WHAT IS THE PROPER TIME FOR THE COLLECTION OF SANGUINARIA?

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The U. S. P. directs that sanguinaria be collected after the death of the foliage. In order to determine if this were the proper time, a number of samples of the rhizome were collected at various times from May—just after flowering—to August—just before the leaves began to die.

The assays of these, as given in the appended table, show that, for maximum alkaloidal content, the time directed in the U. S. P. is the worst that could possibly be selected. It will be noted that the alkaloidal content decreases from 6.5%, on May 18th, to 3%, on July 6th, after which it remains practically stationary. The figures for loss in weight on air drying the fresh drug show a steady decrease in moisture content as the season advances.

ASSAY OF COMMERCIAL DRUG.

Sanguinaria No. 1	3.17% total mixed alkaloids.
Sanguinaria No. 2	4.05% total mixed alkaloids.
Sanguinaria No. 3	3.12% total mixed alkaloids.

ASSAY OF COLLECTED SAMPLES OF SANGUINARIA.

Time of Collection	Percent total alkaloids after air-drying	Percent loss on air-drying (moisture)
5/12/12	6.50	82.51
5/23/12	5.55	80.75
6/7/12	4.60	78.75
6/21/12	3.40	74.56
7/6/12	3.00	75.05
7/19/12	3.95	73.26
8/2/12	3.90	72.31
8/29/12	3.95	70.28

These results would indicate that the alkaloidal principles are not products essential to the nourishment of the plant, but rather in the nature of waste products of plant metabolism. Hence, these principles are not increased in amount and stored up, like the resins, gums and starches, for a period of rest. The alkaloidal percentage is, in fact, reduced by the increase of the latter classes of substances and the consequent decrease in the amount of water during the less active period of plant life.

If this is the case the rhizome and root drugs which owe their activity to alkaloidal constituents should be collected at the time of greatest plant activity—i. e., about or immediately after flowering. That such is the case with sanguinaria, the figures here given, indicate. No doubt similar facts will be found to obtain in the case of other drugs of a like character. The subject is presented as one worthy of further investigation. We believe that the U. S. P. statement regarding the time of collecting sanguinaria should be modified, because it is not the time at which the commercial drug is collected, nor is it the time of greatest alkaloidal content.

NOTE.—The work embodied in this paper was carried out by Victor O. Homerberg and presented by him in a thesis, for his degree, before the Philadelphia College of Pharmacy.

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