

Subpart A - General

404.0 Purpose

This directive sets forth Natural Resources Conservation Service (NRCS) policy for pest management. This pest management policy applies to all pests.

404.1 Background

- A. A memorandum of understanding between the Cooperative State Research, Education and Extension Service (CSREES) (formerly the Cooperative Extension Service) and NRCS (formerly the Soil Conservation Service), dated June 3, 1988, (General Manual (GM), Title 460 Part 401, Water Quality Policy) outlined various roles and responsibilities for CSREES and NRCS. (See GM-190, Part 404, Subpart C, Section 404.20 details.) Extension refers to the local component of CSREES.
- B. Pest management policy is applied through the conservation planning process.

404.2 Authorities

The following laws and initiatives require U. S. Department of Agriculture (USDA) component agencies to reduce both the use and the risks of pesticides, and to promote sustainable agriculture that reduces contamination of the Nation's natural resources:

- (1) Food, Agriculture and Energy Act of 2008.
- (2) Executive Order 13112 of February 3, 1999, Invasive Species.
- (3) Inter-Departmental Clean Water Action Plan, February 14, 1998, (i.e., signed by USDA and the Environmental Protection Agency (EPA).
- (4) Safe Drinking Water Act of 1996, as amended.
- (5) Food Quality Protection Act of 1996.
- (6) EPA's Pesticide Environmental Stewardship Program of 1994.
- (7) USDA's 1993 Integrated Pest Management (IPM) Initiative.
- (8) Cooperative Forestry Assistance Act of 1978, as amended.
- (9) Section 404.4 of the Secretary's Memorandum No. 1929, dated December 12, 1977, which provides the Department's policy statement on management of pest problems.
- (10) Endangered Species Act of 1973, as amended.
- (11) Clean Water Act of 1972, as amended.
- (12) National Environmental Policy Act of 1969, as amended.

404.3 Definitions

- A. **Avoidance** – one of the IPM's four strategies Prevention, Avoidance, Monitoring, and Suppression (PAMS) use to avoid pest impacts (e.g., using pest-resistant varieties, crop rotation, rotational grazing trap crops, delaying planting, etc.). Avoidance is the "A" in the approach to IPM.
- B. **Biological Pest Suppression** – The process of conserving, augmenting, managing, or introducing beneficial living organisms to reduce a pest population or its impacts. It includes the use of insects, nematodes, mites, plant pathogens, plants, vertebrates (including herbivores), and other living organisms. Biological pest suppression is usually an activity in the PAMS approach to IPM.
- C. **Biological Pest Suppression Recommendation** – A specific written or spoken instruction that includes specifics on approved suppression agents, methods of release, and management.
- D. **Chemical Pest Suppression** – The use of pesticides such as herbicides, insecticides, or fungicides to reduce a pest population or its impacts. Chemical pest suppression is an activity in the PAMS approach to IPM.
- E. **Chemical Pest Suppression Recommendation** – A specific written or spoken instruction that includes pesticide formulation, application rate, timing, and method of application.
- F. **Cultural Pest Suppression** – The use of practices other than chemical or biological suppressions to reduce a pest population or its impacts. It includes practices and techniques such as narrow row spacing or optimized in-row populations, alternative tillage approaches such as no-till or strip-till, cover crops or mulches, or using crops with allelopathic potential.
- G. **Environmental Risk** – The potential to negatively impact ecosystem values and functions.
- H. **Invasive Species** – A species that is:
- (1) Non-native (or alien) to the ecosystem under consideration; and
 - (2) Whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112).
- I. **IPM** - IPM is a sustainable approach to manage pests that combines the use of PAMS strategies to maintain pest populations below economically damaging levels, to minimize pest resistance, and to minimize harmful effects of pest suppression on human health and environmental resources. IPM suppression systems may include biological suppression, cultural suppression, and/or the judicious use of chemical suppression.

J. Mechanical Pest Suppression – A form of pest suppression that utilizes physical methods to reduce a pest population or its impacts. Mechanical suppressions include cultivation, hoeing, hand weeding, mowing, pruning, root plowing, roller chopping, vacuuming, etc. Mechanical pest suppression is an activity in the PAMS approach to IPM.

K. Mitigation – The process of minimizing the potential for harmful impacts of pest management activities on soil, water, air, plant, and animal resources and humans through the application of conservation practices (e.g., Filter Strip, Conservation Crop Rotation, Residue Management, Irrigation Water Management, etc.) and/or management techniques (e.g., early harvest, delayed planning, resistant varieties, transgenic crops, and the use of pheromones, etc.).

