# Green Infrastructure Review

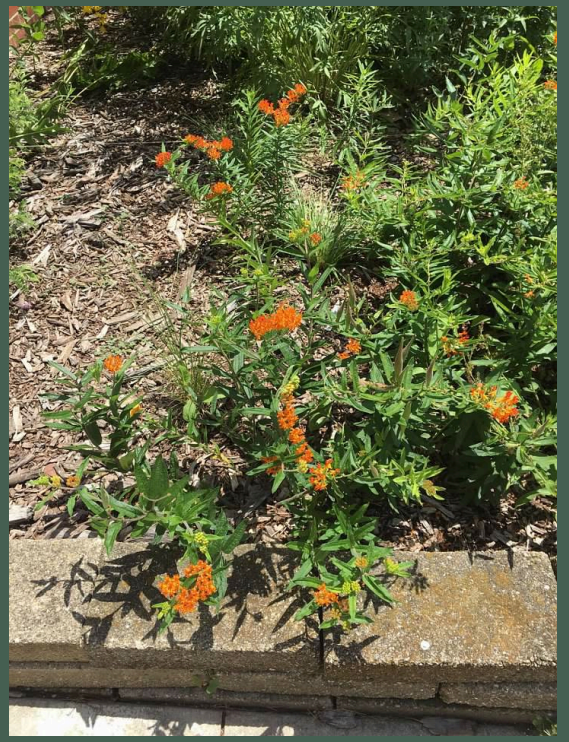
# SUSTAINABLE LANDSCAPES

# Concepts

1. Native Plants
   Select plants that are suitable for the overall region and climate, native plants
2. Integrated Pest Management
   Reduction or elimination of pesticides and chemical treatments
3. Pollinator Pockets
   Plants that supply food for pollinators, such as bees and butterflies
4. Healthy Habitats
   Provide habitats for local fauna, such as food and nesting sites

# 1. Native Plants

- They are adapted to this climate region, so they don't require as many resources, like water
- They don't require a high level of maintenance, once established
- Local fauna are adapted to their presence, such as milkweed for monarchs
- https://www.nrcs.usda.gov/wps/portal/nrcs/detail/il/plantsanimals/?cid=nrcs141p2_030715
- https://extension.illinois.edu/wildflowers/nativeplants.cfm
- http://www.fs.illinois.edu/docs/default-source/facility-standards/exhibits/exhibit-32-93-00-01-approved-plant-listf9269fc36b8160c2ad00ff2100358aeb.xlsx?sfvrsn=a022feea_4



# Prairie at Florida and Orchard

# 2. Integrated Pest Management

- The UN's Food and Agriculture Organization defines IPM as "the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimize risks to human health and the environment. IPM emphasizes the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms."

# How Neonicotinoids Can Kill Bees

## The Science Behind the Role These Insecticides Play in Harming Bees

*2nd Edition; Revised & Expanded*

Jennifer Hopwood, Aimee Code, Mace Vaughan, David Biddinger, Matthew Shepherd,
Scott Hoffman Black, Eric Lee-Mäder, and Celeste Mazzacano

**More info?** See the event on Facebook or contact MPAC's Ryan Anderson at randerson@pesticideaction.org

URBANA

# GROWS GREEN

WEEKEND

*Imagine an Urbana landscape with less pesticides, fertilizers, and risk.*


**SEPTEMBER 8TH - 10TH**

**ACROSS CHAMPAIGN COUNTY**

- **Acceptable pest levels:** F&S does not spray any insecticides or fungicides on campus trees, and it is used on landscape plants (shrubs, perennials, annuals, grass, etc.) only if the pest has affected the plant to the point it is causing significant harm.
- **Preventive cultural practices:** The Grounds department is working to replace the outdated Kentucky Bluegrass / Ryegrass mix in favor of a more durable Turf Type Tall Fescue mix in all lawn panels. This shift will allow for more sustainable irrigation practices and lawns that are more resistant against high levels of foot traffic.
- **Monitoring:** The Grounds department is consistently inspecting the different areas of campus; all of the staff are trained and knowledgeable on what to look for and how to identify the presence of pests.
- **Mechanical controls:** F&S utilizes large amounts of green waste wood chips in the planter bed areas of campus to suppress weeds. Application of the wood chips helps to reduce the amount of germination from weed seeds in the soil while also moderating moisture levels.
- **Biological controls:** Planting designs incorporate specific types of flowering plants that attract predator insects, in order to naturally encourage an acceptable predator/pest balance.
- **Pesticide restrictions:** The university is committed to encouraging and protecting stormwater and pollinators, and therefore Grounds limits the use of herbicides that contain neonicotinoids.
- http://fs.illinois.edu/docs/default-source/default-document-library/integrated-pest-management-program845fabc36b8160c2ad00ff2500358aeb.docx?sfvrsn=eadecbea_0

# IPM = Integrated Pest Management

It is a process for removing pests (including insects, rodents, and weeds) without resorting to use of hazardous chemicals. It is a combination of the best available pest control methods and is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

http://guides.library.illinois.edu/c.php?g=347342&p=2343043

# 3. Pollinator Pockets

"Cities and towns are like islands in a sea of agricultural land. And where cities work to provide habitat for pollinators, pollinators thrive. It's a case of build it and they will come." https://prairierivers.org/uncategorized/2018/08/cities-are-islands-for-pollinators/


# Do it yourself

# Bee Campus USA


**1 in 3**

**bites of food we eat is courtesy of insect insect pollination**

**~90%**

**of the world's flowering plants depend on pollinators to reproduce**

# 4. Healthy Habitats

**Bees need homes, too!**

- By incorporating these simple elements in your garden, you can easily provide shelter and cover for the native pollinators in your neighborhood!
  - Restrain from the use of mulch in your garden; many bees prefer to find shelter in loose soils or sands near the base of their food sources.
  - Provide small spaces for pollinators to nest such as decaying logs, trees, or branches. Click below to learn more about building a Bee House for your garden!
  - https://www.nwf.org/Garden-for-Wildlife/Young/Build-a-Bee-House

**Hydrate or Die-drate! (Access to clean water!)**

- Bees don't get all their water from nectar alone—provide a shallow bird bath as a clean water source, or a graveled muddy area in a corner of a garden or yard for pollinators to access fresh water.

# Simple Solutions

- Put a dish of water with rocks outside for bees and butterflies
- In the summer, set your mower to mow at a higher level
- Build or purchase a bat box →
- Get a bird feeder
- Add plants with nuts or berries
- Plant milkweed for Monarchs
- Choose a planting scheme to attract butterflies and hummingbirds

# Next Steps

- April 9: Behavior Change reading and quiz – due Saturday
  - Part Three, due 4/9
  - All six sections with three actions for each section
  - Proper grammar, page numbers, and a title/cover page.
- April 16: Funding Options
  - Full Draft Report, due 4/16
- Presentation practice on 4/23
- Formal presentation to clients on 4/30
- Final CAP Report, due 5/6