



# Camp War Eagle's Organic Gardening Project

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## THE PROBLEM

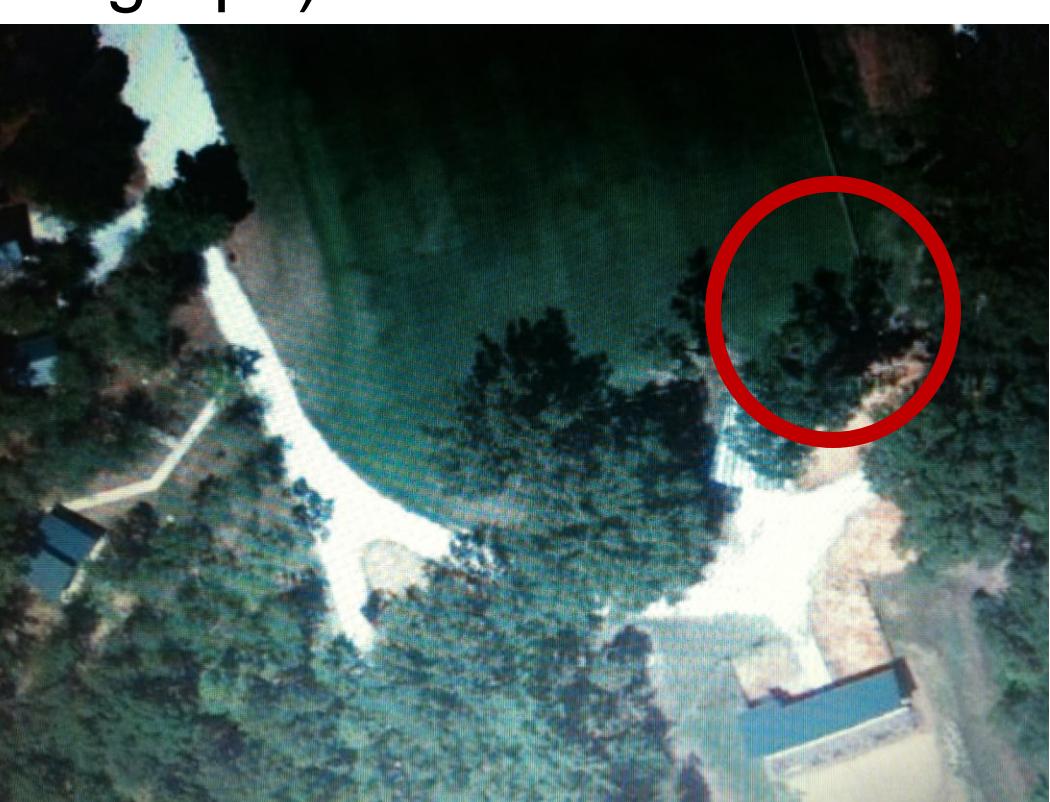
Camp War Eagle is a non-profit camp in Rogers, Arkansas that reaches out to the children of Northwest Arkansas that come from low-socioeconomic backgrounds. Part of the mission of camp is to "foster an appreciation for nature and the environment", yet they had no established outlet to do this that would be fun and engaging to kids while still educational.

During the summer of 2011, the Director of camp, Scott Richards, Matt Morton, who was in charge of the Nature Center, and I, embarked on a project to implement a conventional garden and an organic garden on camp property. The goal was to build these two gardens in hopes that the produce could be used for cooking classes, and the gardens could be used as an educational tool to teach kids how to grow a garden at home, or manage the ones they have.

Sustainable agriculture methods are gaining popularity with the new emphasis on organic foods today. The establishment of both a conventional garden and organic garden would give us a good comparison of how the different agricultural practices work, and which one would be more suitable for our mission at camp. More importantly, the organic garden would give us the opportunity to teach the kids sustainable practices and why sustainability is important.

## THE PROJECT

- 1) Allocating a spot by the settler's barn based on 1) the proximity to the Nature Center, 2) the proximity to the animals (for compost), and 3) exposure to sunlight.
- 2) Dimensions of garden: 4 feet by 22 feet so that each garden would have 88 sq feet per bed. We built them next to each other with a walking path in between.
- 3) Soil testing by the University of Arkansas's Soil Testing and Research Laboratory. Soil texture was a sandy loam with nutrients P, K and Zn below optimum.. In the organic garden we added a compost mix of cow manure, humus, hardwood fines, mushroom and lime to increase the soil's nutrients. In the conventional garden we sprayed the soil with a chemical fertilizer that helps to build the soil back up with nutrients.
- 4) We built the garden's perimeters with cinder blocks, tilled the soil, added the compost, tilled the soil again to mix it, and then planted the seeds which varied according to each garden. A list is located to the right of what plants grew in each garden.
- 5) We used a sprinkler system that watered the plants in the morning and we would water it with a hose for 30 minutes daily due to the hot summer we experienced. During two weeks of the summer, when temperatures were extremely hot, we watered them twice a day for 30 minutes. (As seen in red in the weather forecast graph)



