

Now what?

BAN ON THE COSMETIC USE OF PESTICIDES

BY CONNIE KURAMOTO

Ban on Pesticide Use

TOWN OF QUALICUM BEACH

BYLAW NO. 650

A Bylaw to regulate the use of pesticides in the Town of Qualicum Beach

WHEREAS the residents of the Town of Qualicum Beach are concerned about the non-essential use of pesticides and the risk that pesticides may pose to the natural environment;

AND WHEREAS the application of pesticides contributes to the cumulative chemical load absorbed by the natural environment;

AND WHEREAS pesticides cannot be necessarily confined to a single location, but move through the environment in the air, land and water and may have an impact on non-target organisms and plants;

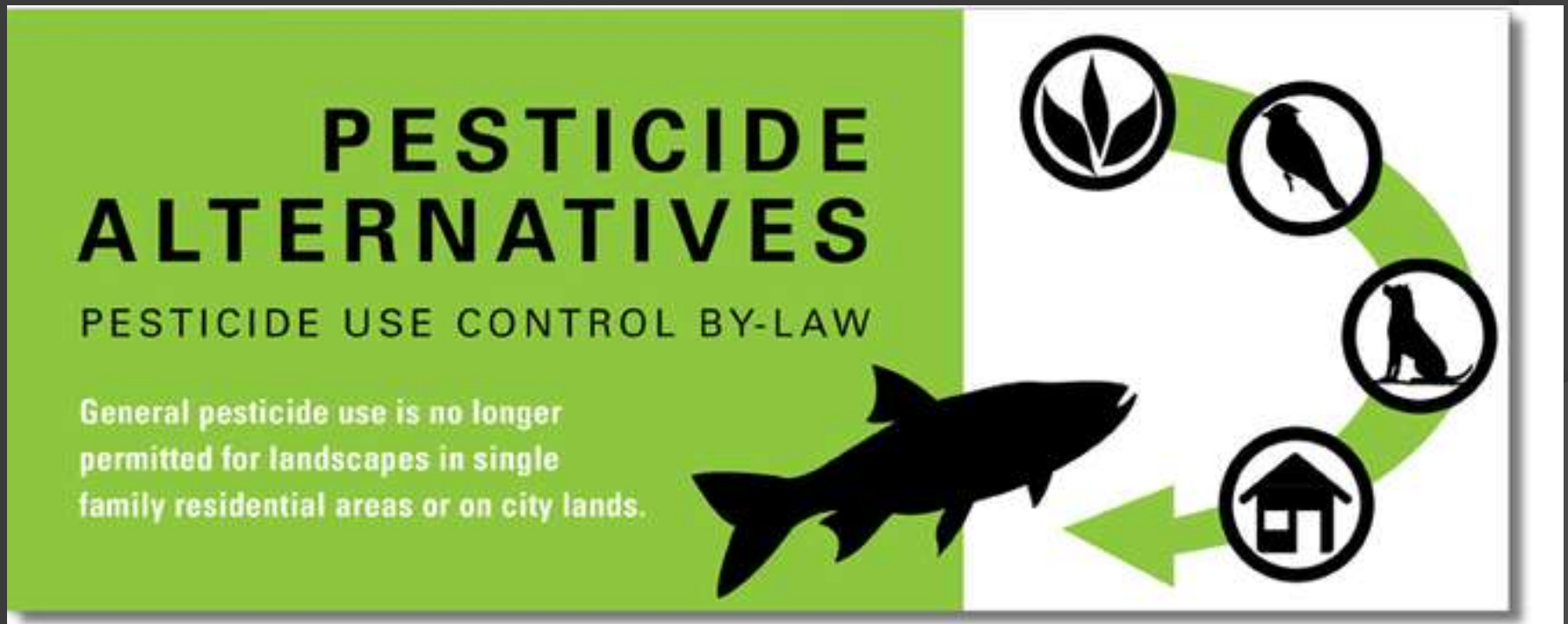
AND WHEREAS alternatives to the application of pesticides exists;

AND WHEREAS the Council of the Town of Qualicum Beach wishes to regulate the use of pesticides for non-essential purposes within Qualicum Beach;

