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AgPlenus makes progress in novel fungicides as Septoria resistance challenges wheat production

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With resistance to established fungicide groups such as SDHIs intensifying the need for alternative solutions, AgPlenus reports promising results from compounds targeting new fungal modes of action

AgPlenus Ltd., a developer of novel crop-protection products and a subsidiary of Evogene Ltd. , today announced significant progress in two fungicide discovery programs targeting novel modes of action against Septoria tritici blotch (STB), one of the most economically significant diseases affecting global wheat production.

Caused by Zymoseptoria tritici, STB is a major cause of wheat yield losses worldwide. Historically, more than 70 per cent of fungicide use in European wheat production has been directed at STB, representing an estimated market opportunity of approximately â?¬1.2 billion. Growing resistance to widely used fungicides, including succinate dehydrogenase inhibitors (SDHIs), further underscores the need for new modes of action.

AgPlenus is addressing this challenge by targeting previously untapped proteins essential for fungal survival. Leveraging its ChemPass AI for Ag discovery platform, the company identified active small molecules across both programs, that inhibited their intended fungal targets and showed promising fungicidal activity, including against fungicide-resistant Septoria strains. Selected compounds also reduce disease by 75 per cent in plan tissue assays. Importantly, selected biological findings have been independently corroborated by an external research organization, providing additional validation of the observed activity and supporting the continued advancement of both programs.

Beyond Septoria, selected compounds have demonstrated activity against additional fungal pathogens, pointing to potential applications across a broader range of crop diseases. These findings provide a foundation for further molecular optimization, expanded biological evaluation, and the potential development of differentiated fungicide candidates.

The advancements highlight the capabilities of ChemPass AI for Ag, AgPlenusâ?? integrated discovery and optimization platform combining AI-driven molecular design, predictive biology, and proprietary chemistry expertise. By integrating computational predictions with experimental validation, the platform enables the identification and optimization of novel

molecules against previously untapped fungal targets, creating opportunities to the development of differentiated crop-protection solutions.

Orli Even Or, PhD. VP R&D of AgPlenus, commented: â??The growing challenge of fungicide resistance highlights the urgent need for new modes of action in crop protection. Making progress in two independent fungicide discovery programs, with compounds demonstrating activity against resistant Septoria strains and additional fungal pathogens, represents an important milestone for AgPlenus. These results demonstrate the potential of our AI-driven discovery platform to translate novel biological insights into differentiated fungicide candidates and address broader crop-protection needs.â?