

The only raw material for obtaining an important chemical reagent - the steroid saponin digitonin - consists of seeds of the genus *Digitalis* and, in particular, of common foxglove, *D. purpurea* L. We have established that the seeds of fringed foxglove, *Digitalis ciliata* Trautv. and also those of rusty foxglove *D. ferruginea* L. are rich in digitonin, containing 4.0-4.3% of it [1, 2].

We have developed an original simplified technology for obtaining digitonin from foxglove seeds [3], as follows. The ground foxglove seeds are first defatted with petroleum ether or dichloroethane, and then the glycosides are extracted with 80% alcohol. The extract is concentrated to 1/3 volume, and to this is added a small amount of a 1:2 mixture of carbon tetrachloride and isopropanol, and the resulting mixture is left overnight at room temperature. The digitonin crystals that have deposited are separated off, recrystallized, and dried.

This method ensures the isolation of approximately 50% of the amount of digitonin present in the raw material, i.e., 2-2.2%.

The proposed technology is favorably distinguished from existing ones [4, 5]: it is simple, does not require any reagents whatsoever, and considerably decreases the consumption of organic solvents. The method provides good-quality digitonin in high yield. The production of digitonin by the proposed technology has been organized in the experimental production unit of the Institute of Pharmacology of the Georgian Academy of Sciences. The digitonin is being obtained from the seeds of common foxglove and also from the seeds of fringed and rusty foxgloves.

The digitonin produced has the form of white acicular crystals with mp 235-242°C (decomp.), $[\alpha]_D^{20}$ from -46 to -51° (c 1.0; 75% CH₃COOH), with a purity of 96%. Acid hydrolysis has given 42% of digitogenin with mp 291-293°C, $[\alpha]_D^{20}$ -80° (c 1.0; CHCl₃), and the presence in the carbohydrate moiety of D-galactose, D-glucose, and D-xylose residues in a ratio of 2:2:1 has been established.

In its physicochemical properties the product obtained corresponds fully to the good-quality commercial digitonin described in the literature [4, 5], and digitonin produced to conform to TU [Technical Specification] 6-09-50-2620-91 is being supplied to institutes.

LITERATURE CITED

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