

Comparison of the β -sitosterol Contents Among the Cereal Grains.

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수수, 조, 기장의 지역별 품종간의 β -sitosterol 함량 비교 분석

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Objectives

β -sitosterol is widely known as substance with that the former has anti-oxidant properties and free radical scavenging capacities and the later decrease of maintains the cholesterol levels and has effect on anti-inflammatory. This studies are performed for screening and comparing the distribution of these substance cereal grains according to characteristics of crop-regional origin, varieties by HPLC analysis.

Materials and Method

○ Plant materials

There were used by material for studying β -sitosterol contents variation among the Cereal grains. The samples used in this experiment were 5 sorghums, 5 millets, 5 panicums. The sixty cereal grains were cultivated and harvested from Bong-wha(Gyung-buk), Yeongyang(Gyung-buk), Milyang(Gyung-nam) and Kijang(Busan).

○ Preparation of samples

1. 60kinds of samples were grind.
2. sample was measured 5g and dissolved in ethyl acetate solution.
3. Then shaking for 24 hour.
4. Then evaporating and re-dissolved in 2ml ethyl acetate.
5. Treated samples were filtered with 42 μ m syringe filter (Nylon, TITAN)

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- HPLC setting
 - a. UV:210nm
 - b. Column: YMC-Pack ODS AL
 - c. Solvent- Methanol : Distilled Water= 98:2
 - d. Flow rate: 1ml/min
 - e. Injection volume : 20 μ l
 - f. Detect wave length: 210nm
 - g. Analysis time : 60 min

Results and Discussion

Cereal Grains(Sorghum, Millet, Panicum) are very important provisions resource. This experiments is to analysis about regional and varieties comparison of β -sitosterol. Sorghum contained the highest amount of β -sitosterol among three cereal different sorghum, millet, panicum types. Especially Tojong sorghum has the highest amount of β -sitosterol concentrations. Figure1 shows HPLC chromatogram of β -sitosterol concentrations in Kyungnam Milyang.

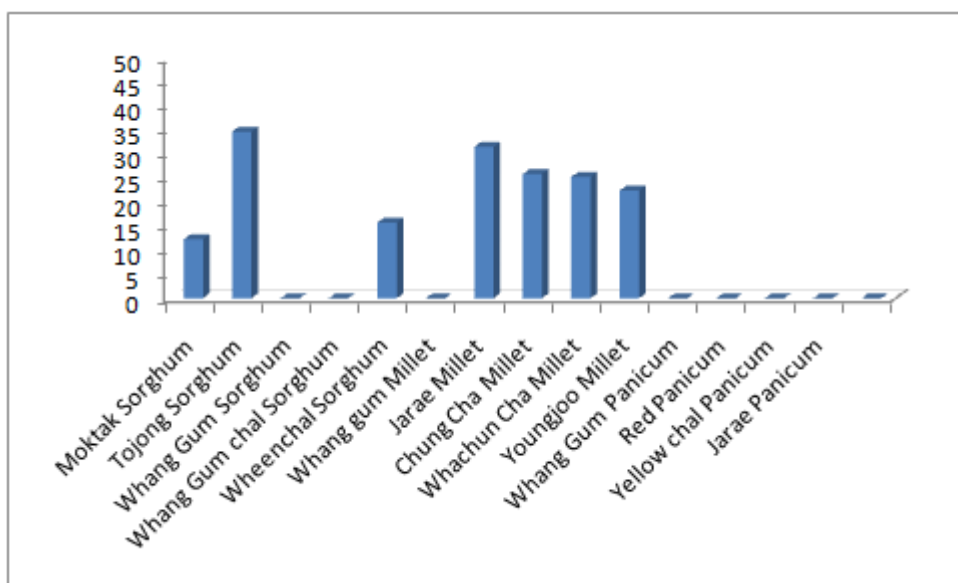


Figure 1. β -sitosterol concentration of cereal grain in Milyang