



**Prof. Rony Wallach's Lab**

The Hebrew University  
of Jerusalem

The Robert H. Smith Faculty of  
Agriculture, Food and Environment

# Surfactant application via drippers for water repellent soil remediation enhances agrochemicals leaching through preferential flow pathways

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# CLIMATE CHANGE

# WASTEWATER

THE UNTAPPED RESOURCE

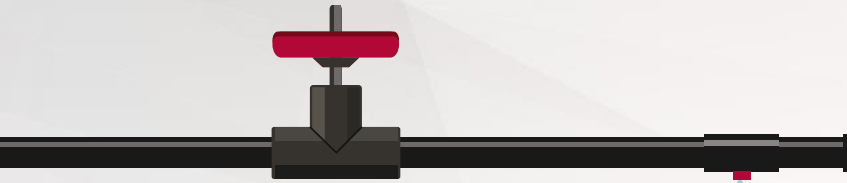
*But is it?*



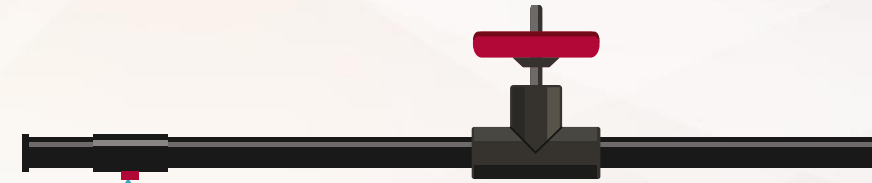


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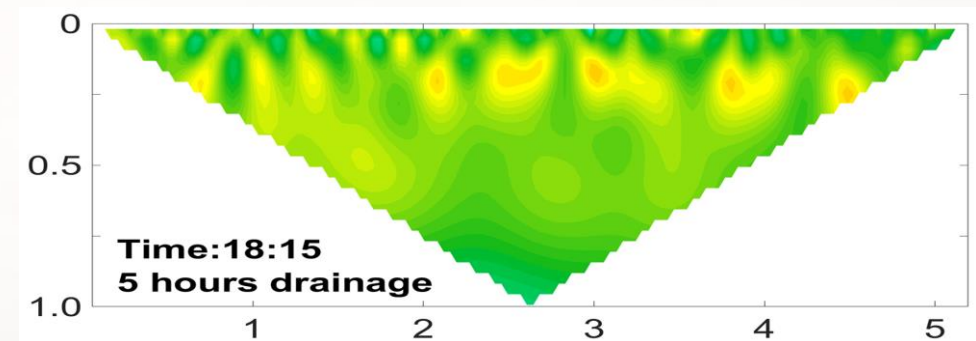
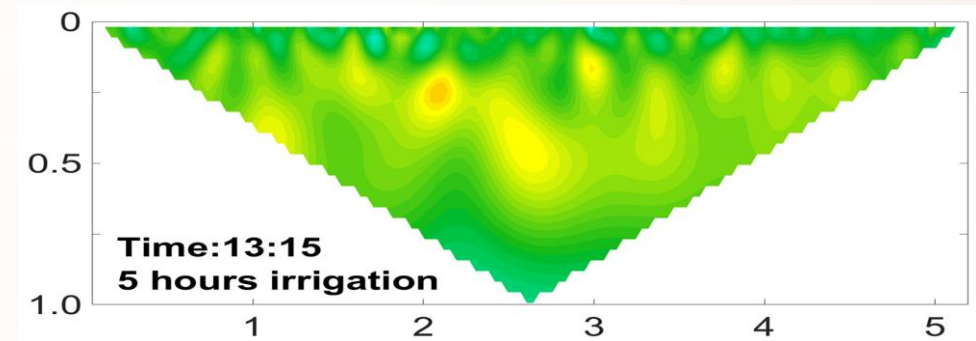
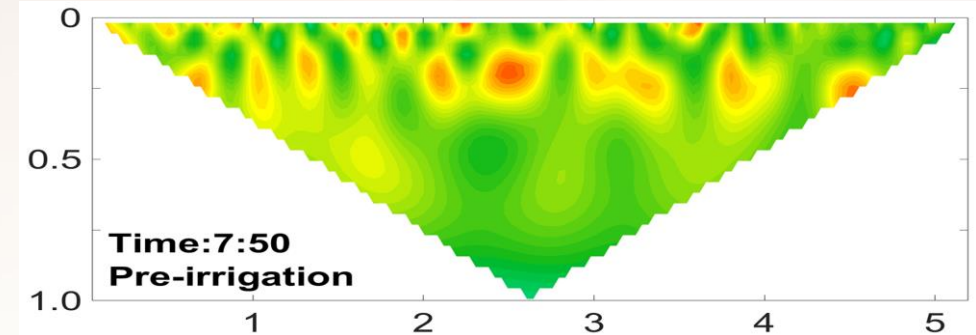


