

Optimum Nitrogen Rate for Café au Lait Dahlias

Overview:

Dahlias are an important, high demand flower on Long Island. The objective of this study was to determine the optimum nitrogen application rate for a popular dahlia cultivar, Café au lait, commonly grown for cut-flower production on Long Island. This trial will aid in minimizing nitrogen pollution, maximizing flower quality, and increasing profit.

Methods:

90 Café au lait dahlia tuberous roots were planted at Long Island Horticultural Research and Extension Center (LIHREC) and North Fork Flower Farm (NFFF), summer 2023

Nitrogen treatments used Espoma Organic Plantone 5-3-3 All Purpose Plant Food:

1. No added N fertilizer (control).
2. Grower standard of 150 lbs N / acre applied in split applications at planting and in July (150).
3. 50 lbs / acre in July only (50).

Results:

Nitrogen treatment did not correlate with aboveground biomass or foliar nutrients.

The largest quantity of blooms and largest sized blooms were collected from the 50 plots. At LIHREC, the site with high organic matter and stored nitrogen credit within the organic matter, the blooms were smaller in diameter and had a lower bloom angle than those at NFFF. This suggests that applying large amounts of nitrogen will not benefit dahlia blooms.

Conclusions:

In soils with organic matter >3%, apply 50 lbs / acre N or 1.2 lbs N / 1000 sq ft or 0.12 lbs N / 100 sq ft.

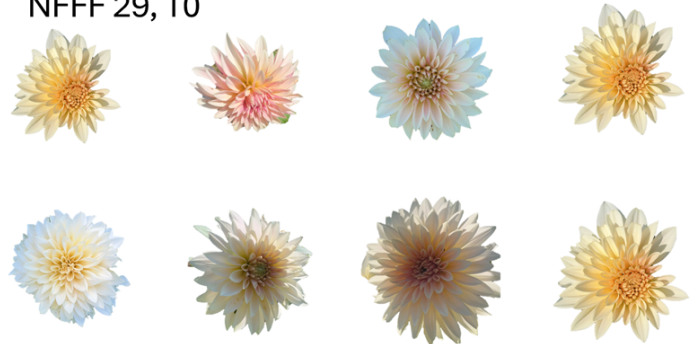
If using a 5-3-3 fertilizer that is 1000 lbs fertilizer / acre, 24 lbs fertilizer / 1000 sq ft, or 2.4 lbs fertilizer / 100 sq ft.

Dahlia bloom pictures from the trial. LIHREC and NFFF indicate the site, followed by the plant identification number, and the treatment, T0 = no fertilizer, T50 = 50 lbs / acre N, T150 = 150 lbs / acre N.

LIHREC 67, T0



NFFF 29, T0



LIHREC 88, T50



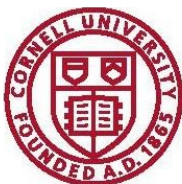
NFFF 36, T50



LIHREC 78, T150



NFFF 49 & 55, T150



Document Prepared By:
Suffolk County's Agricultural
Stewardship Program



Contact information: Emily Lindback at
el684@cornell.edu