



# SEASONAL REPORT



**WINTER SOLSTICE 2019**

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# DIRECTOR REFLECTIONS 2019



December 21 marks the turning of the seasons with the winter solstice. It has been a year of learning and gradual development. One lesson that was reinforced was how multifaceted *urban agriculture* is.

I visited nearly 40 farms and gardens that varied as much in size as in mission. Based on my observations, the majority of operations are not for profit. As such, the ways Michigan State University can support urban agriculture has to be broader than simply developing farm businesses.

Urban growers are committed to food security, safety, neighborhood aesthetic, engaging neighbors, and protecting the environment. The services we provide must contribute to increasing the quality of food production as well as address broader concerns and goals.

This means developing systems to share resources better and conducting research that enables stakeholders to make informed decisions to address issues that concern them. 2020 will mark our first full year of operations at the DPFLI, and I expect it will be enriching for all involved!

Cordially,

Naim Edwards  
Director of the DPFLI  
MSU Extension

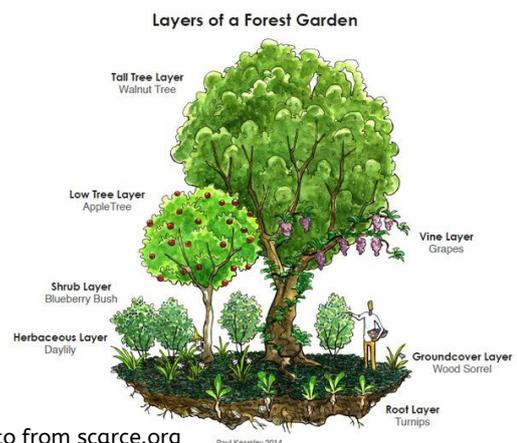


## Food: Edible Forests

Trees are an essential part of Detroit's landscape. They create shade, protect from wind, absorb carbon dioxide, increase water infiltration, decrease noise, and reduce air pollution.

However, there is an underestimated value of the potential for trees to feed us! In Michigan, some of our favorite food items are harvested from trees and woody plants. These include apples, pears, peaches, blueberry, pawpaw, plum, apricot, walnut, pecan, hazelnut and several others.

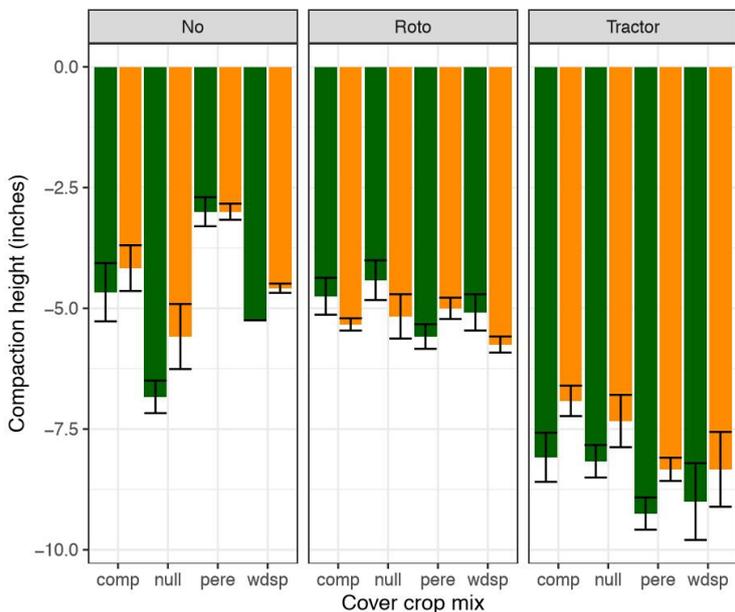
Over twenty varieties of fruit and nut trees can be grown along our streets, although they'd need a little more care than the typical maple, oak, sycamore, or locust tree. Their yields would be as free as leaves or acorns.



Next year, we will begin planting an edible forest at the DPFLI to increase access to locally grown fruits and nuts, and to research best management practices for these crops in the urban context.

