

Hemp Insects and what to do about them

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[Maine.gov/IPM](https://maine.gov/IPM)



Potential Pests

Diseases



Photo: Whitney Cranshaw



Insects

Photo: Whitney Cranshaw

Birds & Other
Vertebrates

Mites



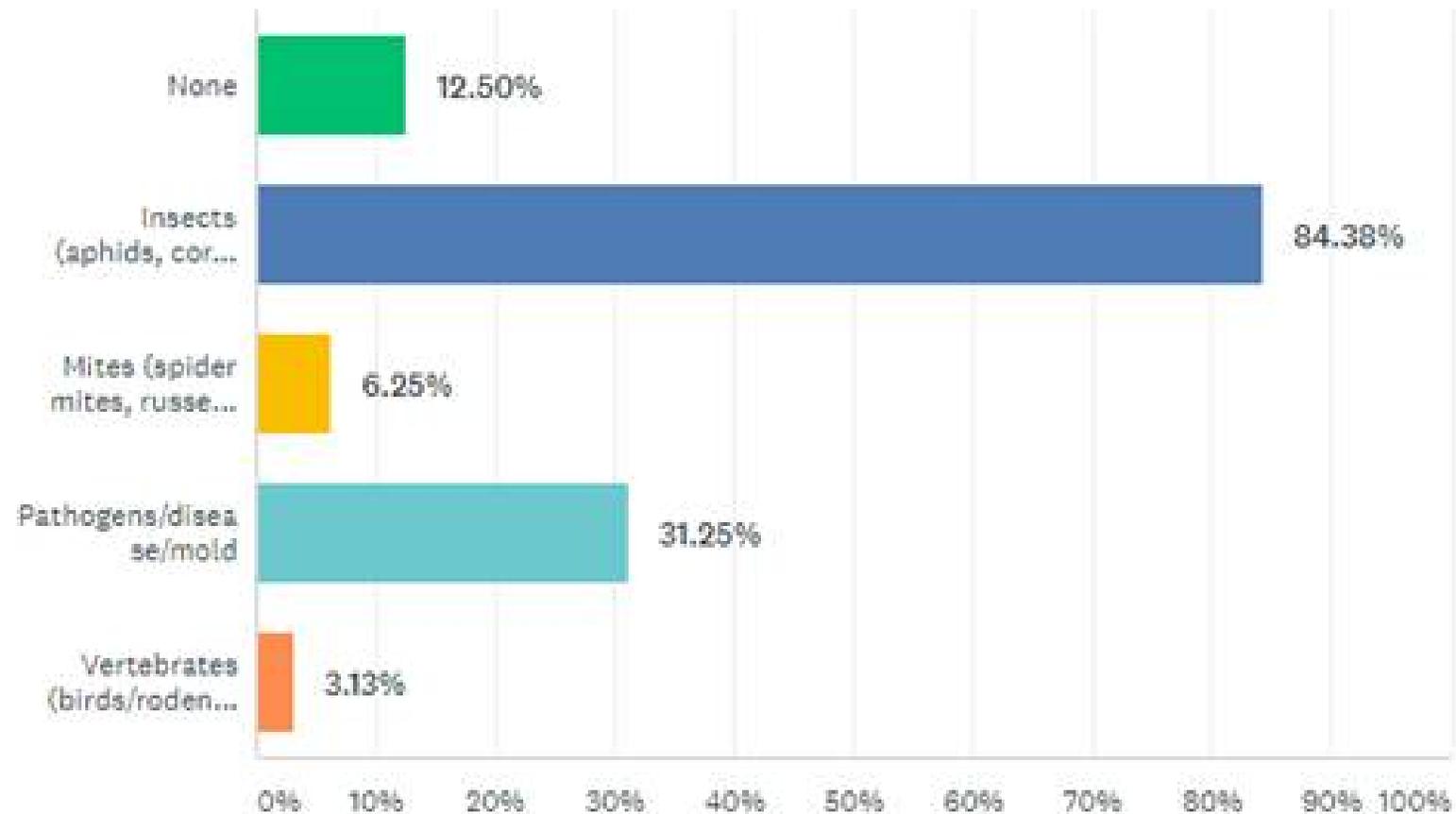
Photo: Whitney Cranshaw



2019 Maine Hemp Grower Survey

What types of pest problems did you encounter?

Answered: 32 Skipped: 0

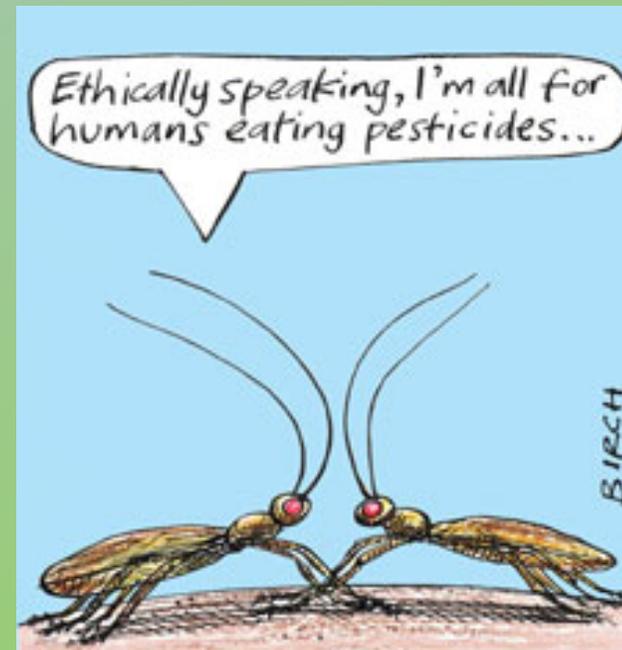


Pesticides can be Problematic

- \$ (product + labor)
- Risk (human, environmental)
- Pest resistance and/or resurgence
- Restrictions (regulatory, market)



Photo: Whitney Cranshaw



IPM is the Answer!

