

The Isoflavone contents of Nine Varieties of Soybean (*Glycine max* (L.) Merrill) for different cultivated years

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Objectives.

The purpose of this study identification of isoflavone constituents of soybean (*Glycine max* L. , Merrill) varieties for different cultivated years.

Material and Methods

Material

Nine varieties of Soybean (*Glycine max* L., Merrill) were collected from National Honam Agricultural Experimental Station, Ik-San

Methods

The soybean samples (2g) was freeze dried and finally in powder form was extracted a mixture of 10ml of acetonitrile and 2ml of 0.1M HCl , stirred 2 hr at room temperature. After stirring , the solution filtered through a filter paper (Whatman No. 42). The sample was dried in a freeze dryer (temperature below 30°C). And then redissolved in a 10ml of 80% methanol (HPLC grade) , and filtered through a 0.45 μm filter unit.

In HPLC analysis mobile phase consist of solvent A and B. Solvent A IN 0.1% glacial acetic acid in Distilled water and B is 0.1% glacial acetic acid in Acetonitrile (ACN).

Results and Discussion

- 1) The concentration of isoflavone content in soybean have found differences in different cultivated years, especially in 2003, most of varieties, isoflavone contents were lower than 2004 varieties.
- 2) All of the varieties nature and compound acetyl glucoside and aglycone constituents not found.
- 3) Sowonkong have highst total isoflavone concentration of all varieties, especially, malonylglucoside content more higher than another glucoside group.

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Table 1. Isoflavone concentration according to cultivated years of 9 varieties of soybean.

Variety	Year*	Concentration($\mu\text{g/g}$)											
		Din	Gly	Gin	Mdin	Mgly	Mgin	Acdin	Acgly	Acgin	Dein	Glein	Acgin
Dawon	03	0.1	tr**	1.2	15.6	tr	1.7	0.0	0.0	0.0	0.0	0.0	0.0
	04	7.8	5.2	22.2	98.5	20.5	195.7	0.0	0.0	0.0	0.0	0.0	0.0
Pureun	03	1.3	tr	3.1	20.7	tr	7.9	0.0	0.0	0.0	0.0	0.0	0.0
	04	51.2	46.1	56.3	365.1	89.5	352.4	0.0	0.0	0.0	0.0	0.0	0.0
Hannam	03	0.6	1.5	1.7	17.8	tr	3.9	0.0	0.0	0.0	0.0	0.0	0.0
	04	50.5	36.6	77.3	248.5	69.4	240.7	0.0	0.0	0.0	0.0	0.0	0.0
Seonam	03	0.2	tr	1.6	16.1	tr	2.7	0.0	0.0	0.0	0.0	0.0	0.0
	04	24.4	32.9	51.5	191.2	73.2	283.4	0.0	0.0	0.0	0.0	0.0	0.0
Iksan-namool	03	0.0	tr	0.7	15.2	tr	1.1	0.0	0.0	0.0	0.0	0.0	0.0
	04	50.0	31.4	66.9	410.3	70.3	365.6	0.0	0.0	0.0	0.0	0.0	0.0
Sowon	03	tr	tr	0.7	tr	tr	1.4	0.0	0.0	0.0	0.0	0.0	0.0
	04	59.1	40.5	110.0	432.6	67.0	551.9	0.0	0.0	0.0	0.0	0.0	0.0
Paldo	03	tr	tr	tr	tr	tr	tr	0.0	0.0	0.0	0.0	0.0	0.0
	04	-0.2	0.6	0.4	14.3	8.6	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
Poongsan-namool	03	tr	tr	tr	tr	tr	0.7	0.0	0.0	0.0	0.0	0.0	0.0
	04	-0.2	0.6	0.4	14.3	8.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Dachae	03	tr	tr	tr	tr	tr	tr	0.0	0.0	0.0	0.0	0.0	0.0
	04	33.4	17.3	57.5	273.4	44.7	316.7	0.0	0.0	0.0	0.0	0.0	0.0

* :cultivated year

** : trace

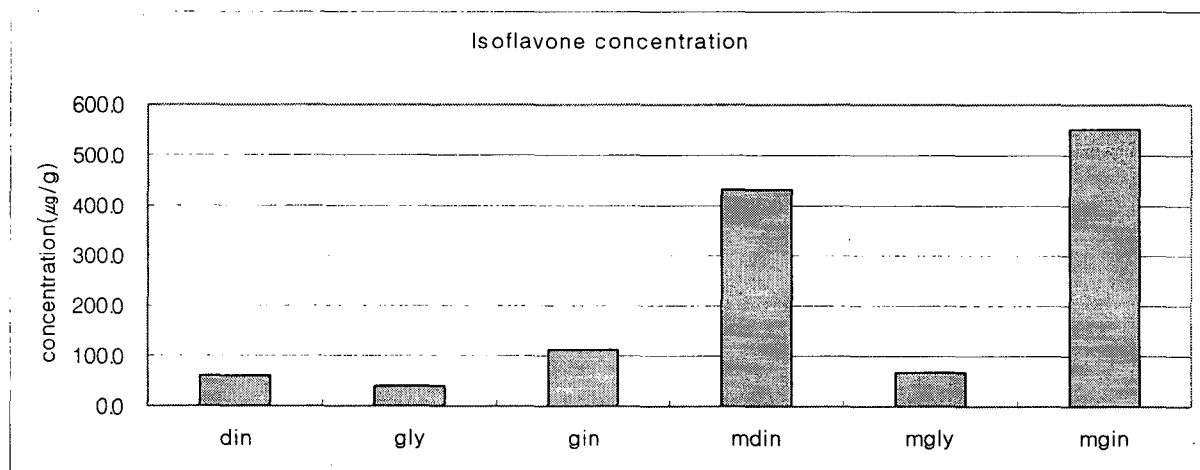


Fig. 1. Isoflavone concentration of Sowonkong