METHODS OF DETECTION OF OLIVE OIL ADULTERATION

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The special value of olive oil is that it contains 80% monounsaturated fatty acids, and also other biologically active substances: polyunsaturated fatty acids, vitamin E, carotenoids, sterols. Olive oil - a valuable food product and is therefore subject to tampering. The most common types of olive oil adulteration is to replace the high-quality oil low-quality oil and a full or partial replacement with cheaper oils.

The problem of detecting falsification olive oil settled large number of modern methods. Olive oil can be identified by the following physical parameters: density, refractive index, viscosity, iodine number. There is a method for determining the presence of olive-pomace oil in virgin olive oil. The method is based on the color reaction of olive-pomace oil with concentrated mineral acids. The method CE-tandem mass spectrometry was applied for the determination of the selected betaines in seed oils and extra virgin olive oil. In extra virgin olive oil, carnitines were not detected, making it possible to propose them as a feasible novel marker for the detection of adulterations of olive oils. There is a method of detection of olive oil adulteration with some plant oils by GLC analysis of sterols using polar column. An olive oil authenticity factor based on the summation of campesterol and stigmasterol percentages was established as an indicator of olive oil adulteration with vegetable oils. Falsification of olive oil can be determined by TLC. The chromatographic profile of vegetable oils can be used for identification of oils by the number of areas with specific values of relative mobility components.

To detect adulteration of olive oil can be used different methods. Considered methods are based on the determination of some specific components of olive oil, the physical parameters, the chromatographic profile of oil.

KEY WORDS: olive oil, adulteration, method of detection, authenticity factor