Nanaimo Ban on Pesticides

- Nanaimo city councillors have decided to implement a bylaw that will ban the use of cosmetic pesticides. The ban, which is expected to come into effect by 2010, will ban all chemicals used to control pests in lawns and gardens for aesthetic purposes. Pesticide suppliers will be forced to supply natural-based products, which some say may affect sales. Read the full article in the [Nanaimo Daily News](#)
- Filed in:
- [By-laws](#)
- [Documents](#)
- [Pesticides](#)

At last count 35 BC
Municipalities have banned the
cosmetic use of pesticides



Provincial Bans

- In 2003, Quebec was the first province to restrict the sale and use of products approved by Health Canada.
- Ontario followed Quebec five years later, with April 2008 legislation and regulations in April 2009.
- Nova Scotia's ban followed Ontario and Quebec in 2010.

More Provincial Bans

- New Brunswick's Dec 19, 2009 law banned the use of 2,4-D lawn pesticides and over-the-counter sales of 200 broadcast and spray pesticides.
- Prince Edward Island (2009) allows some pesticide use through IPM practices only

"You can have a healthy lawn and garden without the unnecessary risk posed by using conventional pesticides for purely cosmetic reasons. We are reducing the risk to our health and to the environment, and protecting the most vulnerable of our citizens, our children."



Ontario Environment Minister
John Gerretsen

Provincial Bans



Francesco Vaccaro, 3
Ontario Environment Minister
John Gerretsen,
Premier Dalton McGuinty

- Quebec passed Canada's first protective provincial ban and fought a court battle to retain the right to ban pesticides
- Ontario's ban sets a new Canadian standard on how Government can protect citizens and the environment from the unnecessary risk of harmful pesticide exposure.
- BC has yet to implement a province wide ban

Bans in Europe

Bans in Europe and New Zealand have gone even farther, and have banned not only cosmetic pesticides, but up to 60% of the pesticides that had been used in agricultural production.



Dangers of Pesticides

In April 2004 Canadian family physicians issued a strong warning on the risks of exposure to pesticides, noting the number of studies linking cancer, reproductive problems and neurological diseases with commonly used pesticides. The following month in Paris, medical specialists from Europe, Canada and the U.S. released an International Declaration on Diseases Due to Chemical Pollution, calling the number of untested chemicals in the environment "a serious threat to children and to Man's survival."

Dangers of Pesticides



Animal studies have shown that some pesticides can cause cancer, reproductive problems, birth defects, central nervous system disturbances, liver and kidney damage, and skin irritation

Dangers of Pesticides



- Cats are particularly vulnerable, since they often lack key enzymes for metabolizing or detoxifying pesticides.
- A cat's small size and unique behavior -- in this case, grooming -- work against them as well, making them particularly vulnerable to poisoning.

Dangers of Pesticides



Dangers of Pesticides



Dangers of Pesticides



So what now?



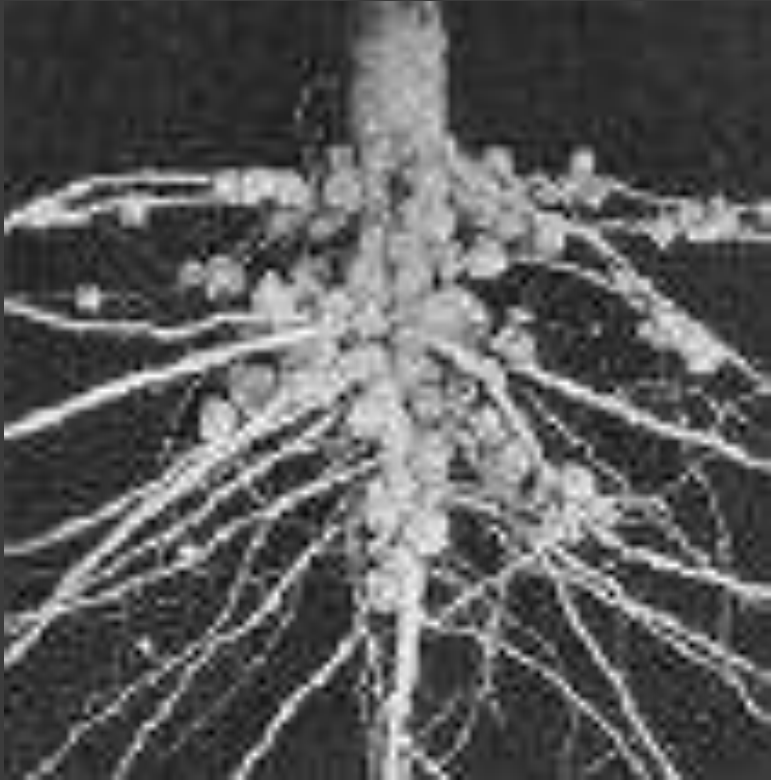
- ◉ We thought we were dependent on pesticides to have an attractive lawn, to grow a great garden, and to produce enough food for the world.
- ◉ How do we get by without them?

