

RESPONSES OF THREE SORGHUM (*Sorghum bicolor* (L) Moench) VARIETIES TO SOME WEED CONTROL TREATMENTS.

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ABSTRACT

Sorghum (*Sorghum bicolor* (L) Moench) had no official recommendations for weed control in Egypt until now. For this reason six field experiments were conducted at Shandaweel Research Station during 2004 and 2005 summer seasons to evaluate the response of three varieties of sorghum namely Dorado, Shandaweel 6 and Giza 15 to weed control treatments. Two experiments were carried out for each variety to avoid the effect of shedding of tall on dwarf variety. Every experiment included six weed control treatments i.e. (1) Fluroxypyr. (Starane 20% EC) at the rate of 40 g/fed. (2) Triclopyr.(Garlon 48%EC) at the rate of 96 g/fed.(3) Fluroxypyr at the rate of 40 g/fed. + triclopyr at the rate of 96 g/fed. combination, (4) Atrazine (Gesaprim 80%WP.) at the of 400 g/fed. (5) Hand hoeing twice and (6) Unweeded check. The effect of these treatments on weeds, growth, yield and yield components of sorghum was studied. Results indicated that under untreated check treatments, the tallest variety Giza 15 seemed to have less weed infestation than Shandaweel 6 and Dorado varieties by 7.2 and 13.5% in 2004 season and by 3.5 and 16.9%, respectively in 2005 season. This may be due to the increase in plant shedding on weeds with the tallest variety. In general both hand hoeing twice or atrazine application gave significant consistent reduction in the total weight of weeds than other treatments. fluroxypyr or triclopyr or fluroxypyr + triclopyr combinations were very effective against broadleaved weeds, meanwhile atrazine was effective against broadleaved + grassy weeds.

Concerning the effect on forage and grain yield of sorghum, the highest yield increases were obtained by hand hoeing and atrazine ranged between 37.9 – 110% for forage yield and 58.2 – 130.5% for grain yield as compared to unweeded check, meanwhile triclopyr or fluroxypyr came in the second category for increasing forage and grain yield and minimizing weed competition . Such increases are mainly attributed to the improvement in yield components of 1000 kerenis weight , shelling percentage and weight of head.

Thus the previous mentioned herbicides can be recommended as alternative or complement to hand hoeing for minimizing weed sorghum competition and close the gap in weed control technology in sorghum crop, which consider an important cereal crop in Upper Egypt with a cultivated area of about 380000 feddans.