

# CENTER FOR SUSTAINABLE INTEGRATED PEST MANAGEMENT IN COLORADO

The Colorado Center for Sustainable Integrated Pest Management focuses on pests that damage or interfere with desirable plants in agricultural fields, orchards, landscapes and natural areas; damage homes or other structures; or pose an environmental health risk. A pest can be a plant (weed), vertebrate (bird, rodent or other mammal), invertebrate (insect, tick, mite or snail), nematode, pathogen (bacteria, virus or fungus) that causes disease, or other unwanted organism that may harm water or air quality, animal life, or other parts of the ecosystem.

## CURRENT IPM PROJECTS - JANUARY 2013

---

### CROPS

The Center conducts applied research and educational programs in integrated pest management practices that lead to sustainable crop production.

- Researchers have confirmed the presence of glyphosate-resistance in kochia. Dr. Phil Westra's lab is looking at agronomic practices and genetic mechanisms leading to evolution and spread of glyphosate resistance in kochia.



Seedling kochia (*Kochia scoparia*) with multiple side shoots.  
by Phil Westra, Colorado State University, Bugwood.org

- Dr. Frank Peairs is working on several wheat studies, including outbreak prediction models for managing Russian wheat aphids, pest management on hard red wheat, and brown wheat mites.
- The IPM PIPE (pest identification platform for extension and education) <http://www.ipmpipe.org/> is a dynamic, integrated national system that provides centralized useful tools for IPM practitioners. Howard Schwartz is leading the onion PIPE, which addresses several diseases and insect pests. The vision of the onion PIPE is "to develop the IPM PIPE to help maximize economic returns, and improve social welfare and environmental health by promotion of efficient and coordinated IPM decision support systems."



For more information about the Onion ipm PIPE visit their website:

<http://apps.planalytics.com/aginsights/pipehome.jsp>

## CROPS

- Dr. Howard Schwartz is studying management strategies for beans, including plant spacing of dry beans and pathogen resistance in common bean. White mold is one of the most important diseases affecting dry beans in Colorado. Kemp and Schwartz are looking at the cultural practices that influence this disease.

---

## FOREST, PASTURE & RANGE

Pests in forests, pastures and rangelands affect our natural resources, watersheds and wildlife.

- Thousand cankers disease was first recognized and described in 2008 by Dr. Ned Tisserat and Dr. Whitney Cranshaw of the Department of Bioagricultural Sciences and Pest Management (BSPM).
- Dr. Bill Jacobi is looking at forest ecosystems, including the impacts of mountain pine beetle infestations on forested ecosystems along the Colorado Front Range and limber pine status in Boulder County.



Mountain pine beetle *Dendroctonus ponderosae* infestation by Whitney Cranshaw, Colorado State University, Bugwood.org

- BSPM faculty member Dr. Cynthia Brown studies cheatgrass ecology, grassland invasions and restoration, and the effects of global environmental change.



Cheatgrass (*Bromus tectorum*) infestation. by John M. Randall, Nature Conservancy, Bugwood.org

---

## GARDENS, LANDSCAPES & TURF

Our goal is to increase awareness and implementation of IPM practices by providing training and educational materials on pests in gardens, turf and landscapes.

- [Colorado Master Gardener](#) (CMG) Volunteers assist CSU Extension staff in delivering knowledge-based gardening information to foster successful gardening. Annually, 1,600 CMG volunteers serving in 36 county/area based programs donate \$1.4 million in volunteer time. Faculty provides beginning and advanced training to volunteers in ornamental pests.



- The CSU diagnostic lab provides diagnosis of insect and disease problems.

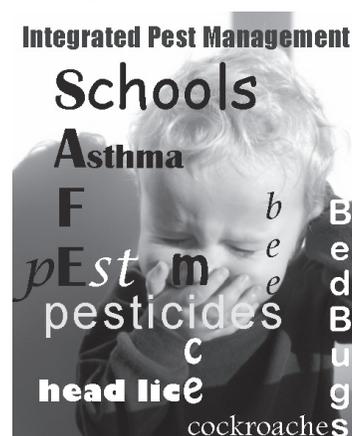
---

## COMMUNITIES, SCHOOLS & HOMES

Community IPM helps maintain a safe and healthy environment and reduces exposure to potentially harmful chemicals. BSPM faculty members provide educational materials to residents to minimize environmental effects and support human health.

- The arrival of West Nile virus in Colorado has increased interest in mosquito management around the home and on small acreages. A new publication on mosquito management, by Dr. Frank Peairs and Dr. Whitney Cranshaw, Department of Bioagricultural Sciences and Pest Management is available online ([http://www.ext.colostate.edu/westnile/mosquito\\_mgt.html](http://www.ext.colostate.edu/westnile/mosquito_mgt.html)).
- Schools in nine school districts in the state are using IPM practices to reduce pests and pesticide applications, thanks to an [outreach program](#) conducted by Dr. Deborah Young.
- Housing managers and residents alike are learning about practices for healthy homes. These educational programs in cooperation with United States Environmental Protection Agency (EPA) and United States Housing and Urban Development (HUD), help increase environmental health and decrease pesticide use in communities.

**The Colorado Environmental Pesticide Education Program (CEPEP)** is committed to providing **accurate, up-to-date information** on pesticide laws and regulations, environmental protection, worker protection, and pesticide safety for applicators, trainers, agricultural workers and supervisors, and the general public.



---

### Integrated Pest Management

Integrated pest management (IPM) is a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks.