



# Compost Use in Agriculture, Research and Demonstration Project

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This program is available to local farmers with funding from the Washington State Department of Agriculture, and Snohomish & King Counties, and through a cooperative partnership of WSU Snohomish County Extension, Snohomish Conservation District, King Conservation District, Waste Management, local farmers, and local compost producers Cedar Grove Composting, Lenz Enterprises, and Bailey Compost

November 2014



Craig and Robin Backlund of Silvana Produce

## 2014 Research Results:

Control = Business-as-usual (BAU)

Compost = BAU + Compost

Fig. 1: Total Marketable Cucumbers  
Carleton Farm Compost Trial 2014

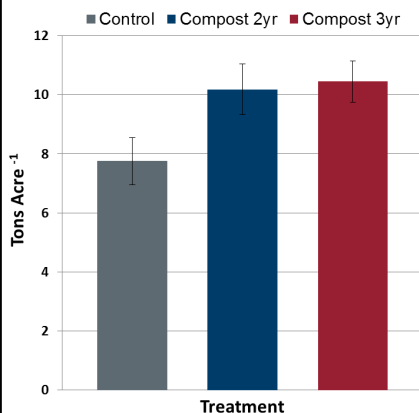


Fig. 2: Beet Seed Yield  
Williams Farm Compost Trial 2014

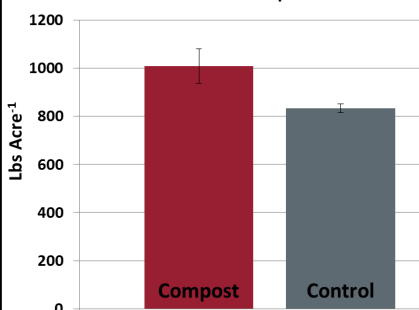
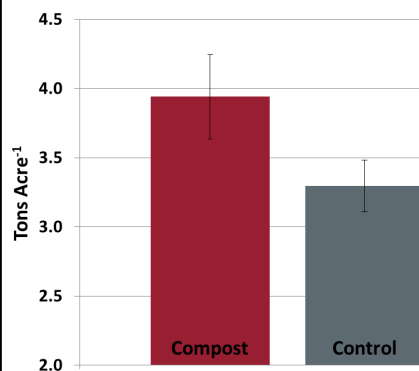


Fig. 3: Organic Green Bean Yield  
Darrell Hagerty Farm Compost Trial 2014



The 2014 phase of the WSU Compost Outreach Project expanded through diverse funding and partnerships with the shared goals of evaluating the effect of compost use on local farms, connecting local farmers to the widely available resource of commercially-produced food and yard waste compost in Snohomish and northern King Counties, and building soil quality on local farmland.

Through their **use of compost**, local farmers have experienced some notable results including:

- **Increased soil organic matter**
- **Increased plant-available nitrogen**
- **Increased crop yield/size**
- **Quicker plant establishment**
- **Enhanced plant color**
- **Decreased plant stress during dry, hot months**
- **Weed suppression due to rapid plant establishment**
- **Improved soil tilth and workability**
- **Increased water retention of soil**



Compost application at Darrell Hagerty Farms



Beets ready to be planted at Williams Farm



Farmers at Carleton Farm before harvest

## 2014 Research Trials:

- **Cucumbers:** Carleton Farm, Lake Stevens: Compost applied at a rate of ~15-20 dry tons/acre\* in 2011, 2012, and 2013, no compost added in 2014. **33% increase in cucumber yield in 2014** (Fig. 1). (Compost 2yr and 3yr treatment yields averaged against control).
- **Beet Seed:** Williams Farm, Stanwood: Compost applied at a rate of ~20 dry tons/acre. **21% increase in beet seed yield** (Fig. 2).
- **Organic Green Beans:** Darrell Hagerty Farms, Snohomish: Compost applied at a rate of ~6.5 dry ton/acre. **19% increase in green bean yield** (Fig. 3).

\* assuming 50% moisture content of compost

# Demonstration Trials:

## Carrot trial:



Compost

No Compost

## Are You a Local Farmer?

### GET INVOLVED!

#### For more information:

Visit the program website:

[www.snohomish.wsu.edu/compost](http://www.snohomish.wsu.edu/compost)

Or call the program

coordinator:

Hallie Harness

(425) 357-6026

[hallie.hararness@wsu.edu](mailto:hallie.hararness@wsu.edu)

- 49 trials in 2014
- Farmers receive a donated ~50 cu. yd. load and apply it alongside a control plot
- Farmers and program staff monitor effects of compost application
- 2014 crops: sweet corn, field corn, grass hay, pasture, mixed vegetables, garlic, onions, berries, pumpkins, herbs, nursery trees, fruit trees, Christmas trees, salad greens, cut flowers, and hazelnuts

## Thomas Family Farm, Sweet Corn

8/22/14



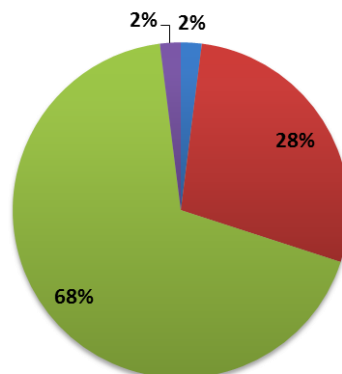
No Compost Added

Compost Added

## 2014 Farmer Survey Responses:

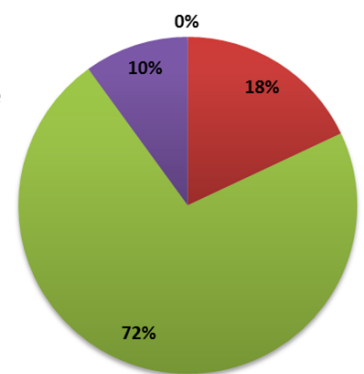
n=50 crops (39 farmers)

### Effect of compost on crop production:



- Somewhat adverse effect
- Did nothing
- Improved
- Greatly improved

### Effect of compost on soil quality:



 Snohomish County  
WASHINGTON STATE UNIVERSITY  
EXTENSION

 Snohomish County



## Lessons learned from farmer correspondence and surveys:

- While there are over five commercial composting operations in Snohomish County, there is limited rental equipment or compost spreading services available. In a June 2014 survey, 19 farmers supported the idea of compost producers providing compost spreading services or equipment. Several farmers have expressed an interest in hiring spreading services, and renting or sharing equipment.
- It is important for compost provided to farmers to be of high quality, if a farmer experiences a challenge when using compost, they may pinpoint compost as the source of their issue.
- Compost delivery drivers are at the forefront of the compost industry and patience, friendliness, and professionalism is noticed and appreciated by the farmers.
- Main barriers to compost use include compost price, compost quality, and spreading equipment & time.

Photos by: Andrew Corbin and Hallie Harness