

Remove Pesticide Residue With Baking Soda

Pesticides and herbicides get absorbed by the crops they're sprayed on but most of the chemicals are left on the outer most part of the produce. Organic is better than conventional but organic certification does allow some pesticide and herbicide usage. Produce usually looks clean at the store but there's plenty of pesticide residue on them.

The apples you buy in grocery stores are already washed, usually in a bleach solution, and rinsed before they're sold, says study author Lili He, Ph.D., assistant professor of food science at University of Massachusetts, Amherst. The purpose of this, however, is to remove dirt and kill any harmful microbes that may be on the fruit. "It's not intended to wash away pesticides," He says.

Consumer Reports

Many people are buying designed to wash produce, or scrubbing foods in running water, or using bleach, but according to new research, these options don't do much good. But baking soda does.

Surface pesticide residues were most effectively removed by sodium bicarbonate (baking soda, NaHCO_3) solution..."

Effectiveness of Commercial and Homemade Washing Agents in Removing Pesticide Residues on and in Apples

The study used thiabendazole and phosmet as the pesticides. Apples were exposed to the pesticides for 24 hours, "applied at a concentration of 125 ng/cm²."

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The authors say that a baking soda washing solution can completely remove thiabendazole and phosmet surface residues of apples in about 15 minutes. That's a lot of washing! The study authors are not clear if the produce needs to be scrubbed or just left to soak or what, but we suspect just letting them soak in a solution of water and baking soda for fifteen minutes should work. We've attempted contact with a couple of the authors and are awaiting clarification on this. We'll update if we hear back.

Their results showed that 20% of the thiabendazole and 4.4% of the phosmet penetrated into the apples following the exposure. So it's not practically possible to remove all of the chemicals from the produce.

In practical application, washing apples with NaHCO₃ solution can reduce pesticides mostly from the surface. Peeling is more effective to remove the penetrated pesticides; however, bioactive compounds in the peels will become lost too.

It should also be noted that different fruits and vegetables will absorb chemicals at different rates and some will have better results from baking soda washing than others.

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