the compositions of the fatty acids established from the results of GLC. In a comparison of the quantitative compositions of the fatty acids of the lipids of the pollen of species of willow and the pollen of species of the family *Rosaceae* attention is attracted by the presence in the lipids of the latter of an acid which we have not identified. In raspberry pollen it amounts to 26%.

The amount of unsaturated acids was highest in the lipids of the cherry pollen, and that of linoleic acid in the raspberry pollen. As can be seen from Table 1, triacylglycerides includes the 14:1, 16:2, and 17:2 acids the presence of which is uncharacteristic for the acids of higher plants. This is explained by the fact that pollen pellets [1] were subjected to analysis. At the present time, the supply of pollen for medicinal purposes has been set up and therefore a study of its chemical composition is all the more important since the pollen (pollen pellets) collected by bees from different plants may possess different medicinal effects [2].

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FATTY-ACID COMPOSITION OF PUMPKINSEED OIL

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In the preparation of the total extracts from unsaponified pumpkin seeds for investigating their amino acid composition, one of the stages of the technological process is defatting. Extraction is carried out usually with petroleum ether or chloroform. After the elimination of the solvent at 59-62°C followed by purification, a pumpkin oil is obtained which is assigned to the edible oils, and its refined form to the higher varieties of "salad" oil [1]. The fatty acids obtained from pumpkin seeds (varieties Mindal'naya, Mozoleevskaya, Ukrainskaya mnogoplodnaya, Volzhskaya seraya, Stofuntovaya, Vitaminnaya) are similar in external form and physical constants and in their basic indices they are similar to sunflowerseed and cottonseed oils [2]. The coloration of all the fatty oils from unpurified seeds is always the same — from cherry-red to cherry-brown with a green fluorescence.

We have investigated the compositions of the fatty acids of the oils by the TLC method. The oils were subjected to hydrolysis and esterification as described by Metcalfe et al. [2]. The fatty acid methyl esters obtained were analyzed on a Varian model 3700 instrument using a column (0.2 cm × 1 m) containing 10% of SP-2330 on Chromosorb WAW (100-120 mesh) at temperatures programmed from 150 to 220°C with a rate of flow of helium of 20 ml/min. For comparison, under the same conditions, we analyzed sunflowerseed oil, the fatty acid composition of which proved to be practically identical with that of the oils investigated.

The results of the GLC of the pumpkinseed oils are given below (%):

Acid	Vitaminnaya	Stofuntovaya	Mindal'naya	Mozoleevskaya	Volzhskaya seraya	Ukrainskaya mnogoplodnaya
Palmitic (16:0)	13,5	15,9	10,7	13,2	11,0	11,8
Stearic (18:0)	6,3	5,7	5,0	6,2	5,5	5,4
Oleic (18:1)	25,0	20,2	29,1	27,2	26,1	27,6
Linoleic (18:2)	55,2	58,2	55,2	53,4	56,4	55,2

As we see, all the oils studied have the same fatty acid composition the bulk being represented by unsaturated acids (18:1, 18:2). The results of the investigation performed permit the recommendation of the complex utilization of pumpkin seeds for the preparation of

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anthelminthic preparations.

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STABILITY OF STATIONARY CATALYSTS FOR THE LOW-TEMPERATURE HYDROGENATION OF COTTONSEED MISCELLAS

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The stability of a catalyst is an important technical and economic index of the desirability of its use.

We have studied the stability of nickel–copper–aluminum catalysts with no additives and with the addition of 7.5% of molybdenum [1] in a semi-industrial apparatus of the column type installed at the Kokand oils and fats combine.

We performed hydrogenation by two methods: By the "jet" method the miscella and the hydrogen were fed into the bottom of the reactor, and in the "drop" method the miscella was fed at the top and the experiments were performed in a closed system without the circulation of hydrogen.

As the solvent we used extraction gasoline and its hexane fraction. On hydrogenation in extraction gasoline we used a miscella refined under industrial conditions (with a concentration of 52.3%), and model samples of hexane miscella (concentration 50.1%) were prepared from extraction oil.

The stability of the catalyst was studied under a constant pressure of hydrogen of 300 kPa at a hydrogenation temperature of 90°C with a space velocity of feed of miscella of 1 h^{-1} and a space velocity of feed of excess of hydrogen of 30 h^{-1}.

The results obtained indicate that the activity of nickel–copper–aluminum catalysts without additives falls less intensively when hexane is used as the solvent – by 34.9% on working for 500 h as compared with a 42% fall in activity on working for 306 h in the continuous hydrogenation of a gasoline miscella. This may be due to the lower amount of organosulfur compounds (0.001135%) in hexane as compared with extraction gasoline (0.002168%).

The study of the stability of a catalyst promoted with molybdenum showed that after 550 h of work the fall in activity was 10.5% (cottonseed oil with iodine number of 110.7% I_2 was hydrogenated in gasoline containing 0.001388% of organosulfur compounds).

Consequently, promotion of a nickel–copper–aluminum catalyst increases not only the activity [2] but also the stability of the catalyst, which is apparently connected with its resistance to catalyst poisons.

For regeneration, the catalysts studied, which had lost 77.2% and 50.1% of their activities (catalyst without additives and catalyst with the addition of molybdenum, respectively) were defatted with extraction gasoline and were then subjected to heating in a muffle furnace at 500-550°C in a current of atmospheric oxygen for 10-11 h, after which they were reduced at a temperature of 200-220°C under a pressure of hydrogen of 300 kPa for 3.5-4 h. The results of hydrogenation with a gasoline miscella showed that after regeneration by calcination the catalysts had practically regained their initial activity.

Thus, after the fall in activity as a result of the poisoning with sulfur compounds, stationary nickel–copper–aluminum catalysts without additives and with addition of a promotor (Mo) can be regenerated, thanks to which the useful life of a single portion of catalyst is increased.

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