

Eco-Gardener

by Howard Garrett

Diatomaceous Earth: The 'Silver Bullet'

About five years ago, I started talking about diatomaceous earth as an insecticide. Boy, was I a genius. This stuff had only been around since near the beginning of time. It's been nature's insecticide since then and its other uses are many. So why haven't the university systems and all the gardening experts been recommending it for years?

More recently than five years ago I started talking about using DE as a food supplement for animals. The results are almost too good to believe – even for me, and the question again comes up – why am I the only one recommending this stuff? Seems like the vets should be extolling the virtues of DE from the highest hills.

Undaunted (hard headed might be a better choice of words). I wrote about DE in the Dallas Morning News and when I started the gardening show at WBAP, it was the main topic of conversation. So much so that my boss told me that the show was getting a little boring from talking about DE every call. I didn't ask the questions – just answered them.

Diatomaceous earth (DE for short) is the remains of microscopic one-celled plants (phytoplankton) called diatoms that lived in the oceans that once covered the western part of the United States and other parts of the world. Huge deposits were left behind when the water receded. They are now mined and have several important uses in toothpaste, beer filtering and swimming pool filters. DE is approximately 3% magnesium, 86% silicon, 5% sodium, 2% iron and many other trace minerals such as titanium, boron, manganese, copper and zirconium.

DE also makes a very effective natural insecticide. The insecticidal quality of DE is due to the razor sharp edges of the diatom remains. When DE comes in contact with the insects, the sharp edges lacerate the bugs' waxy exoskeleton and then the powdery DE absorbs the body fluids causing death from dehydration. Said more simply, DE kills insects by drying 'em up. You'll see how drying DE is if you handle it with bare hands.

There is no residual danger of contamination. In fact, DE is actually beneficial to the soil. It's loaded with trace minerals. However, there are a few precautions. Diatomaceous earth is very dusty and can cause lung problems if breathed heavily, so when applying it dry always wear a good dust mask or stand up wind. The second precaution is that DE sold for swimming pool filters is ineffective for insect control because it has been heated and chemically treated. The sharp edges have been removed. Finally, DE will kill beneficial insects too, so use it sparingly to kill problem infestations of harmful insects and don't use it too often. Diatomaceous earth can be applied in a variety of ways. To use for flea and tick control, apply a light dusting over the lawn, in dog runs, around pet bedding or favorite resting spots and sprinkle a little on your pet between baths of a mild solution of biodegradable, non-phosphate soap. Avoid dips and soaps containing chemical insecticides. It's also a good idea to avoid soaps that contain ammonium laurel sulfate. It's used to make a good suds but it is a skin irritant. Check out your own soap and toothpaste while you're at it.

The best way to apply the dust over a large area is with a light weight apparatus such as a Dustin' Mizer, Spritzer or other similar blowers. Applying by hand can be done, but wastes a lot of material and will dry your skin. To apply with water, mix 1/4 cup of DE in gallon of water and apply to the lawn and/or shrubs where pest problems exist.

One of the best uses of DE is to add it to animal food – pets or livestock. When used at 1% to 2% of the food volume, it controls internal parasites, increases digestion and provides valuable trace minerals. You will usually see an overall increase in health of any animal fed DE on a regular basis.

Here are some of the common questions I get on diatomaceous earth:

Is DE dangerous to my pets, me or my family?

Since DE is dusty and abrasive, it can cause lung damage if breathed heavily. Remember, however, that breathing any dusty material can be dangerous. Be sure to wear a dust mask if applying with a dry blower. Mixing into a water spray eliminates most of these problems. DE will not hurt earthworms or beneficial soil microorganisms. Diatomaceous earth is one of the few pesticides in the world classified as non-toxic, although I'm not real comfortable with the classification. I think anything can be toxic if overused or misused.

How much diatomaceous earth should I feed my animals?

Some of the feeding rations suggested by suppliers and users include: 1-2% by weight of diatomaceous earth in ground, dry feed. 5% by weight in stored grain. 5 ounces (one cup) daily ration for horses. One tablespoon per day for large dogs (over 55 pounds). One teaspoon per day for small dogs, cats and puppies.

Does spraying DE in a wet solution work as well as the dry dust?

The wet spray method does work but only after the liquid has dried. Mix from 1-4 tablespoons DE per gallon of water and spray the lawn, shrubs, tree trunks and building foundations. When the mixture dries, it has the same abrasive and dehydrating powers as the original dry dust. When sprayed wet the material covers the foliage and other surfaces better than dusting dry, thus giving better insect control. It seems to last longer when applied wet, but the dry application is usually more effective at killing insects quickly. DE has no insect killing power while it is wet.

Can I mix DE with other sprays?

Yes, it can be mixed with other organic products such as seaweed, fish emulsion, garlic tea and biostimulators. It would be silly to mix DE with chemical insecticides. In fact, it's silly to use synthetic toxic pesticides for anything.

Is diatomaceous earth registered by the EPA and labeled for insect control?

Yes! Some people would have you believe that DE is untested, unlabeled and therefore unsafe to use. That's just one of the feeble arguments left to the organiphobics. DE has been used for years in the food processing industry to treat stored grains to eliminate weevil and other insect infestations. There are currently dozens of registrations of DE with the EPA for various insecticidal and food supplement uses.

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