
HOW TO GET STARTED
GROWING WITHOUT GUNK
THE Great Healthy Yard Project

A healthy plant has better defenses against pests, and is stronger and can outcompete weeds. Pick the right plant for the right place, and if it doesn't like that spot despite your planning, change it out. Native plants, plants that were in your region before European settlers, are evolved to thrive there with little care. When you are choosing a plant for your garden pick a plant that does well in the area you are planting, sun, partial shade, wet, or dry. Even plants that do well in arid weather will need water for the first two years until they are established.

SOIL

Plant health is dependent on soil health.

1. Test your soil for nutrients, micronutrients, and pH

2. Replete only what is needed with certified organic amendments or compost.

3. Compost or humus adds carbon and structure, too, so it is a great choice.

4. It will take a while for the good bacteria and fungi that make your soil culture thrive to regenerate if you have been using synthetic chemicals. Synthetic pesticides, weed-killers, and fertilizers are all biocides.

5. Don't manipulate your soil if it is very wet, you will destroy the tilth.

6. In areas, including your vegetable garden, where you are growing annuals, use a cover crop out of season. Alternatively, keep the soil well covered with well mulched leaves.

Plants photosynthesize and weep carbohydrate they are not using into the soil from their roots. This feeds the beneficial soil microbes. Those microbes in turn provide carbon for the plant. Some also fix nitrogen from the air into a form the plants can use as a nutrient.
Leaf mulch has lots of nutrition and structure, as well as beneficial organisms. It works well on raised beds because they are flat so they don't wash away. They also work well on my perennial beds where a cover crop would be too disruptive. This will not only help your plants grow well, it also provides important side benefits.

7. Soil grown regeneratively, in the manner outlined above can hold water when it pours, helping to prevent flooding. Plants can use this water in times of drought.

8. Healthy soil with cover crops prevent erosion. This keeps nutrients that the plants need in the soil. It also keeps them out of streams, lakes, and oceans where they cause problems such as toxic algae blooms.

9. The organic matter in soil, including beneficial bacteria and fungi, store a phenomenal amount of carbon. The plants need this carbon, and storing it in the soil and the plants prevents it from going into the atmosphere.

10. Good soil culture helps lead to a healthy biota on our skin and in our digestive tracts keeping us healthier.

WEEDS

What method you are going to use depends on the weed, where it is, and how widespread the scope of the problem is.

Out compete them
In general, the best way to get a jump on weeds is to out compete them. Native plants will flourish in your garden bed and make it really easy to weed. A thick, healthy lawn will shade weed seed so that it is much less likely to germinate.

Hand weeding
In garden beds regular hand weeding is the best bet.

Mow them down
In a field that we don't usually mow until late September so that it provides habitat to local birds and pollinators, there are some years we have had to mow early and regularly because bittersweet was popping up, and it was too tough to pull all of it out. Mowing it solves the problem, and we can usually let the field grow the following year.

Mechanical weeding, with a little help
Some things are easy to just pull out. For deeper roots mechanical weeding with a Fiskar UpRoot Weed and Root Remover 7870, or an Uprooter often works well. Both work best if the ground is a little moist.

Solarize with plastic
Cover the weeds with plastic. Some people recommend black because it retains heat and hotter is more effective at killing weeds, some recommend clear because it encourages weed seeds to germinate and then kills them. This actually works on Phragmites.

Vinegar
Horticultural Vinegar is 20% acetic acid, much stronger than table vinegar, but the same basic stuff. It is great for weeds on driveways and patios. For substantial invasive plants you will have to treat them repeatedly because it does not kill the roots. However, repeatedly killing the top of the plant prevents it from photosynthesizing and it will eventually die. This is true for killing turf, too.

Citrus oil
Works just like vinegar, but is an oil.

Weed torch
If you learn how to correctly use a weed torch it is a great tool. If you use it after a rain when the plants are wet it will cause the water in the roots to boil and kill the roots. For substantial weeds you will need to cut them back before you use the weed torch on the stump. Also, you really need to learn what you are doing and be very careful not to cause a fire. Don't try this on phragmites, however, because fire spreads phragmites.

Boiling water
On my brick patio boiling water works well. You have to be careful not to use it on bluestone or other stones that can crack with heat.

Biologics
Biologics are wonderful, but very pest specific. And of course, you don't want to put yourself in a situation where there are unintended consequences. So I keep it pretty simple.
Here is a great link about how to get rid of purple loosestrife. #9 on their list of 10 is biologic controls. https://www.purpleloosestrife.org/faq/

PESTS

Remember that any pesticide, including certified organic pesticides, kill both good and bad bugs. They are also biocides and kill good soil bacteria and fungi. So if you need to use a pesticide, use it very judiciously in a small area, looking as you spray and doing your best to avoid good bugs. Spraying early in the morning or late at night when bees are in their hives is also a good idea. A small hand held sprayer is the best way to do this. Look at what the problem is, that is the only way to know how to solve it.

Bring in the good bugs
Plant native flowering plants that attract native insects. Strips of pollinator friendly flowers in farm fields have been shown to decrease pest numbers and increase crop yields.

Plant smart
Native plants are likely to thrive without pesticides because they are adapted to your locale. If a plant or vegetable gets hammered by insects year after year, consider another option that would do better. Make sure your soil nutrition is good for your plants.

Squish them
If there are only a few, just squish them. I can do this with tomato hornworm caterpillars and immature harlequin bugs. If there are aphids in just one or two areas this works, but they are usually more widespread. For Japanese beetles brush them into a bucket of water. I spill out the water and squish the wet bugs.

Biologics
a. Lady bugs and lacewings: Generally biologics need to be specific to the pest, but these are generalists and work well for me. They eat aphids, and only eat the very smallest caterpillars, so don't make a significant negative impact on my butterflies and other beneficial insects.
b. Nematodes: Great for grubs and many other issues, but specific to the problem. Ask your university cooperative extension or contact us.
c. Milky spore: Much debate on whether this is effective on Japanese beetles, but if it is applied as directed I think it helps.

Horticultural soap
Use an organic one. It is effective on aphids, spider mites, and other soft bodied pests.

Neem Oil
From the African evergreen neem tree. It is an insect repellent and preemergent oil.

Spinosad
This is a product of fermentation of the bacteria s Spinosa. It kills cabbage worms, leaf miners, caterpillars, slugs, and hornworms. It also kills bees and deragonflies very effectively. Use in a localized manner early in the morning or late in the evening when bees are in their hives.

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