- Integrated Pest Management
 - Organized and systematic approach to preventing and managing **all** pests
- IPM Offers
 - Minimized risks (health, \$, disruption)
 - Effective, long-term pest control
 - Improved crop quality/quantity



What is IPM?

Integrated Pest Management is a science-based approach that combines a variety of techniques. By studying their life cycles and how pests interact with the environment, IPM professionals can manage pests with the most current methods to improve management, lower costs, and reduce risks to people and the environment.

IPM tools include:

- Alter surroundings
- Add beneficial insects/organisms
- Grow plants that resist pests
- Disrupt development of pest
- Prevention of pest problem developing
- Disrupt insect behaviors
- Use pesticides

1 IDENTIFY/ MONITOR

Determine the causal agent and its abundance (contact your local extension agent for help).

2 EVALUATE

The results from monitoring will help to answer the questions: Is the pest causing damage? Do we need to act? As pest numbers increase toward the economic threshold further treatments may be necessary.

3 PREVENT

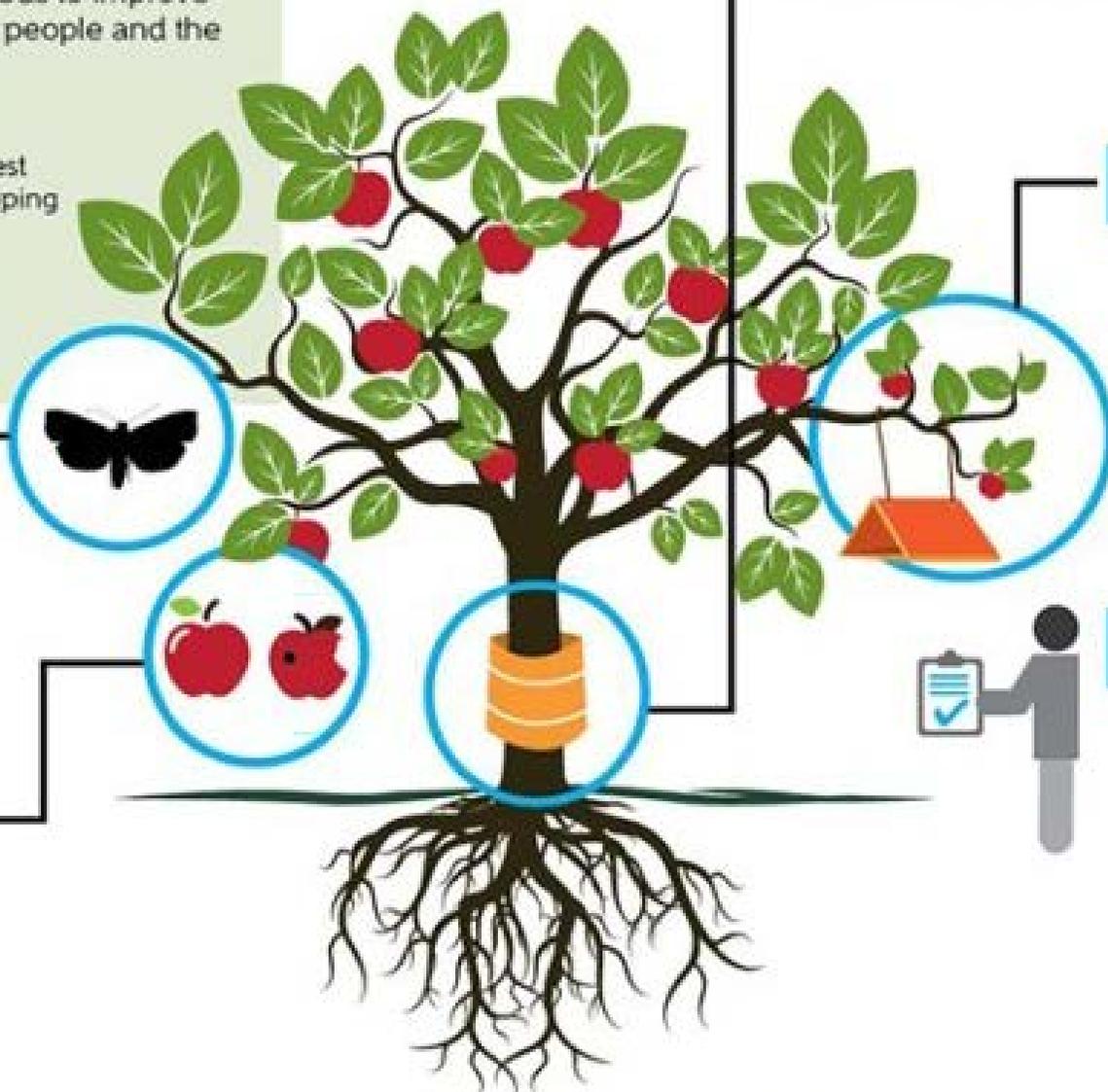
Some pest problems can be prevented by using resistant plants, planting early, rotating crops, using barriers against climbing pests, sanitation, and sealing cracks in buildings.

