IR-4 Project Headquarters
North Carolina State University
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Suite 210
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https://www.ir4project.org/

Jan 24, 2023

To Whom It May Concern,

RE: Importance of penthiopyrad for protection of multiple specialty crops against diseases

IR-4 is a federally-funded national research program that comprises of a unique partnership between the USDA, U.S. Environmental Protection Agency (EPA), agrochemical industry, commodity groups, and growers. IR-4 assists with the identification and registration of safe and effective pest management solutions for specialty crops (e.g., fruits, vegetables, nuts, herbs, ornamentals) and low volume "minor uses" on major row crops. According to Michigan State University, IR-4 contributed $8.97 billion annually towards GDP and supported 111,470 jobs with a total annual payroll of $5.34 billion.

Penthiopyrad is a succinate dehydrogenase inhibitor (SDHI) class of fungicide which stops spore germination, inhibits mycelium growth, and has an antisporulant activity. Penthiopyrad is one of few fungicides which has a broad-spectrum action with preventative, curative and some systemic activities to control several crop diseases caused by many Ascomycetes and Basidiomycete fungi.

Penthiopyrad is approved to use on many specialty crops for management of several fungal diseases. In addition, research shows that rotating or tank mixing penthiopyrad with another effective fungicide can help reducing repeated use of fungicide with single mode of action. To provide some examples, rotational program involving penthiopyrad significantly reduced diseases on onions, broccoli, peanuts and tomatoes (Dutta and Riner, 2018, Kicklighter et al. 2018, Korus et al. 2022, Miller et al. 2018). Such reduction in repeated use of same fungicide could reduce the development of resistance in targeted plant pathogens. Similarly, combining penthiopyrad with azoxystrobin improved *Rhizoctonia solani* which can help in delaying development of fungicide resistance (Liu et al. 2021).

The fungicide is registered for applications on more than 170 specialty crops including berries, bulb vegetables, brassica vegetables, cucurbits, fruiting vegetables, leafy greens, legumes, pome fruits, root vegetables, stone fruits, and tree nut (Fontelis label, and Vertisan labels). According to 2017 US Census of Agriculture data, the market value of fruits, tree nuts and berries sold is more than $28 million (2017 Census of Agriculture). This market value appears to cover less than 35% of crops listed in penthiopyrad labels. Continued protection of specialty

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crops from diseases using penthiopyrad is essential in making sure that growers persistently make living from their agriculture dependent livelihood. Growers could face huge crop loss without availability of penthiopyrad for crop protection.

Thank you for your consideration

The IR-4 Project

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