**FRESH WATER IRRIGATION**



**WASTEWATER IRRIGATION**







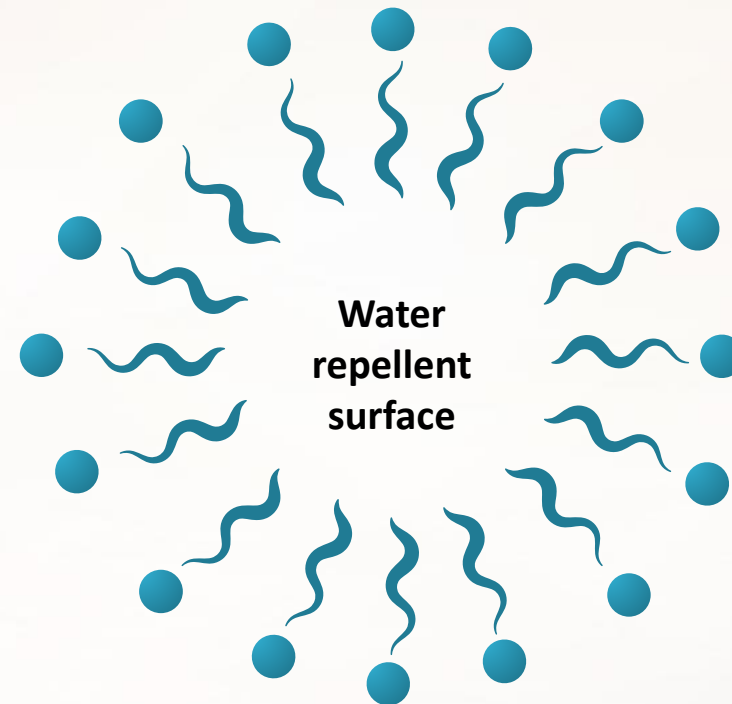
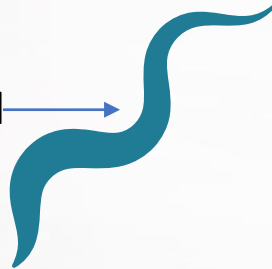
## Surfactant on a water repellent surface