L. Monitoring – Proper Identification of pests and the extent of pest populations and/or the probability of future populations (e.g., pest scouting, soil testing, weather forecasting, etc.). Records are kept of pest incidence and distribution for each field or site which provides the basis for crop rotation selection, economic threshold, and suppressive actions. Monitoring is also conducted after suppression actions to determine the effectiveness of the treatment. Monitoring is the "M" in the PAMS approach to IPM.

M. National Agriculture Pesticide Risk Analysis (NAPRA) – A detailed pesticide environmental risk analysis tool that quantitatively evaluates the potential for pesticides to be transported by water and adversely affect non-target organisms. Results include the probabilities of pesticide leaching below the root zone and runoff beyond the edge of the field to exceed toxicity thresholds for humans, fish, crustaceans, and algae based on local crop management techniques, weather, and soil conditions. NAPRA can be used to refine Windows Pesticide Screening Tool (WIN-PST) results and evaluate mitigation techniques.

N. Organic crop – An agricultural commodity that is organically produced consistent with Section 2103 of the Organic Foods Production Act of 1990 (7 U.S.C. 6052).

O. Pest – A plant, animal, or other organism (including invasive and non-invasive species) that directly or indirectly causes damage or annoyance by destroying or devaluing food and fiber products, causes structural damage, or creates a poor environment for other organisms.

P. Pest Suppression Reference – Written recommendations by the Extension Service, Agricultural Research Service (ARS) and other reputable sources that publish peer-reviewed documents which include, but are not limited to, bulletins, IPM guides, manuals, crop protection guides, brochures, fact sheets, computer software, and Web-based materials.

Q. Pesticide – A substance or mixture of substances intended for preventing, destroying, repelling, or mitigating pests; or a substance or mixture of substances intended for use as a plant growth regulator, defoliant, or desiccant. Pesticide applications are suppression activities in the PAMS approach to IPM.

R. Pest Management – For the intent and purpose of this Agency, is the evaluation of environmental risks associated with a client's probable pest suppression strategies and the assistance to clients to mitigate the identified environmental risks. Pest management may also include assistance to clients to suppress weeds (on non-cropland) to ensure successful implementation and/or maintenance of conservation practices.

S. Pest Management Environmental Hazard Analysis – An evaluation of the potential for a client's pest management activities to have a negative impact on the offsite and on-site ecosystem. This is usually accomplished with WIN-PST, NARA, erosion prediction models, and other tools as needed to evaluate impacts to air quality, and animal and plant resources.

T. Prevention – The practice of keeping a pest population from infesting a field or site. Preventative techniques include, but are not limited to, using pest-free seeds and transplants, cleaning tillage harvesting and other equipment between fields and/or farms, feeding weed free roughage to livestock, applying management techniques that maintain or improve plant community resilience and resistance to pests, scheduling irrigation to avoid situations conducive to disease development, and eliminating alternate hosts or sites for insect pests or disease organism, etc. Prevention is the "P" in the PAMS approach to IPM.

U. Specialty Crop – Fruits and vegetables, tree nuts, dried fruits, and nursery crops (including floriculture), as per Specialty Crop Competitiveness Act of 2004, Public Law 108-465-December 21, 2004.

V. Suppression – Suppressing a pest population or its impacts using cultural, biological, or chemical pest suppression. Suppression is the "S" in the PAMS approach to IPM.

W. WIN-PST – A basic screening tool for pesticide environmental hazard analysis, designed for use by NRCS field office staff, crop consultants, certified crop advisors, and other partners. WIN-PST qualitatively evaluates the potential for pesticides to be transported by water from the area of application and adversely affect some non-target organisms. WIN-PST considers the influence of climate, irrigation, residue management, and pesticide application method and rate class on the potential for pesticide leaching below the root zone and runoff beyond the edge of the field. It also incorporates long-term pesticide toxicity to humans and aquatic life in its overall risk ratings. WIN-PST provides environmental hazard information that a planner can use to formulate appropriate mitigation techniques that meet water quality criteria in Section III of the Field Office Technical Guide

(FOTG).

Subpart B - Policy

404.10 Pest Management and Technical Assistance

A. Guidance and requirements in this Subpart are applicable to all NRCS technical assistance that involves pest management. All NRCS employees will follow these requirements when providing such technical assistance. Third Party Vendors/Technical Service Providers and other non-NRCS employees will use these pest management requirements when assisting clients with conservation activities for which NRCS has technical responsibility.

