

Unheated Hoop House Season Extension Trials

Situation

Research shows that the Hmong population suffers the highest level of food insecurity of all ethnic groups in Green Bay. Of all households surveyed, Hmong indicated the greatest interest of all ethnic groups in community gardens as an initiative that would help them get the food they needed. The growing season for Hmong growers is limited due to the weather conditions present in Northeastern Wisconsin. The average first frost date for the Green Bay area is October 2, and the average first freeze date is October 15. While many cole crops will survive a frost, a freeze finishes the growing season for all but a few vegetables like kale and Brussels sprouts. An unheated hoop house was erected at the Green Bay Botanical garden in 2003 and Phase I of the project showed that the fall season could be extended (we had usable greens until January 5).

Response

UW-Extension staff planted a variety of salad greens in late winter and early spring, and then planted warmer season crops throughout April and May.

Results

Several varieties of mustard greens, kale, lettuce, and spinach were planted in the hoop house during late February and March. While conditions inside the hoop house allowed growth of these cool season vegetables at this time of year, the conditions were also ideal for the development of insects. The first problem was cutworms which eagerly chewed off young seedlings. However, the major problem was the aphid populations. Since the hoop house is not monitored on a daily basis, the aphid population “exploded” and the entire crop of salad greens was lost. The concept does work and salad greens can be harvested in April using this system. However, closer insect monitoring will be needed in order for this to be economically viable.

The summer crop trials were far more successful. Due to the warm growing conditions, the bitter melon vines spread across the floor of the hoop house and climbed the guide wires attached to the frame and produced throughout the summer. The Russian fingerling potatoes produced an incredible 43.75 lbs. of potatoes from one pound of seed potatoes. The main summer crop was heirloom tomatoes. The plants inside the hoop house started producing earlier than the ones outside and, of course, produced more fruit since they were protected from early frosts and enjoyed a longer growing season.

The hoop house was also used as an educational tool. A grower's seminar was held in May and a Hmong interpreter was used to help communicate with the Hmong portion of the attendees (12/57%). A tour and talk about the hoop house project was also included as part of Green Bay Botanical Garden's open house. Twenty people attended the talk. The hoop house was also used to introduce the concept of season extension to the 4th grade class at Howe Elementary School. They visited the hoop house and participated in planting mustard greens which should be ready to harvest in March or April of 2005.

Evidence

The program was evaluated by examining the results of the trials as well as the number of people who were educated about the program.