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AREAWIDE IPM FOR TREE FRUITS: THE SOUTHERN OREGON EXPERIENCE



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Abstract

Following a pilot project in 1994, southern Oregon participated in a five year multi-state areawide IPM project, the Codling Moth Areawide Management Program (CAMP) 1995-99. The CAMP project featured a large area (300 to 500 acres) of contiguous orchard where mating disruption for control of codling moth was used. During the course of the project, synthetic pesticide use was reduced by an average of 75% and organophosphate use by 66% for a per acre savings of over \$200 per year. In 2000, an estimated 50% of the pome fruit acreage in southern Oregon was using codling moth mating disruption. In 2001, a new multi-state project funded by IFAFS and RAMP, dubbed Areawide II, was initiated with the goal of stabilizing and extending the codling moth mating disruption system to 75% of pome fruit

acreage. Blocks as small as 20 acres are being used to demonstrate the utility of codling moth mating disruption at that scale. Research on increasing the impact of biological control agents is one focus of this new project. However, in 2002, the use of mating disruption has dropped to about 40% of the pome fruit acreage in southern Oregon. Economic distress in the tree fruit industry has resulted in abandonment of IPM in some instances. An American Farmland Trust grant was received in 2002 to address some of the issues surrounding this downturn and with the goal of bringing acreage back to an IPM approach. This experience indicates that even a highly successful IPM program is vulnerable to many challenges and that continued research and extension effort may be needed simply to maintain past gains.



IPM Timeline for Southern Oregon

1989-93 On-farm trials and Experiment Station research were combined to develop an IPM program based on new mating disruption technology for control of codling moth.

1994 Pilot project involving 2 growers and 50 acres, funded by the IPPC (Integrated Plant Protection Center) at Oregon State University, demonstrated the feasibility of the new IPM program on a commercial scale.

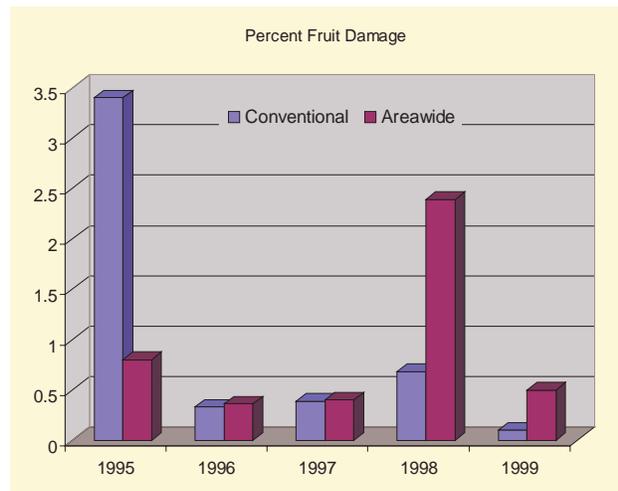
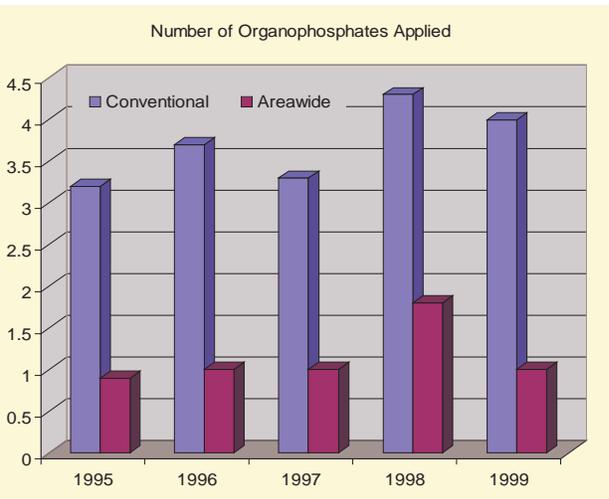
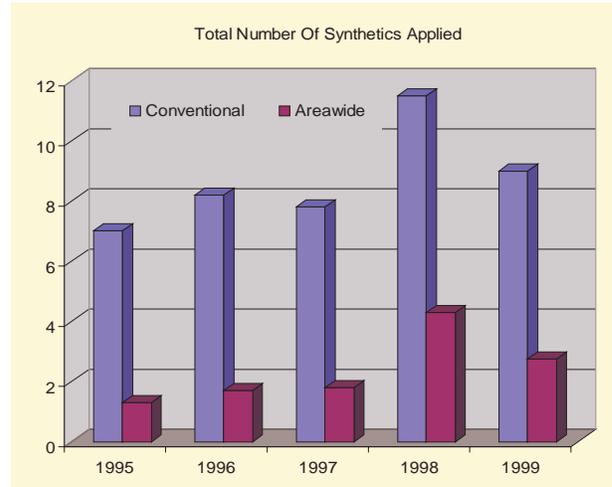
1995-99 CAMP project conducted in an area of contiguous orchard, up to 7 growers and 500 acres were involved. Pesticide reduction and cost savings

were documented, funded by the USDA-ARS (Agricultural Research Service).

