

Comparison of Antioxidant properties of selected medicinal plants with different ages in different location

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실험목적 (Objectives)

Differences in the Antioxidant properties of selected medicinal plants in different locations need to be verified. The objective of this study was to evaluate the antioxidant properties of different location and ages.

재료 및 방법 (Materials and Methods)

○ 실험재료

Samples were taken from three areas from different provinces namely: Bonghwa, Damyang and Hwasun.

○ 실험방법

Measurement of electron donating capacity

The electron donating capacity was analyzed using a method modified from the procedure described by Yen & Chen (1995).

Measurement of Reducing power

The reducing power of extracts was determined by the method of Oyaizu as modified by Chang et al. using extract solutions of concentration 0.1-1.0 mM GAE.

Measurement of Total phenolic compounds

Total phenolic compounds were determined using the procedure by Zielenski and Kozłowska (2000).

실험결과 (Results)

Results show that in the case of EDA, plants collected in Hwasun is higher than Bonghwa. Also, EDA is higher root part than in shoot part for plants collected in Hwasun ; the opposite is observed in Bonghwa plants root part is higher than root parts. Samples collected in Hwasun exhibited higher amount of Total phenolic compound than samples from Bonghwa.

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In the case of *Paeonia japonica*, Plant in the Damyang was higher than Hwasun in value of EDA. Accordingly, EDA values are higher in shoot parts than in the root parts. In terms of the amount of phenolic compound, shoot part have higher amount than root parts for samples collected in both locations.

In terms of EDA, in shoot, *Condonopsis lanceolata* from Hwasun was highest while Bonghwa was lowest. In terms of reducing power, samples collected in Hwasun showed highest value. Meanwhile, in the case of Total phenolic compound, samples collected in Damyang had the highest amount.

Angelica gigas Nakai from Hwasun was higher than Bonghwa in value of EDA of the root however, shoot part of samples from Bonghwa showed significantly high Antioxidant properties.

Antioxidant properties of *Atractylodis rhizoma* Alba in different age also investigated. In the case of EDA, 2 year old pant show higher values than 1 year. Regardless of age, shoot part was higher than root part. In terms of reducing power, 2 year old plants showed higher value than 1 year old plants. while In terms of the amount of Total phenolic compound, the root part of 2 year old plant was significantly higher among others.

시험성적

Table 1. Antioxidant properties of *Rehmannia glutinosa* in 2 locations in Korea

Antioxidant properties	Hwasun		Bonghwa	
	Shoot	Root	Shoot	Root
EDA	36.948b	40.088a	29.538c	22.034d
Reducing power	0.0777c	0.1910b	0.0827c	0.1670a
Total phenolic compound	0.13545a	0.1497a	0.10265b	0.02965c

Means within the same column having the same letter are not significantly different at the 5% level by Least significant difference.

Table 2. Antioxidant properties of *Paeonia japonica* in 2 locations in Korea

Antioxidant properties	Hwasun		Damyang	
	Shoot	Root	Shoot	Root
EDA	89.134ab	87.359b	90.496a	89.467a
Reducing power	1.3280b	1.4753a	1.3827b	1.5097a
Total phenolic compound	0.0112a	0.00595c	0.00825b	0.00605c

Means within the same column having the same letter are not significantly different at the 5% level by Least significant difference.