Call in Allies!!!



- An amazing fact of nature is that when we apply pesticides we not only harm ourselves, our kids, our pets, bees, butterflies, fish and frogs, we also harm the very creatures who could help us prevent weeds, diseases, and insect infestations!!!!

Soil Allies

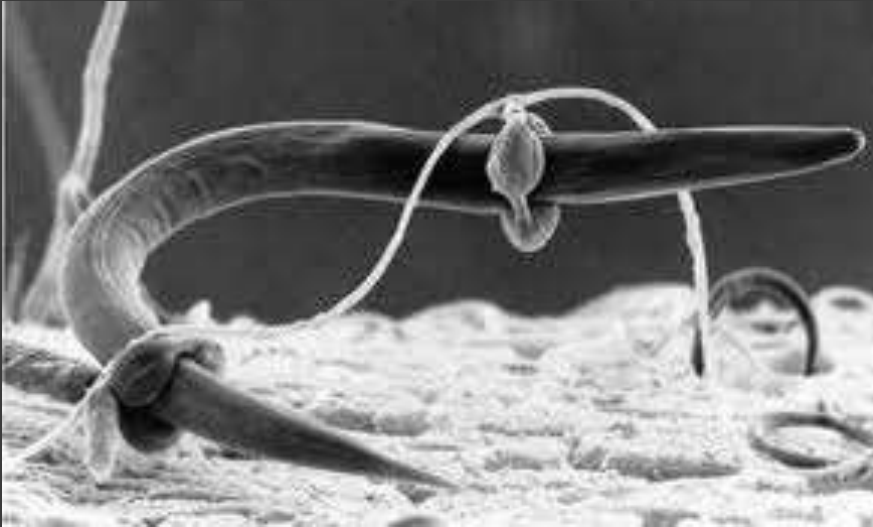


Nitrogen Fixing Bacteria



Mychorrhizal Fungi

More soil allies



Fungi killing a parasitic nematode



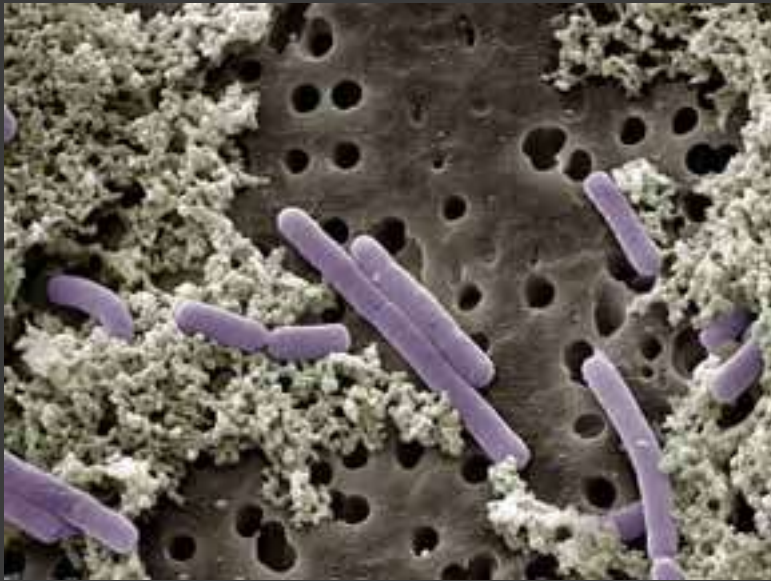
Oval protozoa consumes bacteria and feeds nitrogen from that bacteria to plants

More Soil Allies



These are pictures of two of the many types of bacteria that can photosynthesize and can share the food they make with plants

