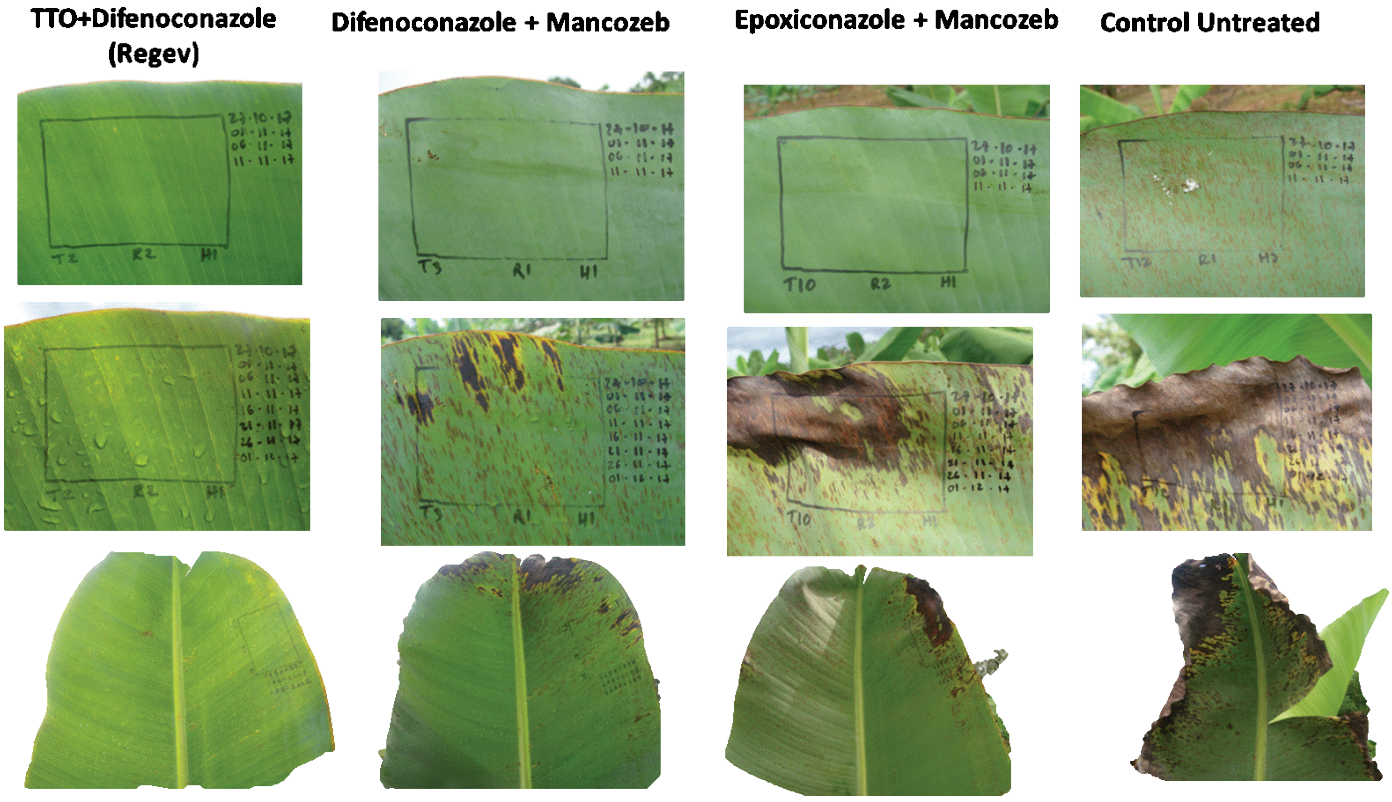
GLC Consulting | Quitman, GA | 2017 | Pathogen: Alternaria alternata | Application every 7 days
4 Applications, 20 GPA | RCB, 4 repetitions | Planted: April 3 | First Spray: April 24

This unique formulation provides various plant defense mechanisms of action including Systemic Acquired Resistance (SAR) and Induced Systemic Resistance (ISR) for improved efficacy in plant disease control and the cultivation of successful crop yields.

Plant extract products are considered to have a stronger impact on environmental safety, biodegradability and renewability with novel bioactivities and improvement of plant health for

Left: A photomicrograph shows a diseased fungal cell ruptured by Regev hybrid fungicide.

Right: Potato field test results are given for occurrence of brown spot in plants that were untreated or treated with Timorex ACT, Regev and Endura.



