

Response of Yaupon Holly to Nitrogen

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Thomas H. Yeager

University of Florida, Gainesville, Florida

Multiple branched liners of *Ilex vomitoria* Ait. 'Nana' were placed in 3-liter containers with a 2 pine bark : 1 Canadian peat : 1 sand (by volume) substrate amended with 7 lb/cu yd dolomitic limestone and 1.5 lb/cu yd Micromax micronutrients. Forty plants comprised each of 3 treatments that received weekly either 460 ml per container of water or fertilizer. The fertilizer solution contained 50 ppm N, 10 ppm P, and 30 ppm K. Fertilizer carriers were NH_4NO_3 , KH_2PO_4 , and K_2SO_4 respectively. Treatment 1, received fertilizer for 15 weeks. Treatment 2, received water for 5 weeks and fertilizer for 10 weeks. Treatment 3, received water for 10 weeks and fertilizer for 5 weeks. After the initial 15 week treatment period, 10 plants from each treatment were harvested for root and shoot dry weight determinations and 10 plants from each treatment received weekly for 15 weeks 460 ml of the fertilizer solution that contained P and K as stated above but also contained either 50, 150 or, 300 ppm N. Treatment 4 and 5 received weekly 460 ml of the fertilizer solution that contained 150 ppm N and 300 ppm N, respectively, during the 30 week experiment. Plants that received 15 weeks of 50 ppm N then 15 weeks of 300 ppm N had the largest shoot dry weights when compared with plants that received 5 or 10 weeks of 50 ppm N followed by 15 weeks of 300 ppm N. However, plants that received 150 or 300 ppm N for 30 weeks had the largest shoot dry weights. Root growth increased in response to duration of 50 ppm N. These data indicate that fertilizing plants after potting with a low level of nitrogen (50 ppm) for an

extended period will promote root growth; however, shoot growth is sacrificed.

Consequently, nursery operators should maintain optimal growth media fertility levels throughout the production period if maximum shoot growth is desired.

Yeager, T. H. 1996. Dwarf yaupon holly response to fertilizer application rate and frequency. HortTechnology 6(1): 41-45.

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