### Surfactant

Hydrophilic head →

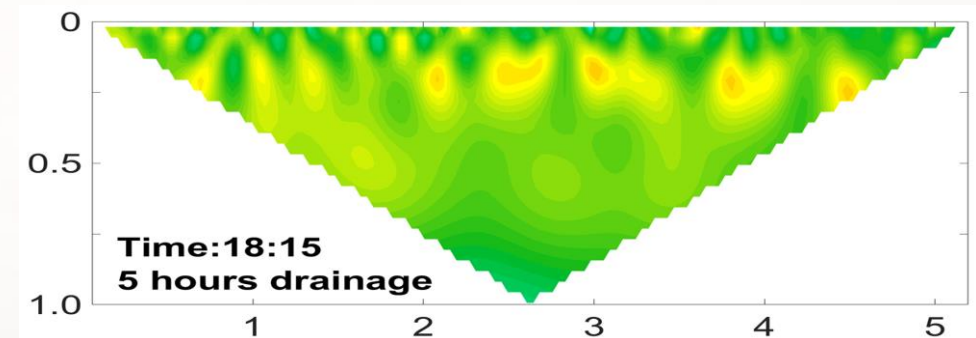
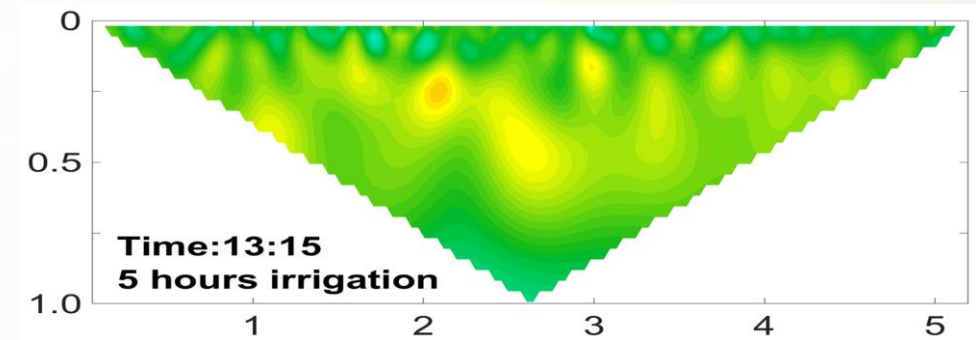
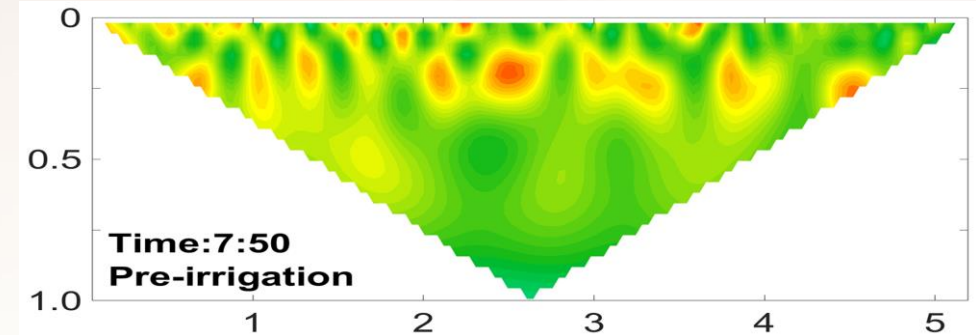


