# RESEARCH OF GRANULES PROPERTIES WITH ANTIDIABETIC EXTRACT FROM HERBAL RAW MATERIAL

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Diabetes mellitus is one of a public health problem and a cause of death, disability, and cost in the Ukraine. Therefore, the development of new antidiabetic drugs in convenient oral dosage forms is relevant.

In the National University of Pharmacy at the Department of Pharmacognosy under the guidance of prof. Kovalev V.N. it has been obtained soft extract from herbal raw material, which has a specific hypoglycemic activity. The extract has a dark brown color, a faint specific odor, a salty-bitter taste.

The purpose of our work was to investigate technological properties of granules for development of tablets with this soft extract.

Tablets were obtained with the use of the wet granulation method. The soft extract was dissolved in a definite amount of purified water. Then auxiliary matters from the groups of diluents, disintegrants and moisture regulators were wetted with the solution of soft extract. Tablet mass was rubbed through the sieve. The obtained granules were dried at low temperature and calibrated through the sieve with the size of orifices 1 mm. After that granules with soft extract were dusted by magnesium stearate.

The technological properties of granules with antidiabetic extract from herbal raw material were researched. The granules moisture content was 5±0.9 %. The flowability of granules were investigated without lubricant and with magnesium stearate. The antifriction agent slightly increased the flowability of granules. The granules without lubricant had flowability 14.1±0.5 sec/100 g of a sample, with magnesium stearate 12.7±0.5 sec/100 g of a sample (without vibration of an apparatus funnel). The angle of repose was 36±2 °, the Compressibility Index was 17.1±0.02 % and the Hausner Ratio was 1.2±0.03. The bulk density was 0.4±0.02 g/ml, the tapped density was 0.48±0.01 g/ml.

The experimental results of the technological properties determining of the tablets granulate, as well as the calculated Compressibility index and Hausner Ratio allowed us to estimate the characteristics of the granulate as fair. It was possible to predict the volume of the matrix channel by the value of the bulk density.

Thus as a result of the science-based experiment technological parameters of granules with antidiabetic extract from herbal raw material were defined for further obtaining qualitative tablets.