B. NRCS roles in pest management are to:

- (1) Evaluate environmental risk associated with a client's probable pest suppression strategies.
- (2) Provide technical assistance to clients to mitigate the identified environmental risk of pest suppression strategies through mitigation practices and activities.
- (3) Assist clients to adopt IPM techniques that protect natural resources.
- (4) Assist clients to:
 - (i) Inventory, assess, and suppress noxious and invasive weeds on non-cropland.
 - (ii) May provide assistance to clients to suppress weeds to ensure successful implementation and/or maintenance of permanent vegetative conservation practices (e.g., buffer type practices).

C. Technical Assistance

- (1) NRCS pest management assistance applies to all land uses, all crops including organic and specialty crops, and all pests including invasive species.
- (2) NRCS shall not develop chemical pest suppression recommendations or change pesticide label instructions for clients. NRCS personnel who are "professionally certified" and/or licensed for pesticide application may make available a site-specific rate within the pesticide's label range when adequate reference source(s) are available to justify a specific rate. "Professionally certified" refers to meeting the requirements for local and State agency certification related to pesticide and/or licensed refers to meeting the requirements for local and State agency certification related to pesticide and/or pest management, and criteria established by the State Conservationist (STC) that demonstrates an understanding of the pest and pest control alternatives through programs such as the Certified Crop Adviser and the Certified Range Management Consultant certification programs. NRCS shall not develop biological pest suppression recommendations except for biological weed suppression utilizing grazing animals. NRCS may provide clients with the most current biological and chemical pest suppression references. Pest suppression references will be based on reputable scientific research that is peer reviewed from universities, Extension Service, ARS, Animal and Plant Health Inspection Service (APHIS) and non-profit non-government organizations such as biological and agricultural research centers, stations, and foundations. The recommendations in these references must be in accordance with all Federal, State, Tribal, local laws, and regulations.
- (3) NRCS may assist clients to develop appropriate cultural and mechanical methods of pest suppression based on established NRCS conservation practice standards.
- (4) NRCS shall evaluate the environmental risks of cultural, biological, and chemical pest management suppression techniques selected by the clients. NRCS will provide assistance to clients to develop appropriate mitigation for all identified significant risks associated with pest suppression.
- (5) When chemical methods of pest suppression are chosen by the client that poses a significant risk to an identified natural resource, NRCS shall assist clients to adopt and implement a conservation system that addresses the appropriate pesticide loss pathways that have been identified as impacting the resource.
- (6) The minimum treatment is following the pesticide label. When clients request assistance with IPM techniques that include pesticides, NRCS will provide an evaluation and interpretation of the pesticide risk for the planned pesticides as well as alternative pesticides identified by the client that may present a lower risk. NRCS shall not recommend specific pesticides formulation, rates, timing or application methods.
- (7) NRCS shall cooperate with the appropriate Federal, State, Tribal, and local agencies when assisting clients with pest management.
- (8) NRCS shall cooperate with APHIS and appropriate State agencies when assisting clients with pests (e.g., invasive species), which may require quarantine or eradication to suppress the spread of the pest. Typical NRCS assistance may include providing available resource information such as soils and climate data.
- (9) NRCS pest management activities must be in compliance with all Federal, State, Tribal, and local environmental laws, regulations, or ordinances.
- (10) NRCS shall assist clients to assess pest management risk to beneficial animals (e.g., native pollinators, honeybees, parasitic wasps, lady beetles, etc.) and to develop appropriate mitigation.
- (11) NRCS shall not provide assistance in suppressing pests in or on animals (e.g., fly suppression for livestock, worm suppression for goats). Regarding suppressing pests on animals only, the roles in GM-190, Part 404, Subpart B, 404.10 (b) (1)-(3) apply to NRCS involvement.

(12) It is the clients', or their representatives', responsibility to ensure that all pesticides applied are currently registered for their intended use at their location by EPA, and that the application of the pesticides are not further restricted by State or other local laws or ordinances.

The product label must contain specific instructions for the proposed use; or the proposed use must be permitted by special local needs registration or emergency exemptions from registration.

(13) On NRCS-operated properties, such as Plant Material Centers, personnel who apply or supervise the application of approved pesticides must follow all label instructions and be trained and certified according to State pesticide applicator regulations, and wear the appropriate Personal Protective Equipment.

(14) NRCS will cooperate with Federal and State (and equivalent) conservation agencies and the private sector to identify research needs for pest management and mitigation that reduce environmental risk.