Nutritional Delivery System



Lactobacillus casei



Actinomycetes

Latest Research Shows:



LATE BLIGHT OF TOMATOES

All pest and disease problems can be traced to one of two causes

1) POOR SOIL NUTRITION

2) POOR NUTRIENT DELIVERY

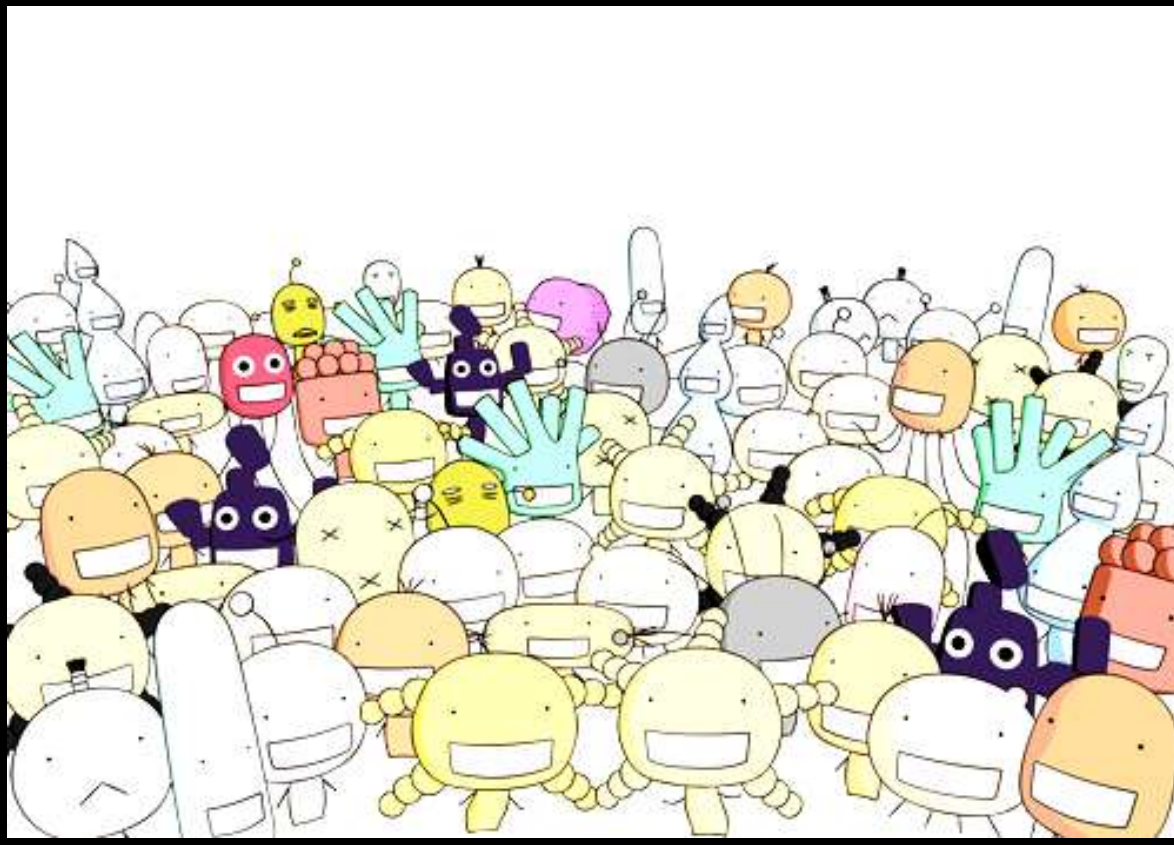
Building disease resistant soil

All living creatures eat
something for food



There are microbes that
eat oil, microbes that
eat plastic, and
microbes that eat
disease organisms

Enlisting Allies



Just like a human army, to enlist soil allies you will need to keep them fed, watered, and protected

Feeding your allies



- Feeding microbe armies is a lot easier than feeding human armies.
- Their favorite food is leftovers.
- They also like your yard waste, and any other source of organic material and compost

Feeding your allies



- Topdressing with 1/6 inch of compost is a good way to feed the microbes in your soil.
- This is especially effective if you aerate your lawn first.

Feeding your allies



The University of Missouri Extension reports that clippings contain roughly 4 percent nitrogen, 2 percent potassium and 1 percent phosphorus, supplying a lawn with 25 percent of its fertilizer needs.

