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Changes in Weed Response to 2,4-D Application with 5 Repeated Applications
in Spring Wheat

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Abstract: 2,4-D amine and 2,4-D isooctylester were sprayed repeatedly in the spring of 5 consecutive years on spring wheat (*Triticum aestivum* L.cv.Kirik)in Erzurum during the years 1990-1994. The herbicide efficacy against all broad-leaved weeds and against the most common weed species was determined by comparing the number of weeds in untreated and treated plots. The most abundant weed species were *Polygonum aviculare*, *Amaranthus retroflexus* and *Chenopodium album* spring wheat. The effect of 2,4-D amine decreased after 3 or 4 years in *A. retroflexus*, *C. album*, *Convolvulus arvensis*, *Acroptilon repens*, *Lactuca serriola*, *P. aviculare*, *Cirsium arvense* and other broad-leaved weeds. Effects against *Sinapis arvensis* and *Sisymbrium altissimum* remained unchanged. The reduction in the effectiveness of Isooctylester on *A. retroflexus*, *C. album*, *C. arvensis*, *C. arvense*, *A. repens*, *L. serriola*, *P. aviculare* and other broad-leaved weeds was statistically significant, but the rate of decrease was not statistically significant for *S. arvensis* and *S. altissimum*. The resistance of *A. retroflexus* against isooctylester increased in the 4th year. The results indicate that the effects against some weeds of herbicides were reduced especially from fourth year. Therefore, the herbicides using against weeds should be changed periodically.

Key Words: 2,4-D, changes in effect of herbicides on weeds, spring wheat

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