PESTS & DISEASES

ASTER YELLOWS VERSUS CONEFLOWER ROSETTE MITE

Pest borne Diseases

What is Aster Yellows?

- Chronic, systemic disease that affects over 300 species in 38 families of broad-leaf, herbaceous plants.
- Members of the aster family (Asteraceae), such as asters, marigolds, Coreopsis, and purple coneflower are commonly affected by this disease.

What causes Aster Yellows?

- Aster leafhopper
- Almost impossible to tell it apart from other leafhoppers
- The leafhopper carries a phytoplasma in its vascular system that it can pass along to members of the Asteracea family.
- It gets the phytoplasma from an infected plant, and then spreads it for its whole life to every plant it feeds on.
- Leafhoppers migrate from the south, only a small number of them carry the phytoplasma.

Aster Yellows ID

- Deformed growth, especially flowerheads
- Greenish cast to flowers/seedheads

How do you treat Aster Yellows?

- No effective treatment for the home garden.
- Cultural Control: to remove infected plants and destroy them.
  - This includes weeds like dandelions and plantain.
- Prevent: Limit the spread of AY by planting multiple varieties of plants, not just huge banks of one type.
- Plant AY-resistant varieties of plants.

What is Coneflower Rosette Mite?

- Irregular growth of the flower on coneflowers
- Caused by the presence of a mite in the flowerhead
- Deadheading the affected flowers limits the spread of the mite
- NOT systemic, it doesn't affect the entire plant, just the symptomatic flowerheads
- No green-yellow cast to the flower head? Only deformed center, not affecting petals or overall structure? Almost certainly not AY.


Coneflower Rosette
Eriophyid Mite
Aster Yellows
(Phytoplasma Disease)
Joe Boggs, OSU Extension©

JUMPING WORMS

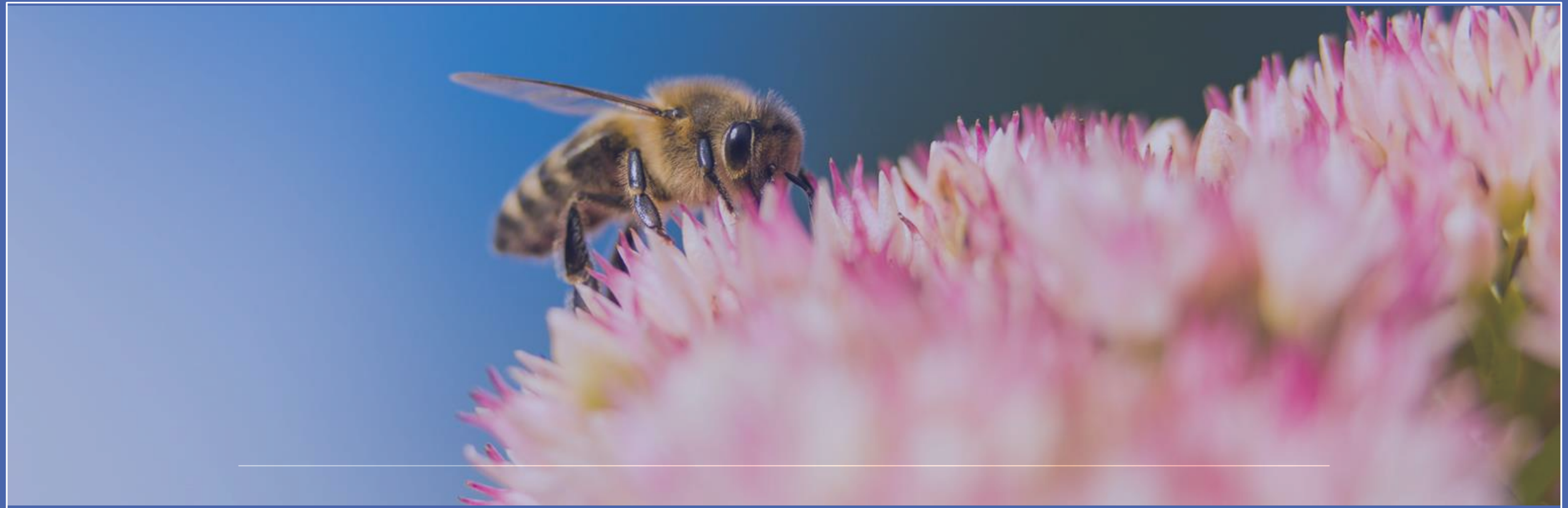
AAAAAAAAAAAAHHHHHHHHHHHHHHHHHHHHHHHH

Jumping Worms in Summer

- Adult population is booming
- Still laying eggs
- Seeing a lot of their soil signature
- Seeing results of their feeding on garden plants

Treatment

- There isn’t a treatment
  - Widespread
  - Invasive
- Prevention is key
  - Cleaning tools
  - Emptying debris bags and buckets, don’t transfer debris between sites
  - Scrape mud off boots and kneepads



NIOSH FAST FACTS: STINGING INSECTS

Home Sown Gardens Training

Contents

Identify

- Types of stinging insects
- Understand the habits and habitats that bees and wasps prefer
- Understand the risks associated with stinging insects when working outdoors

kimbbearly

why dont humans have a specific noise that means “there are bees here lets leave immediately” why are elephants more advanced than us

