EFFECT OF SHADING ON GROWTH AND TUBER YIELD OF POTATO IN THE REGOSOL BELT OF LOWCOUNTRY DRY ZONE

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High temperature represents a serious limitation to the extension of potato production to warmer areas. A series of replicated experiments were conducted at the Agricultural Research Station, Kalpitiya during 1983/84, 1984/85, 1985/86 and 1986/87 Maha seasons (October to March), in order to identify a suitable environment to favour potato production in warmer areas using potato variety 'Desiree', and Ipil Ipil planted in avenues of Im and 2M as the shade crop.

In 1983/84 and 1984/85 seasons, shading the potato crop during the first four weeks had increased the tuber yield per plant by 20%. In 1985/86 and 1986/87 seasons the yield per plant had decreased in shaded treatment over unshaded control while the number of tubers per plant remained the same, suggesting that Ipil Ipil may compete with potato at closer avenue spacings as the Ipil plants mature. The 3m avenues when introduced in 1986/87 Maha, recorded higher tuber yield per plant over Im and 2m avenues and unshaded potato.

In separate experiment, artificial shade during first and last four weeks of potato had improved tuber yield by 20% and 40% over the live shade and unshaded potato respectively. Total carbohydrate content of 'Desiree' was higher when grown in upcountry than in the lowcountry and shading had improved the total carbohydrate content by 30% in the lowcountry experiment.