Project Title : Investigation on Weed Control on Chickpea Fields in Aegean Region

Start /End Date : 1994-1998

Supporting Body : GDAR

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Summary : This work was carried out under the IPM studies on chikpea in Aegean Region with aim to check the effectivity of chickpea evaluated herbicide in Region conditions, to determine the effect of different weed density on the chickpea yield, and to determine the carry over problem of checked herbisides to wheat rotated crop.

Herbicides were tested in İzmir, Bornova (h: 10m) and Denizli, Tavas (h: 870 m). Trifluralin 96 g/d as pre-plant incorporation, imazethapyr 2 g/d, terbutryn 100 g/d , linuron 95 g/d as pre-emergence and linuron 71.4 g/d as post-emergence at 10-15 cm growth stage of chickpea. Hand hoeing at 40 and 70 days after emergence and hand weeding at pod stage of chickpea were done. Post - emergence application of linuron had been 80-85 % phytotoxic to chickpea, but pre - emergence application of linuron, imazethapyr and terbutryn had not. Linuron , trifluralin , imazethapyr and terbutryn increased chickpea yield in Bornova location , but decreased in Tavas . Ones and twice hoeing increased chickpea yield, but hand weeding caused yield decrease because of the humidity loss from the soil. Air-dried weeds weight were 391.8 kg/d and 189.6 kg/d in Bornova location.

It was found that the herbicides Pursuit and Afalon give very good control to annual weeds sush as *Chenopodium album* and *Sinapis arvensis* withoit leaving any harmful effect to chickpea and can be recommended for effective weed control in chickpea fields.

Economic threshold level studies of weeds on chickpea were conducted in the experimental fields of Bornova Plant Protection Research İnstitute. As chickpea nursery is doing in places with different ecology it is obvious that the weed flora will be very different. So the result obtained from studies in the experimental fields of Bornova Plant Protection Researh İnstitute can't be adopted as an economic threshold level of weeds in chickpea for our country. İn the studies for determining the economic threshold level of weeds in chickpea it was found that the threshold level is due to change according to weed species, time of germination, duration of competition and vigour of weeds, but for the studies to be planed it is advisable to look for it between 0 and 50 weeds per meter square.

For determining of toxicity effect of experimented herbicides to rotated wheat crop in 1997 studies 1996 experiment conducted place, in 1998 studies 1997 experiment conducted places were used and wheat sowing had been done. As a result of studies it was found that herbicides when applied in recomended doses have no any toxic effect to rotated wheat.