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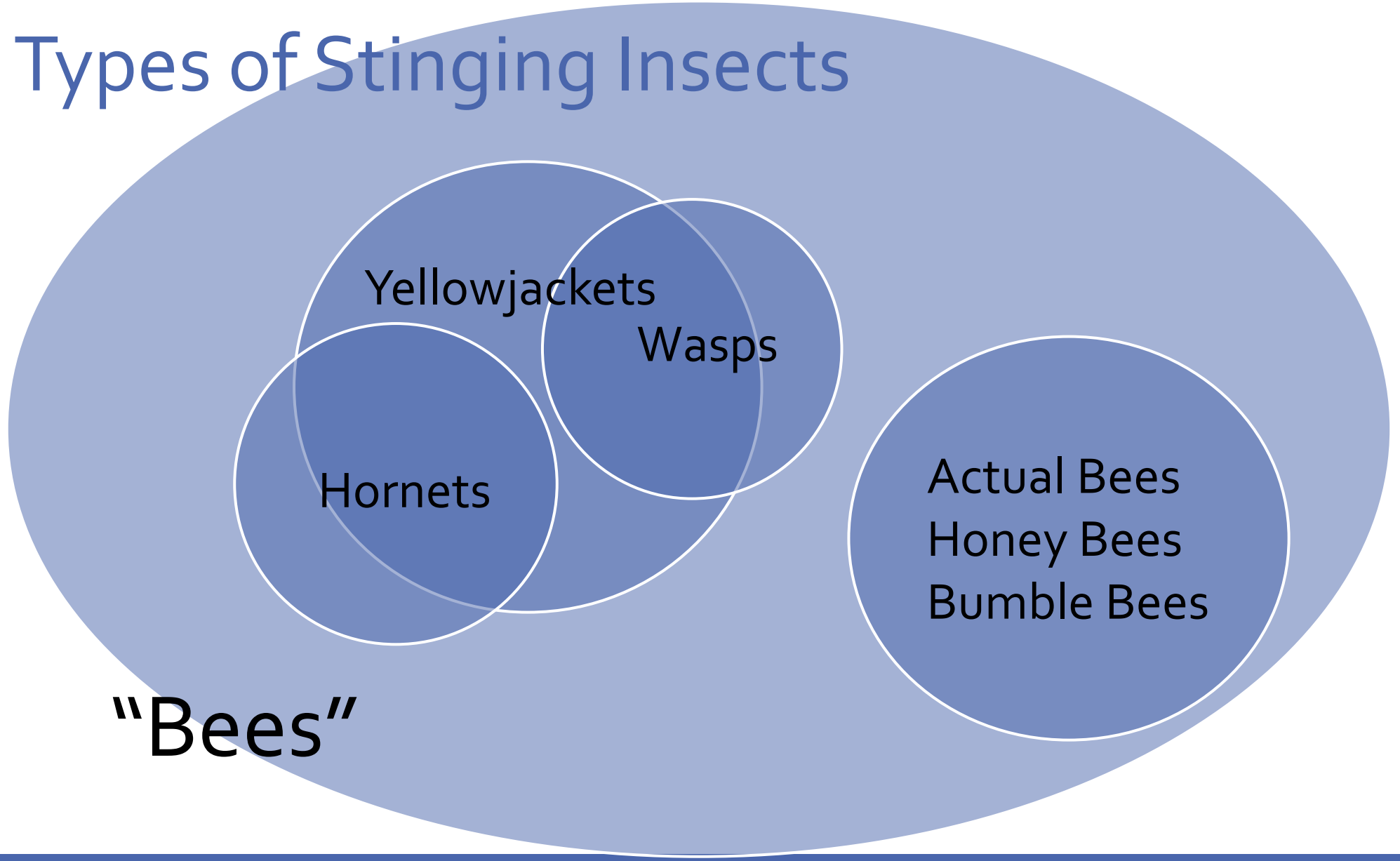
thebaconsandwichofregret

we do have a specific noise, it sounds like this:

“there are bees here lets leave immediately”

