FINAL PERFORMANCE REPORT

University of the District of Columbia

College of Agriculture, Urban Sustainability, and Environmental Sciences

March 8, 2013

Project Title: Implementation of Techniques for Extending the Growing Season of Specialty Crops in the District of Columbia

Project summary

The project, "Implementation of Techniques for Extending the Growing Season of Specialty Crops in the District of Columbia", evaluated certain specialty crops for continuous growth and production during twelve month cycles. In order to observe the efficacy of specific environmental applications on the selected crops, the staff utilized transfer between an enclosed facility and the field to test cultivars by responses to elements as well as planting medium. Using pot culture within the enclosed space while reducing the impact of early cool temperatures, they determined that certain spices grew well when transferred from the field. Furthermore, several spices could be grown in the Capitol area throughout the year with a minimum amount of wind covering. To conduct the needed observation, plastic covered frames were installed during the autumn of each year. This application also had an extension effect on leafy crops as well as crops which are considered cold weather vegetables.

The project also manipulated amendments as nitrogen, phosphorous, potassium, and soil temperatures and pH to compare productivity.

The project was favorable as the staff could definitively suggest the ability to grow, and further experiment, with different approaches to extending the growing season.

Project Approach

The selected crops were: Amaranth, coriander, oregano, sage, chives, and rosemary. These particular spices, along with amaranth, flourished well in pot cultures. The efficacy of small greenhouse impact was observed throughout the process. Information was then conveyed to residents within the District of Columbia through information documents and at public events such as farmers markets. In addition, the staff conducted information sessions with residents through the Master Gardener program. They also conducted outreach through related organizations and community garden programs.

The plan used counterpart varieties and the same treated medium for each plant. Except for the growing conditions, natural versus controlled, all techniques were the same.

Goals and Outcomes

1. This project fulfilled a primary goal which was to provide gardeners with an increased understanding of the relationship between crop plant growth and those requisite environmental conditions. It focused upon the application of temperature, humidity, and nutrient controls.
2. It met a second goal, to provide written documentation, through at least two publications.
3. It increased the on-farm ability to grow a significant amount of peppers, mushrooms and, herbs and spices.
4. It doubled the number of specialty crops which were evaluated and recommended as productive and continuous for many venues.
5. A last goal was to increase, by 50%, the amount of fresh herbs and spices available in supermarkets and farmers markets.

Publications were distributed at workshops, field days, and through external partners as the Neighborhood Farm Initiative. The staff made the information documents available at farmers markets throughout the area. The documents reached more than the projected 1000 residents.

The staff found that temperature controls had a positive effect upon the ability to continuing growing. However, temperature drops to freezing killed certain species as the amaranth, coriander, and sweet basil. A reinstitution of the warmth and humidity caused the plants to re-sprout.

The data with reference to variety, plant quantity and yields per variety, showed that the crops grew well in pot culture. With amendment data, it is probable that gardeners may move toward expanding their efforts toward the indicated crops for cold seasons.

Beneficiaries

This project directly affected:

- Residents of the District of Columbia
- Public school students and teachers
- Visitors to the UDC farmers market
- Attendees at Urban Sustainability Action Summit
- Outreach of three external projects.

Lessons Learned

The greenhouse was a not renovated in time to effectively complete this project. However, the use of a hoop house with temporary heating provided ample evidence for the extended season approach. Hoop houses and low tunnels are much less expensive than greenhouses to construct. The staff learned that as an alternative, it enables the grower to attain reasonable control over the production environment. They also discovered that the use of compost as “surround” material contributed to increased temperatures

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