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For Immediate Release

Vestaron bioinsecticide receives emergency use authorization in Greece for control of devastating tomato leafminer infestations

Feb. 7, 2024 – (Durham, North Carolina) – Vestaron Corporation has been granted an Article 53 Emergency Authorization to provide farmers in Greece with access to a novel bioinsecticide that tackles devastating infestations of tomato leafminer (*Tuta absoluta*) while presenting minimal risk to beneficials, pollinators, or people. This authorization in Greece marks a significant commercial milestone for Vestaron and paves the way for its first sales in Europe.

The Greek Ministry of Agriculture has granted emergency use in Greece for SPEAR® LEP, a peptide-based insecticide that targets lepidopteran insects such as tomato leafminer – a pest that has been known to cause yield losses in Europe of up to $380,000/ha. SPEAR LEP adds an important tool to growers' toolboxes at a time when access to effective crop protection products is increasingly limited in Europe.

In experimental studies conducted in Greece and other European countries, SPEAR LEP, manufactured by Vestaron, has demonstrated efficacy against the target pest under both open-field and protected conditions, including in populations that may be resistant to other commonly used insecticides.

"The *Tuta absoluta* crisis in Greece and other European countries underscores the need for effective, sustainable pest control products as the use of neonicotinoids and other synthetic pesticides becomes increasingly restricted," said Juan Estupinan, Vestaron interim CEO and President. "Peptide-based bioinsecticides such as SPEAR LEP represent a powerful new category of products to effectively control pests while fighting resistance. Vestaron's solutions are imperative for growers and offer advantages for workers and in-field specialists, beneficials, the environment and consumers."

Novel mode of action

Available for growers in Greece to use on tomato plants from March 1, 2024 to June 28, 2024, SPEAR LEP is a biological product that is ingested by larvae as they graze on leaves. Based on naturally occurring peptides found in spider venom and produced using natural fermentation, SPEAR LEP has a unique mode of action (IRAC group 32) with no known resistance or cross-resistance with other synthetic pesticides, making it a useful tool for resistance and integrated pest management.

When used in conjunction with a low dose of the widely used insecticide *Bacillus thuringiensis* (Bt), which disrupts the larvae's gut, the active substance in the product enters the pest's bloodstream and attacks its central nervous system, destroying the larvae within

as little as two days. Fully biodegradable and highly specific to the target pest, it is also soft on pollinators and has an excellent human and environmental safety profile, with 0-day pre-harvest interval and no maximum residue limits.

Helping European growers meet sustainable use regulations

Agricultural product distributor Oxygen AgroShield LP petitioned the Greek Ministry of Agriculture for emergency authorization on behalf of 19 other Greek grower groups. Oxygen AgroShield said it was delighted that the temporary authorization had been granted, giving tomato growers the chance to effectively and sustainably control costly tomato leafminer infestations.

“If growers are going to meet the EU’s sustainable use regulations for pesticides, which aim to reduce pesticide use by 50 percent by 2030, then having effective biocontrols like SPEAR LEP available to producers is vital,” said Nikos Pentaris, senior agronomist at ASOP Elafonisiou SYN, one of the grower groups represented in the petition. “With a unique mode of action, SPEAR LEP provides Greek tomato growers with a sustainable solution to use in rotation with other categories of pesticides, helping to protect crop quality and yields while preserving the efficacy of the limited range of products available to combat this prevalent pest.”

Under the emergency authorization, Greek growers will be able to make three applications of SPEAR LEP every 5-15 days at a dose of 1-2 Liters per hectare.

SPEAR LEP has been in use in the US and Canada since 2020 and was submitted for full regulatory approval in Europe in 2022.

About tomato leafminer (*Tuta absoluta*)

Originally from Latin America, tomato leafminer (*Tuta absoluta*) is a lepidopteran pest of tomatoes and other Solanaceae crops. It was first reported in the Mediterranean and South-East climatic zones in 2007, including Greece.

Within 90 minutes of hatching, the young larvae (caterpillars) begin to burrow into the leaves of the crop plants. They will then ‘mine’ and progressively graze the leaf from inside the lamina, leaving dark ‘frass’ behind them.

The pest infests both industrial tomatoes and salad tomatoes, in the field and under protected conditions. For Greece, this is a serious problem as there are approximately 4,760 hectares of industrial tomatoes and 11,250 hectares of salad tomatoes grown annually with approximately 2,640 hectares of tomatoes grown under protection (i.e. in greenhouses or under polythene shading).

About SPEAR LEP

SPEAR LEP is Vestaron’s novel, peptide-based bioinsecticide for fruits, vegetables, and other high-value crops in the field. Based on naturally occurring peptides from spider venom,

SPEAR LEP targets lepidopteran pests such as tomato leafminer, European grapevine moth, codling moth, loopers, and caterpillars. Field trials with SPEAR LEP show performance that is equivalent to conventional insecticides. With a unique mode of action (IRAC group 32), SPEAR LEP has no known resistance or cross-resistance and can be used as a standalone or in rotation with conventional insecticides. SPEAR LEP is an excellent resistance and integrated pest management tool and is soft on pollinators and other beneficials.

About Vestaron

Founded in 2005 and headquartered in Durham, NC (USA), Vestaron is leading a revolution in crop protection. We are providing growers with the novel, effective, and sustainable peptide-based pesticides they need to meet the growing challenges of modern agriculture. The first insecticide of its kind, SPEAR®, was launched in 2020, with a pipeline of novel solutions to follow. Our peptides, derived from nature, overcome existing resistance issues while offering a desired safety profile for workers, pollinators, other beneficials, and the environment. Vestaron has earned global recognition for its work, including the inaugural 2015 Bernard Blum Award for novel biocontrol solutions, the prestigious Green Chemistry Challenge Award from the U.S. Environmental Protection Agency, the American Chemical Society Green Chemistry Institute in 2020, and Best New Biologic Product in the 2021 Crop Science Awards. Vestaron was named to the Global Cleantech 100 Hall of Fame in 2024.

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