

AMAZING BENEFITS OF PINE-OIL

Pine-Oil based products (like **HB-101**) have been providing growers with increased yields, with a greater amount of overall protection (and less crop damage) from pests, contaminations, diseases, etc. for quite some time now. There has been a fair amount of research done that shows that not only is pine-oil (and other saponins) good for keeping things sterile and clean, but also provides a high amount of growth potential to most plants.

Pine-Oil is a 100% organic bio-stimulant which possesses a high natural level of nitrogen while also being a major pest and disease deterrent. It is 100% water-soluble and can be used as either a foliar spray or as a root zone applicator (put into a reservoir or used to hand water). Pine-Oil based products can be used with organic or mineral-based nutrient programs with no problems.

The professional agricultural and greenhouse industries have reared their large heads at pine-oil based products, because of their amazing benefits and relative low costs. Since they can be used in a foliar spray regimen the effects can be seen very soon (1-3 days is normal). Plants sprayed with pine-oil will immediately perk up and start reaching for the sky. It is not unusual to hear reports of 1-3 inches of new growth in a day. When spraying with pine-oil products (as directed) there is NO RISK of “over-spray toxicity.” Pine-Oil is environmentally friendly, totally safe, and 100% bio-degradable. It can work as a chelator to help macro and micronutrients get taken up into the plants cells at a much faster rate, thus speeding up growth rates, and shortening the overall growth cycle.

An added bonus of using pine-oil is that it will kill all forms of algae and create a barrier to prevent it from returning. You can spray rockwool cube tops down with a foliar application and prevent algae from ever forming. Also, feel free to routinely spray trays and other surfaces with pine-oil to prevent algae build up.

Although there is a distinct “pine-oil fragrance” upon foliar spraying with pine based products, there will be no noticeable residual effect on harvest flowers or fruits. There will be no aftertaste or smell left over.

Another great benefit from using pine-oil based products is that the occurrence of mold and/or mildew is way lower on fruit/flowers when compared to untreated plants. These products help prevent *Botrytis cinerea* (commonly known as grey mold) as well as powdery mildew—two very common greenhouse diseases.

Pine-Oil based products are also good at creating a healthier root system, only promoting the beneficial aerobic bacteria, and fungi colonies to grow and thrive, while helping to thwart any pathogen anaerobic colonies in the process. The pine-oil helps to create stronger roots which in turn provide for stronger plants with more yield. These healthier plants will be less susceptible to attacks from predators and diseases and will be better suited to deal with “stressful” situations and adverse conditions.

Newer studies confirmed that pine-oil based products can effectively eliminate the growth of two of the most common root-zone pathogenic fungal colonies—*Fusarium oxysporum* and *Pythium aphenidermatum*. (*Cindy Rea, Pine-ing for Organics, Maximum Yield, Volume 9, Number 4 - November, December 2006.*)

Because there is available nitrogen in most pine-oil based products they are very effective at boosting vegetative growth. They are great for helping “parent” (mothers, fathers, etc.) plants overcome stress and just stay reaching toward the light —happier and more healthy than ever. Pine-Oil is systemic and the benefits the parent plant receives are passed down to cuttings (clones) as well. This helps promote a more vigorous rooting and initial growth period.

Researchers with Agriculture and Agri-Food Canada Food Research Program in Ontario Canada executed numerous studies on the performance of a wide variety of food crops using a liquid organic pine-oil fertilizer. They showed up to an amazing 28.3% increase in yield, depending on the crop. (*Zhou, Young & Cao, AgroGreen® Liquid Fertilizer Tested on Strawberries.*)