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GROWTH AND YIELD RESPONSE OF LINSEED (*LINUM USITATISSIMUM*) TO INTERROW SPACING AND NPK LEVELS

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ABSTRACT

The experiment was conducted at Oilseed Section Agriculture Research Institute, Tando Jam during winter 1993-94 to evaluate growth and yield response of linseed, Linum usitatissimum (Dufferin L.) to varying interrow spacing (10, 20, 30 and 40 cm) and NPK fertilizer levels (Control, 30-15-0, 30-15-10, 60-30-0, and 60-30-20 NPK kg ha^{-1}). Study envisaged that plant height, capsules/plant, seed weight/plant, seed index, oil content per cent and seed yield affected significantly by the NPK fertilizer treatments and row spacing. Increasing fertilizer level up to 60-30-20 NPK kg ha^{-1} and interrow spacing (40 cm) resulted in significantly increased plant height, capsules/plant, seed weight/plant, seed index, oil content. However, seed yield ha^{-1} was significantly higher in narrow row spacing (10 cm) with the same NPK fertilizer level.

INTRODUCTION

Agronomic practices such as planting pattern and fertilizer dressing play pivotal role in the stability of yield. Noviko (1975), Vasilenko and Tkachenko (1975) reported that combined application of 45-90-90 kg NPK ha^{-1}, increased seed yield by 14.10 per cent over control. Les and Popirlan (1981) applied 0-60 kg N, 0-90 kg P and 0-90 kg K ha^{-1}, to fiber flax, and found that seed yield ranged from 601 kg ha^{-1}, with no NPK to 830 kg ha^{-1} with higher NPK dose. Shaaban, *et al.*, (1982) conducted experiment with fiber flax, in which 0, 25 and 50 kg K/feddan were applied. They observed that Mauludi (1981) grown flax at row spacing of 10, 15, 20 and 25 cm with 2.5, 5.0 and 7.5 cm between plants. He found that yield increased (7.89 tonnes ha^{-1}) with increasing plant density (10x2.5 cm row and plant spacing). Guleria and Singh (1983) observed that a higher seed rate of 60 kg ha^{-1}. With a closer row spacing (20 cm) gave significantly greater seed yield than lower seed rate (30 kg ha^{-1}) with wider row spacing (40 cm). Thimmappa, *et al.*, (1983) conducted experiment with different seed rates (10, 20 and 30 kg ha^{-1}) in rows 15, 22.5 and 30 cm apart. Seed yield was higher under 30 kg ha^{-1} of seed rate (15 cm apart). However, number of capsules plant^{-1}, seed weight plant^{-1} and seed index was more under 30 cm row spacing. They further reported that the vegetative growth and oil content were also better under 30 cm row spacing.

Keeping the above facts in view, the present experiment was conducted to see the growth and yield response of linseed to varying row spacing and NPK fertilizer combination levels.

MATERIALS AND METHODS

A field experiment was conducted to see the growth and yield response of linseed to different row spacing (10, 20, 30 and 40 cm) and NPK fertilizer combination levels (0-0-0, 30-15-0, 30-15-10, 60-30-0, and 60-30-20 kg NPK ha^{-1}) at Oilseed Section Agricultural Research