Feeding your allies



- What about thatch?
- Thatch builds up because of a lack of microbe allies living in your soil
- It can also build up with too much irrigation or too much nitrogen.
- Once you have a good population of microbes they will eat your thatch!!
- This provides even more food for your lawn as the microbes break the clippings down into plant food.

Feeding your allies



- You can also use a mulching mower to chop leaves up on the lawn
- Unless you have a very thick coating of leaves this will also help feed your lawn

Feeding your allies



- Microbes eat microbes and trade food with plant's roots
- By recruiting the right combination of microbes to your cause you can dramatically improve both the nutrition for your allies, as well as the delivery system to get the food to your allies.



Feeding your allies



- Mycorrhizae are fungal microbes that form networks that move and store water and nutrients to provide them to plant roots.
- I like to call them extendo-roots!!

Providing water for your allies



- ◉ Water is an essential ingredient for life
- ◉ The most efficient way to provide water to microbes is to keep the water you apply in the soil as long as possible
- ◉ Topdressing with compost and adding organic matter to your lawn and garden is the best way to hold more water in your soil without water logging it.

Providing water for your allies



- ⦿ Don't cut your grass too short
- ⦿ Grass should be left to grow to about 3 inches, then cut down to 2 inches
- ⦿ This will provide shade for the soil to help it hold water by preventing evaporation

Providing water for your allies



Mulching garden beds will also help maintain a steady supply of water to your allies, the microbes



Providing water for your allies



Leaving soil bare allows
for evaporation



Dense plantings actually
hold moisture better

Providing water for your allies



Raised beds are more prone to drying out



A mulched French intensive garden conserves water

Providing water for your allies



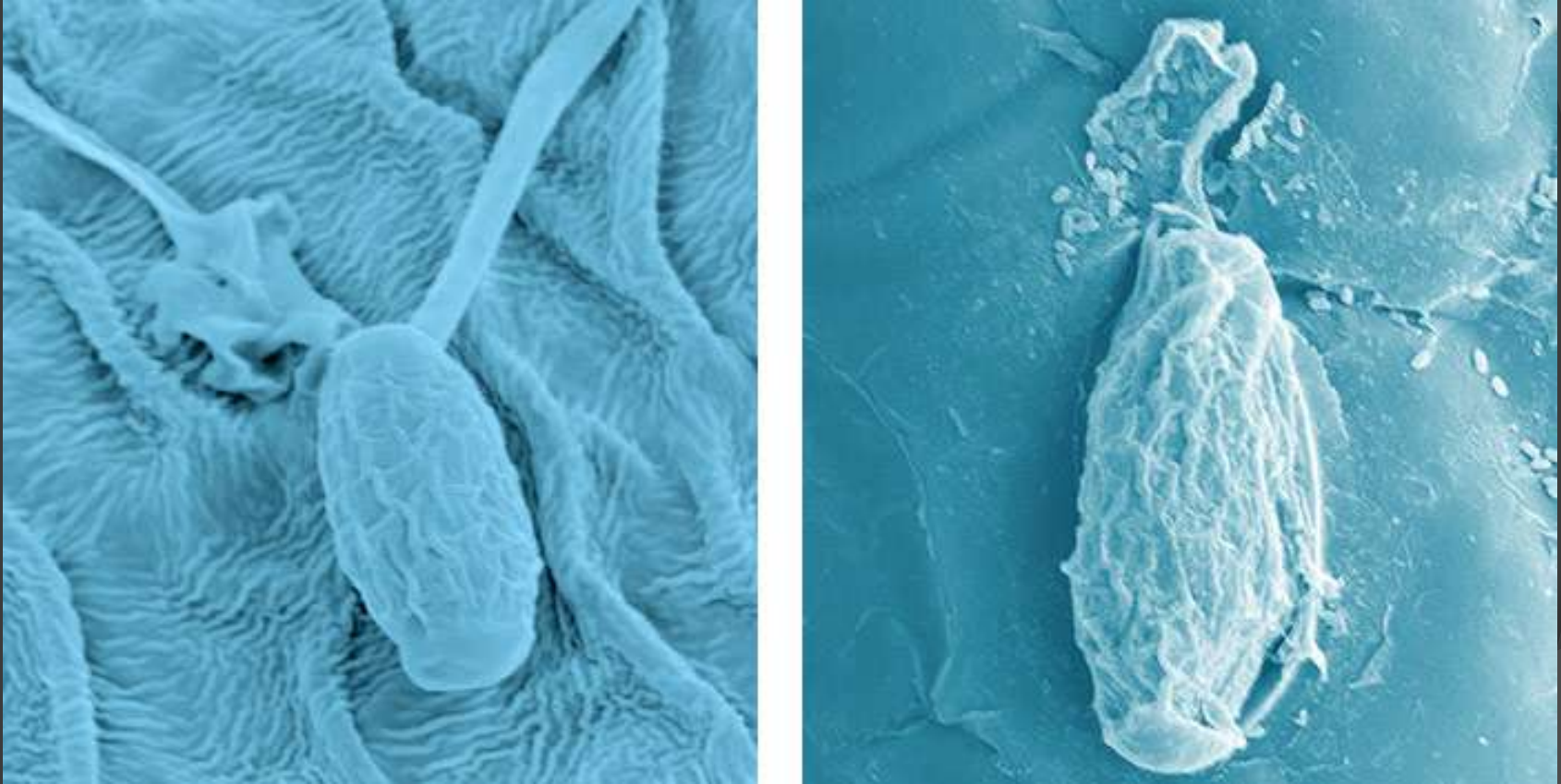
- ◎ The beauty of mulch is that it provides food, water and protection for your allies!!!
- ◎ Leaves and compost are better than bark mulch which contains too many oils

