

# Do soy isoflavones boost bone health?

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Scientists already know much about the more than 200 bones that make up your body. But mysteries remain regarding the exact role that many natural compounds in foods might play in strengthening our skeletons. Those compounds include estrogen-like substances known as soybean isoflavones.

Agricultural Research Service (ARS) physiologist Marta D. Van Loan and other researchers learned more about these compounds in a 3-year study--the longest of its kind--reported earlier this year in the [American Journal of Clinical Nutrition](#). Van Loan is with the ARS Western Human Nutrition Research Center at the University of California-Davis.

Because of its potential as a possible substitute for conventional steroid [hormone replacement therapy](#) for postmenopausal women, soy has been the subject of more than two dozen studies conducted here and abroad during the past decade. According to Van Loan, some of those investigations suggest that soy enhances bone health.

Van Loan teamed up with Iowa State University researcher D. Lee Alekel and others for the 3-year investigation to determine whether isoflavones extracted from [soy protein](#) would protect postmenopausal volunteers against bone loss. Participants in the study took either a placebo tablet or a tablet containing one of two moderate amounts of the isoflavones--80 milligrams (mg) or 120 mg--for the duration of the investigation.

Overall, the isoflavones had no significant positive effect on preventing

bone loss. However, the 120-mg treatment showed a modest benefit when evaluated in conjunction with [lifestyle factors](#).

The researchers suggest that the body's response to isoflavones extracted from soy proteins may be different from responses to isoflavones in their natural matrix of soy protein or soy foods, or in a soy-protein supplement. Or, some soy-protein compound other than the extracted isoflavones may have been responsible for the bone-protecting effects seen in some previous studies. Finally, the isoflavone doses used in the 2010 study may not have been high enough to produce a bone-sparing effect.

**More information:** This and other bone-health research is highlighted in the July 2010 issue of Agricultural Research magazine, available online at: [www.ars.usda.gov/is/AR/archive/jul10/bone0710.htm](http://www.ars.usda.gov/is/AR/archive/jul10/bone0710.htm)

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