J Food Process Technol 2018, Volume 9
DOI: 10.4172/2157-7110-C4-087

Effect of nitrogen fertilizer and seeding rate on growth, yield and oil quality of canola *Brassica napus* L

Saifaddin S Ali
Salahaddin University - Erbil, Iraq

This study was conducted at Girdarasha research fields, College of Agriculture, University of Salahaddin-Erbil-Iraq, during the winter season of 2011-2012 to determine the effect of seeding rates and nitrogen fertilizer on growth, yield, yield components and quality of canola (*Brassica napus* L.). Split plot designs with four replicates were used, main plots represented by four nitrogen rates (0, 100, 200, 300 kg N/ha), while sub plots were represented by three levels of seeding rates (5, 6, 7 kg/ha). The following results were obtained: Seeding rate of 5 kg/ha led to elongate the duration from emergence to inflorescence, increase of leaves number and total leaf area at 134 days from seeding, and led to increase of plant height, number of primary branches, then the number of siliques in compare to other seed rates, but the 7 kg/ha seed rate elongate the period from inflorescence to physiological maturity and the period from emergence to physiological maturity. Seeding rate of 5 kg/ha led to obtained the highest seed yield (2.2 ton/ha), oil content (30.07%) oil yield (643.4 kg/ha) and oleic acid (56.20%), but led to obtained lowest stearic acid (1.58%), while low erusic acid content of oil occurred at 6 kg/ha. Highest oil percentage (31.62%) was recorded by the nitrogen control treatment (0 kg N/ha), but the highest protein content (27.4%) were obtained with 300 kg N/ha. 200 kg N/ha had a role in increase of oleic acid oil percentage (56.97%) and decrease of palmatic acid oil percentage (6.67%), linoleic acid (21.99%), linolenic acid (9.95%) and the best decrease of eurosic acid (0.57%). Significant effects of interaction between nitrogen fertilization and seeding rate occurred on some traits. The highest of seed yield (3.6 ton/ha), oil yield (1.0 ton/ha), protein content (27.9%), number of siliques/plant (919.5 siliques), number of seeds/silique (26.5 seeds), and highest seed weight (4.29 mg), were obtained from the interaction between the rate of (300 kg N/ha and 5 kg seed/ha), while the highest of oleic acid (60.43%), and lowest palmatic acid (5.92%), linoleic acid (19.96%) and linolienic acid (9.17%), were obtained from the interaction between the rate of (200 kg N/ha and 5 kg seed/ha).

saifhariry@yahoo.com