404.11 Certification

NRCS personnel and partners providing conservation planning and practice application assistance for pest management must meet certification requirements established by the STC in accordance with GM, Title 180, Part 409, Section 409.11.

Subpart C - Responsibilities

404.20 Department of Agriculture

A. Responsibilities, as described in a June 3, 1988, memorandum of understanding between CSREES and NRCS (i.e., GM-460, Part 401, Water Quality Policy), are as follows:

- (1) CSREES agrees to provide assistance to NRCS in support of the development and use of site-specific information and to address water quality issues.
- (2) CSREES and NRCS agree to cooperate in encouraging each State's (or equivalent) Extension and NRCS organizational unit to develop guidelines and appropriate pesticide components for use in landowners'/operators' conservation plans.
- (3) NRCS agrees (as outlined in a USDA companion document to the June 3, 1988, memorandum of understanding between CSREES and NRCS) to:
 - (i) ". . . provide site-specific resource data and planning site assistance with regard to pesticide use and impacts of water quality to pesticide users and others making land use and management decisions."
 - (ii) ". . . assist landowners with the implementation of acceptable pesticide management practices."

B. Additionally, to meet the requirements of the Food Quality Protection Act of 1996, NRCS is committed to promoting IPM that provides both economic and environmental benefits.

404.21 NRCS National Headquarters Office

- A. The Deputy Chief for Science and Technology, under the direction of the Chief, is responsible for providing national leadership for policy and procedures for NRCS pest management and identifying pest management research and technology development needs.
- B. The Director of the Ecological Sciences Division (ESD) is responsible for developing, implementing, and evaluating NRCS pest management policy and procedures.
- C. The National Pest Management Specialist of the ESD provides national leadership for pest management policy, environmental risk technologies, and training.
- D. The National Water Quality and Quantity Team provide the technology development and technical assistance for pest management environmental risk analysis technologies, including WIN-PST and NAPRA.
- E. The Director of the Soil Survey Division is responsible for maintaining the soil database to support interpretations for pesticide leaching, solution runoff, and adsorbed runoff loss potentials.

404.22 NRCS National Technology Support Centers (NTSC)

NTSC Directors will provide technical assistance to STCs/Directors of the Pacific Islands and Caribbean Areas for pest management assistance in their respective areas.

404.23 NRCS State Offices (or Equivalent)

STCs/Directors of the Pacific Islands and Caribbean Areas are responsible for:

- (1) Targeting pest management technical assistance to specific resource concerns and locations within their respective States/Areas (e.g., watersheds with pesticide-impaired sources of drinking water, pesticide Total Maximum Daily Load requirements, air quality non-attainment areas, or highly vulnerable areas that may contribute to future pest suppression-related contamination, increase risk of fire, and livestock production reduction).
- (2) Supplementing the pest management guidance and requirements in appropriate directives, as necessary, making it applicable to local conditions and providing a copy to the Director, ESD.
- (3) Ensuring that appropriate training is provided to all NRCS personnel who provide pest management technical assistance, and establishing a process to provide continuing education to maintain employee certification as outlined in GM-180, Part 409, Section 409.11.
- (4) Making certain that all NRCS personnel who provide pest management technical assistance to the public meet the applicable requirements for their positions and the State or local testing requirements as required by law.
- (5) Working in consultation with respective State Technical Committees to address State-specific pest management issues.
- (6) Utilize appropriate technology to evaluate pest management environmental risk (e.g., WIN-PST and/or NAPRA for risks to water quality). Environmental risk/hazard assessment tools other than WIN-PST or NAPRA must be reviewed by the National Pest Management Specialist, to ensure consistency with WIN-PST and NAPRA.
- (7) Providing assistance, training, and technical tools (with support of NTSC) to NRCS field service centers so that they are able to provide assistance to clients to recognize, inventory, assess, and suppress weeds in non-cropland.