Types of Stinging Insects



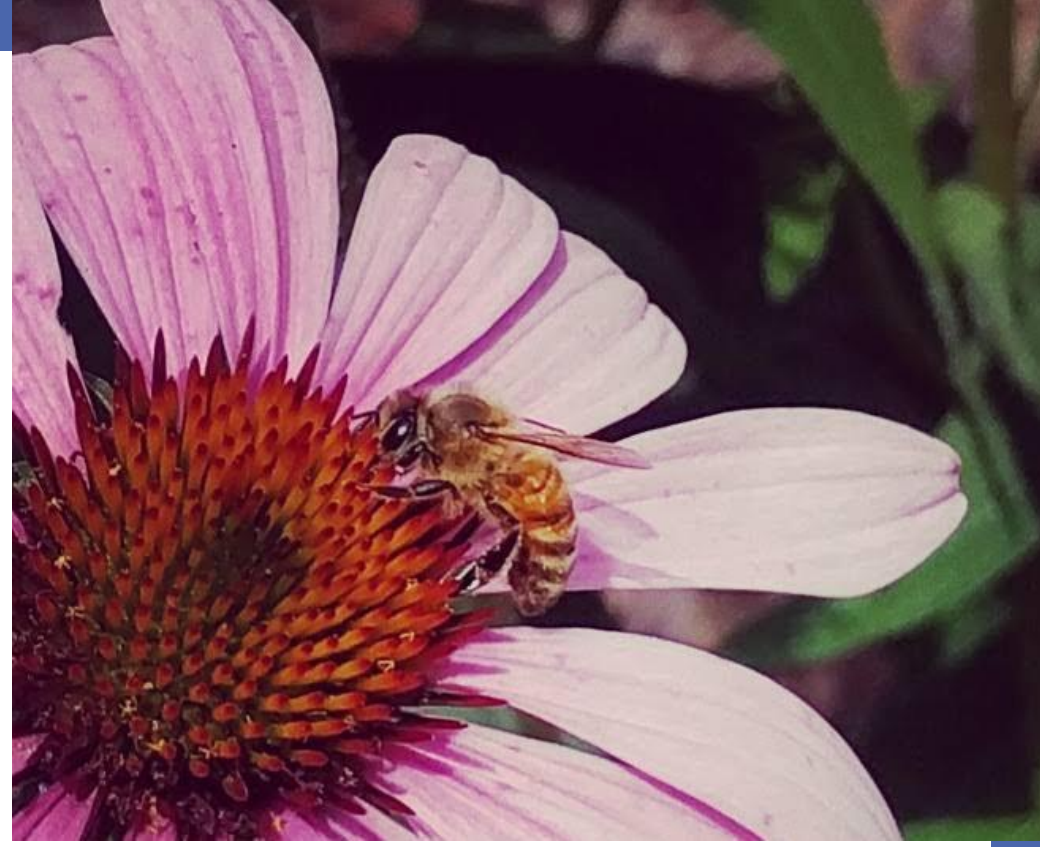
Identify: Types of Stinging Insects

- Bumblebees *Bombas* spp
  - Create an annual colony, only the queen lives through the winter
    - Colonies often located underground in deserted rodent nests or other cavities, in compost piles, and underneath large objects on the ground.
    - Some varieties are solitary
    - 30% of bumblebee species are in decline, so we gotta watch out for our buzzy friends.
  - Not aggressive at all unless attacked or nest is threatened.
  - ADORABLE BABY BONKERS

MN State Bee – Rusty patched Bumblebee!

Identify: Types of Stinging

- European Honeybees *Apidae mellifera*
  - Smaller than a bumble bee, still fuzzy, golden yellow in color
  - Not aggressive unless hive is threatened, or individuals are attacked.
  - Only feed on nectar (carbohydrates) and pollen (protein)
  - Perennial nests in manufactured hives with vertical combs sealed with wax.
    - Occasionally nest in hollow trees, voids in walls, or other well-protected areas.
  - When the colony gets too large, the old queen will leave with some drones to look for a new home, creating a swarm. The swarm may hang out near the originating hive until scouting bees find a suitable place to settle. Swarms are not aggressive but avoid them regardless.



- Not native to North America. May be problematic in hosting diseases that affect native bee populations.

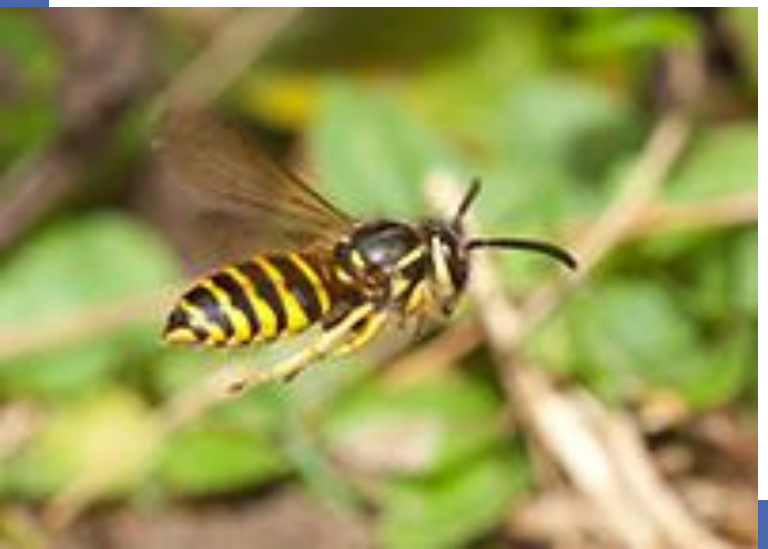
Identify: Types of Stinging Insects

- Hornets, actually aerial yellow jackets, *Vespidae* spp
  - Aggressive, especially in the vicinity of their nest.
  - Large paper nests that are enclosed, can be basketball-sized!

Hornets warn, Yellow Jackets attack

Identify: Types of Stinging Insects

- Yellow Jacket *Vespidae*
  - Smooth, shiny body
  - Build nests **underground** or on human-made structures low to the ground (look under picnic tables/benches)
  - Annual colony, only the queen survives the winter
  - Characteristic zig-zag pattern to their flight as they come to a landing.
- Can sting multiple times
- Account for the greatest number of stings per year
- Important for pest control, also perform some pollination.



- Forager, scavenger, omnivorous. Watch out around fruit trees and bushes with fallen fruit, near trash bins, or picnic areas.
- Most aggressive of the stinging insects
  - Large colony, decreasing food supply, late summer is a grumpy time

Identify: Types of Stinging Insects

- Wasps *Vespidae* spp
  - Paper wasps are less aggressive, live in smaller colonies.
  - Tend to nest on or near human made structures, usually underneath horizontal surfaces, which makes wasp stings common. Do not reuse their previous years nests.
  - Their combs are single umbrella shaped structures with no outer envelope, you can see all the cells.

- Feed on sugars from overripe fruits and honeydew, do some nectaring. They will feed insects and spiders to young.