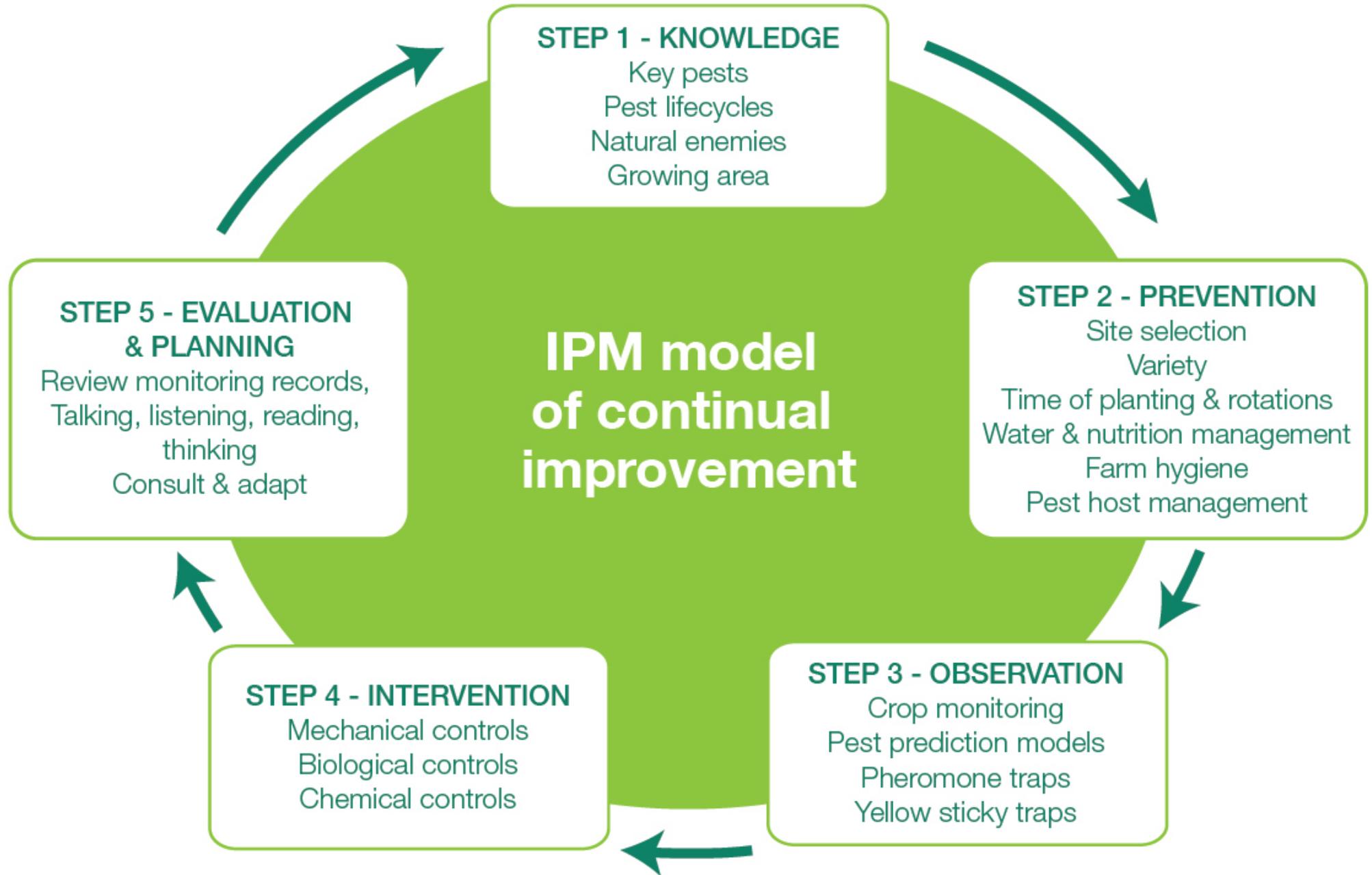
4 ACTION

IPM uses multiple tools to reduce pests below an economically damaging level. A careful selection of preventive and curative treatments will reduce reliance on any one tactic and increase likelihood of success.

5 MONITOR

Continue to monitor the pest population. If it remains low or decreases, further treatments may not be necessary, but if it increases and exceeds the action threshold, another IPM tool should be used.





State of Maine



Best Management Practices for Pest Prevention and Management in Maine Medical Marijuana Cultivation

Download at www.maine.gov/IPM



BMPs for Medical Marijuana Pest Management

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www.Maine.gov/ipm

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Programs → Division of Animal and Plant Health → Integrated Pest Management

Integrated Pest Management (IPM)

The Integrated Pest Management (IPM) Program takes an active role in promoting and facilitating the use of IPM; best management practices that emphasize quality production and health while minimizing reliance on pesticides. The IPM program provides leadership and technical expertise to farms and communities through education, demonstration and outreach activities.

