

The Comparison of Oil Chemical Properties in 8 Improved Soybean Varieties

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Abstract

The purpose of this research is chemical evaluation and finding oil extraction percent of 8 varieties of improved soy beans (J.K,TNS56, M9, M4, DELSOY4210, L11, DPX, 032). The raw extracted oil from soybeans (17-25%) were subjected to a series of chemical tests (and several physical tests) according to AOCS and AOAC methods of analysis. These tests involve oil extraction percent, amount of phospholipids and induction period measurement, percentage of nonsaponifiable matter (and their quantitative and qualitative identification), acid value, peroxide value, iodine value, fatty acid composition. Experimental means were compared using Duncan's multiple range test with 4 replications. DELSOY4210 variety in compare with the other investigated varieties is identified as the best soybean variety. In this research because of having the highest level of oil (25.3%) and oleic acid(about 26%), the lowest level of α linolenic acid (7.43%), high amount of tocopherol (about 23%), and suitable induction period. In addition, DPX variety has the highest amount of phospholipids, 032 highest percent of linoleic acid, M4 the most induction period, and the highest percent of tocopherol, because of noticed reasons, these varieties are worthy.

Key word: Soybean, Oil.