

Development of an Integrated Fruit Production Protocol (IFP) for NY Apples
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Carroll's involvement with the Apple IFP project has included the following:

1. Requested and coordinated input into the NY IFP Protocol document and edited the final draft of the NY IFP Protocol for Apples (2003 & 2004)

Material input into the apple integrated fruit production protocol document was coordinated by Carroll and input was received from T.L. Robinson, J.R. Schupp and A.N. Lakso, Horticultural Sciences, Geneva; L. Cheng, I.A. Merwin and C.B. Watkins, Horticulture, Ithaca; A.M. Agnello, A.J. Landers, J.P. Nyrop, W.H. Reissig and R.W. Straub, Entomology, Geneva; W.W. Turechek and D.A. Rosenberger, Plant Pathology, Geneva; P.D. Curtis, Natural Resources, Ithaca; D.I. Breth, Lake Ontario Fruit Team, Cornell Cooperative Extension, Albion; M.J. Fargione, Hudson Valley Commercial Fruit Program, Cornell Cooperative Extension, Highland; and K.A. Iungerman, Northeast New York Commercial Fruit Program, Cornell Cooperative Extension, Ballston Spa. Carroll developed Excel spreadsheet templates for facilitating data delivery on varied IFP topics. Carroll sent the NY IFP to key members of the NY apple industry for review and comment. All comments and suggestions received were compiled into the final draft of the document. In addition, Carroll and Robinson wrote an article for the Fruit Quarterly about the NY IFP Protocol and invited commentary from any interested members of the apple industry. The NY Apple IFP Protocol will be published both online as a living document and as a printed bulletin in its introductory year (2005).

2. Developed IPM Elements for NY apple production and coordinated and compiled input into the NY IPM Elements for Apple and published online at <http://www.nysipm.cornell.edu/elements/apple/apple.html> (2003 & 2004)

Because the IPM Elements provide the foundation of the NY IFP protocol, prior draft versions of the NY Apple IPM Elements were sent to the IFP authors for review and comment. Draft Apple IPM Elements were sent out to key apple industry representatives for review and comment. In Addition, Breth, Fargione, and Iungerman sent the draft IPM elements document to apple growers and industry representatives in their regions. Carroll also sent the IPM Elements draft to independent private consultants who work with apple growers for their input. All comments were incorporated into the final version of the IPM Elements for Apple in NY document that was published online.

3. Collaborated with Cornell University Plant Pathology Faculty, William Turechek and David Rosenberger, in developing a disease management protocol for field testing (2003)

Carroll collaborated with Turechek and Rosenberger in developing the disease management fungicide protocol for the NY Apple IFP that was field tested in selected orchards in New York. Data collection and disease ratings were done by Turechek and Rosenberger.

4. Collaborated with the CCE Lake Ontario Fruit Team IPM Specialist, Deborah Breth, with monitoring codling moth and oriental fruit moth traps in Williamson, NY at Motts (2003)

After the severe 2002 outbreak of internal worms in apples, Carroll collaborated with Breth in the summer of 2003 to monitor codling moth, oriental fruit moth, and lesser apple worm in traps set out at Motts in Williamson, NY from two locations. One was close to and downwind from the bin piles and the other was close to the office and upwind from the bin piles. Traps were checked twice each week and lures replaced at monthly intervals. Twice as many oriental fruit moth and codling moth males were caught in traps near the bin piles compared to the traps near the office. Lesser apple worm showed the reverse trend with more being caught near the office. See figures 1