Activities in the Maine IPM Program include:



K-12
[School IPM](#)
[Teacher Resources](#)



Agriculture/Horticulture
[Fruit & Vegetable IPM](#)
[Greenhouse & Nursery IPM](#)
[Poultry & Livestock IPM](#)



Financial & Technical Assistance



Maine IPM Council

FEATURED TOPICS

- [Maine Medical Marijuana: Best Management Practices for Pest Management \(PDF 382KB\)](#)
- [Pest Management Guidance \(PDF 497KB\)](#)
- [Pest Management PowerPoint Presentation \(Powerpoint Show\) \(PDF\)](#)
- [Pesticide Regulations](#)
- [Ticks and Mosquitoes](#)

You Might Encounter Some Insects in Hemp....

| Seed and seedling | Flower and leaf, outdoors | Flower and leaf, indoors | Stalk and stem | Root |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• Cutworm• Hemp flea beetle• Crickets | <ul style="list-style-type: none">• Hemp flea beetle• Hemp borer• Budworms• Leafminers• Stink bugs | <ul style="list-style-type: none">• Spider mites• Aphids• Whiteflies• Thrips• Leafhoppers | <ul style="list-style-type: none">• European Corn - borer• Hemp borer• Weevils• Beetle grubs | <ul style="list-style-type: none">• Hemp flea beetle• White grubs• Root maggots• Termites and Ants• Fungus gnats• Wireworms |

But are they a
problem?

Photo: John
Jemison





<http://www.hemptrade.ca/source/european-corn-borer.jpg>

Hemp Pest Gallery



EUROPEAN CORN BORER CATERPILLAR



MALE ECB MOTH (LEFT) & FEMALE (RIGHT)



