Nurture: Urban Farming for the Future
Enhancing Urban Sustainability through the Application of Permaculture Principles
North Carolina Agricultural and Technical State University
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What is Natuculture?
Natuculture (pronounced “nlchew” culture) is any human made system that mimics nature in human disturbed landscapes. Natuculture is an agroecologically balanced and biologically diverse system for food production, stormwater treatment and recreation.

Action
We converted a lawn, a drug-addicted carpet, into a living display of a vibrant, biologically diverse, and ecologically complex food producing, water harvesting and cleaning, and carbon dioxide sequestering system with close to zero use of artificial chemicals.

Local, State of NC and International

Why Urban Farming?
In the U.S.A. 30 million experience hunger regularly. In Greensboro, North Carolina, 35% of households are located in food deserts because they have no access to nutritious food and live a mile away from a grocery store.

Action
We reached out to thirteen K-12 campuses and two communities and replaced lawns with originasosas experiments harvesting 4500 lbs of vegetables in summer 2013. An originasosa is a 6 ft x 3 ft vegetable bed that is managed by mimicking a forest:

How will we begin?
Our strategy in scaling up urban farming is to involve as many stakeholders as possible, especially youth. We built originasosa experiments in seven high schools in North Carolina, one of which is in the STEM Early College at N.C. A&T State University. With guidance from faculty, graduate and undergraduate students, high school students are experientially learning the scientific method. Below is an example of a study conducted by a biology class at STEM Early College at N.C. A&T.

Material
Sustainability in healthy food production has become a major issue in both rural and urban environments. The issue of nutritional starvation and global hunger are evidenced by communities having limited access to nutritious food and vegetables. The students at the STEM Early College at North Carolina Agricultural and Technical State University (STEM-EC) became interested in seeing how new techniques of ‘originasosas growing food while mimicking forest’ could increase food production and its role in the overall sustainability for future generations. Since vegetables are significant sources of nutrients that the human body needs, high school students from the STEM-EC conducted an experiment on home vegetable production in urban areas. Students monitored the height and yield of collards grown from the treatments below.

Results
Yield of collards per treatment were weighed. Figure 1 shows the average yield of collards per treatment. It shows that the average yield of originasosas were lower than no-till and tilled. However, the height data shows greater height on collards under originasosas shown in Figure 2.

Conclusion
The yield of collard greens under originasosa summer showed lesser yield than tilled and no-till. Adjustments have to be made in order to lessen possible competition effects between the regrowth of cover crops. Fertilizer either by organic and inorganic methods application must also be enhanced to offset possible immobilization of needed nutrients by soil microbes from previous cover crops. Nonetheless, it is important to note that no-till had almost similar yield than tilled. This goes to show that tillage can be omitted in this type of vegetable production.