Protecting your allies



The most important way to protect your allies is to refrain from using chemical pesticides and fertilizers!!

Protecting your allies



Even spraying soap on leaves destroys the plant's own protective layer of microbes

Protecting your allies



- Some allies need a place to hide
- Plant some trees, leave some seed-heads and brush piles to protect creatures who will help protect your garden from insects

Protecting your allies



- It is impossible to stop using pesticides and to continue to use chemical fertilizers and expect a nice garden!!!
- Chemical fertilizers reduce the worm populations and suppress mycorrhizal fungi and nitrogen fixing bacteria leaving your plants without a delivery system for their nutrition

Chemical fertilizers

- ⦿ Chemical fertilizers are primarily made from nonrenewable sources, including fossil fuels.
- ⦿ They grow plants but do nothing to sustain the soil. The fillers do not promote life or soil health, and even packages labeled “complete” do not include the decaying matter necessary to improve soil structure. In fact, chemical fertilizers don’t replace many trace elements that are gradually depleted by repeated crop plantings, resulting in long-term damage to the soil.
- ⦿ Because the nutrients are readily available, there is a danger of over fertilization. This not only can kill plants but upset the entire ecosystem.

Chemical Fertilizers

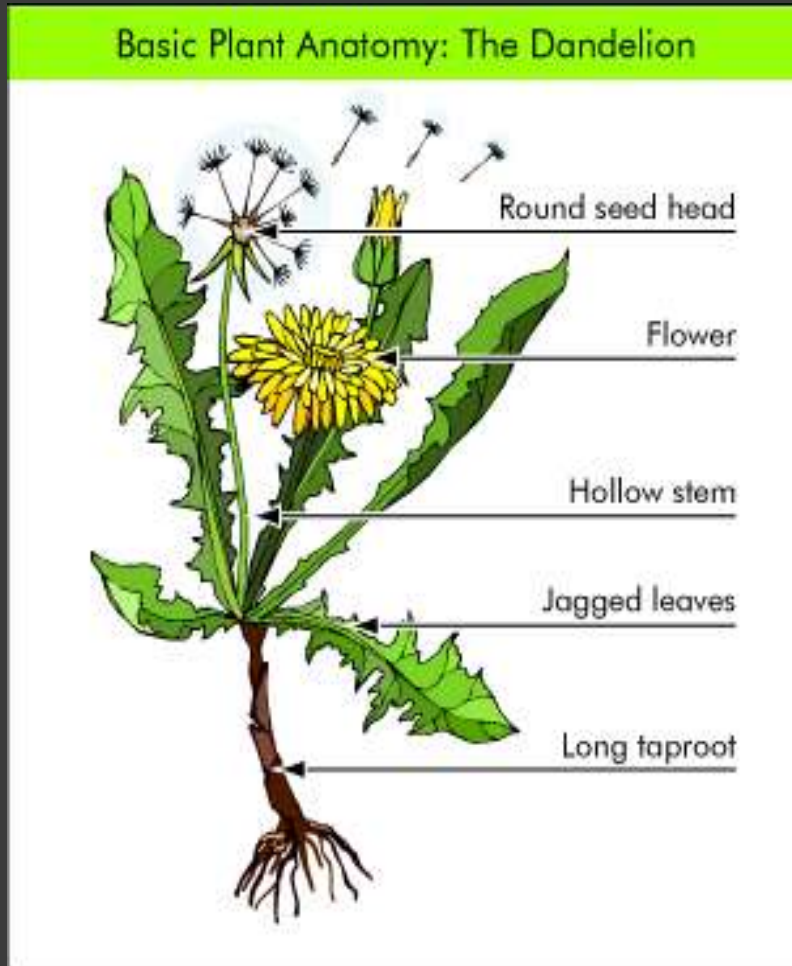
- ⦿ Chemical fertilizers tend to leach, or filter away from the plants, requiring additional applications. (\$\$\$)
- ⦿ Repeated applications may result in a toxic buildup of chemicals such as arsenic, cadmium, and uranium in the soil. These toxic chemicals can eventually make their way into your fruits and vegetables and kill soil microbes.