This image illustrates the efficacy of Regev (TTO+Difenoconazole) applied alone and of systemic fungicides, each mixed with mancozeb, to control black Sigatoka on a banana plantation.

use by the agrochemical industry.

These products are generally used in crop protection methods that contain secondary metabolites, which can be (but not always) involved in plant defense and plant growth.

At suitable concentrations, Regev significantly inhibits spore germination or lesion development on treated leaves and limits the expansion of lesions caused by various fungi.

This leads to a significant decrease in the fungi's potential to infect plant tissues and cause disease without exposing crops to toxic chemicals.

PREVENTIVE & CURATIVE

The preventive and curative activity of Regev combined with the indirect activity via the host plant, either by systemic resistance or enhanced plant growth and yield, makes Regev a top performer in disease control.

It is reliable, leaves little residue and provides significant added value to growers.

> *"Years of farming and inbreeding have led to crops losing their natural immunity or resistance to fungal and bacterial pathogens."*
> ***– Professor Moshe Reuveni***

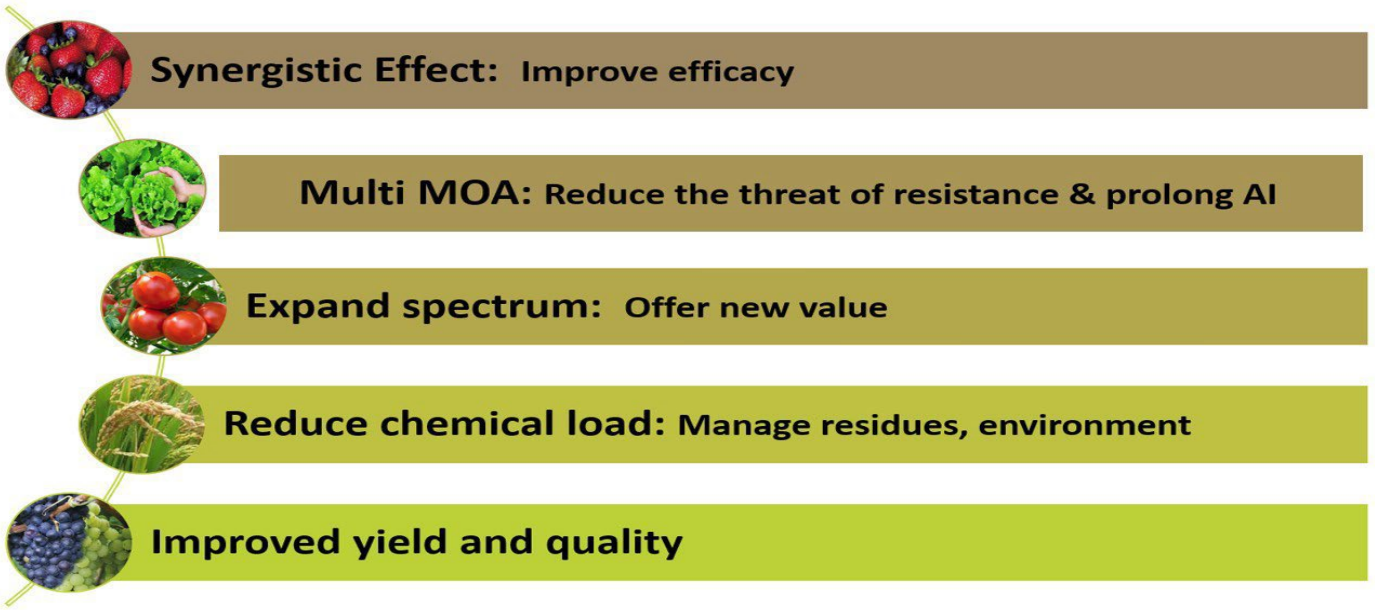
Regev is currently used for controlling a broad range of diseases on potatoes and vegetables, arable crops, cereals and fruits, helping farms of all shapes, sizes and crop variations effectively produce the best possible yields.

The hybrid fungicide has already been registered in the United States, including Wisconsin, as well as in Israel, Serbia, The Philippines and most of Latin American, and is in the process for the European Union.

Regev promises successful yields without risking your profit margins while simultaneously upholding regulations and responding to growing consumer demands.

The future of crop protection is here. Greet the perfect storm of industry pressures head on and meet your farming needs and your consumers' demands.

For more information, visit https://stk-ag.com/. BCT



Summit Agro USA is the exclusive USA distributor of REGEV® 'hybrid' fungicide. Please visit us at www.summitagro-usa.com