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:

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).
5. Food Quality Protection Act of 1996.
7. USDA's 1993 Integrated Pest Management (IPM) Initiative.
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.

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 planting, resistant varieties, transgenic crops, and the 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.


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.


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).