



## Black Creek Garden Resource Network 2017

### Healthy Plants - What Do They Need?

# Healthy plants - What do they need?

Air  
Water  
Sunlight  
Food  
Space to grow



Just like us! If plants don't have these conditions, they become stressed and vulnerable to pests and diseases, just like us. Organic gardening is focused on health and prevention first, treatment second.

Healthy plants do not need fungicide or pesticides or insecticides.

# Air - Plants need air above and below ground

Above ground - things to think about:

- Air flow
- Humidity
- Temperature
- Space plants out so there is room for air flow between plants



Underground - things to think about:

- Air pockets for root growth
- Air pockets for oxygen for the roots
- How to provide air pockets in the soil: avoid compaction, loose and light soil (especially for seedlings, healthy “crumble” texture from high organic matter)

(look at different soil samples, see how water drains with each type of soil, including potting mix)

# Water

Different plants have different water needs - some need consistent moisture, some can tolerate drought conditions.

ALL seeds and seedlings need consistent moisture. Do not let dry out. Water once in morning and once later in the afternoon - generally.

Give plants and soil time to dry out before night time. Plants that are always damp invites fungal diseases.

Once plants are established:

High water needs - greens, shallow root vegetables like radish

Drought tolerant: beans, hot crops like tomatoes, eggplants, peppers, callaloo

Not over watering also encourages strong root growth.



# Watering tips

Seedlings - gentle sprinkler or mist setting, be careful not to damage plants

Use a gentle sprinkler or mist setting to copy rainfall

Don't "shoot the water" right at the plants or ground

- Avoids compacting the soil
- Avoids splashing soil onto the plants
- Avoids damaging stem and leaves of plants

Best time to water: early morning so plants have time to dry out, late afternoon so water doesn't all evaporate and plants still have time to dry out before night time

Avoid watering: hottest time of the day because water droplets will burn plants, early evening because plants may stay damp and this invites disease.



# Fertility / Food & Nutrition for your plants

## Fertilizer vs. Compost

Fertilizer - quick release, doesn't bind to soil, excess nutrients is leached out, only focused on NPK.



## Compost

- Slow release and stable nutrient source
- Mimics nature's process of breaking down nutrients with the help of insects and micro-organisms
- Like a "multi-vitamin" for your soil and plants
- Making your own compost: greens and browns, heat, water, and air

(look at worm compost example)

# Weeds

What are weeds?

Are there “weeds” in nature?



All weeds actually have a purpose - they are nature’s natural healers for the soil and each weed is there for a reason. This is a whole other topic.

But when growing vegetables, we want to save soil nutrients for our crops, so we call what we don’t want to grow and harvest “weeds” and remove them.

Some weeds can be beneficial and even edible for humans (examples: clover, lambsquarter, purslane, “pigsweed” or amaranth, dandelions)

# Weeding tips

“Cultivating” vs. Weeding - removing weeds when small rather than letting them get big and having to pull out a large plant

Ways to prevent, remove, or reduce weeds

- Balanced healthy soil
- In fall or spring - cover growing area with tarp or thick cardboard to prevent weeds from germinating or to kill weeds by preventing sunlight for growth
- Remove weeds when small - much easier than when they get big
- Don't let weeds go to seed! This reduces weed seeds in your soil for future seasons
- Mulching - blocks out sunlight to prevent germination or to kill existing weeds

