

Studies on crop weed competition in sugarcane variety Co. 775

Non weeding adequately at time reduces sugarcane productivity but impact has not been investigated in Sri Lanka. Irrigated trials i) Crop weed competition (CWC) & ii) Duration of weed control (DWC) were conducted in 1994/95 & 1999/2000 in Uda-walawe to fill the gaps in the knowledge. Effect of initial free weed-growth and initial weed-control until 3, 6, 9,12,15,18, 21, & 24 weeks after planting (WAP) were tested in CWC & DWC trials respectively and treated in RCBD in 1994/95. In 1999/2000, above treatments were tested in main plots in split plot design. Initial weed growth/weeding within-rows (60 cm wide stretch), between rows (80 cm wide stretch) and in whole plot were tested in sub plots.

Weed reduces sugarcane tillers (50 to 75%), height (10 to 30%), millable stalks and yield (6 to 75%) weed competition in early stages is more detrimental on crop growth and critical until about 12 WAP in irrigated sugarcane. Weeding after this would not contribute much to final yield. In adequately prepared land, first weeding could be delayed until 3 WAP without losses. Clean weeding until 3-6 WAP and followed by between row weeding increased millable stalks (19-34%) and yield (18-41%) than non-

weeding and within row weeding enhanced crop growth than weeding in between and non-weeding. Thus within row weeding until 3-6 WAP and weeding in between later (9-12 WAP) may be considered to get substantial yield. Blanket spraying or within-row spraying of in-expensive residual herbicide at planting couple with inter-row cultivation few weeks later to suppress between-row weeds is suggested as an efficacious and economical approach to control weeds in sugarcane.