Hydrogen Peroxide for Plants

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Hydrogen peroxide for plants sounds like pure madness, right? After all, why would you want to feed your garden vegetables with a solution that's most famous for disinfecting wounds? Well, to much surprise, this compound is actually the garden's best mate. That's right, your garden can greatly benefit from hydrogen peroxide treatments!

It might come as even more of a surprise to hear that it is completely compatible with organic gardens! So why is it so great? Well, you'll just have to keep reading to find out, but how does natural pesticide, soil aerator and water cleanser sound for a preview?

The Benefits of Hydrogen Peroxide in the Garden

Recognized by the United States EPA as an organic treatment for agricultural crops, hydrogen peroxide offers many benefits to gardeners.

Pesticide and Fungicide

When it comes to the cultivation of organic food crops, root worms and other soil pests are difficult to spot and even more difficult to treat for. Fortunately, feeding a diluted hydrogen peroxide solution to the infected plants will rid them of these soil-dwelling pests.

Even a small amount will rapidly degrade external tissues and kill fungus, gnat larvae, cutworms, and parasitic nematodes upon contact. A diluted solution can also be applied as a foliage spray to control the populations of soft-bodied pests, such as aphids and spider mites.

Soil Aeration and Root-Rot Treatment

An over-watered garden can easily fall victim to root rot. This rapid deterioration of plant roots can establish itself after just 24 hours of moist, oxygen-deprived soil conditions.

Again, hydrogen peroxide comes to the rescue! Watering thoroughly with a diluted solution, it will break down rapidly in the soil, boosting oxygen levels and expelling any anaerobic conditions.

Water Treatment

Many gardeners in urban areas with chemically treated municipal tap water choose to treat their water with hydrogen peroxide.

Due to its strong oxidation properties, it will remove chlorine, chemical pesticides and any organics that may be present.

Why Hydrogen Peroxide Works

The cleansing, insecticidal and aeration properties of hydrogen peroxide are all made possible by the chemical reaction that takes place when it breaks down.

Without going deep into chemistry, it should at least be known that under normal conditions, it will decompose to form water and oxygen. The formula can be observed as such: $2H_2O_2$ becomes $2H_2O + O_2$.

In the initial part of the reaction, a single oxygen atom is formed. Since it is unstable, this oxygen molecule will bind quickly.

The majority of the time, the oxygen will bind with another oxygen to form a stable O_2 molecule (aeration property), but some of the time, it will react with organic tissue of pests, thus acting as an oxidizer that destroys tissue (pesticide property).

Application

Soil Pest and Root Rot Treatment

Mix one part of additive-free 35% hydrogen peroxide with ten parts water.
Water infected plants thoroughly. The soil will bubble as the oxygen is released.
For pests, water with the mixture twice a week, allowing the top 2 inches of soil to dry between watering. Root pests should subside within a week.
For root rot, water plants very thoroughly, then allow the soil to dry. The top 2-3 inches of soil should be completely dry before returning to a regular water regimen. If the process is done correctly, root rot can easily be treated with only one watering of peroxide.

Foliage Pesticide Spray

Mix equal parts 3% hydrogen peroxide and distilled water.
Use a spray bottle to thoroughly soak the infected plants. Make sure to get the undersides of the leaves.
Spray once a week or after it rains. Hydrogen peroxide both treats and further prevents pest infestation.
This weaker solution will prevent damage to the leaves but is effective as a general insecticide. I've found that it is effective against a variety of mites and aphids.
Because it also has fungicidal properties, one may find it as a possible solution to mildew and fungus outbreaks.

Water Treatment

For a general water treatment and dechlorinator, mix one tablespoon hydrogen peroxide for every gallon of water used.
The hydrogen peroxide acts instantly to drive out chlorine, excess iron and sulfates.

A Word of Warning

You'll be pleasantly surprised with the effectiveness of hydrogen peroxide for plants! My one word of caution is to avoid using it in the soil too often. Since it will easily rid your soil of harmful pests, it can also take its toll on beneficial soil organisms.
So, use it wisely and only treat when an infection or rot has been confirmed. Thanks for reading my article. Leave me any feedback or questions that you may have!
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