

Student Compost Cooperative – Promoting Soil Health

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Abstract

The Student Compost Cooperative (SCC) is a cross-disciplinary outreach program established by Dr. Ann Wilkie (Soil and Water Sciences Department, UF-IFAS) that fosters sustainability and nutrient upcycling through composting and sustainable gardening. The SCC hosts demonstrations and hands-on activities, promotes collaboration among other on-campus organizations, and seeks to popularize sustainability and composting through social media. The SCC also provides free garden plots for students that lack access to adequate space, while encouraging them to compost their food waste and use the finished product for their own organic gardens. Composting is a biological, exothermic process in which organic wastes are decomposed into a nutritious soil amendment by macro- and microorganisms. Macroorganisms are the physical decomposers that grind the material into smaller pieces, while the microorganisms convert organic matter into humus and break down the nutrients into a bioavailable form where they can be assimilated into plant matter. Students learn to accelerate this process through appropriate nutrient ratios of carbon (leaves, twigs, cardboard) to nitrogen (fruit and vegetable waste, coffee grains, grass clippings). Turning the pile improves oxygen transfer and provides more surface area contact for the microbes. The advantages of composting are substantial, from the reduction of commercial fertilizer use, to improving soil health, and preventing nutrient leaching. The SCC organizes workshops and interactive field days using social media to encourage participation. All UF students, faculty and staff are invited to participate in the SCC to make this campus a more sustainable and interactive community of collective composters.

Introduction

The Student Compost Cooperative (SCC) is a student-led collective that hosts outreach events and organizes composting activities at the BioEnergy and Sustainable Technology Laboratory.

UF students and faculty can compost their own food waste and in exchange receive the finished compost for their own gardens.

Why compost?

- Compost enriches soils with decomposed humus-like organic matter.
- Compost improves water retention in soils and reduces the risk of nutrient leaching.
- Composting food and organic waste significantly decreases landfill waste.
- Using compost as a soil amendment further reduces the use of commercial fertilizers.



Composting demonstration at the SCC



Active composter at the SCC



Organic garden at the SCC

Objective

The Student Compost Cooperative aims to create a sustainable UF Community through collective food waste composting, organic gardening, and educational outreach.

Compost Process

Components to a successful compost:

- **Temperature:** Warm temperatures allow microbial organisms to thrive, which promotes decomposition
- **Substrate:** Organic materials, like food wastes, leaves, and yard trimmings
- **Moisture:** Slightly moist
- **Aeration:** Adding mulch and other bulky material increases oxygen availability to microbes
- **Mixing:** Distributes oxygen, microbes, moisture and substrates for faster decomposition

Table 1. Compostable Substrates

Browns: Carbon Rich Material (C)	Greens: Nitrogen Rich Material (N)
Dried leaves	Coffee grounds
Mulch	Coffee filters
Cardboard	Tea leaves
Pizza boxes	Fruit scraps
Paper	Vegetable scraps
Paper bags	Egg shells
Cardboard rolls	Bread products
	Grains

Composting at the SCC



Active composter: Microbes actively digest organic material, producing heat and carbon dioxide (CO₂). The contents need to be turned often to distribute microbes, substrates and oxygen.



Maturation composters: These two composters promote compost maturity. Once the maturation process is complete, the material is sifted and screened.



Final compost: Consists of fine, humus-like material that is ready to be applied to the organic garden.



Figure 1. Composting Method

SCC Events

Compost to Crop Campus Workshops:

Students and faculty learn about the importance of composting, the different types of composting, and opportunities at the Student Compost Cooperative.



Compost Field Days:

Students and faculty participate in the mechanics of composting such as mixing and sifting compost, learn how to use finished compost for their gardens, and harvest the crops.



Get Involved!



Connect with us for more information on events!

Twitter: UF Student Compost Co-op

Facebook: UF Student Compost Cooperative

Instagram: @Ufcompost

Snapchat: Ufcompost

Visit our website:

<http://biogas.ifas.ufl.edu/SCC>

Attend our events:

Take a look at our schedule and mark your calendars.



Location

Come to the facility!

2610 SW 23rd Terrace
Gainesville, FL 32608.

The SCC is an outdoor facility located in the UF Energy Research and Education Park, directly east of the Bioenergy and Sustainable Technology Laboratory.

