

## A Greener View: Fire ants beware - Carbon dioxide may serve as pesticide

*by Jeff\_Rugg*

Normally, I am not in favor of most home recipes that try to substitute for legal pesticides. In many cases there is a lack of science, if not absence of intelligence, in the promotion of homemade concoctions. They can be less safe for the environment and ineffective for the intended purpose compared to the original product.

However, today I am looking for volunteers to try a new possible solution to fire ants and maybe even other insect pests. The latest issue of the Garden Writers Association newsletter mentions a simple and safe remedy for these nasty pests and I want to know if it works. Just pour two cups of club soda into the center of the fire ant mound - that's it, that's all there is to it.

Club soda is just carbonated water. The carbon dioxide will bubble out of the water, but it is heavier than air. The idea is that it will stay in the mound suffocating the queen and the other ants within two days.

If it works, there are several nice things about this home remedy. It is entirely safe, doesn't leave any residue, won't pollute the soil or ground water, and it doesn't affect other beneficial insects. A two-liter bottle will treat two or three mounds, meaning it is cost effective. I don't know if other flavored cola types of drinks will work against the ants; however, since they have flavorings and colorings, don't use them.

The science behind using carbon dioxide as an ant killer is sound. Carbon dioxide is about 1.5 times denser than air, so high concentrations will stay near the ground. It normally makes up only .03 percent (300 parts per million) to .06 percent of our air. Our exhaled breath is about 4.5 percent or 45,000 ppm of carbon dioxide. Underground miners used canaries in cages to warn them of high carbon dioxide levels.

Carbon dioxide has been used in greenhouses at 1 percent (10,000 ppm) levels to clear up pests like whiteflies and spider mites. The question is not whether or not the carbon dioxide is lethal to fire ants. I want to know if there is enough carbon dioxide in just a few cups of club soda to do the job?

Fire ants are known to be sensitive to disturbances around the nest. Oftentimes the queen has recently moved the nest, and nothing was really accomplished when other poisons were used in the past. Do the fire ants recognize something as simple as carbonated water as a threat? Will they stay in place long enough to suffocate?

Because carbon dioxide is the real killer here, can we skip the carbonated water and go directly to canisters of CO<sub>2</sub>? CO<sub>2</sub> tanks are readily available and cheap to refill. Many sporting goods stores have them for BB guns and paintball marking guns. Could an injecting needle be made that attaches to a CO<sub>2</sub> tank? Then you might be able to walk around injecting the mounds and suffocating the ants.

Since dry ice is cold carbon dioxide, can a block of it be set on the mounds to freeze and suffocate the ants?

If ants can be killed easily, can ants and termites in houses be eliminated in the same amount of time? Sure, the house may have to be covered with a tent, but a carbon dioxide filled tent is less harmful to the environment than a pesticide filled tent and house.

What other pests could be taken care of using carbon dioxide? Could a small tent be made to surround wasp nests for instance? Let me know if you can think of any other uses for carbon dioxide.

If you are brave enough to try this experiment of pouring club soda down your pesky ant hills, let me know the results. You can e-mail me your good or bad results. I don't want to just hear about the positive results; let me know if it didn't work, too. We are entering a season where there will be less ant activity, so it might be difficult to determine right away if the treatment worked quickly.

Fire ants are a serious pest in the southern states and have been steadily moving north. It would be nice to finally have an effective fire ant control that is also environmentally friendly.

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