



16-17 November 2023

Comparative Study on the Cultivation of Two Wheat Varieties in the Area of Cenei, Timiș County

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Abstract: *Cultivating wheat holds immense importance in Romania's agricultural landscape, profoundly impacting production and the economy. Variability in yield, quality, and adaptability of wheat varieties necessitates careful selection based on regional characteristics. In the town of Cenei, Timiș County, a comparative study of Trublion A and Sophie CS wheat varieties is underway for the 2022-2023 season, considering geographic and climatic nuances. Emphasizing yield, quality, stress resistance, and cultivation efforts, the results will guide farmers in choosing optimal varieties, enhancing sustainability, efficiency, and economic benefits in the dynamic agricultural environment of the region.*

• Introduction

In the framework of the EU's seventh Environmental Action Programme and the drive for a low-carbon economy by 2050, agriculture is a key player. Romania, a significant agricultural producer in the EU, embraces sustainable practices. With a focus on wheat, a staple in human diets, this study explores the adaptation of Sophie CS and Trublion varieties to local conditions. Climate change challenges, disease management, and the broader impact of wheat cultivation on agriculture and society are discussed. The findings underscore the ongoing importance of wheat, emphasizing the need for sustainable practices in crop development and management.

• Material and method

In the unique context of Romania's varied regions during the 2022-2023 agricultural year, this study scrutinized wheat cultivation. Focusing on Sophie and Trublion varieties under uniform conditions, the approach incorporated minimal tillage and the beneficial no-till system. Application of complex fertilizers, meticulous disc harrow passes, and strategic phytosanitary treatments aimed to combat weeds, diseases, and pests. These methods, particularly crucial in the vertisol-type soil, provided essential context for understanding wheat cultivation performance amid the specific climatic challenges of the year.

• Results and discussions

In the 2023 agricultural year, the Trublion variety in Cenei demonstrated resilience to local soil techniques, showcasing robust growth with an average of three spikes per plant. Despite minor challenges with diseases and pests, Trublion thrived, displaying adaptability to temperature changes. By June 1, 2023, the crop exhibited impressive results, affirming its potential for future yields.

Sophie CS faced initial uneven emergence but rebounded, showing resilience to temperature fluctuations and effective management of diseases and pests. By June 1, 2023, Sophie CS presented healthy growth with an impressive spike density, solidifying its viability for future yields in the region.

• Conclusions

In the 2022-2023 agricultural season, the wheat crops of Sophie CS and Trublion varieties exceeded expectations, showcasing remarkable yields of 7067 Kg/ha and 6911 Kg/ha, respectively. Despite initial challenges, the long-term evaluation revealed consistent performance, emphasizing the importance of considering environmental factors, cultivation technology, and variety genetics. Both varieties proved to be highly productive, underlining the need to adapt planting density based on specific circumstances. The success of wheat crops hinges on a comprehensive understanding of these factors to achieve optimal and sustainable results.

Acknowledgement: Support was also received by the project Horizon Europe (HORIZON) 101071300 - Sustainable Horizons -European Universities designing the horizons of sustainability (SHEs)