

The influence of the cultivar and the cultivation technology on the yield of leaf cabbage (*Brassica oleracea* var. *palmifolia*)

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Abstract: The production of vegetables in the countries of the European Union increased by more than 34% (1970-2020) in the large producing countries, by increasing the yield, in the conditions of the decrease of cultivated areas. Kale is a leafy vegetable which tolerates low temperatures, being feasible for both in field and protected cultivation in Transylvania's climate conditions. The aim of this research was to evaluate the production of two cultivars of kale ('Red Siberian', 'Black Tuscany'), influenced by plant height and facial fertilization, produced in solar. The two kale cultivars were cultivated in 2023 year in a high tunnel, in Colina Farms, which is located in Băbuțiu village – Cluj County. Genotype is of great importance in achieving high production. The most valuable variety, in terms of total production, turned out to be Siberian Red, with an average production per experience of 6.9 kg/m². Following the unilateral analysis of fertilization on production, it is observed that the plants of the organically fertilized variants achieve a lower production by 1.35 kg/m², compared to chemical fertilization (7.09 kg/m²).

• Introduction

In our country, green leafy vegetables are cultivated on small areas, mostly in small gardens, although they have low requirements regarding pedo-climatic conditions and easy technology of culture. Kale is a leafy vegetable which tolerates low temperatures, being feasible for both in the field and protected cultivation in Transylvania's climate conditions.

The aim of this research was to evaluate the production of two cultivars of kale ('Red Siberian', 'Black Tuscany'), influenced by plant density and phasial fertilization, produced in solar.

• Material and method

Two kale cultivars were cultivated in 2023 year in a high tunnel, in Colina Farms, which is located in Băbutiu village – Cluj County.



Fig. 1. Black Tuscany

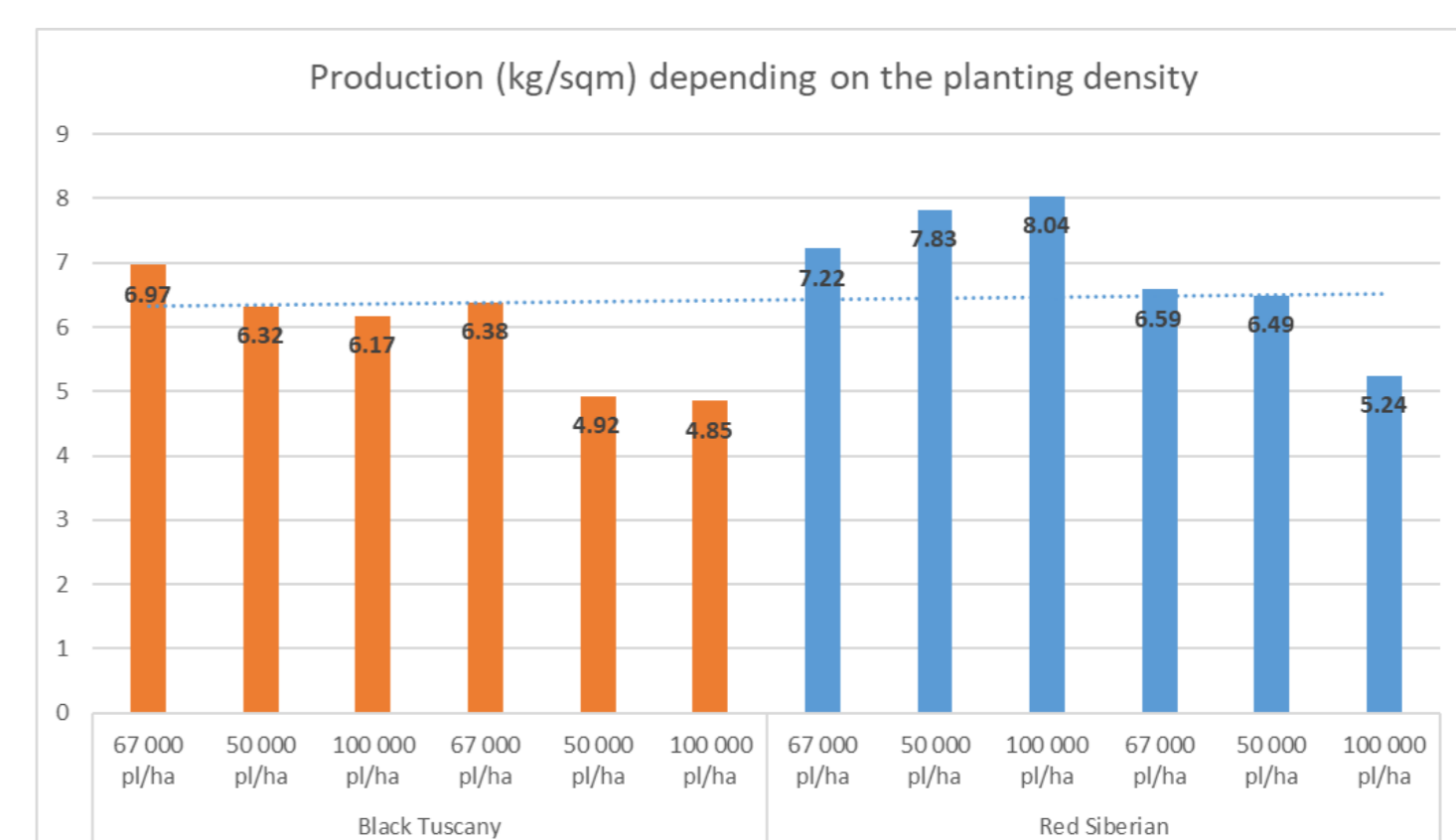


Fig. 2. Red Siberian

Each experimental variant had three repetitions, having an area of 7m². During the vegetation period, the morphological characters of the cabbage leaves were monitored, consisting of: petiole length, leaf limb length, leaf limb width, limb mass and total leaf mass. During the course of the experiment, the total production was determined by weighing, on repetitions, and reporting was done in kg/m².

• Results and discussions

Genotype is of great importance in achieving high productions. The most valuable variety, in terms of total production, turned out to be Siberian Red, with an average production per experience of 6.9 kg/m². Following the unilateral analysis of facial fertilization on production, it is observed that the plants of the organically fertilized variants achieve a lower production by 1.35 kg/m², compared to chemical fertilization (7.09 kg/m²).



Under the unilateral influence of plant thickness on production, it can be observed that the highest productions on average per experience were obtained at the density of 67,000 pl/ha, with values of 6.79 kg/m², without statistically ensured differences compared to the other densities.

• Conclusions

The production of green cabbage in the solar system was high in the conditions of Transylvania, as a result a possible source of income for farmers, having the advantage of a simple culture technology. In this study, it was proven that the Siberian Red variety has a higher production capacity, being recommended to farmers.