

## The effect of weed interference with cotton in conventional and ultra narrow row spacing condition

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**Summary** To investigate the effect of weed interference duration on yield and yield components of cotton (*Gossypium hirsutum* L.) in conventional and ultra narrow row (UNR) condition, a field experiment was conducted at Sabzevar in 2014–2015. Experiment was conducted as factorial arrangement in a randomised complete block design with three replications. Experimental factors were conventional and UNR and duration of weed interference (0, 30, 40, 50 and 60 days after emergence). Row spacing in conventional and UNR were 20 and 70 cm, respectively. The result showed that that UNR had 13.24% and 59.47 lower weed density and weed dry matter compared with conventional, respectively. In ultra narrow row system, Cotton had more plant height, seed cotton yield, lint yield, biological yield and seed yield and less number of branches, boll number and boll weight

than conventional system. Increasing of interference duration was decreased plant height (18.31%), lateral branches (25.78%), boll number (37.04%), boll weight (44.86%), biological yield (44.25%) seed cotton yield (61.22%), lint yield (61.52%) and seed yield (60.80%). Fitted logistic regression function coefficients showed that the onset of yield loss was earlier (34.5 days after emergence) in conventional condition while in UNR condition the onset of yield loss was postpone to 41.64 days after emergence. In conclusion, results showed in both conventional and ultra narrow row condition, weed interference reduces seed cotton yield that this reduction was more in conventional than ultra narrow row condition.

**Keywords** Cotton, competition, ultra narrow row, interference, yield loss.