Eco Apple Working Group Research Priorities
Results – January 2008

Our working group has identified and ranked the following priorities during previous conference calls and correspondence. Fifteen working group members voted. The number of votes each priority received are in noted parentheses. Each member was allotted five votes per category. These priorities and ranking are being reported to the USDA Northeastern IPM Center.

Category One: Control Measure Efficacy Research Needs

1. Efficacy of trap-tree approach for plum curculio management. (13)
2. Efficacy of insecticide-treated spheres as a control measure for apple maggot fly. (10)
3. Efficacy of alternatives to streptomycin for fire blight management which may be needed to manage resistance or in response to a potential ban on agricultural uses. (9)
4. Management of secondary pest arthropods such as woolly apple aphid, tarnished plant bug and stink bug using reduced-risk insecticides. (9)
5. Efficacy of glyphosate alternatives, including non-chemical approaches, for groundcover management. (8)
6. Efficacy of alternatives to captan and thiophanate-methyl for summer diseases. (6)
7. Efficacy of reduced rate apps for apple maggot and other insect pests. (4)
8. Efficacy of *Bacillus subtilis* for disease management including in tank mix with reduced rates of conventional fungicides. (4)
9. Efficacy of reduced risk pest management options for Japanese beetle, including trap out and reduced risk pesticides. (4)
10. Efficacy, cost/benefit of flamers for weed management. (3)
11. Efficacy of management options for tarnished plant bug. (2)
12. Efficacy of alternatives to DPA (Shield). (2)
13. Efficacy of pyrethroid alternatives for rosy apple aphid. (2)

Category Two: Sampling/Monitoring/Forecasting Tactics Research Needs

1. Development of new IPM sampling and monitoring programs for control of apple pests with reduced-risk insecticides. (34)
2. Efficacy of disease-risk forecasting models for management of fire blight. (8)
3. Efficacy of disease-risk forecasting models for management of summer disease complex. (8)
4. Use of pheromone trap catch thresholds to improve management decisions for codling moth. (7)
5. Efficacy of sampling summer disease hosts adjacent to orchard to determine frequency of fungicide applications. (5)
6. Efficacy of alternate row mowing to preserve beneficial. (4)

7. Sequential Potential Ascospore Dose (PAD) sampling method for determining fungicide application timing for apple scab. (4)
8. Use of pheromone trap catch thresholds to improve management decisions for oriental fruit moth. (3)

Category Three: IPM Program (Prevention, Avoidance, Monitoring, Suppression) Research Needs

1. Development of cost-effective IPM programs using reduced-risk insecticides for northeastern apple growers. (49)
2. Development of improved IPM programs for the oblique-banded leafroller. (14)
3. Development of effective IPM programs for organophosphate-resistant lepidoptera in northeastern apple orchards. (12)

Category Four: Other Research Needs

1. Impacts of ecolabels and ecomarketing, including organic, on region-based marketing of fruits and vegetables. (21)
2. Impact of spinosad on mite populations and predators. (19)
3. Pesticide hazard ranking tools for Extension and growers to help identify effective least-hazardous options. (14)
4. Impacts of neonicotinoid insecticides on honey bee populations. (12)
5. Drift management strategies for apple growers in close proximity to dwellings. (9)