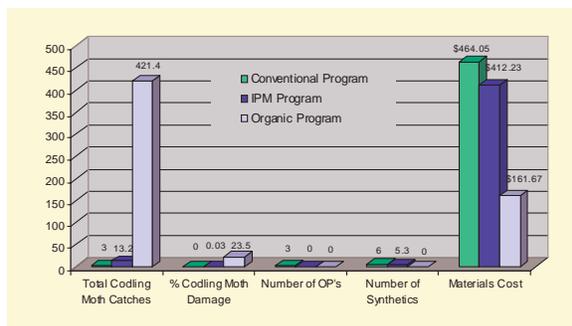
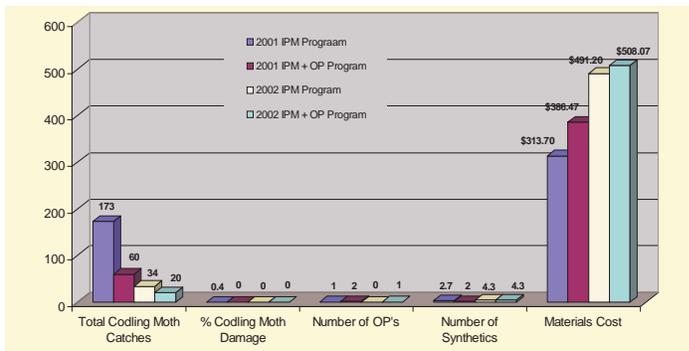
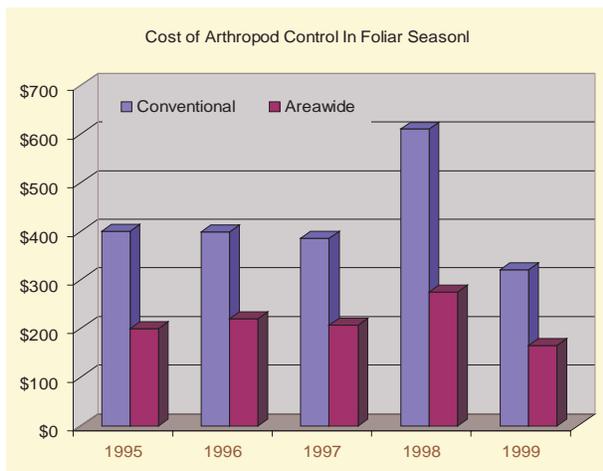
2001-present Areawide II, funded by IFAFS/RAMP, continues on-farm demonstrations of IPM programs on smaller acreages coupled with new research on mating disruption and biological control technologies.

2002 A one year project funded by the American Farmland Trust, growers successfully implemented IPM programs without using organophosphate insecticides and a program to deal with pest problems generated by abandoned orchards and backyard trees was initiated.

CAMP (1995-1999)
(Codling Moth Areawide Management Program)



CAMP (1995-1999) (Codling Moth Areawide Management Program)



Outcomes and Impacts

The IPM program developed and utilized over the past eight years has proven successful in: reducing organophosphate and other synthetic pesticide use, maintaining control of pear pests, producing a quality product, and reducing spray costs. However, in the last two years adoption of IPM has stalled and in some cases retreated. This plateau in IPM implementation is largely due to the current state of orchard economics. Even though spraying costs can be reduced with an IPM program, the perception persists that an IPM program is more costly and increases grower risk. The reality is that an IPM program based on mating disruption for control of codling moth in conjunction with intensive pest monitoring results in savings up to and beyond the additional costs associated with the application of mating disruption and the higher level of pest monitoring. However, problems can and do occur when an IPM program is implemented in a halfway fashion. For instance, the use of lower rates of pheromone dispensers (200 versus 400) has become common, which increases the chances that mating disruption will not be entirely effective in controlling codling moth. Another example of halfway measures is inadequate monitoring, monitoring often requires additional labor and training, these out-of-pocket expenses are often the first items to be reduced when orchard economics become tight. Unfortunately, when an IPM program is instituted without the higher level of pest monitoring which is required then the risk of incurring economic

injury is increased. Thus, while we have been successful in introducing growers to IPM concepts and practices, there is a continued need to train growers in the use of new technologies and on-farm research is still needed to demonstrate that implementation of an IPM program provides real benefits. Presently, as long as the economic returns for some fruits remain low and organophosphate use remains relatively inexpensive and requiring minimal monitoring, orchardists may continue to opt for the control program which is perceived to be less risky and easier to manage.