HEMP BORER LARVAE

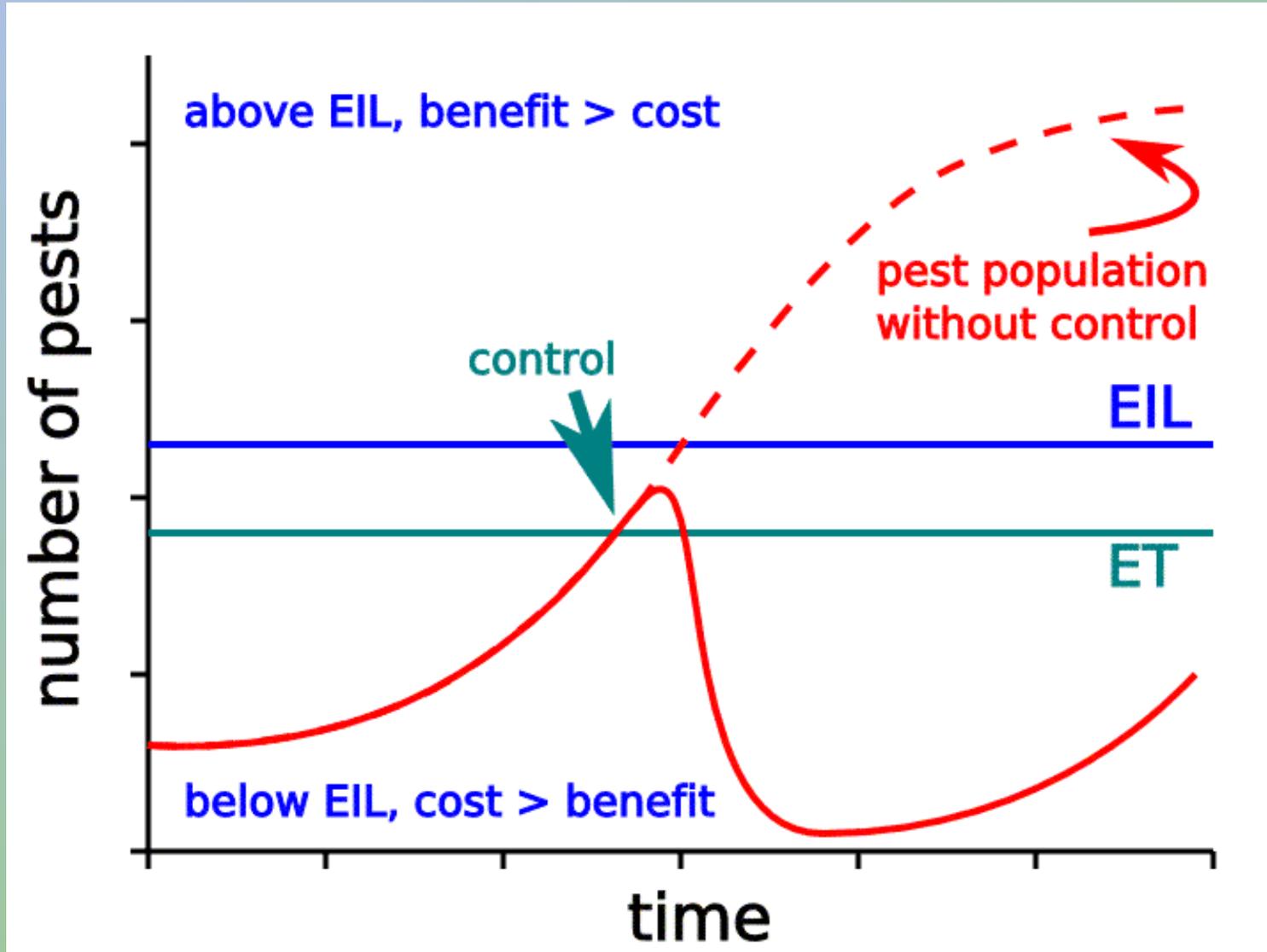


FLEA BEETLE



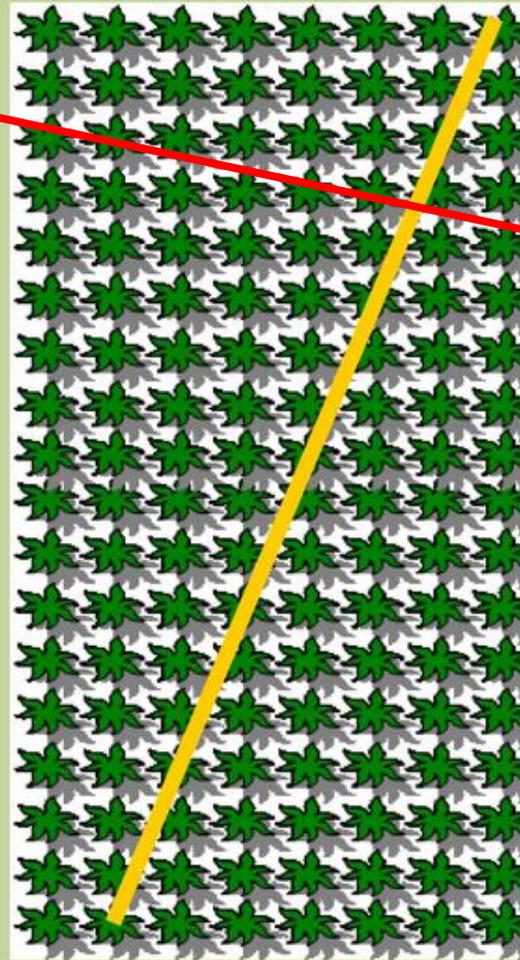
<https://www.vthemp.com/news/controlling-common-hemp-pests-and-diseases-organically>

