Title: Growth parameters of trickle fertigated potato (*Solanum tuberosum*).

Authors: [Chawla, J. K.](http://www.cabdirect.org:80/search.html?q=au%3A%22Chawla%2C+J.+K.%22); Narda, N. K.

Journal: Indian Journal of Agricultural Sciences 2000 Vol. 70 No. 11 pp. 747-752

ISSN: 0019-5022

Record Number: 20003027035

**Abstract**

A field experiment involving potato cv. Kufri Chandermukhi using trickle and conventional furrow systems of irrigation was conducted in Ludhiana, Punjab, India, during October 1994 to January 1995, and October 1995 to January 1996. The effects of fertigation rate, frequency of urea application and wetted soil volume on various plant growth parameters were determined. . Fertigation was performed at intervals of 8, 12 and 16 days, and the soil volume was wetted to 50, 75 and 100% of the rooting depth. All the P and K (62.5 kg each/ha) and a quarter of the N (103 kg/ha) were applied basally in both trickle- and furrow-irrigated plots. The remaining N (309 kg/ha) was top-dressed in the furrow plot 30 days after planting (DAP) whereas in the trickle plot, it was applied using a 'venturi' in 6, 4 and 3 split-rates corresponding to 30, 60 and 100% of the full post-planting application rate. Fertigation started 31 DAP and the whole set of trickle fertigations was completed within 48 days, i.e. up to 79 DAP. Growth parameters were measured at regular intervals. Plant growth was better in the trickle-fertigated than in the furrow-irrigated crop. The highest values of leaf area index, ground cover and dry matter accumulation were 2.48, 59% and 18.98 g/plant, respectively, in the trickle fertigated crop, compared with 1.64, 36% and 9.8 g/plant, respectively, for the furrow-irrigated crop. The highest yield of fresh tubers in the trickle-fertigated crop was 36.29 t/ha with an average of 30.13 t/ha, compared with an average of 21.5 t/ha in the furrow-irrigated crop.