Wild bee: just getting snack

Me: no prob bee

Mason bee: just make house

Me: build a way b

Honey bee:jus sampling the lavenders

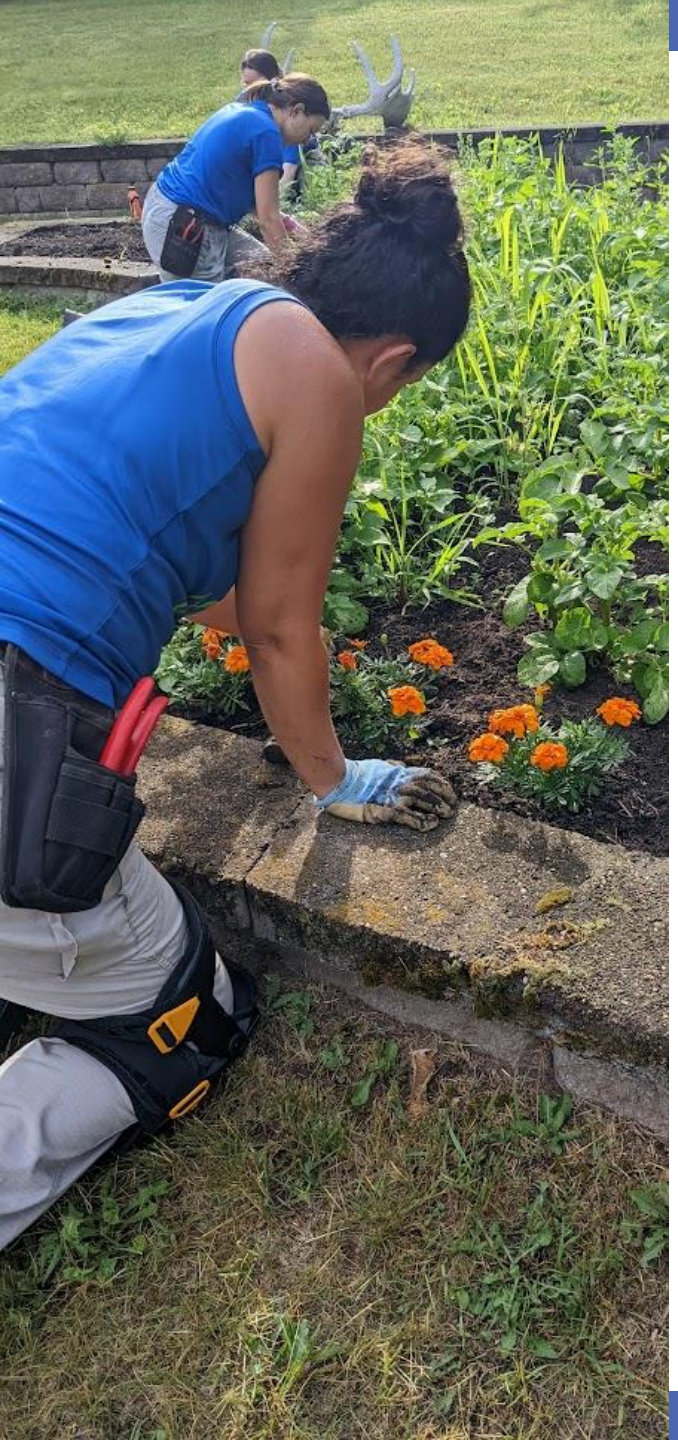
Me: you know I got an assortment

Bumble bee: hey *bonk* I jus *bonk* I h

Me: *holds flower still*

Yellow Jacket I'LL SEE U IN HELL

Me: U TELL THEM WHO SENT U



Preventing Stings

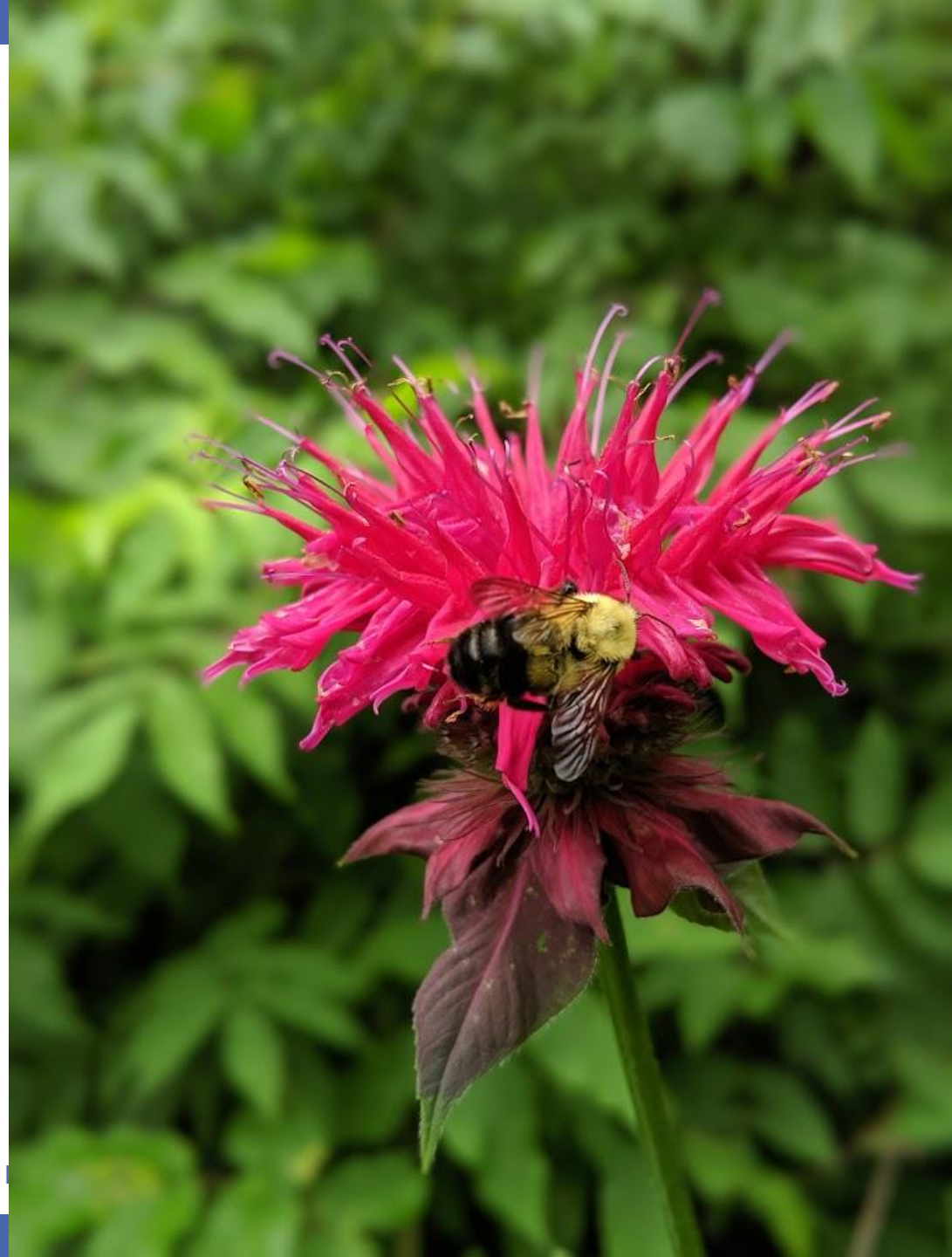
- Avoid using strongly scented perfume, cologne, shampoo, or soap before work.
- Do bathe daily and wear clean uniforms as much as possible, pheromones in sweat may anger already aggravated bees.
- Remain calm when a single stinging insect is flying around you. Move slowly, like a plant waving in the breeze. Try not to swat at insects flying around you as crushing them may provoke other nearby insects to attack you.