(Location of the  
Settlers Barn and  
Gardens)

## PICTURES

**Conventional Gardening:** Uses synthetic fertilizers and pesticides to enhance and control the growing environment of the garden



**Organic Gardening:** Organic is a label that indicates that the food has been produced through methods that integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. Synthetic fertilizers, sewage sludge, irradiation, and genetic engineering may not be used. (National Organic Program)



## THE OPPOSITION

About mid-July our gardens took a turn for the worse. Rogers, Arkansas was said to have above average temperatures at 97 degrees Fahrenheit, with a maximum of 103 degrees Fahrenheit. Our plants in both gardens felt the effects of the heat. We tried watering the plants twice a day for 30 minutes with a hose instead of the usual one 30 minute session to help keep them more hydrated, but a large amount of our plants still withered up and died.

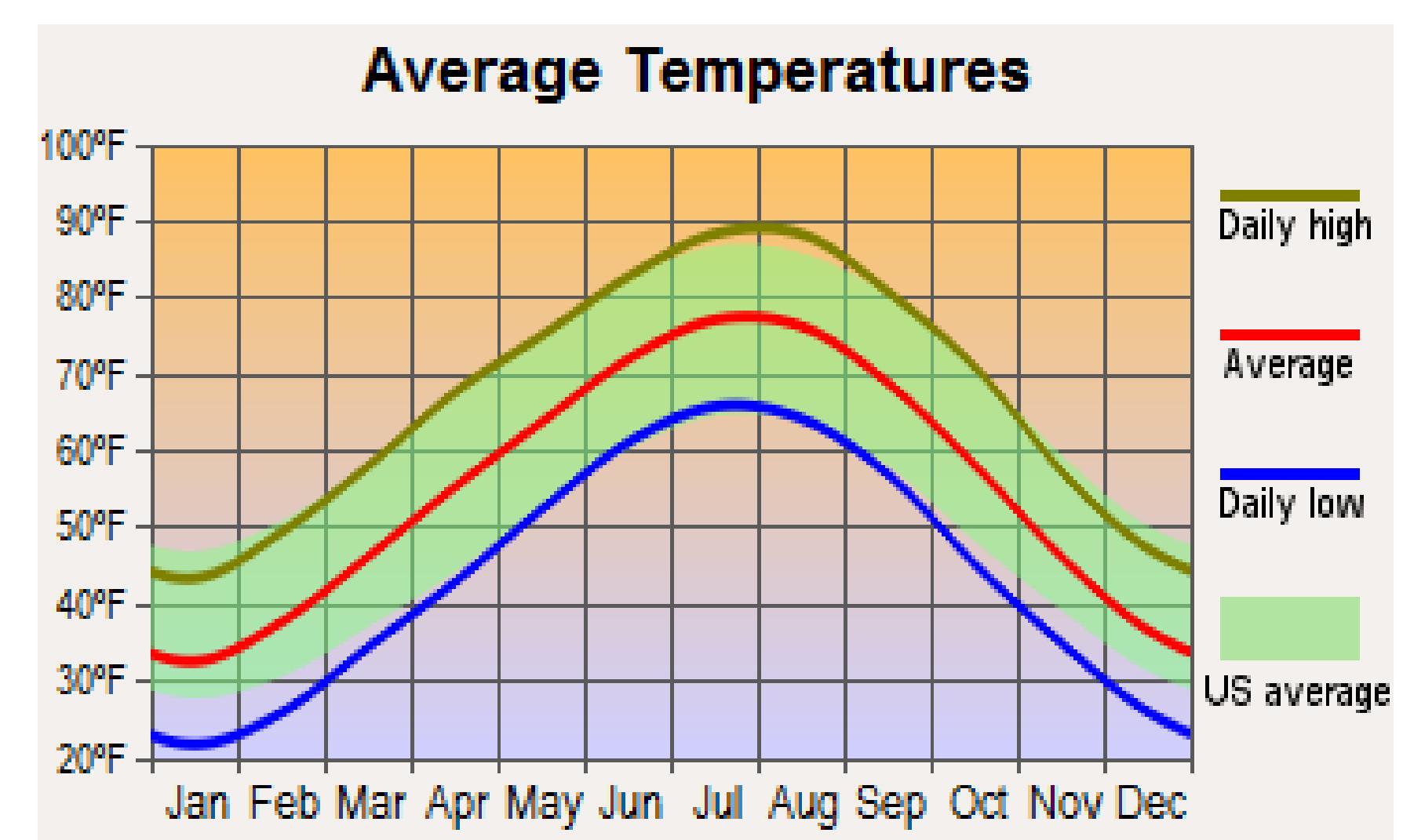
Another big opposition to our garden were aphids, or plant lice. With our conventional garden we used pesticides to help protect the crops, which had a significant difference on the plants on keeping them alive from insect invasion. On the organic garden we chose not to use any chemical compounds on it which left it pretty open to insects.



