

عنوان مقاله:

Oil concentration in canola (*Brassica napus* L.) as a function of environmental conditions during seed filling period

محل انتشار:

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خلاصه مقاله:

Oil concentration (OC) in canola (*B. napus* L.) is determined during seed filling period (SFP), and the variation in OC is greatly related to environmental conditions during that period. To determine factors affecting OC in canola, 12 field experiments were conducted at Agricultural Research Station of Gonbad, Iran, during 2000-07. The experiments were carried out under different growing conditions. The regression functions were fitted to the data of each group of genotypes, over years and experiments. Increasing SFP was a determinant factor for increasing OC. Oil concentration was affected by the duration of SFP, which was maximized when plants of both genotypes (open pollinates and hybrids) were exposed to lower temperatures. There was a linear negative relationship between air temperature during SFP and OC. High temperatures, accelerated the rate of plant development, lowered the length of SFP, and reduced OC potential. In both group of genotypes, the variation of OC was explained by rainfall during SFP, and temperature and radiation interactions during the period, as showed by photothermal quotient (PTQ). There was a positive logarithmic relationship between PTQ during SFP and OC. The relationships of OC with duration of SFP, and temperature, PTQ and rainfall during SFP over years, sowing dates and genotypes showed that these variables are generally applicable in canola OC determination.

کلمات کلیدی:

Oil content, Genotype, Seed yield, PTQ, Temperature

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