

Hydrogen Peroxide and your Orchids

What is Hydrogen Peroxide? If you take a molecule of water and fuse an extra atom of Oxygen to it you end up with an unstable molecule of H_2O_2 , Hydrogen Peroxide.

Why I say 'Unstable' is because at the first opportunity this atom of oxygen will jump free and react with any organic material that it contacts. This organic material in orchid growing is pests, their eggs and fungus.

H_2O_2 comes in many strengths depending on its use. 3% is most common to us and can be found in drug stores. It is used for killing bacteria in cuts, orally for gum problems and for fungus on your feet.

20% to 35% (food grade) is sold in hydroponics stores. At this strength H_2O_2 will burn your skin. This strength is used for bleaching paper in pulp mills and sterilizing equipment in food processing.

75% solution is used as an oxidizing agent in rocket propulsion.

A 5% solution "fizzes" any insect egg and kills most insects upon contact but is harmless to your plants or skin. The only bug that it has problems with is Scale but with repeated applications it will get the upper hand on even this hard shelled bug. I used some 3% solution last week on Mealy bugs and after two (2) applications they were gone.

Why does H_2O_2 "fizz" when you put it on a cut or on an insect egg? Blood and organic cells contain an enzyme called "catalane". And we all know there is lots of blood and damaged cells around insects and their eggs. When H_2O_2 comes in contact with catalase it turns the H_2O_2 into water and oxygen gas. The bubbles you see in the fizz is pure oxygen being created by the reaction.

To mix a 5% solution for spraying plants combine:

1 liter of water
146 ml 35% H_2O_2 (or 256 ml of 20% H_2O_2)
20 ml of alcohol
2 ml detergent (acts as a wetting agent)

This is an excellent solution to spray on your plants because it will kill the bugs and leave water and oxygen as bi-products.

Another use for the 5% solution is to pour it over the potting mix ever once and a while to kill fungus, bugs or eggs that are lurking in the roots. The by-product is again water and oxygen. This oxygen is of great benefit to the roots of the plant, especially if you have been over watering and the roots lack oxygen.

A 10% solution can be used to disinfect your greenhouse but please leave you plants outside and wear proper protective clothing. At this strength H_2O_2 becomes corrosive.