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# EVALUATION OF STRIP-TILLAGE SYSTEM IN COMPARISON WITH OTHER TECHNOLOGIES IN THE SUGAR BEET PRODUCTION

## ABSTRACT

In the climatic conditions of Poland, the sugar beet (*Beta vulgaris*) is the only raw material for the production of sugar (sucrose). Sugar, whereas, is the raw material or addition to many food industry products, fermentation, pharmaceutical and others.

Regardless of the use of sugar beet roots, it is important to obtain high quality of the yield, both in terms of internal and external quality.

In many Western European countries, as well as in Poland, greatly increased the interest in simplifications in cultivating, that are commonly used for many years in the USA and Canada. Foreign research proves that the strip-till technology in the cultivation of sugar beet, provides the high root yield that has high quality, thus giving the expected economical effect, while minimizing interference in the natural environment. To date, scientific research in the field of technology cultivation of sugar beet production in Poland did not include strip tillage. The usefulness of this technology for the cultivation of sugar beets consequently requires carrying out scientific research, and on this basis, the agrotechnical evaluation and assessment of meet the quality requirements of sugar beets.

Therefore, the aim of the study was the analysis of simplified production technologies of sugar beets in terms of crop yield and internal and external quality of the yield, and an indication of such technological solutions in the range of soil cultivation in sugar beet production, which will be beneficial in terms of agricultural technology.

In order to execute the aim of study in 2011 and 2012 it was established one-factor experiment in two-way classification model in the set of complete random blocks. Experimental facility consisted of six sugar beet cultivation technology, including strip-till technology, diversified in terms of stubble tillage, type of mulch and pre-sowing cultivation system and depth of tillage.

The results indicate that the simplification in tillage in the sugar beet production process involving the strip-till systems do not cause decline in root yield, nor the lower values of the internal and external quality, while reducing the costs of cultivation.