

2007 Pest Management Components

NRCS provides incentive payments and technical assistance to farmers who voluntarily apply pest management on eligible crops, through the Environmental Quality Incentives Program (EQIP). *Incentive payments* are designed to encourage producers to try new management techniques that are not already being practiced. The practice includes development and implementation of a pest management plan that assesses environmental risk, identifies site-specific resource concerns, and incorporates integrated pest management (IPM) with other mitigating techniques or conservation measures needed to control the pests with the least environmental impact. Implementation of IPM (medium to high level of management) with recordkeeping is the minimum program requirement. The 2007 EQIP Cost List specifies the flat rates for each component of the practice (below). Payment is based on performance of the planned objectives.

Pest Management Components	Unit	Flat Rate per Unit
PM - Greenhouse	Square Ft.	\$0.10
PM1 - Medium Level IPM and recordkeeping	Acre	\$30
PM2 - High Level IPM and recordkeeping	Acre	\$40
Pest monitoring and disease forecasting systems	Acre	\$10
Low' - 'Very Low' hazard chemicals	Acre	\$20
Pesticide storage that meets state guidelines	Acre	\$ 5
Perimeter Trapping Systems	Acre	\$20
Predator-parasitoid augmentation/conservation	Acre	\$10
Reduce treatment area by targeting application zones	Acre	\$10
New technology to improve efficiency and reduce pollution	Acre	\$10
Vertebrate management, 5-10 year lifespan (one time payment)	Linear Ft.	\$ 2
Vertebrate management, >10 year lifespan (one time payment)	Acre	\$1,000
Old orchard removal (one time payment)	Acre	\$400
Cranberry bog sanding (one time payment)	Acre	\$400
Invasive plant species control - basal bark application	Acre	\$134
Invasive plant species control - cut-stump treatment	Acre	\$134
Invasive plant species control - foliar spray	Acre	\$100

COMPONENT DEFINITIONS

- Integrated Pest Management & Recordkeeping**

IPM is the minimum extent of the practice required by NRCS. IPM strives to balance economics, efficacy and environmental risk. The degree of implementation is measured using Massachusetts IPM Guidelines: Crop Specific Definitions point system.

Incentive payments are available for two levels of application: a) Medium: 50-66% of the guideline items with at least one additional component to reduce environmental risk; b) High: ≥ 67% of the guideline items with at least two additional components to reduce environmental risk.

IPM Record Keeping is required. Documentation needed includes a certified copy of the IPM guidelines indicating which items were implemented with supporting documentation provided by the producer or consultant.

- Pest Monitoring and Disease Forecasting**

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.

Disease Forecasting Models: 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.

- **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 will document implementation.

- **Pesticide Storage to Meet Ma 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.)

- **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.

- **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.

- **Reduce Treatment Area by Targeting 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.

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New Technology to Improve Efficiency and Reduce Pollution

New technology to improve efficiency and reduce environmental pollution 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. Direct-injection sprayers mix the chemicals directly at the point of application, reducing the risk of point-source losses, and improve precision of pesticide applications.

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.

- **Vertebrate Management** (*One-time payment*)

5-10 Year Life-span: Installation of 7-8 ft. plastic mesh fence, 4x4" round posts and 3 HT wires to which the fence is clamped.

>10 Year Life-span: Installation of 8' woven wire fence for orchards or permanent structures for small fruit netting. An example of a netting structure for blueberries includes: 6x6x16 PT posts (12 rows of 3); wildlife control technology premium netting; 4 ml monofilament wire; and misc. fittings.

- **Cranberry Bog Sanding** (*One-time payment*)

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** (*One-time pymt.*)

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.

- **Invasive Plant Species Control**

Herbicides may be used to control invasive plant species. Application techniques can include cut-stem treatment, basal bark or foliar spray application. Selection of a product shall be based on: (a) product effectiveness, (b) non-target species impacts, (c) toxicological risks, and (d) off-site movement of chemicals.