



# Grand Junction Compost Program and Farm Trial

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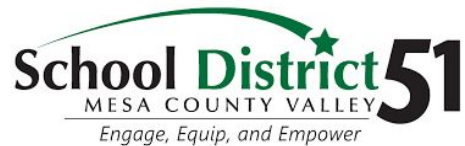


# Grand Junction Organic Waste Collection and Compost Utilization Study

## PURPOSE

- Determine demand for organic waste collection and establish route density
- Demonstrate need for food waste processing at the local facility
- Illustrate benefits of using compost to promote end market development
- Establish application rate recommendations for local growers





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## DELIVERABLES

- Establish **organic waste collection** routes (commercial & residential)
- Implement **school pilot program** with waste audits and custom waste sorting stations in the D51 Schools
- Enhance **education & outreach** with signage, events and communication
- Work with **CSU** & local producers to perform **compost application farm trials** using Mesa Magic compost
- Communicate farm trial results and **market compost sales** to drive end markets and close the loop





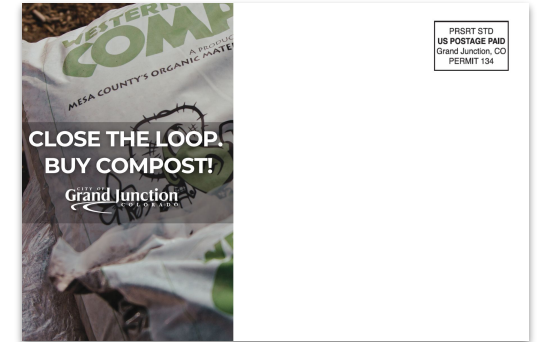
# Organic Waste Collection







## Education & Outreach



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# Learning to Compost





# Compost Campaign



Now that irrigation systems are fired up for the season, it's a great time to put down a thin layer of compost on your existing lawn to help it thrive. Just rake a thin layer of compost across your lawn and follow with a deep watering. For local compost made from local materials, check out our Mesa Magic product. You can buy it by the bag or truckload at our Organic Materials Composting Facility just north of the landfill.



Support your community by buying local compost! 🏠 It's a small change that makes a big difference for your garden and the planet. ❤️  
#BuyLocal #CompostMatters



Kick off August with a greener garden! 🌱 Buy local compost and discover how using it can enhance plant growth, improve soil health, and support sustainable living. #CompostBenefits #GreenGarden



Compost: A Natural Solution for Healthier Soil 🌱 Did you know local demonstration projects have shown that applying compost to achieve 5% organic matter in the soil significantly: ☒ Increases water infiltration rates – helping water reach plant roots more effectively. ☒ Decreases soil compaction – improving soil structure and plant growth. Ready to experience the benefits? Compost is available for purchase! Enhance your soil health, boost water retention, and support sustainable practices today. 📞 Contact the Mesa County Organic Materials Composting Facility at 970-263-9319 for more information on compost sales and recommendations.



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# On site farm trials

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# Compost donations



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# Farm Trail : Peach Orchard



## On site farm trials:

- Established peach orchard (two years)

## Treatments:

- Control - no compost
- Strive for 5 % application rate
- Flat rate (17.3 T/A)
- Top dressed in row





# Farm Trail: Vegetables and Cut Flowers

## On site farm trials:

- 2 cut flower and vegetable sites
- Each site participated for 1 year

## Treatments:

- Control - no compost
- Strive for 5 % application rate
- Flat rate (17.3 T/A)
- 5 T/A & 10 T/A - vegetable 2024
- Treatments rototilled in
  - 2023 no plastic mulch
  - 2024 plastic mulch





# Farm trial: data collection

## Soil:

- Compaction
- Infiltration
- Temperature
- Soil moisture
- Soil nutrients

## Agronomic:

- Peach fruit size
- Flower head size
- Flower plant height
- Flower leaf size



RECYCLE  
COLORADO

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# Farm Trail: Results

## Soil

- Compost applications reduced soil compaction
- Compost applications increased infiltration
- Compost applications increased surface soil temperatures

## Compost Calculator

- Created tool used by Mesa County to help determine customer application rates
- Post application OM levels in Strive for 5 application plots were 5%



## Agronomic

### Vegetables

- Crop losses both years

### Flowers

- Compost applications increased flower head size in both sun flower and celosia crops
- Compost applications increased overall plant height

### Peaches

- Both compost treatments resulted in increased growth rate and larger fruit overall





With the pilot  
pro what?







