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FUNKCIONALNA HRANA / LANENI PROTEIN

Miloš Nožinić[1], Novo Pržulj[2], Radoslav Grujić[3], Dejan Simić[1]
[1]Javna ustanova Poljoprivredni institut Republike Srpske, Banja Luka, Bosna i Hercegovina
[2]Poljoprivredni fakultet, Univerzitet u Banjoj Luci, Republika Srpska, Bosna i Hercegovina
[3]JU Visoka medicinska škola Prijedor, Republika Srpska, Bosna i Hercegovina

Na oglednom polju Poljoprivrednog instituta Republike Srpske (skraćeno Institut) u Banjoj Luci 2013. godine sprovedeno je poljsko istraživanje koje je uključivalo jedanaest sorti lana. Nastavak istraživanja u 2014. godini onemogućila je velika poplava. Prvi cilj istraživanja odnosio se na utvrđivanje prinosa sjemena i hemijski sastav lanenog sjemena. Relativno mali prinosi sjemena posljedica su suše. Ekstremno visoke julske temperature izazvale su djelimično kvarenje sjemena prije žetve. Za razliku od lanenog ulja, lokalni potrošači lanenih proizvoda nisu bili upoznati sa prehrambenim prednostima lanenog proteina. Drugi cilj studije odnosi se na upoznavanje potrošača sa ulogom lanenog proteina i njegovih komponenti u ishrani. Ovaj protein ima sličan sastav i sadržaj amino kiselina kao protein soje, a u nekim aspektima čak i bolje karakteristike. Tako laneni protein ima bolji odnos između lizina i arginina. Oba proteina imaju visok Fišerov broj (odnos između esencijalnih lančastih masnih kiselina i aromatičnih amino kiselina). Funkcionalna jedinjenja amino kiselina sa visokim Fišerovim brojem pokazuju korisne efekte u terapiji teških oboljenja jetre. Iako soja daje veći prinos proteina od lana, konačni prihod je veći kod lanenog sjemena zbog veoma visoke cijene lanenog ulja. Neka planinska područja (posebno područje Bos. Petrovca i Drinića) imaju odlične preduslove za organsku proizvodnju lana i lanenih proizvoda. Organizacija i certifikacija organske proizvodnje provodiva je samo uz podršku vladinih institucija. "Raspakivanje" lanenog sjemena na više funkcionalnih proizvoda predstavlja novi izazov za domaće istraživače. Buduće aktivnosti trebalo bi usmjeriti na iznalaženje što čistije tehnologije za izdvajanje lanenog proteina.

Ključne riječi: laneni protein, funkcionalna hrana, Fišerov broj, organska proizvodnja

FUNCTIONAL FOODS / FLAXSEED PROTEIN

Miloš Nožinić[1], Novo Pržulj[2], Radoslav Grujić[3], Dejan Simić[1]
[1]Public institution Agricultural institute of Republic Srpska, Banja Luka, Bosnia and Herzegovina
[2]Agricultural Faculty, University Banja Luka, Republic of Srpska, Bosnia and Herzegovina
[3]School of Applied Medical Sciences Prijedor, Republic of Srpska, Bosnia and Herzegovina

A field experiment which involved eleven flax varieties was conducted at the experimental site of the Agricultural Institute of Republika Srpska (abbr. The Institute) in Banja Luka in 2013. The continuation of the field research in 2014 was disabled by terrible flood. The first objective of the work was to determine the flaxseed yield and chemical composition. Relativelly low flaxseed yields on fertile soil were a consequence of summer drougt. Extremely high July's temperatures caused partial flaxseed rancidity before the harvest. Unlike flaxseed oil, the local consumers of flaxseed products have not been familiar with dietary benefits of flaxseed protein. For that reason, the second aim of this study was to provide basic information of the dietary functions of flaxseed protein and its components (functional food). This protein has similar pattern to soybean protein and in some respects even better characteristics. So, flaxseed protein has better lysine/arginine ratio. Both proteins have high Fisher's ratio (the ratio between essential branched and aromatic amino acids). Functional amino acid compounds with high Fischer's ratio show healing effects in the therapy of serious liver diseases. Though soybean provides higher protein yield than flax, the final income is higher with flaxseed due to very high price of flaxseed oil. Some mountain regions (Bos. Petrovac and Drinić) have excellent conditions for organic flax production. However, the organization and certification of organic production is feasible only with the support of governmental institutions. "Unpacking" of flaxseed on more functional food components or products (oil, protein, dietary fiber) presents a new challange for local researchers. Future activities should be focused on finding the cleanest technological process for the isolation of flaxseed protein.

Key words: flaxseed protein, functional foods, Fischer's ratio, organic production