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**PRESS RELEASE**

**16 October 2018**

**‘Pesticides found in local fruit and vegetables could have health risks’,**

**UP academic warns at 2nd International Conference on Food Safety and Security**

A study by University of Pretoria (UP) researchers into pesticides in fruit and vegetables from fresh produce markets in Johannesburg and Tshwane has revealed that some had one to three different pesticide residues, meaning they could have harmful effects on the health of anyone consuming them. So the next time you’re about to bite into unwashed strawberries while you’re on your way home from the supermarket, think twice – and wash the item thoroughly before consuming.

The pesticide concentrations ranged between 0.01 and 0.68 mg/kg and included endosulfan, procymidone, chlorpyrifos and iprodione, which when combined form Endocrine Disrupting Chemicals (ECDs). “While these concentration levels were low, these chemicals can work together to produce additive or synergistic effects not seen with individual chemicals,” said Prof Tiaan de Jager, Dean of UP’s Faculty of Health Sciences. He was addressing the 2nd International Conference on Food Safety and Security, being held in Pretoria this week.

Co-hosted by UP, the theme of the conference is *Next Generation Food Safety Technology,* and discussions are based on topics including current and emerging foodborne pathogens; pesticides and mycotoxins; and agri- and food-processing technology. The conference aims to address how the United Nation’s Sustainable Development Goals will be coupled with food safety themes in order to address food safety and food security.

Meanwhile, a study on the impact of endocrine disruptors on the food chain was conducted by UP’s [Environmental Chemical Pollution and Health Research Unit](http://www.up.ac.za/environmental-chemical-pollution-and-health-research-unit) and the Institute for Food Nutrition and Well-Being. It was based on the PhD work of Dr Thomas Mutengwe, who was supervised by Prof de Jager, and UP plant pathologist Prof Lise Korsten, co-director of the Department of Science and Technology-National Research Foundation Centre of Excellence in Food Security.

Her research focused on 27 fruit (apples, pears, plums and strawberries) and 26 vegetables (cabbage, carrots, lettuce and tomatoes), as these are the most commonly purchased fresh produce.

The pesticides found in this study have reported endocrine disruptive effects, meaning they can act as the hormone estrogen, and can interfere with normal hormonal regulation in human bodies. This can affect many different hormone-dependent body processes such as reproduction, explained Prof de Jager.

Estrogenic activity (when the body mistakes these endocrine disrupting chemicals for a female hormone), was detected in 14 samples of fruit and vegetables (apples, cabbage, carrots, lettuce, peaches, pears, plums, spinach, strawberries, table grapes and tomatoes.)

Prof de Jager said exposure to EDCs during highly sensitive life stages such as foetal development and early childhood can result in the development of non-communicable diseases, problems with metabolism, as well as immune system dysfunction, or problems with neurodevelopment and reproductive function. “It is also possible that this can affect children when they reach adulthood, as well as having potential carcinogenic effects when there is long-term exposure.”

He said the food chain is an exposure route of EDCs. Various EDCs can enter the food chain through the environment (animal feeds, pesticides, air pollutants and personal-care products), be released from food contact materials (bisphenol A, phthalates), or they can come from the diet (phytoestrogens). “Since EDCs are ubiquitous, understanding the effect exposure to EDC mixtures has on humans and wildlife is important,” he said.

The study called for a better understanding of how chemicals enter food. “Is it during the crop period, during manufacturing, packaging or even at the cooking stage? When you identify which chemicals enter at which stage, it is easier to minimise the risks.”

He recommended that fruit and vegetables be washed thoroughly before eating them, and that members of the public consider buying organic food produce from only reputable sources.

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