Economic Injury Level/ Economic Threshold

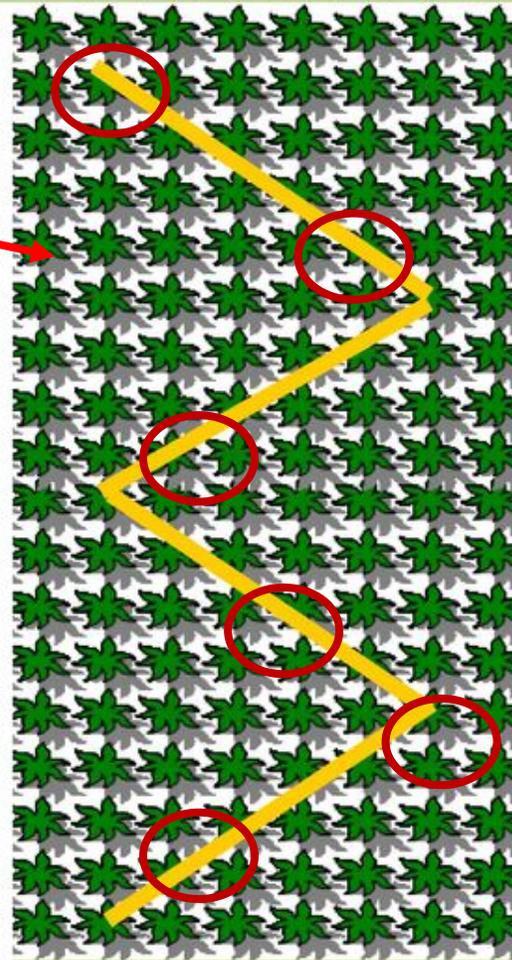


Scouting patterns

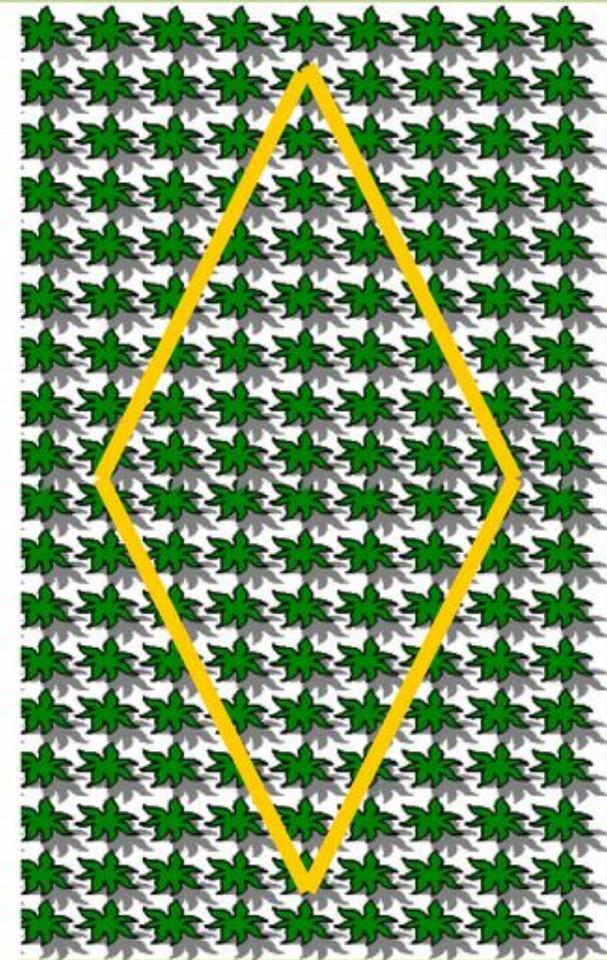
- Examine 5-10 plants at each of 5-10 spots per field. Total or 25-100 plants.
- Look for damage, pests, natural enemies, plant growth/shape/color



Transect



Zig-zag



Diamond



Aphids

Cannabis Aphid

Image: <https://hempinsects.agsci.colostate.edu/>

Green Peach Aphid



Whitney Cranshaw, Colorado State University, Bugwood.org



Rice Root Aphid

Images:

<https://hempinsects.agsci.colostate.edu/>





Photo: Serge Le Bozec

Aphid Biocontrol

Eg. *Aphidius colemani*, *Aphidius ervi*.



Image: Luca Foscili



Photo: Jack Kelly Clark

Farmscape to Attract and Support Natural Enemies

- Avoid monoculture
- Reduce pesticide impacts
- Plant strips, borders or banks of flowering plants
 - provides nectar and pollen for beneficial insects



 eXtension

articles.extension.org
<http://articles.extension.org/pages/18573/farmscaping:-making-use-of-natures-pest-management-services>

Farmscaping: Making Use of Nature's Pest Management Services

Organic Agriculture July 05, 2013
eOrganic author:
Geoff Zehnder, Clemson University

Extension.org.
Search for
'Farmscaping'



