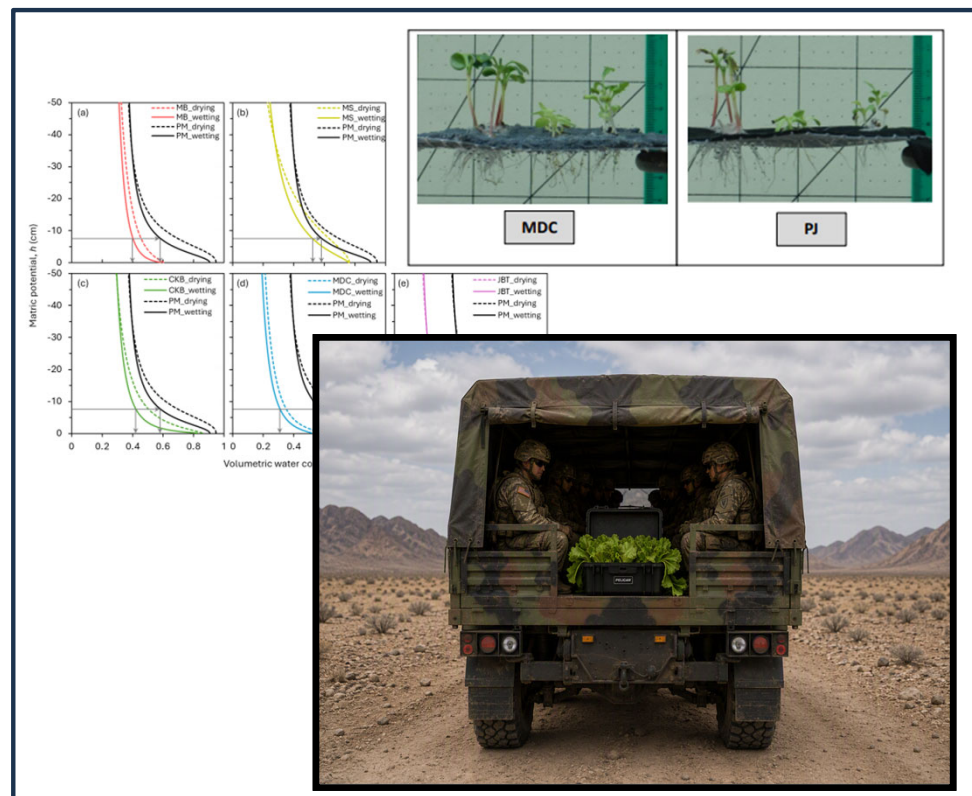




Investigating the use of Fabric-Based Materials as Soil Alternatives for Growing Food in Constrained Environments.

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- **This project investigates whether fabric-based substrates can serve as effective soil alternatives for crop cultivation in constrained settings—including conflict zones, dense urban environments, and potential future extraterrestrial missions.**
- This project will explore the following research questions:
 - 1) Can fabric-based substrates effectively replace soil for supporting crop growth in constrained environments (Conflict Areas, Dense Urban Environments, Extraterrestrial)?
 - 2) How do different fabric materials differ in their capacity to absorb, retain, and release water?
 - 3) How do the wetting and drying curves of the selected fabrics compare to those of an ideal reference growth medium (long-fiber peat moss)?
- By identifying lightweight, portable, and readily available growth media, this research supports the Army's priority to enhance operational sustainment, logistical agility, and Soldier self-sufficiency in contested or resource-scarce environments. Sustaining reliable food production in environments where soil is limited, degraded, or entirely absent is a growing challenge for the Army, the Department of Defense, and the Nation.
- **Looking for 1-2 Cadet research assistants**