

Report of 1997 Demonstration / Implementation Research
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Management Strategies for Optimizing Summer Fungicides Applied to Apples
In New York's Upper Hudson And Champlain Regions.

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Abstract: Elements of the Gadoury degree day model for forecasting primary apple scab season end, and the NY flyspeck model developed by Rosenberger, were employed to assess their usefulness in the control of sooty blotch and flyspeck. Field experiments were conducted in the upper Hudson and Champlain Valleys. Plots were established to allow comparisons of existing commercial fungicide programs, a model-based IPM program, and unsprayed controls. Locations on each farm allowed both high-inoculum and low-inoculum sites to provide additional information on relationships between disease incidence and distance to inoculum, and consequent need of fungicide adjustments. No artificial inoculation was performed; reliance was upon placement of plots proximal to natural sources of inoculum. Locations were chosen for physical characteristics conducive to, or not, development of the fungi. Weather stations were established in each orchard to monitor leaf wetness. In two instances machines malfunctioned and estimates of leaf-wetness were derived from other sources. Temperature data collected for each site was redundant. Technical difficulties associated with transmission downlinks and data entry lag time compromised plans to more fully assess remote sensing or internet weather sources for calculating degree day tallies for the disease models. As complete data sets were ultimately obtained from intended providers, these will be examined at a later time. Fruit samples collected in all orchards disclosed no differences in incidence of sooty blotch and flyspeck. It is believed these results were indicative of low disease pressure and relatively dry conditions, though leaf-wetness hour accumulations might suggest otherwise. A too rigorous interpretation of wetness charts probably inflated the count. Despite these results, the IPM treatments - for the conditions of this season - generally resulted in one or more fewer fungicide applications comparable to the commercial applications applied this season in the same orchards. The incidence of other rots was greater in all cases in the samples from each of the Woods sites and were more frequent where a single IPM spray was used. Other rot incidence does suggest a need for having a different fungicide management approach for the two types of sites. Future replications of the research, under wetter conditions, would be desirable.

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