Image: Urban-gro



Gnpmag.com

European Corn Borer



<http://www.hemptrade.ca/eguide/production/insects-and-pests>



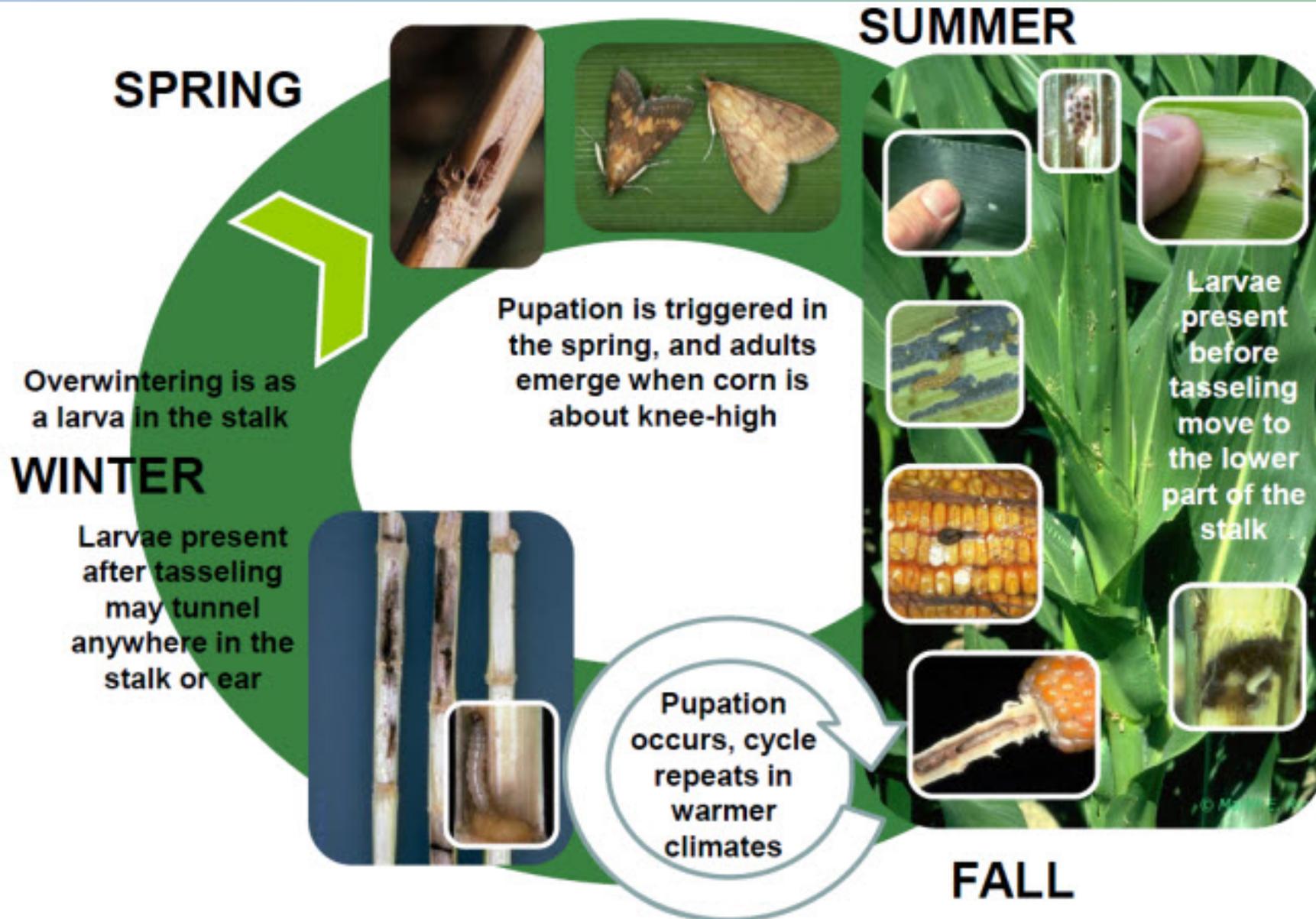
John L. Capinera

European corn borer larva



Photograph courtesy of David Keith, University of Nebraska

European Corn Borer (ECB)





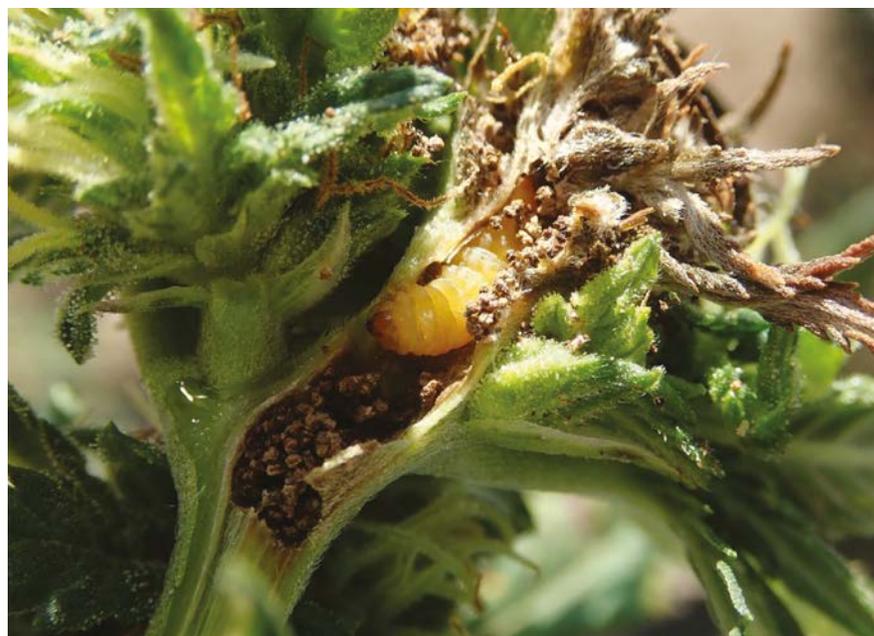
Monitor for European Corn Borer

- Pheromone moth traps
- Field scouting
- University of Maine Extension sweet corn weekly reports



In the Future? Release Natural Enemies to Manage Corn Borers?

- *Trichogramma ostriniae* used for European Corn Borer Control in corn.
- Might it be effective in hemp? Research needed.



Eurasian Hemp Borer

Images:

<https://webdoc.agsci.colostate.edu/>



Borer Prevention

- Destroy crop residue after harvest
- Rotate fields to non-susceptible crops
- Manage weeds in and around fields