## **SOLID WASTE MANAGEMENT**

### **REDUCE • REUSE • RECYCLE**

- **Facility Capacity:** 11-acre Class III composting facility composting 45,000 cubic yards of green waste
- **Input:** Residential, landscapers, and commercial (City of Grand Junction)
- **Output:** 30,000 cubic yards of compost and mulch
- **Expansion:** 14-acre permitted addition for food waste and biosolids.



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# Mesa County Organic Materials Composting Facility

with Proposed Expansion to the West

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# EXPANSION - BENEFITS

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- **Accommodate Public Demand**
  - Curbside collection for 38% of homes
- **Accept Additional Feedstocks**
  - Food waste collection for large producers like the school district, hospitals, university
- **Align with State Recommendations (Eunomia, 2024)**
  - Food waste diversion by 2030
  - Green waste ban by 2026
- **Reduce Greenhouse Gas Emissions**
  - 19%-43% reduction (Eunomia, 2024)
- **Increase Climate Change Resiliency (Richardson, 2022)**
  - Enhanced water retention and drought resilience for agriculture
  - Reduce water consumption and farmland salinization

• Eunomia Research and Consulting. 2024. "Colorado Organics Diversion Study." Colorado Department of Public Health and Environment. July  
• Richardson, Jennifer. 2022. "Benefits of Compost Use on Colorado's Cold Desert Agriculture." Master's thesis, University of Denver. November 18





# EXPANSION - CHALLENGES

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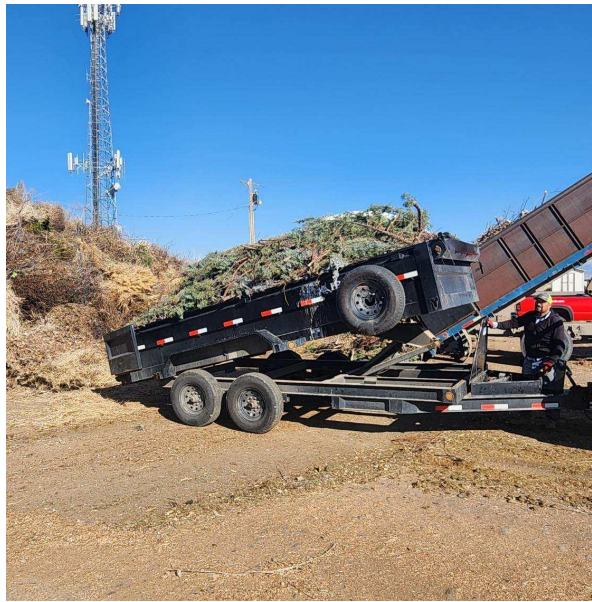
- **Cost**
  - \$1.5 million infrastructure investment
  - 50% increase in annual operating cost
- **Funding Structure**
  - Current operation subsidized by landfill tipping fees (50%)
- **End Market Gap**
  - 50% of product not sold
- **Other Considerations**
  - GCCS
  - RNG





# Closing the Loop

Compost is a prime example of closed-loop recycling — local waste is remanufactured into a valuable product and used within the same community.



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# Closing the Loop

- Outreach and Education
  - Tours
  - Community-based education events
  - Advertising
- Community Partnerships
  - Other municipalities
  - Other divisions
  - Private sector



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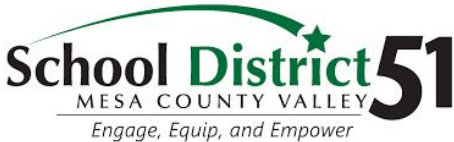




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THANK YOU TO ALL THE  
PARTNERS WHO MADE  
THIS PROJECT POSSIBLE!!





# Questions?

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