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THE EXTRACTING OF SACCHAROSE FROM THE BEET COSSETTES OF DIFFERENT TYPES

The process of sucrose extraction from the beet cossettes of different cross-sections has been researched. Quality and mechanical characteristics, sucrose loss in pulp, raw juice quality and energy cost depends on the profile of the shape beet cossettes.

The beet cossettes of triangle and grooved profiles obtained on centrifugal beet slicers using specially sharpened and set in a special way blades has been analyzed. The research was conducted on two parallel production lines. Extractors DC-12 installed in these lines have the same construction at the identical technological modes.

In this study there was made a comparison of a basic high-quality descriptions of the beet cossettes indicators of grooved and triangular cross-sections and determined the sucrose content in the extracted pulp of the cross-sections. The average value of defect ratio of the triangle profile pulp is 35 % less comparing to the grooved profile pulp. The average value of the Swedish factor for the triangle cossettes cross-sections is 42 % more than for the actual rate for the grooved cross-sections. Average value of sucrose content in the pulp for triangular profiles is 0.45 % by the weight of pulp and for grooved one — 0.50 %. So, the cossettes with a triangular cross-section are more than 10% better extracted in industrial diffusion devices at the identical technological modes. This can be explained by increased mechanical strength of triangular cossettes (greater resistance to bending moment) and fewer defect ratios. Increasing the mechanical strength of the cossettes and reducing the number of defect ratio leads to:

- counterwork to the cossettes layer compression by the fluid flow and increasing its porosity, that provides good cossettes washing with extractant;
- reducing dead zones;
- steady transition of the diffusion by transport systems equipment.

The triangular profile cossettes being at the same technological mode, has better quality characteristics and better extraction compared to grooved one.

KEY WORDS: *cossettes, triangular, plane-comb, extraction, cross-section*