

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**PEST MANAGEMENT**

(Acre)

**CODE 595**

**DEFINITION**

Utilizing environmentally sensitive prevention, avoidance, monitoring and suppression strategies, to manage weeds, insects, diseases, animals and other organisms (including invasive and non-invasive species), that directly or indirectly cause damage or annoyance.

**PURPOSES**

This practice is applied as part of a Resource Management System (RMS) to support one or more of the following purposes:

- Enhance quantity and quality of commodities.
- Minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources and/or humans.

**CONDITIONS WHERE PRACTICE APPLIES**

Wherever pests will be managed.

**CRITERIA**

**General Criteria Applicable to All Purposes**

A pest management component of a conservation plan shall be developed.

All methods of pest management must comply with Federal, State, and local regulations, including management plans for invasive pest species, noxious weeds and disease vectors. Compliance with the Food Quality Protection Act (FQPA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Worker Protection Standard (WPS); and Interim

Endangered Species Protection Program (H7506C) is required for chemical pest control.

Integrated Pest Management (IPM) that strives to balance economics, efficacy and environmental risk, where available, shall be incorporated into planning alternatives. IPM is a sustainable approach to pest control that combines the use of prevention, avoidance, monitoring and suppression strategies, to maintain pest populations below economically damaging levels, to minimize pest resistance, and to minimize harmful effects of pest control on human health and environmental resources. IPM suppression systems include biological controls, cultural controls and the judicious use of chemical controls. Commodity-specific IPM is not available in Alaska.

An appropriate set of mitigation techniques must be planned and implemented to reduce the environmental risks of pest management activities in accordance with quality criteria in the local Field Office Technical Guide. Mitigation techniques include practices like a Filter Strip or Conservation Crop Rotation, and management techniques like application method or timing.

All methods of pest management must be integrated with other components of the conservation plan.

Clients shall be instructed to pay special attention to all environmental hazards and site-specific application criteria listed on pesticide labels and contained in Extension and Crop Consultant recommendations.

**Additional Criteria to Protect Quantity and Quality of Commodities**

As an essential component of both commodity-specific IPM and IPM general principles,

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

**NRCS, ALASKA  
December 2007**

clients shall be encouraged to use the minimum level of pest control necessary to meet their objectives for commodity quantity and quality.

#### **Additional Criteria to Protect Soil Resources**

In conjunction with other conservation practices, the number, sequence and timing of tillage operations shall be managed to maintain soil quality and maintain soil loss at or below the soil loss tolerance (T) or any other planned soil loss objective. The current version of the Revised Universal Soil Loss Equation (RUSLE2), the Wind Erosion Equation (WEQ), and soil quality rating procedures such as the Soil Conditioning Index (SCI) shall be used along with the most current soil survey data to predict soil loss for given management systems.

Clients shall be encouraged to pay special attention to pesticide label instructions for limiting pesticide residues in soil that may negatively impact non-target plants, animals and humans.

#### **Additional Criteria to Protect Water Resources**

Pest management environmental risks, including the impacts of pesticides in ground and surface water on humans and non-target plants and animals, must be evaluated for all identified water resource concerns. The NRCS' Windows Pesticide Screening Tool (WIN-PST) shall be used to evaluate environmental risks in ground and surface water. Additionally tools include the National Agricultural Pesticide Risk Analysis (NAPRA) program.

When a chosen alternative has significant potential to negatively impact important water resources, (e.g., WIN-PST "Extra High", "High" or "Intermediate" soil/pesticide human risk ratings in the drainage area of a drinking water reservoir), an appropriate set of mitigation techniques must be put in place to address risks to humans and non-target plants and animals. Appropriate mitigation techniques can include application timing, formulation, application rate adjustment, partial treatment; scouting and management techniques, application setbacks, substitution of alternative

pesticides with lower risks, cultural methods (e.g., a Filter Strip, Riparian Forest Buffer, Irrigation Water Management, and Conservation Crop Rotation) or biological control methods. Table 1 of the Pest Management Conservation Practice Specification lists the effects of mitigation techniques appropriate for each pesticide loss pathway.

Clients shall be encouraged to pay special attention to pesticide label instructions for limiting pesticide residues in leachate and runoff that may negatively impact non-target plants, animals and humans.

The number, sequence and timing of tillage operations shall be managed in conjunction with other sediment control tactics and practices, in order to minimize sediment losses to nearby surface water bodies.

Clients shall be encouraged to give special attention to hazards due to transport of sediment born pesticide residues. Many pesticides will break down slowly in cold soils thus increasing the persistence and extending the time period when risk of sediment losses should be considered.

#### **Additional Criteria to Protect Air Resources**

Clients shall be encouraged to pay special attention to pesticide label instructions for minimizing volatilization and drift that may negatively impact non-target plants, animals and humans.

Tillage and other cultural practices should be evaluated for impacts on air quality due to wind erosion.

#### **Additional Criteria to Protect Plant Resources**

Clients shall be encouraged to pay special attention to pesticide label instructions including those directed at:

- Preventing misdirected pest management control measures that negatively impact plants (e.g., removing pesticide residues from sprayers before moving to the next crop and properly adjusting cultivator teeth and flame burners).

**NRCS, Alaska**

**December 2007**

- Appropriate climatic conditions, crop stage, soil moisture, pH, and organic matter in order to protect plant health.
- Limiting pesticide residues in soil that can carry over and harm subsequent crops.

Clients shall be encouraged to diligently follow requirements for prevention of pest resistance when using genetically modified crops in a pest management strategy.

Carefully evaluate native and non-native plant populations prior to using biological control agents for weed control to determine if negative impacts could result.

#### **Additional Criteria to Protect Animal Resources**

Clients shall be encouraged to pay special attention to pesticide label instructions that minimize negative impacts to animals. Special consideration shall be given to maintaining healthy populations of beneficial insects.

When using biological control agents for weed control carefully evaluate native and beneficial insect populations to determine if negative impacts could result.

Control livestock pests to prevent transfer of pests to wildlife populations.

#### **Additional Criteria to Protect Humans**

Clients shall be encouraged to pay special attention to pesticide label instructions that minimize negative impacts to humans.

### **CONSIDERATIONS**

In Alaska commodity-specific IPM is not available, therefore the following IPM principles should be considered:

- Prevention, such as using pest-free seeds and transplants, cleaning tillage and harvesting equipment between fields, irrigation scheduling to avoid situations conducive to disease development, etc.

- Avoidance, such as using pest resistant varieties, crop rotation, trap crops, etc.
- Monitoring, such as pest scouting, soil testing, weather forecasting, etc. to help target suppression strategies and avoid routine preventative pest control.
- Suppression, such as cultural, biological and chemical controls, that can reduce a pest population or its impacts. Chemical controls should be used judiciously in order to minimize environmental risk and pest resistance.
- Eradication may be desirable for newly introduced and isolated populations of pests. Eradication is only feasible where a substantial and stable pest population has not been established.

Adequate plant nutrients and soil moisture, including favorable pH and soil conditions, should be available to reduce plant stress, improve plant vigor and increase the plant's overall ability to tolerate pests.

On irrigated land, irrigation water management should be designed to minimize pest management environmental risk.

IPM principles can be applied to urban land, forests, mined land or other sites where pest management is needed.

### **PLANS AND SPECIFICATIONS**

The pest management component of a conservation plan shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended purpose(s).

### **OPERATION AND MAINTENANCE**

The pest management component of a conservation plan shall include appropriate operation and maintenance items for the client.