



Anti-pesticide shield made for groundwater

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In order to combat insects from eating their crops, most times farmers will resort to using pesticides to killing or fending them off. Because of increased demand for food, this has resulted in increased pesticide use. However, this had lead to concerns about ground water contamination and some municipalities have pondered pesticide bans because of this very consequence. The *BangaloreMirror* [has just reported](#) that an Israeli laboratory has developed an anti-pesticide shield to prevent groundwater contamination.

The technology which was developed in the Weizmann Institute of Science by Prof Brian Berkowitz and Dr Ishai Dror from the Department of Environmental Sciences and Energy Research is intended to prevent permeation of highly durable toxic pesticides to groundwater which leads to environmental contamination. The patent is based on a self-destructive process, using active and environment friendly substances (porphyrins and their derivatives, such as B12), which act as catalysts and electron transporters, which dissolve toxic substances in the soil into harmless substances after these have served their purpose. Substance dissolution occurs at a deep layer which lacks oxygen, beneath the layer of plant roots. A chemical reaction which is created at this layer dissolves the pesticide, neutralizes its toxic components, and prevents its permeation to soil depth.

When the term additive is used I assume it means added to the pesticides so if they drip on the ground pesticides are rendered harmless over a certain period time. I have tried to do more research but have found scant information other than the *BangaloreMirror* article. Overall, this is good news since the controversy surrounding pesticide use for crops can be taken to a new level where groundwater can be nullified thanks to this new product. Overall, pesticide use is done [at levels safe for humans](#) and they can be washed off prior to consuming products that may have pesticide residues on them.

None the less, the fact that a new product has been developed to prevent groundwater contamination by pesticides is great news. When this product is put to market crop manufacturers that use pesticides can do so without fear of contaminating the water supply and, hopefully, not infect runoff into rivers and streams. Tests on the product, so far, have been successful and hopefully it will be released soon.

BangaloreMirror

Anti-pesticide 'shield' developed for groundwater

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Bangalore Mirror



The increasing global demand for food indirectly leads to increased use of pesticides in agriculture. One of the ensuing risks is that highly durable pesticides may remain in soil for many years and contaminate groundwater. A new technology by Catalyst AgTech from Israel, which was developed by scientists from Weizmann Institute of Science, is based on an additive which dissolves the pesticides into non-contaminating components before they reach groundwater level.

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After negotiations that lasted several months, Yeda Research and Development Co. Ltd, the commercial branch of Weizmann Institute of Science, and the owner of the intellectual property created at the institute, recently signed a commercialisation agreement with Catalyst AgTech which lately joined Mofet Venture Accelerator, under the ownership of Trendlines. The agreement grants the company an exclusive license for development and commercialization of the technology, while using Yeda's patent which is registered in Europe and US. Shalom Nachshon, CEO of Catalyst AgTech that holds an extensive background in development, believes this is a breakthrough technology with wide environmental significance, and that the company's activity within the framework of the venture accelerator will allow it to reach wider markets within a short time. "Currently, there is no effective pest control alternative which is similar to the substances used today." So far, successful experiments were conducted in lab conditions. But Catalyst AgTech will process the findings under field conditions.

Weizmann Institute of Science