

**IDENTIFICATION OF THE LAST
EFFECTIVE FLOWER POPULATION
USING NODES ABOVE WHITE FLOWER**

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Abstract

Identification of the last effective boll population allows producers to make end of season management decisions that maximize profitability. The last effective boll (flower) population has been defined as the last developing group of flowers that has a high probability of being retained and developing into bolls with adequate size and fiber properties. The term flower value has been given to the measurement that combines boll retention and boll size to indicate the number of flowers needed in a population to produce one pound of lint. Nodes above white flower (NAWF) monitors the progression of the cotton plant's growth toward cutout. A node above white flower value equal to five has been identified as the last grouping of flowers that have a high probability of being retained and developing into bolls with adequate boll size and fiber properties. Three cotton cultivars, three nitrogen rates, and one PIX application were tested to determine the effects of each on the last effective flower population. Tamcot HQ95, Deltapine 20, and Stoneville LA887 were tested on a silty clay soil at the Northeast Research and Extension Center in Keiser, AR in 1994 and 1995. Both the HQ95 and Deltapine 20 showed NAWF 5 as the best estimate for the last effective flower population but the more determinant growth pattern of the HQ95 allowed NAWF =4 to have a lower flower value and thus be more important than the NAWF=4 population of Deltapine 20. LA887 showed NAWF 6 as the best estimate for the last effective flower population. The test on the effects of nitrogen treatment was conducted at the Cotton Branch Station in Marianna, AR on a silt loam soil using DPL51. The treatments included 0 lbs N/acre, 100 lbs N/acre, and 150 lbs N/acre. The 0 lbs N/acre showed NAWF 4 as the last effective flower population, while the 100 and 150 lbs N/acre proved NAWF 5 to be the best estimate of the last effective flower population. The PIX study included one control treatment with no PIX and one treatment with one application of 8 oz PIX/acre one week after first flower. The PIX application tended to increase retention and boll size for NAWF 6, 5, 4, and 3 thus lowering the flower values associated with each NAWF grouping. When all treatments and all locations were combined NAWF 5 was the best indication of the last effective boll population.