In trials with the cv. Thousand Headed wide spacing (76 × 60 cm) increased mean fresh weight, branching and leaf production. Close spacing (76 × 30 cm) significantly increased total leaf yield/ha but decreased leaf:petiole ratio/plant. Interaction between N (0 or 135 kg/ha) and spacing for yield was not significant. Supplementary irrigation increased leaf size of plants that were widely spaced and side-dressed with N. Side-dressing had no significant effect on quality of leaves but tended to increase total N and dietary fibre. Close spacing tended to increase dietary fibre and thiocyanate ion contents in the leaves. Side-dressing combined with irrigation generally increased nitrate N in the leaves.