

# ASK THE EXPERT

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## High pH challenges spray program

**Problem:** In our tree care spray program we are having pesticide mixing problems because of high pH. How do we solve this problem? (NY)

**Solution:** Certain pesticides can break down rapidly through a process called chemical hydrolysis when exposed to high pH of mixing water. Chemical hydrolysis takes place faster as the pH and temperature of mixture increases. Some insecticides can be hydrolysed, even within an hour after mixing if the water pH is high. Check with the manufacturers.

It is important to determine the pH of the mixing water. To lower the pH of water, buffering products such as phosphoric acid, hydrochloric acid, mono-ammonium phosphate (MAP) or diammonium phosphate (DAP) can be used. The first two products are seldom used because of handling and safety reasons. MAP and DAP are preferred because of ease of storage, mixing, handling and safety. These products can also serve as the source of nitrogen and phosphorus.

Reports indicate that one-to-two cups of MAP per 100 gallons of mixture is sufficient to help solve most hydrolysis problems. However, for individual product and different pH ranges it may be necessary to do some mixing and testing on a small scale.

It is also important to follow proper mixing guidelines. Always put  $\frac{1}{2}$  to  $\frac{3}{4}$  of desired volume of water into the tank first, then add the buffering agent with proper agitation. Then add the wettable powders, flowables and emulsifiable concentrates, *in that order*. Fill with water to the desired volume. Read and follow label specifications for best results.

## Managing *Phytophthora* root disease

**Problem:** We lost a number of azaleas and rhododendrons in some of our clients' properties. We think the problem is related to *Phytophthora sp.* root rot disease. For the remaining plants we plan to use Subdue fungicide treatment. Is there some way we can eliminate or minimize the *Phytophthora* fungus in the soil prior to replanting? (MI)

**Solution:** *Phytophthora sp.*, the causal agent of root rot disease on azaleas and rhododendrons, can be a destructive pathogen in poorly drained, heavy clay soil. In this situation, plants should be planted slightly higher to overcome the drainage problem. You may have to use a *Phytophthora*-specific fungicide, such as Subdue or Aliette to manage the problem. Areas which are dead due to *Phytophthora* activity can be fumigated prior to planting new plants. Make sure there are no roots of healthy desirable plants within 3 to 4 feet from the diseased plants. If the landscape area is large enough, then you can use soil fumigants like Vapam. Vapam is a water-soluble liquid which will be converted to gaseous fumigant when applied to soil. The material can be moved downward with post-watering.

To be sure the planting site is safe to replant, run a bioassay. Plant indicator plants like tomatoes in the treated area and cover with a five-gallon bucket. Keep the plants covered overnight; remove the bucket and examine them. If they are healthy, the soil is safe to plant. If the plants are wilted, it indicates that the soil still contains Vapam, and planting should be delayed. Repeat until the soil is found to be safe to plant.

Read and follow label specifications for better results.

## Reader resents chemical advice

**Problem:** Even as a forester, I am disheartened to read your response to the problem of Sapsucker damage to birch trees in the April 1991 issue. You obviously work for the interest of chemical corporations rather than that of 'Mother Nature' by encouraging the use of chemical pesticides to kill insects that are a necessary food source for this bird. If everyone followed your advice, then we may have a beautiful supply of birch trees, but no sapsuckers. I must just be different from most of your readers, in that I enjoy nature as it was meant to be, not what some would like it to be. It sounds like the real 'suckers' are your subscribers. (A reader)

**Solution:** Thank you for your comments. I understand your concerns; however, I disagree with your conclusion about my answers concerning the question, "What can we do to prevent injury from sapsuckers on birch trees?" The following is an excerpt from my suggestions:

"...if the problem is really objectionable, your best approach is to distract birds from feeding on trunks. Consider treating your trees for any insects such as borers. Mechanical devices such as aluminum foil wrapping or tying a pie pan to the trunk may also help distract birds from attraction to susceptible trees.

"Ropel, a chemical repellent, has label registration for bird problems. Try this on a very small area before trying on a large area. Read and follow label specifications for best results."

I provided several options to deal with the problem. As you indicated, your interest is different from others, particularly the person who has asked the question.

As a plant health care practitioner, my objective is to help keep the ecology, and preservation of environmental beauty.

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Questions should be mailed to "Ask the Expert," LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130. Please allow two to three months for an answer to appear in the magazine.