Hydrophobic tail →





# Untreated Plot

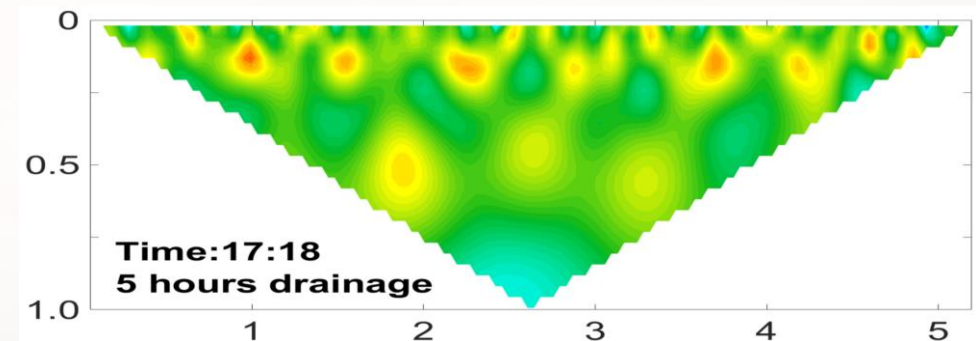
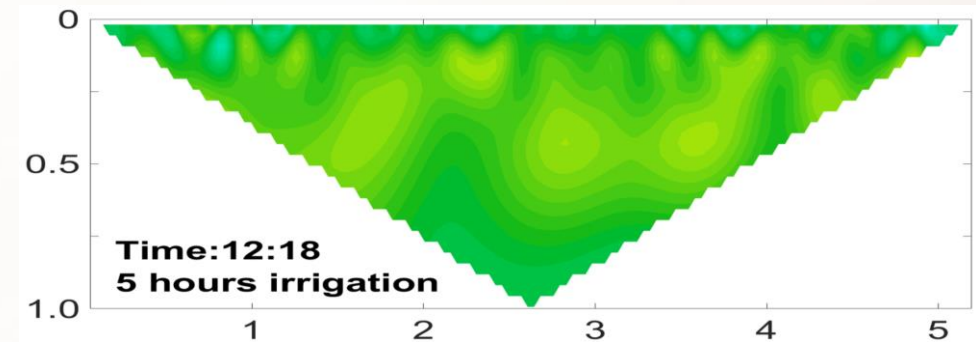
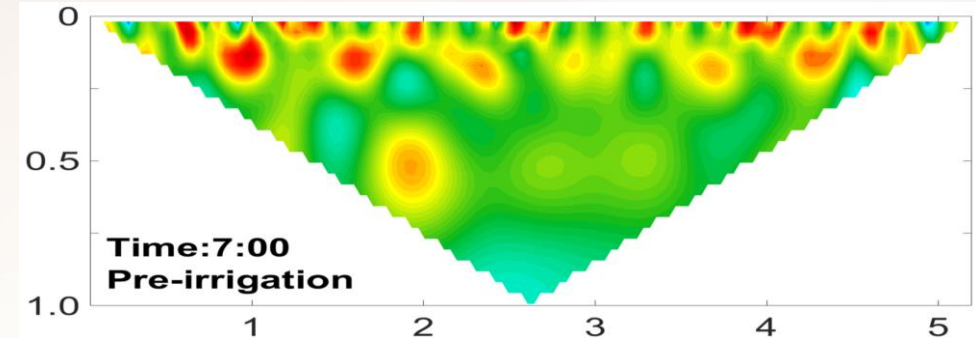




