ABSTRACT

The present thesis "STUDIES ON PROTEINS OF SOME INDIAN PLANTS" consists of four chapters. The first chapter is an introductory one and gives the importance of proteins, biosynthesis of amino acids and proteins in plants, nutritive classification of amino acids and Schoenheimer's hypothesis of dynamic equilibrium in protein metabolism. The classification of proteins, and modern techniques of their analysis like chromatography and photodensitometric studies have been discussed in this chapter. The objectives of the present investigations and the work done have also been laid down.

Chapter II of the thesis deals with the isolation of fats, carbohydrates and proteins from various seeds and rice bran and the preparation of protein hydrolysates. The moisture, ash, proteins and fixed oil contents of all the seeds and rice bran have also been included. The results of qualitative analysis for the presence of important plant constituents in the extracts obtained from the seed and rice bran are also described.

Chapter III incorporates the qualitative analysis of proteins hydrolysates using different paper chromatographic methods viz. unidimensional ascending, descending, circular, and two dimensional techniques. A new technique observed by the present author, combining unidimensional ascending or descending paper chromatography with circular paper chromatography has been experimented upon and found to be economical both as regards the time and the solvent consumed.
Chapter IV summarises the quantitative estimation of amino acids present in the hydrolysates of the proteins contained in various seeds and rice bran, bringing out the utility of some of the seeds as food supplements for enriching protein content.

A new technique combining ascending or descending paper chromatography with ion exchange technique is also mentioned which has been evolved to separate and estimate lysine and histidine.