

Massachusetts EQIP2006 Pest Management Guide

Through the Environmental Quality Incentives Program (EQIP), NRCS provides financial and technical assistance to farmers who voluntarily apply pest management on eligible crops. An incentive payment requires development and implementation of a Pest Management Plan that, at a minimum, uses information provided through a WIN-PST risk assessment, identifies site-specific resource concerns, and incorporates Integrated Pest Management (IPM) and IPM recordkeeping. In addition, the payment rate includes one or more additional pest management components that reduce environmental risk. The pest management calculator is a tool for determining the incentive payment rate. Payment is based on performance of the planned objectives.

PEST MANAGEMENT COMPONENTS

- *Integrated Pest Management (IPM)*
IPM strives to balance economics, efficacy and environmental risk. **IPM is the minimum extent of pest management required by NRCS.** The degree of implementation is measured using *Massachusetts Integrated Pest Management Guidelines: Crop Specific Definitions* point system. Incentive payments are available for two levels of application: a) Medium: 50-66% of the guideline items + at least one additional component to reduce environmental risk; b) High: $\geq 67\%$ of the guideline items + at least two additional components to reduce environmental risk.
- *IPM Record Keeping*
Required. Needed documentation includes a certified version of the IPM guidelines, indicating which items were implemented, plus supporting documentation provided by the producer or consultant.
- *Pest Monitoring Systems*
IPM utilization in row crops would be increased significantly if there was more use of monitoring techniques for pest and beneficial species. Detection devices such as sticky traps or bands and pheromone traps can alert growers to pest populations migrating into new fields from adjacent crops. **Pheromone traps are available for apples, grapes, and sweet corn.** In-field pest populations generally develop at the same rate and allow ample time for monitoring and decision making to take place. This can be accomplished by a number of techniques including
timed-search sampling, whole plant samples, beating trays, stationary trays and traps.
- *Weather Monitoring:*
In lieu of regularly scheduled applications, weather data is used for prediction modeling and application decisions that work to increase the efficacy of treatments. In many cases, it results in the elimination of unnecessary chemical applications. Documentation includes reports from services provided by a consultant, or reports produced through the use of on-site weather stations [and modeling programs](#). **Disease forecasting models are available for apples, potato, tomato, and grapes, and include TomCast, Blite Cast.**
- *Predator & Parasitoid Augmentation and Habitat Conservation*
Sustainable pest management depends largely on the augmentation and conservation of biological predators. *Augmentation* means periodically supplementing populations of predator insects; while *conservation* provides for the food and habitat required to maintain the population. This incentive also encourages the use of pest specific pesticides, or predator-friendly pesticides.
- *Crop Rotation*
Crop rotation is extremely effective in breaking pest cycles. When planned and implemented for this purpose, it is eligible as part of a pest management incentive.
- *Cranberry Bog Sanding*
Sanding is a cultural practice that breaks pest cycles by burying insect eggs and

preventing a hatch. The incentive payment is limited to once per land unit.

- Old Orchard Removal & Renovation
Pesticide use can be dramatically reduced by the removal of abandoned orchard trees adjacent to and/or removal of standard orchard trees from a productive orchard. Action requirements include: removal and destruction of old/standard orchard trees; root rake land followed by seedbed preparation. Tree destruction may include burning or windrowing.
- Perimeter Trapping Systems
Perimeter trap cropping functions by intercepting pest migration, regardless of the direction of attack. It then concentrates pest populations in the border area, where they can be retained or controlled. Perimeter trap cropping has provided excellent pest control and dramatically reduced pesticide use and costs on a variety of crops.
- Low/Very Low Environmental Hazard Chemicals
Significant risk prevention is obtained by selecting the least hazardous pesticides for application in environmentally sensitive areas. This incentive is for selecting 'low' and 'very low' rated pesticides in environmentally sensitive areas. Pesticide application records in combination with NRCS WIN-PST hazard rating reports are used to document implementation.
- Adhere to storage guidelines
Accidents involving pesticide spills or leakages may have serious health and environmental consequences. This incentive supports a producer's efforts to meet the state's storage guidelines in their operations. (See *Storage, Mixing and Loading of Pesticides: Guidelines*, 1999. MDAR Pesticide Bureau.)
- Direct-injection sprayer
These sprayers mix the chemicals directly at the point of application. The use of direct injection sprayers potentially reduces the risk of point-source losses, and improves precision of pesticide applications.

- Reduce treatment area by targeting application zone:
Use pesticide application equipment designed to improve coverage of target zones (i.e. better leaf coverage with fungicides, ear zone of sweet corn, banded spray for herbicides or soil pests), systemic furrow treatments at planting, or use seed, seed piece or transplant treatment media. Instead of broadcast applications of pesticides, spot treatment targets portions of a field based on scouting records, resulting in reduced quantities of pesticides applied and hence less environmental impact. No more than 20% of a field can be treated to classify as "spot" treatment. Documentation required for certification includes pesticide records of amount and acres treated.
- Application equipment that minimizes offsite losses:
This incentive supports farmers' use of new technology to improve efficiency and reduce environmental pollution, and may include: low-drift nozzles (i.e. air induction nozzles), shielded booms or air-sleeve booms, over-the-row hoods, or built-in tank washers. Sensor guided sprayers allow more precise herbicide spraying and thus reduces environmental impact.

For chemical drift considerations, nozzles should produce droplets in the range of 50-150 microns to reduce environmental risk. Applicators must consider recommended procedures for reducing drift, including: nozzle type and size, pressure range, lower boom height, spraying when wind speeds are >0<10 mph, forward speed, moving away from sensitive areas, and using a drift-control additive when needed.