Increasing the Population of Danaus plexippus by Manipulating Food Choice Behavior

Wittkamp, Abigail (School: Burlington Community High School)
Dodge, Sara (School: Burlington Community High School)

For the past twenty years, the population of Danaus plexippus (monarch butterflies) has been on the decline. The dwindling number of monarchs has to do with the increasing eradication of monarchs' singular food source and breeding ground: milkweed (Asclepias syriaca). Since monarchs use olfactory senses to detect milkweed, it was hypothesized that if milkweed extract were to be placed on a plant other than milkweed, thinking that the plant is milkweed, monarch butterflies may be willing to lay eggs on the plant and monarch caterpillars may eat the plant. For the experiment, 55 monarch caterpillars were fed dogbane (Apocynum cannabinum) that had been sprayed with milkweed extract, 20 caterpillars were fed dogbane, 10 caterpillars were fed milkweed, 20 caterpillars were fed spinach that had been sprayed with milkweed extract, and 20 caterpillars were fed spinach. The results showed that the monarch caterpillars were willing to eat milkweed and dogbane that had been sprayed with milkweed extract. Dogbane can be found in every continental state of the United States and eight Canadian provinces, making it a readily available resource for monarchs. By giving monarchs another food source, the monarch population may be able to rebound.

Awards Won: