



**RECYCLE COLORADO**

# A Shared Mobile Compost Extractor for Eastern CO Farms

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Stu McFarland

# What's in extract?

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- Microbes
  - Extract takes whatever exists in compost
  - Teas aim to feed, aerate, and multiply
- Nutrients
  - Quality over quantity
  - Organic carbon
- Chemical signals

# Benefits

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- Drought and pest resilience
  - Epigenetics (gene expression)
  - Association with soil ecology
    - Improved nutrient uptake
    - e.g. Biome Makers, Solvix metagenetics



**Soil Composition & Available Nutrients**



# Benefits

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- Drought and pest resilience
  - Epigenetics (gene expression)
  - Association with soil ecology
    - Improved nutrient uptake
    - e.g. Biome Makers, Solvix metagenetics
- Nutrient Density
  - “Food as medicine”
    - Sensitivities, diabetes, antioxidants, anti-inflammatory
- Food Security
  - Supply chain, foreign sources (e.g. Iran)

# Common Products

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- Vermiculture (worm castings)
- Johnson-Su Bioreactor
- Windrow
- Static pile
- All readily available
- Very common for extractors to use purchased materials

# DIY On-farm Waste

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**"Anything worth doing well,  
is worth doing poorly first"  
-- Joel Salatin**

**permies.com**

# DIY On-farm Waste

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- Source materials
  - Cattle manure
  - Scrap hay
  - Mowed greens
  - Wood chips
- Tools
  - Frontier Mighty Mike turner
  - Peruzzo collection flail



















# The Trailer - Core Bio Ag, Yankton SD

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# The Trailer

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- Funded by CDA Climate Resilience Grant, Mad Ag, and HPCD
- Designed to be as universal as possible
  - Electrical
    - 220V wired or on-board generator
  - Plumbing
    - Pull fresh water from tank, push extract to tank, or load direct

# How It Works

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- Washing machine
- Water jets and air bubblers in center with compost materials
- 50 mesh ring separates inner source from outer product
- Everything that passes through the mesh is the extract





# Applications

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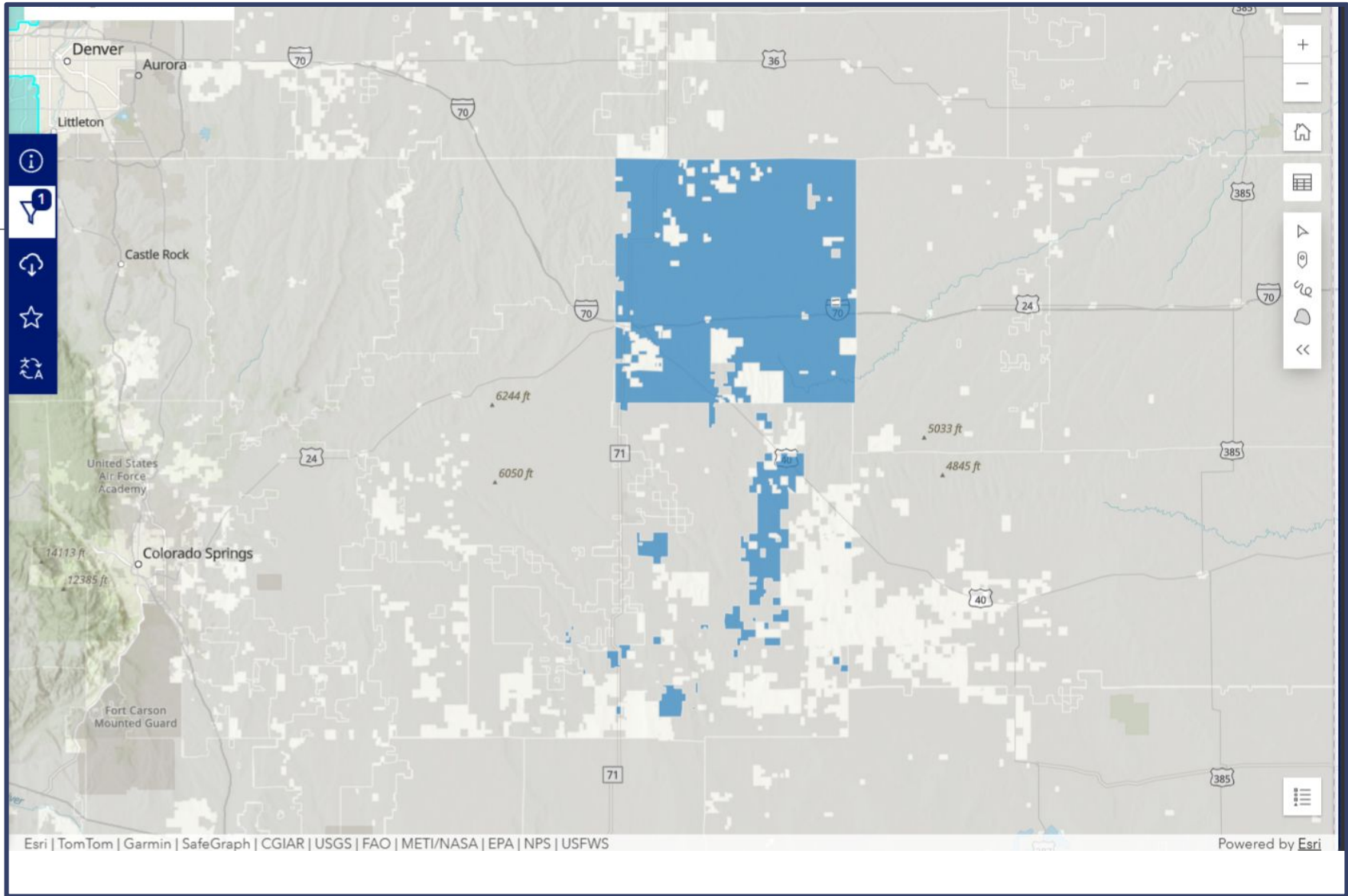
- Seed treatment (e.g. in lieu of neonicotinoids)
- In-furrow at planting
- Foliar spray
- Used alone or mixed with other products, organic or synthetic



# Who can use it?

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1. Priority to HPCD and Lincoln County cooperators
2. Mad Ag cooperators
3. Probably anywhere with ~3 hours of Limon
  - a. HPCD needs to finalize rental terms and rates



# Questions

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*Machine questions:*

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*Anything else:*

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