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## Partridge Creek Farm

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# Summer Internship

## Soil Tilth Analyst

### OVERVIEW

Partridge Creek Farm (PCF) is seeking an intern to conduct soil tests of their garden plots. Nutrient Immobilization can occur for various reasons, some of those reasons might be related to microbial and fungal populations. However, immobilization can also be a result of aggregate particulate diversity. Aggregate diversity is concerned with the ratios of sand, silt, clay, and organic matter in a measured amount of soil, their compaction levels, moisture content, and how each of those aggregates exchange organic nutrients and store organic matter.

### PROJECTS/GOALS

1. Record the visual indicators of soil texture and quality: surface cracking, slow/spotty seed emergence.
2. Measure the soil's tilth, texture, and depth.
3. Measure the available water capacity of the soil, using heat.
4. Measure aggregate stability using simulated rainfall.
5. Measure surface hardness and substrate hardness using a field penetrometer.
6. Organic matter shaker test and combustion drying.
7. Measure rates of water infiltration using metal cylinders.

### SPECIFICATIONS

Interns will perform a soil aggregate (tilth) evaluation of water retention/saturation, density, and visual soil inspections as part of a larger soil quality evaluation project performed by a small team of interns. The tests will be performed at PCF garden beds, produce fields, and hügelkultur mounds.

**Questions to consider:** Are soil textures different between covered bed spaces versus open bed spaces? How does the density of soils differ between open beds, covered spaces, or field plots? Why? Are samples taken from field spaces significantly different from those at community beds?

### ADDITIONAL INFORMATION

Questions or concerns? Contact Jesse Semph, Farm Manager: [jsemph@partridgecreekfarm.org](mailto:jsemph@partridgecreekfarm.org)