Between the bugs and the heat we lost our cucumbers, zucchini, basil and some of our squash within the organic garden. Within our conventional garden we experienced minimal damage to our garden with jalapenos, the cantaloupe plant, and some of our tomatoes plants dying.

## GRAPHS

Conventional Garden Plants	Organic Garden Plants
4 50 Days Tomatoes	1 Basil
1 Lemon Tomato	2 Cucumbers
1 Husky Cherry Tomato	2 Zucchini
1 Rosemary	1 Baby Grape Tomatoes
2 Red Bell Peppers	2 Common Green Bell Peppers
3 Jalapenos	2 Serrano
1 German Thyme	2 Squash
1 Common Sage	4 50 Days Tomatoes
1 Greek Oregano	
1 Flat Italian Parsley	
1 Cantaloupe	
1 Cilantro	



National Weather Service Weather Forecast Data for Rogers, Arkansas Month of July							
Day 1: 98	Day 2: 100	Day 3: 100	Day 4: 92	Day 5: 97	Day 6: 94	Day 7: 100	Day 8: 91
Day 9: 100	Day 10: 103	Day 11: 101	Day 12: 101	Day 13: 86	Day 14: 95	Day 15: 97	Day 16: 97
Day 17: 96	Day 18: 97	Day 19: 98	Day 20: 98	Day 21: 100	Day 22: 101	Day 23: 100	Day 24: 103
Day 25: 95	Day 26: 102	Day 27: 101	Day 28: 100	Day 29: 100	Day 30: 100	Day 31: 101	

## THE OUTCOME

We planted the gardens May 1<sup>st</sup>, 2011 and around June 13<sup>th</sup> our plants started producing. We were producing enough zucchini and tomatoes for our educational program in the Nature Center to have enough successful produce to cook with, and also our gardens were in a good enough state we could have the kids come help in watering it, picking produce, and pulling weeds and such. The kids got to make different meals like salsa, zucchini bread, and omelets out of the process which really taught the kids how to approach making small amounts of food at home. As far as the educational program goes our gardens were a success in teaching the children aspects of sustainability, gardening, and cooking.

Camp War Eagle has decided to continue the project of maintaining both a conventional and organic garden for the summer 2012. A change in methods of maintaining the garden have yet to be discussed, but we are more aware of what we need to fix, what we need to fix, and what threats that gardens face and how to protect our produce through both conventional and organic management.

## SUSTAINABILITY

How does organic gardening contribute to the different domains of sustainability?

**Managed Systems:** It focuses on agriculture and developing foods that help satisfy a community. Organics are really important today in developing new techniques within the agricultural realm that are sustainable for our future, and they also help produce healthier soil and food.

**Social Systems:** Our organic garden at camp involves and teaches children of low-socio economic families on ways to produce food, and be more self-sufficient in making their own food which also teaches them a higher level of responsibility. It's an educational tool used to help develop their skills and knowledge of nutrition and will hopefully open new doors for them within the food realm and their accessibility to it.

**Natural Systems:** Large scale agriculture has a huge impact on the climate change occurring today and the availability of resources, and organic gardening is one of the many alternatives that helps to cut back on that problem. Organics will hopefully have a lesser impact on the Earth, and provide more sustainable land and higher quality produce for our future generations.

## PERSONAL OUTLOOK

After completing my project at the University of Arkansas, I felt like I had a better understanding of the steps it takes to manage a garden. I learned both conventional methods and organic methods and what each one contributes to the garden, yet what a gardener needs to be aware of in both gardening methods. Before this project I never would have thought about having my own garden, but now that I've spent a whole summer working with one it makes me want to start my own garden at my house.

More importantly through the research I had to conduct before we initiated the gardening project, I learned a lot about agricultural and its effect on the environment and humans. My perspective on the types of food I eat and where they come from have completely changed. I have new respect and desire to buy organic foods. I hope through the Nature Center's classes at camp, the children will have learned to appreciate sustainable gardening as much as I did.

Regardless if I do end up making my own garden or not, this project has really been a conversation starter with the people I work with at Wal-Mart. I've been able to talk to three different people about the organic gardens they have, and we have traded different techniques and stories with one another. The connection this project has given to me to other people who share the same mindset as me has given me cultural capital I did not expect the project to produce.

I'm excited to see if what I learned this past summer will progress through out the rest of my lifestyle. Through my courses for my minor and the project at Camp War Eagle, I have really learned the importance of sustainability and how important it is for our future. I sincerely want to be able to pass that underlying importance on towards others through my actions and conversation. I'm excited to see what I can do to better make our practices and our earth more sustainable.