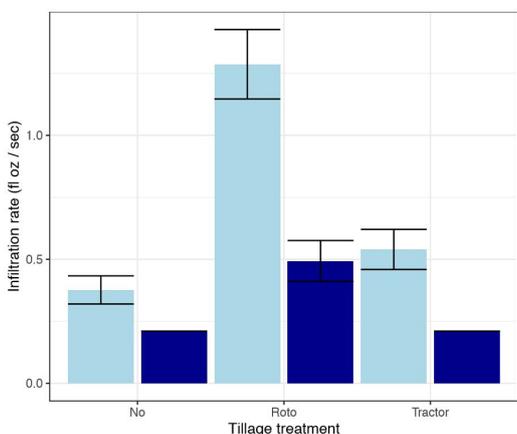
**Learning: Urban Soil Management - Season 1**

Key results from our urban soil management research project are below. In the graphs, "No" indicates no-till plots, "Roto" indicates rototilled plots, and "Tractor" indicates tractor tilled plots. "Comp" represents compaction cover crop mix, "null" - no plants seeded, "pere" - perennial mix, and "wdsp" - weed suppression mix.

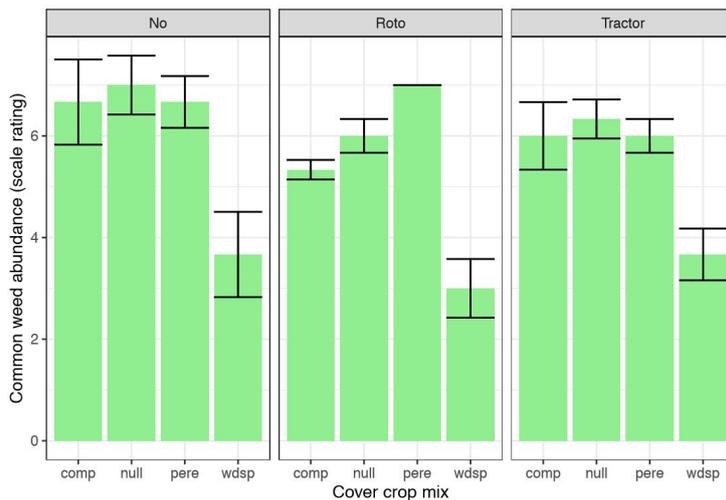


The compaction graph shows changes in soil compaction between July (green bars) and October (orange bars). Although tractor tilling reduced compaction the most, rototilled plots were the only plots where compaction decreased over the season. This may indicate that cover crops were able to reduce compaction further after tilling.

Water drained into the rototilled plots 2-3 times faster than no-till and tractor tilled plots in July. Similar to the increases in compaction, all tillage groups decreased in their time needed to absorb water. We want to maximize soil's ability to drain and keep water available for plants.



The weed suppression crop mix reduced weed pressure by nearly half the other mixes in both frequency of weeds and variety of species. The no-till plots had a lower density of the most common weeds than the other tillage groups.



Radish plants also grew and weighed the most in the no-till plots and were not significantly different in growth in the other two tillage groups. However, depth of the radish roots was similar across all tillage groups.



Early takeaways from season 1 include:

- No-till methods are most practical when starting soil is not severely degraded.
- Tractor tilling exposes debris that may not otherwise be discovered without working soil thoroughly and deeply
- The weed suppression mix (sorghum sudan grass, buckwheat, and cowpeas) is effective in outcompeting weeds during the summer months, and may serve as a barrier or useful mix for preparing soil that will be put into production the following year.
- More biological inputs are necessary to increase organic matter in the short term

Next year, we will expand the project and incorporate worms, fungi, nematodes, biochar, and compost tea. We will also look forward to hosting farmers at our site and piloting plots at partner sites.

**Innovation: Our First Building - Learning Center**

By the end of December, construction of our first building should be complete. It should be furnished and operating by February. The space will be called the Waawiiyanong Learning Center.

The Ojibwe call this region we know as Detroit, "Waawiiyanong". As our first building and the symbol of a new frontier for MSU - establishing an urban ag and forestry center in the city - we wanted to lift up the first name for this land we are stewarding. Moreover, we want to embody the values for Earth and community that indigenous peoples teach us.



The Waawiiyanong Learning Center has office space, bathrooms, storage, and a large conference room that can accommodate up to 25 people. It should be available for programs and meetings by March 2020. The conference room will be available for MSU Extension programming as well as community partner meetings.

Thank you to all those who worked on the building directly, and who sent positive energy and prayers for its completion. See you next year!



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