

Veggies: Varieties, Fertilization, and Planting

Gary and Nancy Guthrie, Nevada, have a CSA garden where new questions are always cropping up. In 2001, they addressed questions of fertility, specifically foliar fertilization. Gary had read that potatoes responded to a fish emulsion-kelp mix and a proprietary calcium product if applied to the leaves of the young plants. He wanted to check the effects of calcium and fish-kelp, both separately and together, which led to a "2x2 factorial" experiment. But Gary was also interested to look at the response of the different potato varieties on the farm, so he repeated the trial for each of five varieties.



Gary Guthrie showed the potato trial at the June field day.

Table 7, click to view, shows results of these potato treatments on the number of potatoes per hill and on total weight of potatoes per hill. The foliar calcium had no significant effect on the number of potatoes per hill or on total harvest weight. Fish emulsion-kelp did not affect the number of potatoes per hill, and it caused a small but significant decrease in total harvest.

A by-product of the trial was good information about the potato varieties. Cranberry was a particularly prolific variety, and its total harvest weight was also significantly greater than most other varieties.

Gary would like to find a way to grow potatoes with only green manure crops for fertilizer. He wonders if there might have been a positive response to the foliar treatments if the potato ground had not been in horse pasture the year before. In the future, he may evaluate foliar fertilization under different conditions or with different crops.

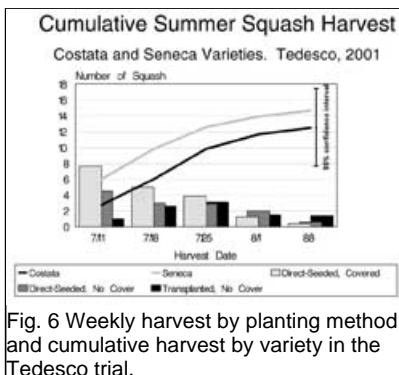


Fig. 6 Weekly harvest by planting method and cumulative harvest by variety in the Tedesco trial.

Varieties also played a part in **Angela Tedesco's** thinking about summer squash. In the past, cucumber beetles have devastated the squash in Angela's CSA garden near Granger. Beginning in 2000, she examined ways to foil the beetles. Using two different varieties, she compared three planting methods: direct seeding in the garden; direct seeding followed by a fabric cover until flowering; and transplanting starts from the greenhouse. (click to view) Table 8 and Table 10 and Fig. 6 provide the results.

Coincidentally, cucumber beetle pressure turned out to be light for the two years that Angela studied the problem. The trial became more of a comparison of establishment methods. The squash with fabric row covers really took off at the beginning of the season. The Seneca variety was also a quick starter compared to the other variety, Costata. In 2001, the Costata harvest never caught up (Fig. 6); over the whole two-year trial, though, squash variety was not a significant factor.

Angela writes "The direct-seeded squash under cover had better total production in both years. (In the 'Seneca' variety it is even better than the numbers show because the uncovered treatment had 50% more surviving hills than the covered squash treatment in 2001.) It then becomes a question of whether the extra labor to cover the squash and uncover for hoeing, and the cost of the cover cloth is offset by the better production."



The squash transplants were out of the greenhouse by the time of the field day

Table 10, click to view suggests that the answer is "yes," marginally. But if yields are adjusted to equalize the stands, the row covers look even more attractive. Did the two varieties perform differently under the three establishment methods? Only to the extent that Seneca is an early starter, and the row covers especially boost the first week or two of harvests.

In Angela's trial, transplanting starts from the greenhouse was not even in the running. However, the question at the Henry A. Wallace Country Life Center, Greenfield, was not whether to use the greenhouse for bell peppers, but whose greenhouse to use. Center gardener Amy Miller and Director Diane Weiland wanted to know if it was better to buy flats of pepper seedlings or to start their own.

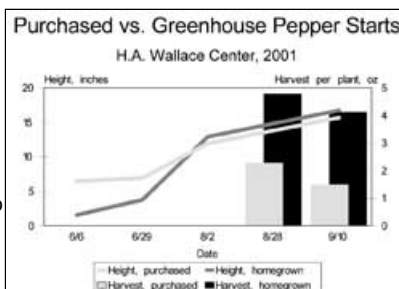


Fig. 7 Growth and yield of homegrown and purchased peppers (King Arthur variety) at the Wallace Center.

Table 9, click to view, and Fig. 7 show that, even with just two harvests recorded, the homegrown peppers easily justified the additional cost of labor and materials. Amy reports that the store-bought peppers started out much taller than the homegrown plants and that they began blooming immediately. However, they were vulnerable to winds and rain, which set back the harvest and damaged plants. The

homegrown peppers outyielded the store-bought ones, perhaps because they adapted better to the garden.