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CONVISO SMART TECHNOLOGY: WEED CONTROL IN THE SUGAR BEET OF THE FUTURE IS A NEW SOLUTION TO OLD PROBLEMS

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The aim of our study was to investigate the new CONVISO®SMART technology for weed control in sugar beet.

Two factors were investigated: Yield potential of sugar beet hybrids of CONVISO®SMART technology; Effectiveness of CONVISO®SMART system in controlling weed population. The experimental plots were randomized, in 4 repetitions, in the period 2018-2022.

Results of variety testing. The first testing in 2018 of sugar beet hybrids of the new technology revealed that the initial lineup was low in genetic potential and averaged cca. 83.1% of the standard. The best of all new hybrids was SM Gioconda 5K 620, which achieved 101.7 % in terms of purified sugar yield per ha compared to the standard.

Herbicide testing results: the first test in 2020 of the CS systems for weed control performance compared to the classical protection system found that the CS system provided 4.44 tons of sugar harvest per 1 ha (100 %) compared to the classical system, which provided 4.26 tons of sugar harvest per 1 ha (95.9 %). Sugar harvest in the 1st control without protection was 1.88 tons/ha (42.5 %).

Finally: 1. The yield potential of sugar beet hybrids of CONVISO®SMART technology is at a high level and provides high indicators of purified sugar collection – 111.3-115.5 % in relation to the standard; 2. The efficiency of CONVISO®SMART system in controlling the number of weeds is sufficient to control the number of weeds, which allows to provide sugar collection at the level of the existing classical scheme of plant protection against weeds – 100 %, but in combination with other herbicides provides results - 115.1 %; 3. These results are implemented in production in the period 2018-2023 and the area of sugar beet crops in RM for 5 years has grown to 7-8000 ha (70 % of the total area), which clearly demonstrates the effectiveness of this technology.

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