RESPONSE OF LINSEED (*LINUM USITATISSIMUM* L.) VARIETIES TO VARYING FERTILITY AND IRRIGATION LEVELS IN VERTISOLS OF SOUTH-EAST RAJASTHAN

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**Abstract:** A field experiment was conducted during *rabi* seasons of 2000-01 and 2001-02 at Agricultural Research Station, Ummedganj, Kota to find out the suitable variety of linseed for fertility and irrigation. The experiment consisted of 24 treatment combinations, comprised of 2 varieties (Meera and Rashmi), 3 irrigation schedules (IW/CPE of 0.3, 0.5 and 0.7) kept in main plots and 4 fertility levels (0 kg N + 0 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup>, 40 kg N + 20 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup>, 80 kg N + 30 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> and 120 kg N + 40 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup>) in sub plots in split plot design with 3 replications. Maximum seed yield, contents of N, protein and oil and oil yield was recorded in Meera as compared to Rashmi. Significantly higher seed yield (15.47 q/ha) was recorded at IW/CPE of 0.5 which was 20.11 % higher than IW/CPE of 0.3. Significantly and maximum higher oil yield (662 kg/ha) and protein content (11.98 %) was recorded at IW/CPE of 0.5 and per cent increased was 11 and 10.7 over IW/CPE of 0.3. The higher seed yield (17.48 q/ha) was recorded by application of 80 kg N + 30 kg P<sub>2</sub>O<sub>5</sub>/ha, which was 22.2 and 92.1 % higher over 80 kg N +20 kg P<sub>2</sub>O<sub>5</sub>/ha and no fertilization. The oil content (42.80) and oil yield (753.60 kg ha<sup>-1</sup>) also significantly increased by 3.62 and 12.2, 26.82 and 115.70 per cent at 80 kg N +30 kg P<sub>2</sub>O<sub>5</sub>/ha over 40 kg N +20 kg P<sub>2</sub>O<sub>5</sub>/ha and 0 kg N +0 kg P<sub>2</sub>O<sub>5</sub>/ha, respectively.

**Keywords:** N content, Oil yield, Protein content, Seed yield

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