

THE BASIC AMINO ACIDS OF GLYCININ, THE GLOBULIN OF
THE SOY BEAN, *SOJA HISPIDA*, AS DETERMINED
BY VAN SLYKE'S METHOD.¹

By D. Breese Jones and Henry C. Waterman.

[ABSTRACT.]

THE monoamino acids of glycinin have been determined in a hydrolysis by Osborne and Clapp, who determined also the hexone bases by the direct isolation method of Kossel and Kutscher. Cystine was not isolated. No determination of the basic amino acids by the more recent method of Van Slyke seems to have appeared. Glycinin, prepared in accordance with the procedure of Osborne and Campbell, was analyzed by Van Slyke's method, the phosphotungstates of the bases being decomposed by the amyl-alcohol and ether method.

The percentages of the basic amino acids, calculated on the basis of the moisture and ash-free protein, were found to be as follows: Arginine, 8.07; cystine, 1.18; histidine, 1.44; lysine, 9.96; ammonia, 2.28. The Kossel and Kutscher figures given by Osborne and Clapp are as follows: Arginine, 5.12; cystine, not determined; histidine, 1.39; lysine, 2.71; ammonia, 2.56. The tryptophane, calculated according to Gortner's observation that 86.5 per cent. of the tryptophane N is converted into humin N on hydrolysis in the presence of carbohydrate, is 1.37 per cent. of moisture and ash-free protein. This figure is to be regarded as minimal, since no carbohydrate, except that occurring as an impurity in the preparation used, was present in the hydrolysis. The Van Slyke analyses were made in duplicate and agreed well throughout.

* Communicated by the Chief of the Bureau.

¹ Published in *J. Biol. Chem.*, Vol. 46, No. 3 (1921), pp. 459-462.