

## STUDY OF LIPOPHILIC FRACTION OF SUGAR MAIZE COLUMNS AND STIGMAS

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Subtype conventional sugar maize is becoming increasingly common in the economy of Ukraine. A variety of chemical composition and a wide range of applications in medicine of maize columns and stigmas indicates the rationality of study of herbal drug harvested from genetically enhanced form of maize – sugar content gene carrier sugary-1.

In the experiment, grinded raw material exhaustively extracted with chloroform in the Soxhlet apparatus, then concentrate and determined the content of lipophilic substances as calculated to the absolutely dry raw materials. The composition of lipophilic extracts include lipids, chlorophylls, carotenoids and other substances. Qualitative determination of chlorophylls and carotenoids was performed on TLC plates «Silufol» and «Sorbfil» in the solvent system: hexane - acetone (6:2) - the first direction; hexane - acetone (6:4) - the second direction. Localization of chlorophylls on chromatograms indicated by the green coloring, and in filtered UV light ( $\lambda = 366\text{nm}$ ) – by the bright red fluorescence. Carotenoids identified in visible light as yellow and orange spots, and in filtered ultraviolet light - as brown spots. Chromatograms were treated with 10% solution of phosphoric-molybdenum acid and kept in the oven for 5-7 minutes at 80-90 ° C. Spots corresponding carotenoids become blue-violet. Analysis of content of pigments, which included in the group of chlorophylls was determined by spectral method at photocolorimeter. Analysis of content of carotenoids was determined by spectrophotometric method ( $\lambda=450\text{nm}$ ).

Lipophilic extract of maize columns and stigmas had yellow-garnet color, a faint characteristic odor and thick homogeneous consistency. The lipophilic fraction output, so as chlorophyll and carotenoids content are given in the table 1.

*Table 1*

Content of lipophilic substances, chlorophylls and carotenoids  
in columns and stigmas of maize sugary-1

Herbal drug	Content of lipophilic substances, %	Amount of chlorophyll content, %	Amount of carotenoids content, %
columns and stigmas	3.54±0.10	0.50±0.01	186.23±1.42

Analysis of the chromatogram showed the presence of 4 substances referred to the chlorophyll and 7 substances of carotenoid structure in maize columns and stigmas. For the first time studied the lipophilic fraction of columns and stigmas of sugary maize - perspective herbal drug for the pharmaceutical industry.