

The Northeast SARE (LISA) Apple Production Project

Developing sustainable apple production systems based on the use of scab-resistant apple cultivars (SRCs) and IPM techniques is a key objective of this multi-disciplinary project involving 19 principal investigators across the 5 cooperating institutions. Cultivar selection is a crucial decision for an apple grower which will impact the farm's competitiveness and profitability for many years. Factors that growers consider when deciding what cultivars to plant include consumer acceptance and marketability; winter hardiness; yield potential; fruit storage qualities, color, taste, and size; and potential pest management problems. These factors are being researched in this Project. Also, scab-resistant orchards will undoubtedly present new economic considerations

to growers, wholesalers, and processors. A further objective of this Project is to provide economic analyses of alternative techniques and to forecast the impact of changes in production systems on the Northeast apple industry. In addition, apple growers must have access to research-generated information that addresses the critical issues facing them. Rapid information dissemination is a high priority of this project. The Northeast Sustainable Apple Production Newsletter has over 1200 active subscribers across the United States and in 7 foreign countries including Canada, Australia, Israel, Chile, Argentina, South Africa and India. The Management Guide for Low-Input Sustainable Apple Production has been well received and continues to be requested world-wide.

Cornell University, Rodale Institute, Rutgers University, University of Massachusetts, and the University of Vermont.

Using Disease-Resistant Apple Cultivars to Reduce Fungicide Applications for Disease Control

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Most disease-resistant apple cultivars (DRAC) are resistant to apple scab; some are resistant to other diseases. However, many of these cultivars are susceptible to other diseases including cedar apple rust, powdery mildew, fireblight, fly speck, and sooty blotch. The objective of this research was to determine to what extent DRAC could be used to reduce fungicide applications for disease control. During 1983, a replicated planting of

standard cultivars and DRAC was established at the Univ. of Missouri's Horticulture Research Center in New Franklin, MO. Standard varieties included: 'Jonathan', 'Red Delicious', and 'Golden Delicious'; DRAC included: 'Prima', 'Priscilla', 'Sir Prize', 'Redfree', 'Jonafree', 'Dayton', 'Williams Pride', 'Liberty', and four numbered selections from the Purdue-Rutgers-Illinois breeding program. Fungicide applications for control of diseases were reduced

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