

University of Singapore: Nanoparticles used for pesticide screening

Previously undetectable traces of a common vegetable pesticide have been extracted by local researchers using a new screening technique. They are using a new method, making use of tiny nanoparticles to grab molecules of pyrethroids, a group of synthetic pesticides that are used to protect crops from insects.

The new method is 10 times more sensitive than conventional methods and can detect concentrations of the pesticide of as low as 0.02 nanograms in vegetables.

Food scientist with the National University of Singapore, Yang Hongshun, claims consumers are more and more concerned about chemicals in their food, always wanting to be informed about traces of pesticides - even if they are within the safety limits.

Yang, who is with the NUS Food Science and Technology Programme says, "This method can be used by food safety authorities to check the authenticity of 'pesticide-free' claims."

His team studied the use of nanoparticles to detect traces of the pesticide in vegetable oil and 10 types of vegetables, such as lettuce. After blending the vegetable samples, the liquid portion of the mixture was extracted and mixed with the nanoparticles.

According to an article by [straitstimes.com](http://www.straitstimes.com), the new method is also able to screen for pesticides in a given sample three times faster, as the nanoparticles are designed to zoom in on a particular molecule. Conventional methods of detection, such as through column filtration, are less specific and more time consuming.

Next, the team is looking at designing nanoparticles that can home in on other molecules, including toxins produced by fungus, said PhD student Yu Xi, who was also involved in the research. The team is currently in talks with vegetable farmers, distributors and a food safety facility on commercialising the technique.

Lien article : <http://www.freshplaza.com/article/189890/University-of-Singapore-Nanoparticles-used-for-pesticide-screening>