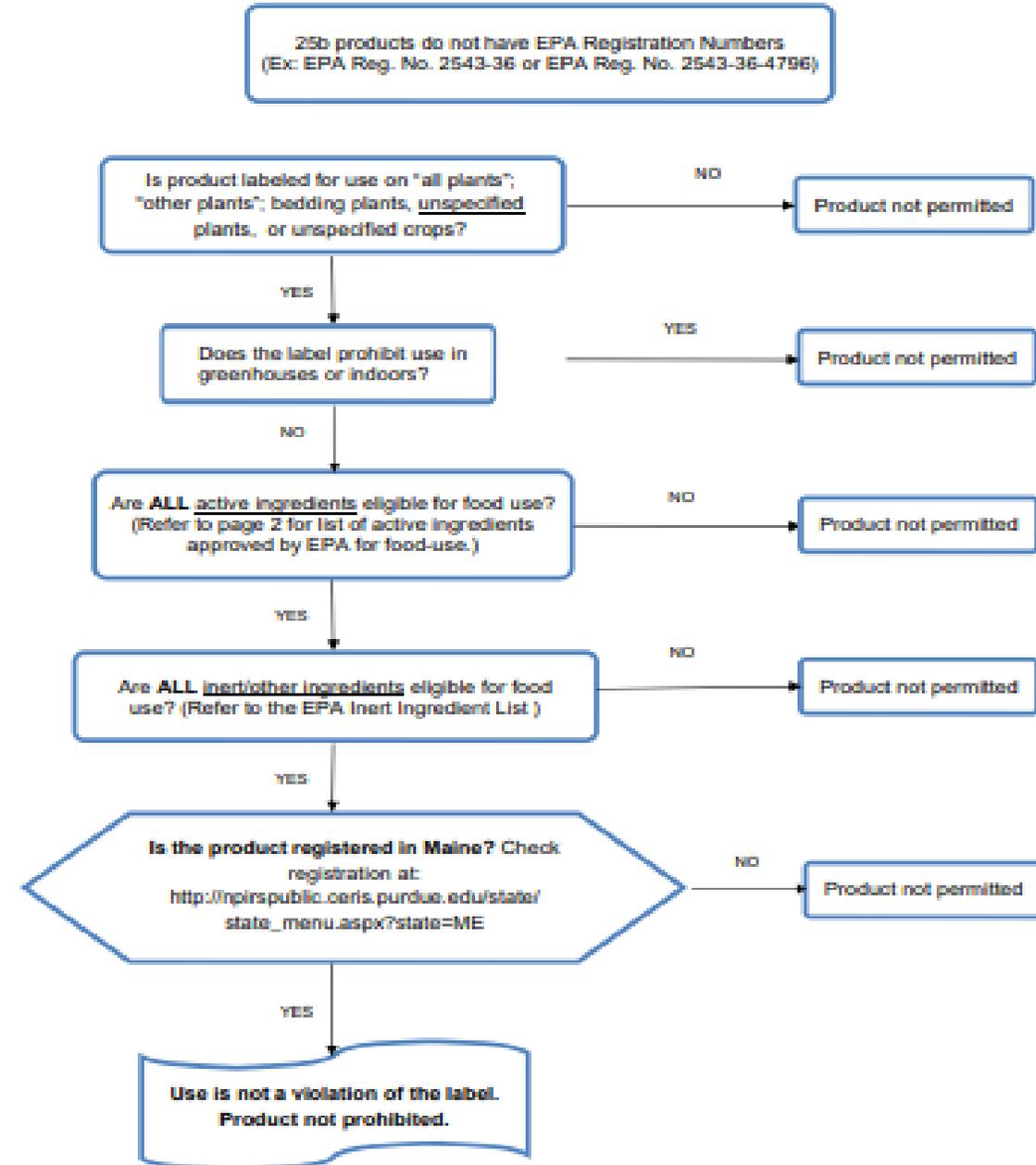
Pesticides

- Select products carefully
- Spot treat when possible
- Follow label and all regulations
- Consider weather
- Protect pollinators

www.maine.gov/IPM

Featured Topics > Maine Medical Marijuana > Regulations

Flow Chart for Selecting FIFRA Section 25(b) Minimum Risk Pesticides Not Prohibited for Use on Medical Marijuana in Maine



CSU Hemp Resource Center

<https://hempinsects.agsci.colostate.edu/>

- Insect Gallery
- Fact Sheets
- Recommendations



The screenshot shows the website header for the Colorado State University College of Agricultural Sciences Hemp Resource Center. It includes a navigation menu and two featured sections: 'Insects that Chew on Leaves' with a link to 'Beet Webworm' and an image of a caterpillar, and 'Insects/Mites associated with Buds/Flowers/Seeds' with a link to 'Lygus Bugs' and an image of a bug.

COLORADO STATE UNIVERSITY COLLEGE OF AGRICULTURAL SCIENCES
Hemp Resource Center

MENU ☰

Hemp Insect Factsheets

Insects that Chew on Leaves
[Beet Webworm](#)

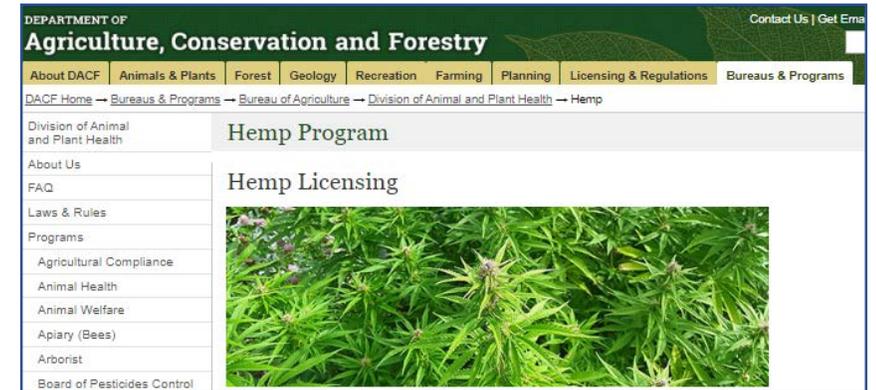


Insects/Mites associated with Buds/Flowers/Seeds
[Lygus Bugs](#)



Resources

- **Maine Dept Agriculture, Conservation and Forestry Hemp Program:** gary.fish@maine.gov, <https://www.maine.gov/dacf/php/hemp/index.shtml>
- **Maine Board of Pesticides Control:** www.thinkfirstspraylast.org, pesticides@maine.gov
- **Canadian Hemp Trade Alliance e-guide,** <http://www.hemptrade.ca/eguide/production/insects-and-pests>



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Hemp Insect Factsheets



Alliance Commerciale Canadienne du Chanvre

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Hemp Production

