Best basil varieties for hydroponic greenhouse production

December 21 2015

As the popularity of fresh culinary herbs increases, growers are looking to year-round production methods to supply distributors and local consumers. In colder climates, culinary herb growers rely on controlled indoor environments and often employ hydroponic production techniques. A new study of basil varieties grown using two popular techniques found that plant performance is more likely related to the choice of cultivar than the type of hydroponic system used.

Kellie Walters and Christopher Currey from the Department of Horticulture at Iowa State University studied basil cultivars grown in the two most prevalent types of hydroponic systems used for growing leafy crops: nutrient flow technique (NFT) and deep flow technique (DFT). A report of their experiments was published in the October 2015 issue of *HortTechnology*. Walters and Currey selected seeds of 35 cultivars of basil representing several species, and transplanted seedlings 2 weeks after sowing into either NFT or DFT systems. They evaluated the basil when the majority of plants were considered harvestable.

"Our results showed that basil growth and development were affected by either cultivar or hydroponic production system, but not the interaction between production system and cultivar," the authors said.

The scientists found that plant fresh weight differed greatly among basil varieties. Holy, lemon, and sweet basil cultivars produced moderate-high fresh weight, while bush, cinnamon, large-leaf, and thai basil produced moderate fresh weight. Purple basil cultivars produced the least fresh

weight among the varieties evaluated. In general, the fresh weight of the plants grown in DFT systems was 2.6 grams greater compared with plants grown in NFT systems.

Walters and Currey concluded that basil yield "seems to be affected more by cultivar selection than on the type of production system." Considering all factors, they recommend that hydroponic basil producers select basil cultivars based on flavor and yield and select hydroponic systems based on operational preferences.

More information: The complete study and abstract are available on the ASHS *HortTechnology* electronic journal web site: horttech.ashspublications.org/ … nt/25/5/645.abstract

Provided by American Society for Horticultural Science