

EFFECT OF WEED COMPETITION AT DIFFERENT PERIODS
THROUGHOUT THE GROWTH OF SOYBEAN
ON GROWING AND YIELD

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ABSTRACT

Two field experiments were carried out at the Agricultural Research and Experiment Station, Fac. of Agric. at Moshtohor in 1979 and 1980 seasons. This experiment included 8 treatments which were weedy for 21, 42, 63, 84, 105 days from planting beside weedy throughout the growing season, hoeing and weed-free throughout the grown season. The tallest plants were obtained by weed-free throughout the growing season and hoeing treatments followed by weedy for 21 days from sowing. Seed yield was reduced by leaving weeds to compete soybean plants over 21 days from planting. The depression reached to 50% approximately or more by weedy periods at 63 days from planting.

INTRODUCTION

Soybean plants are severely affected by weed competition. Many investigators reported that weed competition reduced soybean yield by 50-75% (Hammerton, 1974; Makarov and Vatahski, 1976 and Michael, 1976). The first 50-60 days after emergence are the critical period for weed competition for soybean (Harrison and Oliver, 1977; Kolesnikova and Blokhin, 1977; Sing and Mni, 1977; Burnside, 1978, and Mc Whorter and Anderson, 1979).

Keeping the soybean row-free from weeds for about one month after planting gave soybean yields equal to those from plots kept weed-free throughout the growing season (Wax and Slife, 1967 and Bianco *et al.* 1973). Soybeans competed effectively with wild cane (*Sorghum bicolor*), where plots were maintained free from other weeds during the first 4 weeks after planting (Zaveskey and Russ, 1970). Moreover, soybean yield was reduced when sick lepod (*Cassia obtusifolia*, L.) was allowed to compete for as little 4 weeks. The aim of this study is to investigate the effect of duration of weed competition in soybean to determine the critical periods of weed crop competition as well as to estimate the loss in soybean seed yield due to weed competition.

MATERIALS AND METHODS

Two field experiments were conducted at the Research and Experimental Station of the Faculty of Agriculture Moshtohor, Zagazig University in 1979 and 1980 seasons.