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FLAVONOIDS OF THE RHIZOMES OF *Pueraria hirsuta*

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Continuing a study of the flavonoids of *Pueraria hirsuta* L. (fam. Leguminosae) [1], a considerable number of isoflavones has been found in the roots [2].

The air-dry comminuted roots (1 kg) were treated by the method described in [3]. Extraction of the raw material with acetone yielded coumestans, and its subsequent treatment with 80% methanol gave a total of 22 g of isoflavonoids.

The total isoflavonoids were chromatographed on a column (2.5 × 60 [cm]) of KSK silica gel, using chloroform and chloroform—ethanol (95:5-90:10) as mobile phases. Individual fractions eluted by chloroform—alcohol (90:10) and having the same composition were combined and concentrated, and the residue was dissolved in 2 ml of chloroform—methanol (1:1). On standing, acicular crystals deposited, and these were separated off and were washed successively with small amounts of chloroform and ether. Four isoflavonoids were obtained, three of which have been identified.

Substance (1) — $C_{16}H_{10}O_4$, mp 254-262°C; $\lambda_{max}^{CH_3OH}$, nm: 250, 310; ν_{max}^{KBr}, cm^{-1}: 3420-3240 (OH), 1640 (C=O, γ-pyrone), 2920 ($-OCH_3$). In its physicochemical constants and chromatographic mobility it corresponded to formononetin [2, 4].

Substance (2) — $C_{21}H_{20}O_9$, $[\alpha]_D -29.3°$ (c 0.1; pyridine), mp 216-218°C, $\lambda_{max}^{CH_3OH}$, nm: 250, 260 sh; ν_{max}^{KBr}, cm^{-1}: 3420-3240 (OH), 1640 (C=O), γ-pyrone), 1530, 1255 (C=C). Acid hydrolysis led to *D*-glucose and an aglycon with mp 320-322°C, identical with daidzein [3, 5]. Substance (2) proved to be the isoflavonoid glycoside daidzin [2, 6].

Substance (3) — $C_{15}H_{10}O_4$, mp, 320-322°C; $\lambda_{max}^{CH_3OH}$, nm: 250; ν_{max}^{KBr}, cm^{-1}: 3420-3250 (OH), 1640 (C=O, γ-pyrone), 1530, 1255, 1086 (C=C), was daidzein [6].

This is the first time that any of these substances has been isolated from *Pueraria hirsuta*.

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