

(*Brassica napus* L.)



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Estimating of Planting and Supplemental Irrigation on Dry Matter Distribution In Canola Cultivars (*Brassica napus* L.)

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Abstract

In the area with terminal heat and drought stress such as Gonbad, allocation of produced dry matter to reproductive organs is of great importance. In order to evaluate the effect of different temperature and moisture regimes on dry matter distribution and harvest index of canola an experiment was conducted at Agricultural Research Station of Gonbad during 2005-2007. The experiment was a RCBD arranged in a split-plot in two conditions, i.e. supplemental irrigation and rainfed. Five sowing dates (6 Nov., 6 Dec., 4 Jan., 5 Feb. and 5 Mar.) were selected as main plots and two cultivars (Hyola401 and RGS003) were chosen as subplots. In both years of the experiment, at the beginning of seed filling period, the mean accumulated dry matter in reproductive organs, green leaves and stem at supplemental irrigation was more than that of rainfed conditions. There was not any difference for stem accumulated dry matter between the beginning of flowering and seed filling. The considerable differences between these two stages were a decrease in relative proportion of accumulated dry matter in green leaves and an increase in accumulated dry matter in reproductive organs. Supplemental irrigation did not significantly affect the mean harvest index, but it increased seed yield, due to an increase in aboveground dry matter. In all treatments, seed yield of Hyola401 hybrid was more than that of RGS003, due to higher harvest index. The relations of sowing date and supplemental irrigation with dry matter distribution, can be used in crop modeling.

Keywords: Canola, Dry matter distribution, Harvest index, Sowing date, Supplemental irrigation

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