Abstract:

Usage of peach kernel oil in cosmetic & hygienic products is undeniable & it is used in different creams, shampoos as rejuvenating, moisturizing, strengthening factor. In Iran, it is also used for decreasing ear aches or ear congestion traditionally. Due to this fact that quite a lot of peaches are used in juice or conserve producing industries, kernels of them are remained as waste products of the factories. Thus, to produce peach kernel oil, these waste products are useful.

In this thesis by using the most modern extraction technology, digital Soxhelet was used to extract peach kernel oil. Temperature, concentration of solvents could be adjustable by this gadget & in a controllable condition extraction could be done. Extraction was performed with Hexan & Ethanol solvents & Hexan’s yield extracts were higher than Ethanol ones. To consider more, Hexan extraction was focused & with three different temperatures & 4 amounts of solvents, yield extracts were determined. As a result, increasing in temperature & concentration of solvent will lead to induction of yield extracts. In addition to digital Soxhelet extraction method, quantity of oil extraction by non-heating method (maceration in solvent) at room temperature was discussed & showed lower extraction to Soxhelet extraction. After considering amount & quantity of peach kernel oil, quality of oil was studied by defining fatty acids compositions of peach kernel oil. Using GC device, twelve fatty acids’ compositions were determined. Maximum amounts were for Oleic & Linoleic acids. Finally some routine experiments were done to find out more about different values & indexes of peach kernel oil.

Key words: oil extraction, fatty acids, Soxhelet, Gas chromatography