Vashon-grown Produce: Am I at risk?

Questions arise regarding exposure levels in individuals likely to consume greater amounts of food crops. A study conducted by the University of Washington with assistance from the Vashon Island Growers Association considered some of these questions. An assumption can be made that farm families eat more Vashon-grown produce than others living on the island. What if food crops are absorbing contamination found in the soil? Would it be reasonable then to assume farm families could be at a greater risk of exposure than the remaining population?

Environmental samples, analyzed for arsenic and lead, were collected of tilled and yard soils, housedust and vegetables on 9 farms. The participant's urine was also collected quarterly during this yearlong study. The number of participants was small, 23 (15 adults/9 children) and non-random. While the study was largely in the interest and for the education of the participants some encouraging assumptions can be made pertaining to the consumption of Vashon-grown (VG) produce.

Results were reported in three categories; soil and housedust, produce, and urine. Contaminant levels found in soil samples were consistent with previous results. Housedust samples came back with elevated concentrations of lead, which is a common observation due to additional indoor sources and retention of particles in carpets. Arsenic was not found at levels of concern.

VG-potatoes and lettuce along with a control group of off-island produce were analyzed to perform a statistical comparison. Produce was rinsed, washed or peeled to determine the effect, if any on contaminant levels. Results of the chemical and statistical analysis showed no major differences between the two groups. In fact, VG-lettuce appeared to have arsenic levels lower than predicted based on a previous study. There was no significant, statistical difference between washing/preparation methods or between produce grown on or off Vashon Island.

A variety of factors control the levels of urinary arsenic in all individuals, making it difficult to quantify. In brief, results did show that contaminant levels in participants were comparable to levels expected in those consuming water at the new standards for arsenic.

In summary, no apparent associations between urinary arsenic and exposure to environmental contaminants were found. Most importantly, results illustrate that VG-produce is not absorbing excessive amounts of soil contamination and appears to be unrelated to urinary levels in participants. This fact alone should reassure those who regularly consume Vashon-grown produce or wish to do so.

This summary was written by Earthworks Environmental, a technical consultant under contract to Vashon Island Remediation & Public Participation Center (IRPPC). A more complete summary of the study, written by UW staff, is available online at <http://www.iere.org/Vashon/uw-viga.htm>.