

High-pesticide produce not the best recipe for fertility

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Couples who are trying to have children should probably be picky about

their produce, a new study suggests.

Women were less likely to reproduce if they ate large amounts of fruits and vegetables known to have high levels of [pesticide residue](#), said lead researcher Dr. Jorge Chavarro. He is an associate professor of nutrition and epidemiology with the Harvard T.H. Chan School of Public Health in Boston.

In fact, a woman's odds of becoming pregnant increased by 79 percent and her odds of delivering a [live birth](#) by 88 percent if once a day she swapped a serving of high-pesticide produce for a [fruit](#) or [vegetable](#) with less pesticide residue, the researchers found.

So, is organic the way to go? Not necessarily, Chavarro said.

"I don't think there's any reason to buy organic versions of some of the low-pesticide fruits and vegetables," Chavarro said. "Buying the organic version of a low-pesticide food like oranges or avocados is not the best way to minimize exposure to pesticides. A reasonable approach would limit exposure to high-pesticide fruits and vegetables like apples or strawberries."

For the study, Chavarro and his team performed a diet assessment on 325 women undergoing fertility treatments in Boston.

The U.S. Department of Agriculture maintains a pesticide exposure list for a wide range of produce. The investigators used this list to estimate the amount of pesticide each woman was eating with her fruits and veggies, Chavarro explained.

High-pesticide produce includes spinach, strawberries, peppers, grapes, kale, apples and tomatoes, Chavarro said. On the other hand, avocados, beans, onions, plums, cauliflower and oranges typically carry lower

levels of pesticide residue.

The researchers found that the women in their study who ate the most pesticide-laced produce were 18 percent less likely to become pregnant and 26 percent less likely to produce a live birth, when compared against women eating fruits and vegetables with the least pesticide exposure.

Prior research has found that pesticides can disrupt hormones in animals, interfering with pregnancy, said Dr. Alan Copperman. He is director of reproductive endocrinology for the Icahn School of Medicine at Mount Sinai in New York City.

Chavarro added that exposure to pesticide-laced produce also has been associated with lower semen quality in men. But this latest study did not prove that eating produce exposed to lots of pesticides caused fertility to drop.

That said, Copperman noted this finding should be further studied before recommendations are made.

"I would not conclude that a patient should only be eating organically grown fruits and vegetables," Copperman said. "If she eats something not organically grown, she will not be harming herself, her pregnancy or her future child. That would be a huge jump from this article."

Another pregnancy expert noted that people should also keep in mind that produce is exposed to much lower levels of pesticides than in the past, thanks to farming advances that use GPS technology to tightly control application of chemicals.

"A lot has changed. There's a marked reduction in the insecticide that's put out," said Dr. Charles Coddington III, a professor of obstetrics and gynecology with the Mayo Clinic. "People really need to be attuned for

the insecticide being there and make sure they wash and clean their vegetables, even though they get them from a nice upscale grocery store. Some may want to go to organic, and I could support that very easily."

Chavarro noted that going organic didn't seem to hurt the women in this study. Those who ate mostly low-pesticide produce received the same amount of nutrition as those who ate high-pesticide produce.

But he added that it would be a waste of money to pay organic prices for fruits and vegetables that typically aren't exposed to loads of pesticide.

The study was published online Oct. 30 in *JAMA Internal Medicine*.

More information: Jorge Chavarro, M.D., Sc.D., associate professor, nutrition and epidemiology, Harvard T.H. Chan School of Public Health, Boston; Alan Copperman, M.D., director, reproductive endocrinology, Icahn School of Medicine, Mount Sinai, New York City; Charles Coddington III, M.D., professor, obstetrics and gynecology, Mayo Clinic, Rochester, Minn.; Oct. 30, 2017, *JAMA Internal Medicine*, online.

For more on pesticide levels in produce, visit the [Environmental Working Group](#).

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