Preventing Stings

- Remain aware of your surroundings when working in areas with crevasses, such as boulder walls and masonry, hollow trees, near eaves of rooves, or in areas that have attractive food like windfallen fruit, or near trash receptacles, as these are prime areas for stinging insects to gather.
- Dispose of food waste in appropriate trash receptacles.
- If a stinging insect is in the truck while you are driving, pull over, come to a stop, and open the windows to allow it to escape.

If you are stung:

- Attempt to remove the stinger if it is present by scraping it off, either with a fingernail, edge of a credit card, or similar. Do not squeeze or pinch it, as this will squeeze more venom into the wound.
- Remove rings or other tight clothing or jewelry if near the site of the sting.
- Wash the affected area with soap and water.
- Elevate the affected area, apply a cold compress to reduce swelling.
- Take antihistamines like Benadryl to limit swelling
- Do not scratch the sting area as it can increase swelling, itching, and risk of infection.

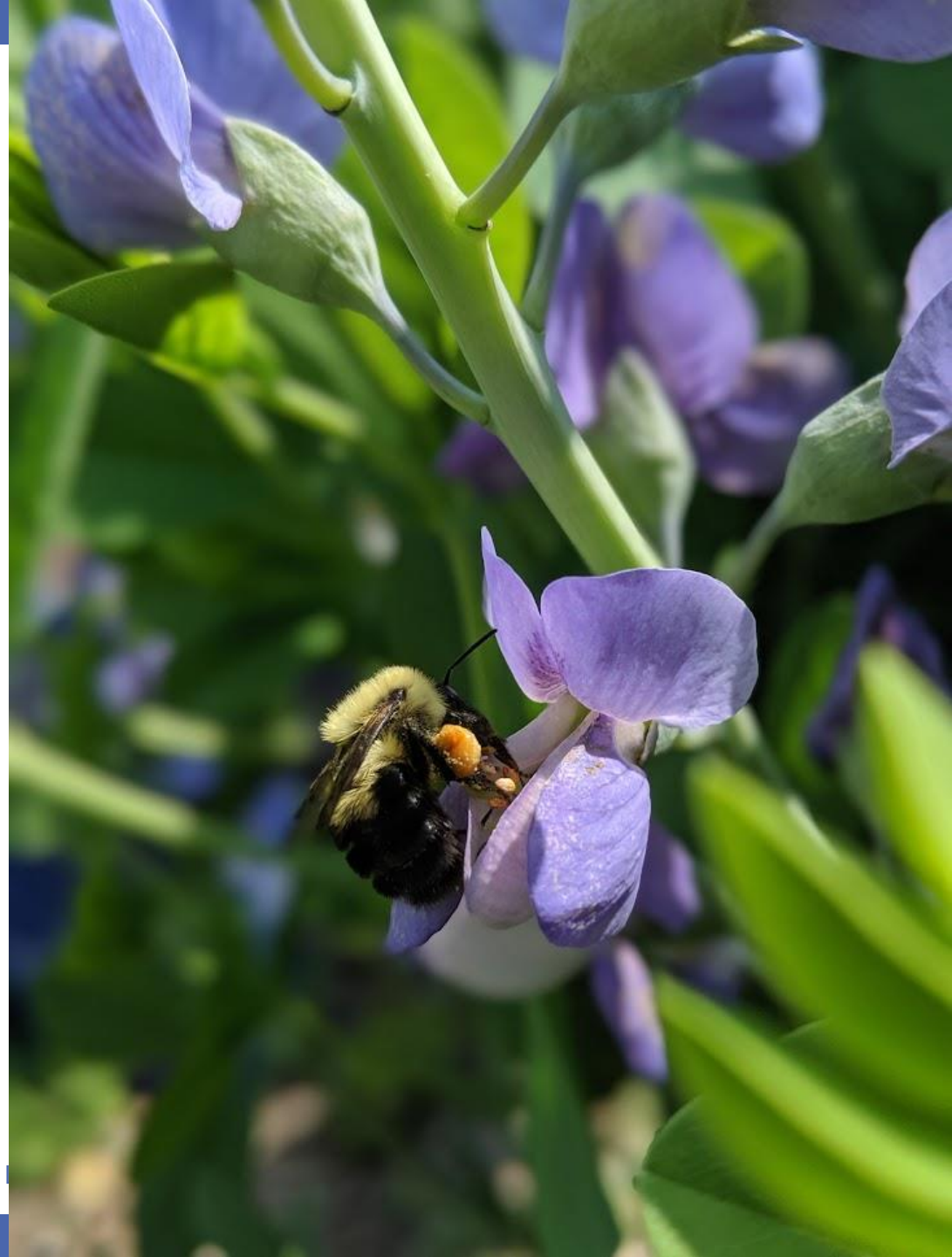


If you are stung:

- Yellow jackets, paper wasps, and bumble bees have the potential to sting more than once, honeybees can only sting once because their stinger is barbed.
- If you are not aware of a bee or wasp allergy, don't panic, but alert a coworker who should remain near you until you can confirm that you're not having anaphylaxis response.
- If you are attacked by several stinging insects at once, run away. A shaded area is ideal, under a tree, or indoors if possible. It may be necessary to remove a layer of clothing if insects get trapped between your clothing and your skin.
- It is not recommended to submerge yourself in water.

Further Considerations

- We don't recommend removing or destroying the hives or nests of stinging insects, unless they are an eminent threat to people and pets.
- These insects are part of the ecosystem, and play a role in pollination, species control, and breaking down waste in the environment.
- We do want to inform the client of the presence of the nest or hive so that they can stay safe in their yard and garden.
- We can choose to not work in an area based on the presence of stinging insects. Be sure to note where the insects seem to be nesting and inform the client.

