OIL PROFILE OF SOME GENOTYPES OF FLAX (*LINUM USITATISSIMUM* L.) MANUFACTURED IN THE STRUMICA REGION, REPUBLIC OF MACEDONIA

Mite Ilievski[1*], Ljupco Mihajlov[1], Dragica Spasova[1], Verica Ilieva[1], Natalija Markova Ruzdic[1], Pavle Vuckov[1]

[1]Faculty of Agriculture, University Goce Delchev - Stip, Krste Misirkov 10-A, 2400 Stip, Republic of Macedonia

[*]e-mail: mite.ilievski@ugd.edu.mk

Abstract

Flax (*Linum usitatissimum* L.) is an industrial crop and has great importance for humans and economy. For the production of large amounts of flaxseed oil, the oil industry needs flax genotypes which have higher oil content.

Analysis of five different flax genotypes, produced in the Strumica region, Republic of Macedonia, in 2014 and 2015 are made, with regard to the oil content in the flax seed. The experiment consisted of five variants in three repetitions, divided by the method of randomized block system. During the vegetation, standard farming practices for field flax production were used. Analysis of the fat content in flaxseed was made in the Laboratory for plant and environmental protection, at the Faculty of Agriculture, “Goce Delcev” University - Stip (No. LT - 028, Standard: MKCEN ISO/IEC 17025:2006). The fat content of the flaxseed was analyzed by Soxhlet method. The results were statistically processed by the method of analysis of variance, and the differences were tested by LSD - test.

The fat content in flaxseed of the tested genotypes ranged from 18.9% to 33.8%. All flax genotypes had higher percentage of fat content in the seed compared to standard Velušina, regardless the year of examination. So, Duferin genotype (27.7%) have 7.7% more fat content than the standard; Belan genotype (30.8%) - 10.8% more, Viking genotype (26.2%) - 6.2% more and Belinka genotype (30.9%) - 10.9% more. The difference of the fat content in the flaxseed is due to the variety specificity. The genotypes Belinka (30.9%) and Belan (30.8%) are characterized by the highest average fat content in the seed, regardless the year of production.

Belinka, Belan and Duferin are perspective genotypes for the oil industry, as they have higher fat content in the seed than the other analyzed genotypes.

***Key words**: Flax, Seed, Content, Genotype, Percent, Oil.*