

NOTE

**Protein Composition of the Anthelmintic Plant,  
*Lupinus albus* Linn. (Seeds)**

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In this work the author identified different amino acids in the seeds of *Lupinus albus* (N.O. Leguminosae).

**Key Words:** *Lupinus albus* (seeds), Estimation, Amino acids, Protein.

This paper deals with the identification of different amino acids in the seeds of *Lupinus albus* (N.O. Leguminosae)<sup>1</sup>. Its seeds have medicinal properties and are considered as deobstruent, alterative, anthelmintic and carminative.

**Isolation of protein:** 80 g of the powdered seeds of *Lupinus albus* were defatted in a Soxhlet extractor and the crude proteins were precipitated from their brine extracts at about pH 7. Thus the seeds of *Lupinus albus* were found to contain 20.5% crude protein.

**Identification of amino acids:** Amino acids were liberated by acid hydrolysis of the protein. The liberated amino acids were decolorized by charcoal and dissolved in 10% isopropanol and excess of HCl was removed by evaporation and then used for paper chromatographic studies. Paper strips in ascending and descending paper chromatography were developed.

The upper layer was separated by shaking a mixture of *n*-butanol, glacial acetic acid and water (4 : 1 : 5). The chromatograms were developed with the above solvent in one direction. After development the strips were dried and sprayed with the ninhydrin reagent.<sup>2</sup> The identification of amino acid present in the protein hydrolyzate was done by comparing the  $R_f$  values with known amino acids under the same experimental conditions.

**Estimation of amino acids:** The amino acids were estimated by a modified method of Moore and Stein<sup>3</sup> and others<sup>4,5</sup>. The solutions of amino acids of different concentrations were prepared in 10% isopropanol, spotted on Whatmann filter paper No. 1 and developed by paper chromatography<sup>6</sup>. The coloured spots were cut out and eluted with 15 mL of 95% ethanol.

The measurement of optical densities of the eluates was done at 570 nm and a graph was plotted between concentrations and optical densities. With the help of standard graph, the concentration of each amino acid of the test sample was calculated and is reported in the table below.

TABLE-1

S.No.	Amino acids	% Composition in the seed protein <i>Lupinus albus</i> Linn.
1.	Alanine	16.81
2..	Aspartic acid	13.05
3.	Glutamic acid	17.32
4.	Glycine	10.61
5.	Proline	20.21
6.	Serine	14.00

### Conclusion

The seeds of *Lupinus albus* Linn. were found to contain 20.5% crude protein. The amino acids in the seed protein have been estimated. It has been found that *L. albus* Linn. is quite rich in proline, glutamic acid and alanine.

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