

DMI Fungicides on Apples: Survival of the Apple Scab Pathogen in Sprayed Leaves, Late-Season Scab, and Sustainability of DMI Use in IPM Programs

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Abstract. DMI fungicides such as Rubigan and Nova represent a class of widely used and highly effective pest management tools in New York's apple IPM programs. Our recent research has indicated some potentially serious problems attending the continued use of DMI fungicides. Long-term suppression of the pathogen followed by expression of symptoms and sporulation, over-estimation of fungicide efficacy, development of late-season scab, and under-estimation of inoculum dose are all potential consequences of a poorly understood interaction between fungistasis, DMI-sensitivity, and use patterns. We addressed two aspects of the above: (i) the impact of use patterns upon survival of infections and delayed symptom expression, and (ii) the potential impact of survivorship upon selection for resistance to DMI fungicides. Our goal was to develop a body of research that would lead to recommendations for the use of DMI fungicides that not only considered immediate efficacy, but minimize resurgent infections, late-season scab, and development of resistance.

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