

2-methyl pentadecane, 2-methyl tridecane, hexadecane 등의 hydrocarbon류가 대부분을 차지하였고, linalool, nerolidol과 같은 terpene류도 확인되었다. 파프리카동결건조 분말에서는 총 32종의 화합물이 확인되었으며, 4-hydroxy- β -ionone, methyl hexadecanoate, methyl (Z,Z)-9,12-octadecenoate 등이 주요 성분이었다. 파프리카추출색소 분말 및 액상에서 확인된 휘발성 유기성분은 각각 65종씩이었으며, 조성은 동일하였다. 휘발성 유기성분 중 oleic acid의 ester류인 methyl- 및 ethyl (Z,Z)-9,12-octadecenoate가 주요성분으로 대부분이 fatty acid ester 형태가 확인되었다. 그 외에 sesquiterpene(C₁₅H₂₄)류가 주를 이루었으며, lactone류인 dehydroactinidiolide가 확인되었다. 이들의 휘발성 유기성분의 조성을 비교한 결과, 동결 건조된 파프리카에서는 고춧가루에서 확인되지 않는 특징적인 화합물인 2-octen-4-one과 2-nonen-4-one이 상당량 확인되었으며, 파프리카 추출색소에서는 dihydroactinidiolide가 확인되어 파프리카분말 및 파프리카추출색소 혼입을 판별하기 위한 지표물질로써의 가능성을 확인하였다.

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Effect of γ -Irradiation on the Volatile Compounds of Astragali Radix

(*Astragalus membranaceus* Bunge)

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The study was carried out to find the effect of gamma irradiation on the volatile compounds in Astragali Radix (*Astragalus membranaceus* Bunge). The volatile organic compounds from Astragali Radix and irradiated Astragali Radix with doses of 1, 3, 5, 10 and 20 kGy using ⁶⁰Co were extracted by simultaneous steam distillation and extraction (SDE) method and identified with GC/MS analysis. A total of components from non-irradiated and irradiated Astragali Radix at 1, 3, 5, 10 and 20 kGy were 36, 37, 36, 37, 32 and 36 respectively. The major volatile organic compounds were 2-ethoxy propanol, hexanal, 2-pentyl furan, (E,E)-2,4-decadienal. The types of volatile compounds in irradiated Astragali Radix were similar to those of unirradiated samples but the concentrations of these compounds differed between treatments. As a whole, the profile of composition volatiles of Astragali Radix did not changed with irradiation. Our result suggests that application of gamma irradiation at high dose did not bring any significant loss in total content of volatile flavor compounds of Astragali Radix. Therefore, application of high-dose irradiation if required for microbial decontamination of Astragali Radix was feasible; as it did not undergo loss of volatile compounds when subjected to such ionizing doses.