

DYNAMICS OF THE ACCUMULATION OF ROBININ IN *Pueraria hirsuta*

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Pueraria hirsuta L. (kudzu vine) (fam. Fabaceae) is a perennial climbing plant, a large aggressive liana with woody pubescent stems 10-12 m long and massive horizontal roots 2-3 m long and 10-12 cm in diameter. The leaves are large and ternate. The plant has been introduced into Georgia from China. It grows on the Black Sea coast of the republic and is particularly abundant in Adzharia [1].

We have shown that the leaves of this plant are rich in flavonoids, among which kaempferol 7-O- α -L-rhamnopyranoside 3-O- β -robinobioside, or robinin, predominates [2]. Some of us have used robinin isolated from *Astragalus falcatus* Lam. to create the antiuremic drug flavonii [3]. For the production of flavonii, *A. falcatus* is cultivated in eastern Georgia at a base in an experimental field for drug plants of the Institute of Pharmacochimistry, Georgian Academy of Sciences. To elucidate the possibility of using the leaves of the kudzu bean as a source of robinin, we have studied the dynamics of its accumulation in individual parts of the plant. The raw material was gathered in 1993-1995 in the environs of Kobuleti-Tsikhisdzhviri. Analyses were conducted by a spectrophotometric method [4] (Table 1).

As can be seen from Table 1, robinin is synthesized mainly in the leaves at the beginning of vegetation, and its level reaches a maximum (1.62-1.72%) in the flowering period. Its level in the buds and flowers reaches 1%, while it is practically absent from the fruit. No robinin was detected in the stems and roots of the plant.

From the results presented, it may be concluded that the leaves of the kudzu bean gathered in its flowering period can serve as a source of robinin.

TABLE 1. Robinin Content of *Pueraria hirsuta*, %

Phase of development	Plant organ	Year of collection		
		1993	1994	1995
Incipient vegetation (April)	Leaves	0.58	0.73	0.65
	Budding (July)	1.03	1.14	1.07
Flowering (August)	Buds	0.85	0.73	0.81
	Leaves	1.62	1.69	1.72
	Flowers	0.92	1.02	1.20
Fruit-bearing and ripening of the fruit (September)	Leaves	0.51	0.68	0.71
	Fruit	-	-	-

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