- ⦿ Long-term use of chemical fertilizer can change the soil pH, upset beneficial microbial ecosystems, increase pests, and even contribute to the release of greenhouse gases.
- ⦿ Chemical fertilizers can create imbalances in soil that encourage weeds to grow.

Chemical Fertilizers



- Just because they are for sale, doesn't mean they are good for your garden!
- The latest research actually shows otherwise!

What about weeds?



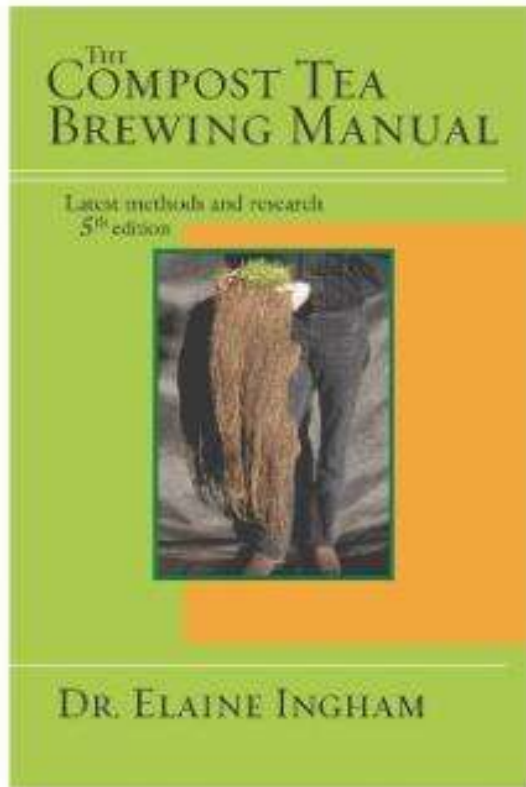
- Weeds are plants that are adapted to certain conditions, often a nutrient imbalance or a water deficiency or excess.
- Dandelions can withstand drought well due to their long, heavy tap root.
- They also shade the soil with their broad leaves

What about weeds?



- Vigorous, healthy lawn grass chokes out weeds and moss
- If your lawn is growing in soil that is teeming with microbes, and you protect those microbes and provide them with enough water and food by mowing right, watering right, and leaving the clippings the grass will choke out weeds.

What about weeds?



- Weeds don't have a chance against grass with roots like this!!
- Aerated compost tea is one of the best solutions to a healthy lawn and garden.

Healthy Lawn and Garden Rules

1. Stop using pesticides and chemical fertilizers.
2. Re populate your soil with microbes by applying compost tea, em, and mycorrhizae
3. Top dress with compost to provide food, water retention, and protection for the soil microbes
4. Water correctly and conserve the water that you use by increasing organic matter in your soil
5. Correct imbalances in the soil by adding organic matter
6. Mulching provides food and protection for microbes and also helps to hold water.