# Drip Treated Plot

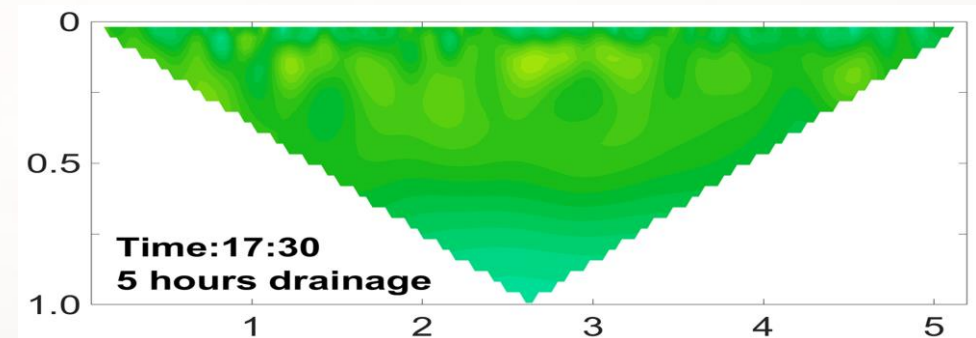
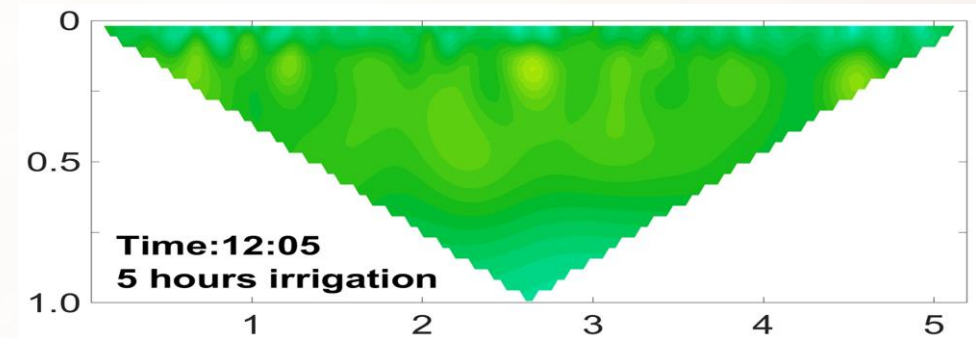
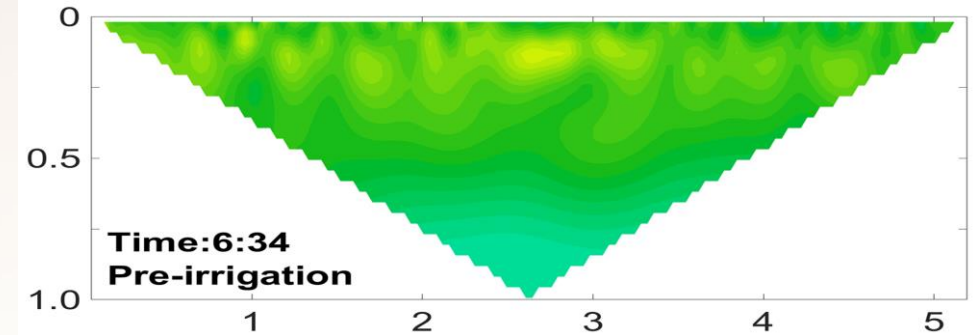


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# Spray Treated Plot

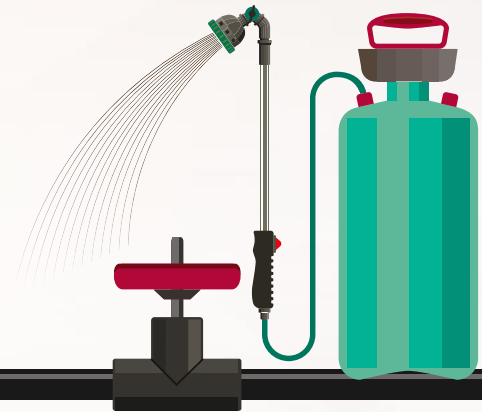






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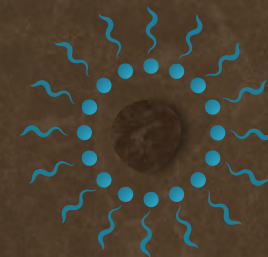
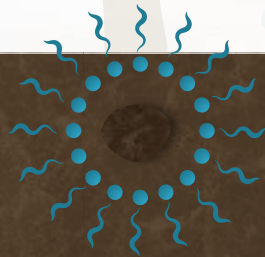
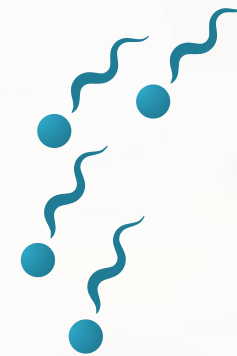
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# Thank you for listening

## Questions?

**Felix Ogunmokun**  
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**Ogunmokun, F. A.,** and R. Wallach (2021), Remediating the Adverse Effects of Treated Wastewater Irrigation by Repeated On-Surface Surfactant Application, *Water Resour. Res.*, 57(6), doi:10.1029/2020wr029429.

**Ogunmokun, F. A.,** Z. Liu, and R. Wallach (2020), The influence of surfactant-application method on the effectiveness of water-repellent soil remediation, *Geoderma*, 362, doi:10.1016/j.geoderma.2019.114081.