404.24 NRCS Field Service Centers (or Equivalent)

- A. NRCS field service center technical leaders (e.g., District Conservationists and Team Leaders) are responsible for providing local leadership in implementing the pest management policy.
- B. NRCS field service center (or equivalent) employees are responsible for:
- (1) Evaluating environmental risk associated with the client's pest suppression choices involving pesticides and soil disturbing activities as per GM-190, Part 404, Subpart D, 404.40, Pest Management Environmental Risk Analysis of this policy.
 - (2) Providing technical assistance to clients to mitigate identified environmental risk of pest suppression strategies with conservation practices (NRCS FOTG practices) and/or Prevention, Avoidance or Monitoring activities recognized by the local land grant university or regional IPM center as being a viable IPM technique.
 - (3) Assisting clients in adopting IPM techniques that protect natural resources in addition to those techniques used solely for the mitigation purposes above. When the client works with qualified individual(s) (e.g., University Extension, Certified Crop Advisor/Pesticide Control Advisor, etc.) to evaluate and select IPM techniques, the field office staff should document which IPM techniques were adopted and what resources benefited from their adoption.
 - (4) Providing assistance to clients to recognize, inventory, assess, and suppress weeds in non-cropland. The field office staff will bring to the client's attention any population of weeds in non-cropland that can prevent the successful establishment of a conservation practice or degrade the resource base so that the land cannot support its intended use. Additionally, field office staff may refer the client to qualified individuals (e.g., University Extension, Certified Crop Advisor/Pesticide Control Advisor, State or county weed and pest coordinator, etc.) for weed management recommendations or provide the client with pest suppression references consistent with GM-190, Part 404, Subpart B, Section 404.10 (c) (2) to address identified weed concerns. Field staff shall encourage procedures to work with their State and/or county weed management program.
 - (5) Identifying pest management needs and informing STCs/Directors of the Pacific Islands and Caribbean Areas, or designee(s), of these needs, as appropriate.

Subpart D - Pest Management and Technical Assistance

404.30 Social and Economic Considerations

The pest management practices of the conservation plan must be designed and implemented at an appropriate level of complexity to address social and economic constraints, resource limitations, management capabilities, pest management philosophies, and other social and cultural issues. Social considerations include public health and safety and other societal goals, as well as social, family, and religious values, ethnicity, risk tolerance or aversion, land tenure, and time availability. Economic considerations include size of farm, type of farming system (e.g., high versus low technology, high versus low intensity cropping systems, etc.), available capital, and land tenure.

404.31 Environmental Justice

The pest management practices of a conservation system will not create undue hardship on socially disadvantaged or other economically limited communities or individuals.

404.32 Pest Management Environmental Risk Analysis

A. Environmental risk of pest management activities must be evaluated in the conservation planning process, including:

- (1) The potential impacts of pesticides in ground and surface water on humans and non-target plants and animals (see B below).
- (2) The potential impacts of mechanical pest suppression techniques on on-site soil loss and potential offsite resource effects (see B below).
- (3) The potential impacts of biological pest suppression techniques on natural resources (use land grant university publications or other appropriate literature).
- (4) The potential impacts of cultural pest suppression techniques (e.g., burning) on natural resources, specifically air and soil quality resources.

B. Offsite effects of pest management will be evaluated with appropriate tools and/or procedures. WIN-PST and NAPRA are nationally supported for evaluating offsite pesticide movement through runoff and leaching.

C. WIN-PST is designed for general field office use and provides qualitative environmental hazard analysis that is adequate for most situations. WIN-PST is the official tool for field office use.

D. NAPRA is more sensitive to pesticide application techniques than WIN-PST and provides quantitative results. NAPRA was designed to be used by State specialists to quantify mitigation benefits in high-risk areas that are identified with field office use of WIN-PST. NAPRA can also be used to refine high-risk WIN-PST results.

E. States (or equivalent) utilizing pesticide environmental risk screening tools other than WIN-PST and NAPRA, need to coordinate their use with the Director of the ESD and the National Pest Management Specialist of ESD to ensure that the technology being applied is consistent with WIN-PST and NAPRA.

F. The risk of environmental degradation by other pest management methods and management techniques (e.g., tillage, burning, biological predation, etc.) must also be assessed with appropriate analysis tools, such as the current NRCS-approved erosion prediction technologies (see GM-450, Part 402, Subparts A and B).

G. If an appropriate analysis tool or procedure is not available for a proposed pest management method; environmental hazard analysis is left to the professional judgment of the planner. Analysis inputs and results should be documented in the conservation plan to justify the need for mitigation described in Section 404.40 (c).

H. When pest suppression activities have significant potential to impact identified resources negatively, appropriate mitigation shall be discussed with the client for their decisions. Mitigation includes conservation practices (e.g., Filter Strip, Conservation Crop Rotation, Residue Management, Irrigation Water Management, etc.) and management techniques (e.g., harvest early, delayed planting, resistant varieties, transgenic crops, etc.) The client-selected Mitigation techniques and conservation practices will be planned and documented in the conservation plan.