BIOSYNTHESIS OF THE ALKALOIDS OF *Sophora griffithii*

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Continuing a study of the biosynthesis of the alkaloids of *Sophora griffithii* Stocks [1], we have investigated the interconversion of alkaloids cytisine, N-methylcytisine, and argentine.

We have shown previously that cytisine and N-methylcytisine are converted into one another in the plant organism [2, 3]. In the present paper we give the results obtained in a study of the three alkaloids of the cytisine group isolated from *Sophora griffithii*: cytisine, N-methylcytisine, and argentine.

The plant was fed with labeled cytisine* through the lateral roots in the period of the setting of the seeds, and after exposure for six days the upper part of the plant where the seeds had set and were beginning to ripen was collected.

We isolated 0.292 g, or about 4.0%, of combined alkaloids from 6.2 g of plant.

The total alkaloids obtained were separated into individual bases by preparative chromatography on plates with a fixed layer of silica gel. The chromatogram was revealed in iodine vapor, and the zones with the same R_f values were marked out and, after the volatilization of the iodine, were scraped off and extracted with chloroform.

After the distillation of the solvent and the identification of the individual alkaloids their radioactivities were determined. The following results were obtained:

Compound	Activity, counts/min/mmole	Fraction of inclusion, %
Cytisine	$3.10 \cdot 10^7$	
Cytisine	$1.10 \cdot 10^6$	3.5 (recovered)
N-methylcytisine	$2.46 \cdot 10^5$	0.8
Argentine	$2.98 \cdot 10^5$	1.7

Thus, it may be concluded that in the plant *Sophora griffithii* cytisine is formed first and then its derivatives argentine and N-methylcytisine.

LITERATURE CITED

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*We obtained labeled cytisine previously by feeding the plant with ^{14}C-labeled lysine, and it had a specific activity of $3.10 \cdot 10^7$.