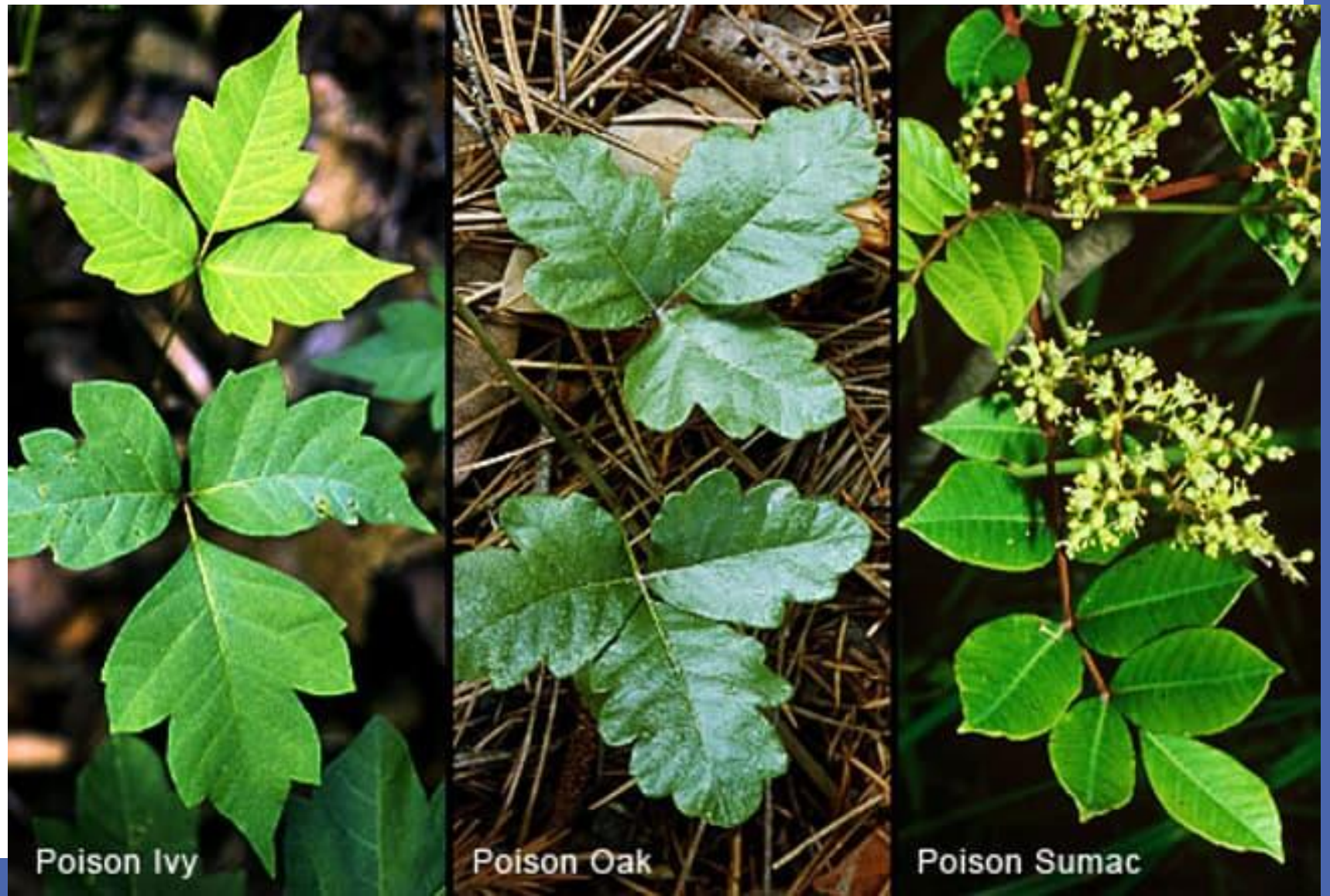


NIOSH FAST FACTS: TOXIC PLANTS

Home Sown Gardens Training

Poisonous Plants

- Contains urushiol, an oily irritant that causes blisters and itching, and can be aerosolized by burning
- The oil can be transferred from surfaces that have been in contact with it, like garden tools, gloves, outerwear, or animal fur.



Poison Ivy

- Flowering in June & July
- Fruiting in Sept & Oct
- Slightly toothed leaves in groups of three
- Center leaf on a slightly longer stem than the two side leaves.
- Can be vining or shrubby

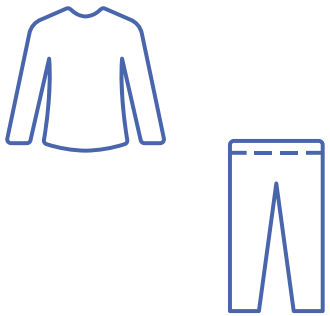
Poison Sumac

- Tall shrub or small tree
- Drooping clusters of uneven shaped green berries
- Leaf cluster of 7 -13 smooth leaflets arranged in pairs
- Thrives in wet, swampy regions

Poison Oak

- Not hardy in our region, but may persist in microclimates
- Similar to Poison Ivy's three-leaf cluster, with a more oak-like leaf shape
- Lighter colored on the bottom, with fuzzy hairs
- Often takes a shrub form

Poisonous Plant Exposure Prevention & Treatment



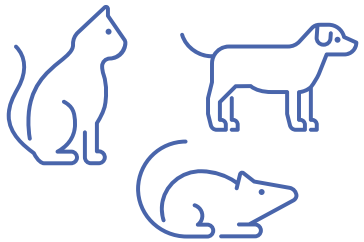
- Prevent:
  - Wear long sleeves, gloves, and pants tucked into socks
  - Learn to ID poisonous plants
  - Take extra caution when entering unmanaged areas
  - If you see something, say something!

- Treat
  - Wash the affected area with mild soap and water
  - Clean garden tools that may have encountered urushiol oils while wearing disposable gloves
  - Over-the-counter antihistamines and topical treatments like hydrocortisone

