

Thanksgiving Celebrated Successful Harvest

By Larry Caplan, Extension Horticulture Educator, Vanderburgh County, IN

For the Evansville Courier and Press, November 20, 2016

This week, we will be celebrating Thanksgiving. We know the history of the holiday: how religious pilgrims, seeking refuge from oppression, immigrated to the lands already inhabited by Native Americans. Over half of the immigrants died that first winter, and were dependent on supplies from local Indiana tribes to survive. The pilgrims, most of whom were not farmers by trade, depended on the help from Squanto, who taught them to grow local crops. The following year's harvest was bountiful, and a thanksgiving feast was held to celebrate.

I've always been interested in the farming techniques that Squanto taught the Pilgrims. The Native Americans farmed in a style called "The Three Sisters." Corn, beans, and squash were grown together, an early form of companion planting. Each of the crops acts to benefit the others, just like three sisters in a family would. The corn acts as a pole for the bean vines to climb, removing the need to use real poles or trellises. The beans are legumes, which add nitrates to the soil that the other plants need to grow. They do this by way of a "nitrogen-fixing bacteria" on the nodules of their roots. The squash provides ground cover that helps prevent weeds by denying them sunlight. It also helps to keep the ground moist by acting as mulch.

There has been debate about whether Squanto really did teach the Pilgrims to bury a fish in the mounds when planting the seed. There seems to be evidence that he did, and that it was necessary for crops to grow in the poor soils of the area around Plymouth. The fish, as it decayed, would have released nitrogen, phosphorus, and potassium, all necessary for the young plants to start growing. It would also provide nutrients and organic matter for soil organisms to feed on, and which in turn would improve the soil and benefit the crops.

But the fish would also have released calcium from its flesh and bones. This calcium, normally not needed in southern Indiana soils, would have been lacking in the gravelly, acidic soil common in this coastal area. The calcium would have raised the pH and help neutralize the acid in the soil, thus making other nutrients more readily available to the plants.

In Europe, farmers normally fertilized their fields with animal manure. In the early days of the Plymouth colony, there were few animals to provide manure. Even if there had been manure available, it would not have provided all the mineral nutrients the crops, and the people eating those crops, needed. Livestock fed poor quality hay would be

missing nutrients in their diet. Those missing nutrients would then be missing from their manure, which would then be missing when used as a fertilizer. A few small fish, most likely herring, would contain many minerals otherwise lacking from the soil.

To see an example of a Three Sisters garden, I encourage you to visit Angel Mounds State Historic Site in Evansville, and check out the demonstration garden maintained by our Master Gardeners.