

Implementation Programs

Integrated Fruit Production (IFP) on Pears in Northern Oregon: A Progress Report

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The goal of this project is to research, demonstrate and implement an integrated fruit production (IFP) program as an alternative to the chemically intensive conventional pear production system. The study was expanded in 1995 to four sites. The IFP blocks at each site varied from 5 to 10 acres. Selective pest management programs were demonstrated in all IFP blocks. Several criteria guided us in designing the pest management programs for the IFP blocks. We emphasized the use of control methods which are selective or have a degree of selectivity in order to encourage biological control. Also, in order to create a safer orchard environment we excluded as much as possible toxicity class I pesticides (e.g., azinphosmethyl). Another important consideration was to alternate control tactics with different modes of action as a resistance management strategy. Monitoring was an essential part of the IFP program and provided the necessary information for making control decisions. Controls were applied only if needed, e.g., when populations exceeded economic threshold levels.

Selective codling moth control using pheromone for mating disruption was implemented in all four IFP blocks and was the key to creating an orchard environment where biological control of other pests can be effective. This selective control method was successful at all locations and no damage was found at harvest. The selective insecticide fenoxycarb (Comply), available under an experimental use permit (EUP) in 1995, was used once shortly after petal fall in one IFP block to reduce a high overwintering population of codling moth. Pear psylla control began in the prebloom period with sulfur plus oil sprays followed by fenoxycarb at the delayed dormant or cluster bud stage. As in 1994, fenoxycarb was again available for prebloom control of pear psylla under a Section 18 exemption. Fenoxycarb provided long-lasting selective control in all IFP blocks. No additional controls were necessary except in one block where pear psylla exceeded the treatment threshold in July. A soap spray was applied to suppress psylla and supplement biological control in that block. Spider mites were present shortly after bloom in three of the four IFP blocks. Selective acaricides were applied when populations began to exceed threshold levels. The use of two successive summer oil sprays for suppression of spider mites was demonstrated in one IFP block without causing phytotoxicity problems on the sensitive Anjou cultivar. Predatory mites survived the oil treatments. A diverse complex of natural enemies established in two IFP blocks due to the presence of low levels of either spider mites or pear psylla. Predatory mirids were the most common natural enemies.

Leaf and soil samples were taken in August and fall to determine the need for fertilizer applications and provide a sound basis for the tree nutrition program in each IFP block in subsequent years. Summer pruning was demonstrated on part of the acreage in three IFP blocks. The horticultural and pest management benefits of this practice will be evaluated in 1996 and

again in 1997.

Data on production costs, yields, and packouts with the two different programs are being collected to determine if IFP can be an attractive economical alternative to the presently used conventional program. In 1994 and again in 1995, there were no differences in packouts between the IFP and conventional blocks. Fruit from the IFP blocks stored and ripened as well as fruit from the conventional blocks.

The adoption of production practices which are in agreement with the goals and principles of IFP depends on well-trained growers. Therefore, a major goal of this project is educational, to inform growers about the aims of IFP, to demonstrate to them the potential benefits and also costs, and to assist the industry in the development of IFP guidelines as an essential step for a future IFP certification program. Four well-attended IFP workshops were held throughout the year which dealt with timely topics on tree nutrition, soil and leaf analysis, tree-row volume spraying, orchard ecology, pest management and identification of pests and beneficials. Campus faculty also participated in these workshops. The IFP demonstration project was the topic at several grower events this year including the Mid-Columbia Winter Horticultural Meeting, the Pear Research Review and the Summer Horticultural Tour. In the fall of 1994, an IFP committee was formed to explore how the Mid-Columbia fruit industry could benefit from an IFP program and what could be done to familiarize growers with the concepts and ideas of IFP. This is primarily a grower committee and is sponsored by the Hood River Grower Shipper Association, the local fruit grower organization. The IFP committee is responsible for the planning of the educational program, publishes an IFP newsletter and is also in charge of developing IFP guidelines. Copies of the IFP guidelines are available on request from the Hood River Grower Shipper Association, P.O. Box 168, Odell, OR 97044.