**Light Interception and Radiation Use Efficiency of Rapeseed Under** **Different Row Spacing as Second Crop**

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Production of dry matter, as a function of absorbed light during crop growth period and radiation use efficiency (RUE), is a function of canopy structure. Steady distribution of plant is effective on suitable distribution of light inside the canopy, therefore, important effect of planting arrangment on producing of the product, is mainly because of difference in quality of solar energy distribution that consequently, leads to increase in light absorption and higher yield. One of the techniques for this objective, is change in row space. For this purpose, we examined the effect of row space on quantitative and qualitative assesment, Light Interception and radiation use efficiency four rapeseed (*Brassica napus* L.) cultivars was investigated in a paddy fields as second crop after rice at Rice Research Institute of Iran (Rasht), during two growing seasons. The experiment was conducted as a split plot in randomized complete block design with four replications. The main plots consisted of four rapeseed cultivars: Hyola308, RGS003, PF7045/91 and Hyola401 and the subplot were three row spacing: 20, 25 and 30 cm at constant plant densities (40 plant/m2).

Results showed that PF7045/91 produced the highest grain yield (2043 kg/ha), oil content (34.19 %), oil yield, biologic yield, number of siliques per plant and number of first and secondry branches and plant height. The highest grain yield (1777 kg/ha), oil content (33.35 %), and oil yield were obtained in 20 cm row spacing. Results also showed that PF7045/91 ranked the first in light interception (LI%) (75.5%) and radiation use efficiency (RUE) (2.33 g/MJ) and row spacing of 20 cm showed the highest light interception (68.5%). Results showed that PF7045/91 produced the highest crop growth rate (CGR) (5.45g/m2.9GDD), leaf area index (LAI) (2.02) and net assimilation rate (NAR) (8/31 g/m2.9GDD), which were significantly higher than the rests. Row spaces of 20 cm ranked the first in CGR (3.76 g/m2.9GDD), LAI (1.94), NAR (5.23 g/m2.9GDD) which were significantly different with other row spaces in LAI and NAR indices.

**Key words:** Light Interception, Radiation Use Efficiency, Rapeseed (*Brassica napus* L.), Row spacing, Growth Indices, Grains Yield.