

DuPont™ Zorvec™ disease control: The first member of a novel class of oomycete fungicides

JAN-DRIES LUIJKS

DuPont de Nemours (Nederland) B.V., Baanhoekweg 22, 3313 LA Dordrecht, The Netherlands

Late blight caused by *Phytophthora infestans* remains one of the most important limiting factors in potato production, resulting in decreasing yields and affecting tuber quality. Applications of effective fungicides are an important part of an overall integrated pest management (IPM) control strategy for potato late blight. Characterizing and comparing the attributes and features of fungicides is critical to understanding best use in an effective late blight disease management program.

DuPont™ Zorvec™ is the global trade name for oxathiapiprolin (approved ISO common name), a novel fungicide recently discovered by DuPont and the first member of a new class of piperidiny-thiazole-isoxazoline fungicides. It acts at a unique site of action in oomycete pathogens with no known cross-resistance to other fungicides. *In vitro* studies, scanning electron microscopy (SEM), and whole plant studies were conducted to characterize performance of oxathiapiprolin compared with current commercial fungicides used to control late blight. Studies have demonstrated: 1) high intrinsic activity against *P. infestans*, 2) an effect on multiple stages of pathogen development, 3) systemic movement within the host plant, 4) protection of new growth, and 5) quick rainfastness.

This combination of attributes allows oxathiapiprolin to provide consistent and reliable disease control, even under the most severe conditions. Oxathiapiprolin is highly effective for the control of *P. infestans* and other economically important oomycete pathogens at use rates much lower than current commercial fungicides. Its new mode of action makes oxathiapiprolin a valuable option for fungicide resistance management strategies, and its minimal impact on key beneficial organisms provides a strong fit within integrated pest management programs. A favorable toxicological and environmental profile, combined with low use rates, provides a new effective tool to potato growers.