Poisonous Plant Facts

- Rashes can take 8 to 72 hours to form

- Urushiol can be present even in dead plants

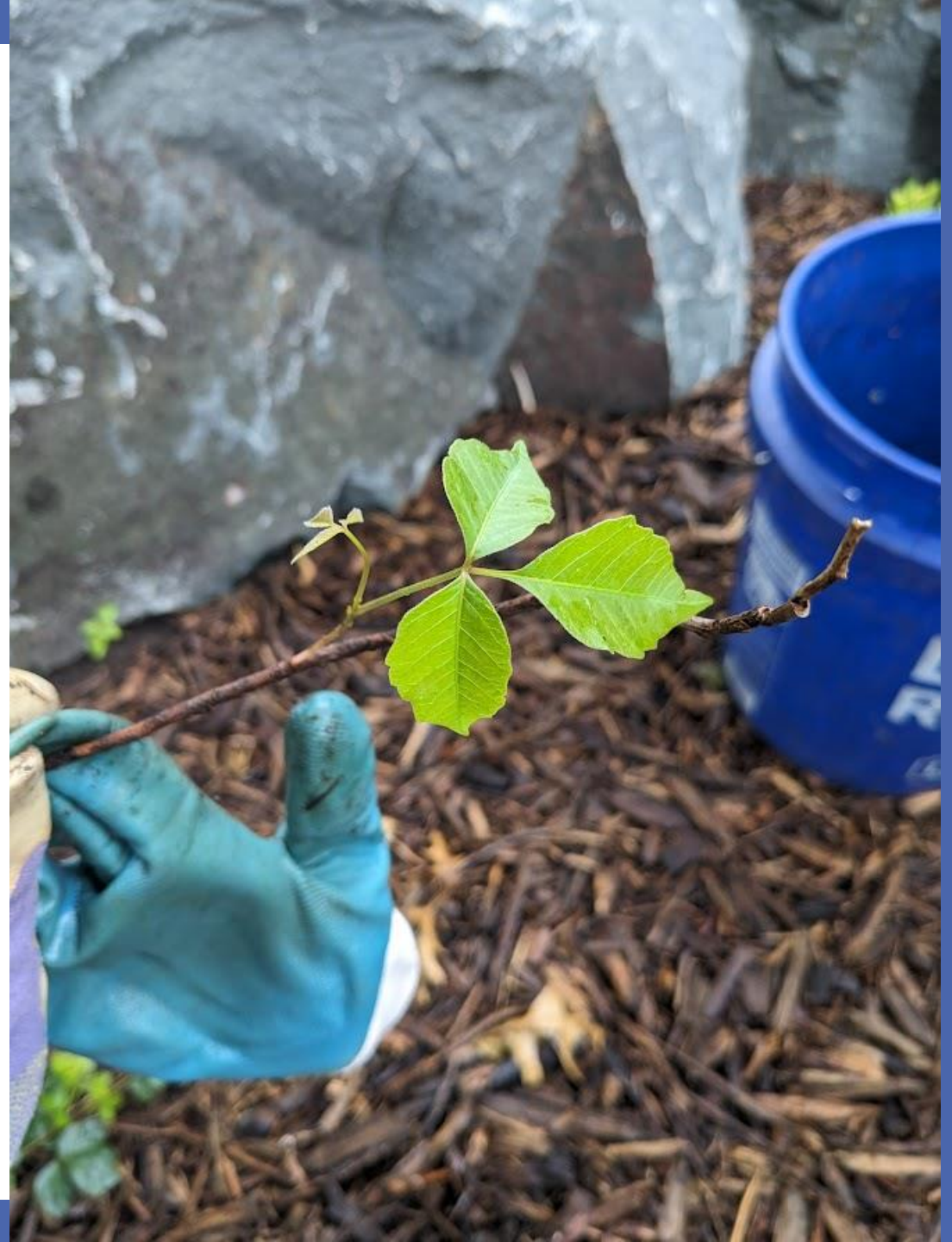


- Animals are often unaffected by contact with poisonous plants because their feathers or fur prevent the oils from coming in direct contact with their skin.

- Medical help is necessary if contact occurs with eyes, sensitive areas, or is widespread over the body.

Sources

- https://www.cdc.gov/niosh/topics/plants/default.html

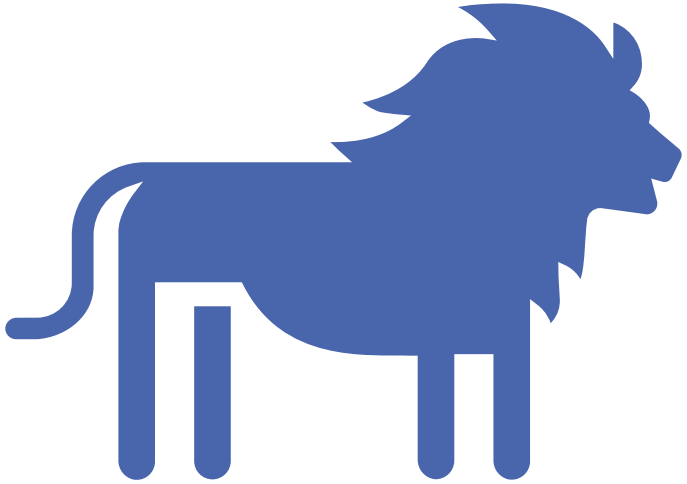


COMPLETING THE STRESS CYCLE

Mental Health at HSG

Lions

- We’re mammals

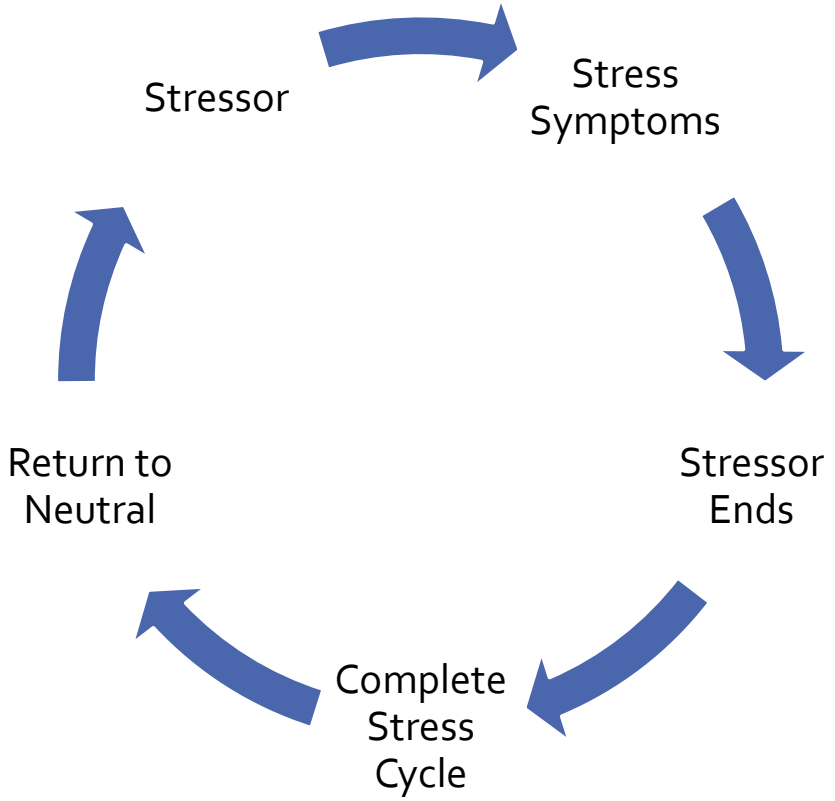


Traffic

- When you're stuck in traffic, you're stuck in the stressor
- When you get home, you're physically out of the stressor-situation, but your body is physically still experiencing the chemical, mental, and emotional stressors.
- How do you complete that stress cycle?

Completing the Stress Cycle

- Physical
  - Movement
    - Running
    - Dancing
    - Working out
- Emotional
  - Social connection
    - Low-intensity
  - Redirecting through a movie, book, creative activity
  - Outlet
    - Crying
    - Laughing



How do you know when it's complete?

- A mental and emotional shift
  - Full after eating a delicious meal
  - Content after hanging up the phone with a friend
  - Peaceful or humored after watching a favorite movie
  - Accomplished after cleaning, creating, etc.
- A physical shift
  - Tired after going for a run, dancing, boxing.