

## Inner Quality Parameters of Rapeseed (*Brassica napus*) Populations in Different Sowing Technology Models

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**Abstract :** Demand on plant oils has increased to an enormous extent that is due to the change of human nutrition habits on the one hand, while on the other hand to the increase of raw material demand of some industrial sectors, just as to the increase of biofuel production. Besides the determining importance of sunflower in Hungary the production area, just as in part the average yield amount of rapeseed has increased among the produced oil crops. The variety/hybrid palette has changed significantly during the past decade. The available varieties' palette has been extended to a significant extent. It is agreed that rapeseed production demands professionalism and local experience. Technological elements are successive; high yield amounts cannot be produced without system-based approach. The aim of the present work was to execute the complex study of one of the most critical production technology element of rapeseed production, that was sowing technology. Several sowing technology elements are studied in this research project that are the following: biological basis (the hybrid Arkaso is studied in this regard), sowing time (sowing time treatments were set so that they represent the wide period used in industrial practice: early, optimal and late sowing time) plant density (in this regard reaction of rare, optimal and too dense populations) were modelled. The multifactorial experimental system enables the single and complex evaluation of rapeseed sowing technology elements, just as their modelling using experimental result data. Yield quality and quantity have been determined as well in the present experiment, just as the interactions between these factors. The experiment was set up in four replications at the L&acute;t&acute;k&acute;p Plant Production Research Site of the University of Debrecen. Two different sowing times were sown in the first experimental year (2014), while three in the second (2015). Three different plant densities were set in both years: 200, 350 and 500 thousand plants ha<sup>-1</sup>. Uniform nutrient supply and a row spacing of 45 cm were applied. Winter wheat was used as pre-crop. Plant physiological measurements were executed in the populations of the Arkaso rapeseed hybrid that were: relative chlorophyll content analysis (SPAD) and leaf area index (LAI) measurement. Relative chlorophyll content (SPAD) and leaf area index (LAI) were monitored in 7 different measurement times.

**Keywords :** inner quality, plant density, rapeseed, sowing time

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