

Extension and Research IPM PRIORITIES

INTEGRATED PEST MANAGEMENT FOR PRODUCTION OF ORNAMENTAL PLANTS, GREENHOUSE-GROWN EDIBLES, AND SOD

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All Ornamental Commodities

1. Documentation of the pest management, economic and environmental impact of IPM, including the gathering of baseline data
2. Development of electronic tools and software to assist in pest management activities
3. Development and demonstration of wildlife management techniques
4. Diagnosis and description of newly emerging pest problems affecting ornamental crops
5. Development and application of Best Management Practices (BMPs) and IPM Elements (see <http://www.nysipm.cornell.edu/elements/>) to promote environmental stewardship by commercial growers

Greenhouse-Grown Flowers, Vegetables and Herbs & Outdoor-Grown Herbaceous Ornamentals

1. Development of IPM strategies and resources for pest management in greenhouse crops including cut flowers, potted plants, herbaceous perennials, herbs, and vegetable crops and transplants
 - a. Management of insect pests, particularly thrips, aphids, and whiteflies, and the diseases they vector.
 - b. Management of mites, especially study of confounding influences such as newer pesticides being used for other arthropods in the greenhouse
 - c. Management of root zone problems (especially high soluble salts, fungus gnats, Pythium root rot, and Thielaviopsis)
 - d. Management of foliar disease issues
2. Development of: diagnostic tools; new or refined cultural methods for pest prevention; physical or mechanical approaches for management of greenhouse pests, including weeds, insects, diseases and vertebrates; and computer programs to aid in decision making and record keeping
3. Biological control trials for efficacy and cost-effectiveness of beneficial insects and microbial products
4. Transfer of knowledge to stakeholders through workshops, new fact sheets and other printed materials, and development of electronic media such as websites, grower listserves, and online courses
5. Development of IPM strategies and resources for production of field-grown cut flowers.

Nursery-Grown Ornamentals & Christmas Tree Production

1. Investigation and practical application of relationships between woody plant phenology and pest management, including modeling host plant susceptibility; predicting pest emergence, incidence and severity; and incorporation into weather-based forecasting systems (e.g. NEWA at <http://newa.nysaes.cornell.edu/>) as well as training materials
2. Development of IPM strategies and resources for pest management in nursery and Christmas tree crops
 - a. Development of training materials on pest biology in relationship to pest management
 - b. Development of biorational approaches to pest management
 - c. Development of procedures for pest scouting and sampling
 - d. Development of thresholds for plant quality, physiological health, and survival
 - e. Investigation of interactions between abiotic stress and pest management
3. Selection and evaluation of resistant/tolerant plant varieties to environmental and biotic stresses (pathogens, insects, mites, deer, voles, etc.)
4. Development and evaluation of new strategies for weed management, including use of alternative techniques and products

Sod Production

1. Development of IPM strategies for use of biological methods in the control of diseases (including nematodes), weeds, and insects
2. Development of IPM strategies for use of cultural methods in the control of pests
3. Assessment of disease and insect resistance among turfgrass cultivars
4. Development of IPM strategies using relationships between soil quality and turfgrass health
5. Developing application technologies for reducing the risks associated with pesticides (e.g., reducing groundwater contamination, personal exposure, etc.)
6. Establishment of safety parameters for sod pesticides (e.g. non-target effects, environmental impact quotients)
7. Evaluation of turfgrass species and cultivars with superior competitive ability because of growth habit, tolerance of difficult growing conditions, and/or production of allelopathic chemicals
8. Investigation of pest biology and incorporation into predictive weather-based models, such as NEWA (<http://newa.nysaes.cornell.edu/>)