INTRODUCTION TO THE PROJECT

Since disease has always co-existed with life, its study and treatment must have been contemporaneous with dawn of human intellect. India is full of plant resources and raw materials which have been used from times immemorial by the sages and physicians for the treatment and cure of diseases. Today we have forgotten our gift of the nature, and looking towards the western drugs.

Chemical investigations on medicinal plants on scientific lines started from A.D. 1800 onwards. A large number of plants of medicinal value are common weed generally found throughout India. India is a store house of medicinal plants which are useful from the health point of view. Its wealth and variety of medicinal plants has accumulated through the ages a great mass of popular remedies, many of which are even today in common use throughout this country. Some of the medicinal plants well known in ancient times are even now proving of great medicinal value. In the modern age, chemical and pharmaceutical investigations have added a great deal of status to the use of medicinal plants by revealing the presence of active principles and their actions on human and animal systems. Investigations in the field of pharmacognosy and pharmacology have supplied valuable
information on medicinal plants regarding their availability, botanical characters, methods of cultivation, collection, storage and therapeutic uses. All these have contributed towards the acceptance of several plants in inclusion in pharmacopoeias.

Since pre-historic days some of the medicinal plants have been used in the treatment of diabetes mellitus and different fevers. Of these, we have selected most commonly used following eight plants for chemical and pharmacological examinations.

(1) Alhagi camelorum Fisch.
(2) Crataeva religiosa Hook.
(3) Asparagus racemosus Willd.
(4) Swertia chirata Ham.
(5) Vernonia anthelmintica Willd.
(6) Holarrhena antidysentrica Wall.
(7) Piper nigrum Linn.
(8) Vitex negundo Linn.

This shows that India has sufficient indigenous drugs which can be used for treatment of different diseases. These may be used after proper investigations, for relieving the suffering of humanity. Looking to the economic condition of
our people, there is necessity of cheap and effective drug in our country.

As the selected medicinal plants have not yet been thoroughly investigated it can not be said with any certainty what principles are responsible for their curative properties in the treatment of different types of fevers and diabetes mellitus. These curative properties might be due to the presence of as yet unidentified active principles or may be due to the other normal constituents present in these plants.

Plants produce many chemical substances ranging from giant molecule to simple ones in their cells. Some of the products of metabolism utilised by the living system are considered primary which include fats, carbohydrate, proteins, alkaloids, vitamins, minerals, etc., Which contribute in different ways to the body needs. Vitamins are needed for normal growth, smooth skin and healthy, bones, teeth and mucous membranes. Calcium are far most abundant mineral element in the body and iron improves the quality of blood.

In the assessment of the nutritive value of proteins the aminoacids make up assumes the highest importance in the body. Some of the aminoacids have been in use in deficiency diseases over a considerable period of times. These have been
an increasing use of some of the aminoacids for therapeutic purposes and to identify and determine such aminoacids present in certain aminoacids play a role in the treatment of diabetes mellitus led us to identify and determine such aminoacids present in these medicinal plants.

Sugars are most important sources of energy for human body. While deciding the antidiabetic activity the analysis of sugars present inside the plants can not be neglected. Therefore, it is also necessary to analyse the different sugars present in the medicinal plants.

The alcoholic extract of medicinal plant will be tested for antibacterial and antifungal activity. The antibacterial activity of these medicinal plants will be studied on microorganisms such as Bacillus subtilis, Staphylococcus aureus, Staphylococcus citreus, Bacillus megaterium, Salmonella paratyphi-A and B, Serratia marcescens, Proteus Vulgaris, Escherichia coli, Shigella dysentry and for antifungal activity fungi such as Aspargillus niger, Penicillium Selenium and Yeast Saccharomyces cerevisiae.

Various natural drugs are used in the Ayurvedic system of medicine for the treatment of diabetes. It is felt that extensive testing of medicinal plants and aminoacids in the laboratory shown to have a therapeutic effect clinically may
not be the ultimate conclusive way of discovering newer antidiabetic agents. The testing of antidiabetic property on albino rats is considered to be the most important. Therefore, it is essential to find out whether these medicinal plants and some of the necessary aminoacids possess the antidiabetic activity or not.