

†EFFECT OF DEFICIT IRRIGATION ON YIELD AND VEGETATIVE GROWTH IN ENGLISH WALNUTS.

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The project goal is to regulate vegetative growth by irrigation, without decreasing productivity. In 2002, three levels of stress, low, mild, and moderate, were imposed on two 'Chandler' orchards: a young 8th leaf hedge row, 30' by 18', and a mature, standard diamond 32' by 32' spacing. Grower cultural practices were maintained. Individual tree stress (midday SWP) was tracked by a pressure chamber to maintain target levels.

After two years of treatment, the hedge row orchard has shown a decrease in yield and light interception in both the mild and moderate stress treatments. The standard spacing orchard showed no significant decrease in yield or light interception. In 2004, the hedge row orchard had fewer floral terminals and an increase in the total number of dead / non-growing terminals, per area, as stress increased. Apparent differences between the two orchards to similar levels of stress are currently being investigated.