INTRODUCTION

Man absolutely depend on plants for almost all the activities and requirements of life. It was the recognition of this utilitarian aspect of plants that seems to have initiated man's interest in them early in the anthropogenic history. The history of medicine in India can be traced to the remote past. The earliest mention of the medicinal use of plant is found in the "Rigveda" perhaps the oldest repository of human knowledge, having been written between 4500 to 1600 B.C. In "Ayurveda" the properties of various drugs have been suggested with logical details. The idea that plants could be used for treating diseases and healing wounds probably arose in the mind of the early man, Observations and inferences, accidents and intuitions, philosophy and traditions, meditation and sliding into deep and prolonged thoughts, all seems to have contributed in the birth and growth of Indian medicine.

During recent years chemists have synthesized potent remedies, such as arsenicals and antimalarial compounds, which have proved effective in the treatment of protozoal diseases. Sulphonamides, are useful in the treatment of bacterial diseases. Antibiotics have revolutionized the treatment of bacterial and ricketisial diseases and even some viral disease are said to be controlled by certain antibiotics. Diseases which were considered incurable few years
back are now curable by herbal the rapies. This necessitates to research on the ethnobotanical aspects of indigenous drugs.

**MAN Versus Ecology**

Ecology is the only science that needs minimum time and labour for its introduction to a layman Ecology indeed plays an important role in human welfare. Broadly vegetation, soil, air, water, micro and macro fauna form our environment, but of all these components, the vegetation plays a major role in stabilizing the structural configuration of nature. Potentially every plant occurring on this planet have one or the other medicinal property.

Medicinal plants are also living organisms. Their reproduction, growth and yield is affected by different factors. Various activities of man influence the growth and production of vegetation including MAP. These vegetations can be managed either for the physical and recreational benefits, they confer or for productive purposes.

Plants exercise a moderating influence on air, water temperature and other factors. Besides altering the physical and chemical properties of soil, they play important roles in checking flood, drought, erosion and other vagaries of nature.

It is well said "**Destroying vegetational wealth invites destruction of health**". The plants play a protecting and promoting role in the health of man.
MAP Cultivation A new approach

The medicinal and aromatic plants that are used in Ayurvedic system of medicine are little known academically, but have sufficient commercial importance because of their catering to the Ayurvedic needs of our country. However, the large scale cultivation of these Medicinal and Aromatic plants (MAP) for profit depends on the active principle contents and not on their luxuriant growth.

Several factors such as soil, rainfall, altitude, method of cultivation, storage, marketing etc, play major roles for commercial success of large scale cultivation of these plants. The requirement of quality and ever increasing quantity of MAP raw materials keeps no other way than the systematic production of homogenous plant materials in controlled conditions. For this reason, the trend of quality improvement of MAP cultivation is getting newer dimensions all over the world.

It is particularly appropriate at the present moment, when the pharmaceutical companies of the world are emitting an unceasing flow of new synthetic drugs, that attention should be turned to the possible remedies that may be found among indigenous plants of this country.

Environment affect general growth conditions of the plant as well as formation of their active principles. Experimental data suggests that light plays a positive role in synthesis of active principles.
Selection of *Vitex* for present project

Trees and other plant communities including MAP are living creatures. Like other organisms, they germinate, grow, become mature, reproduce and ultimately die. Majority of life processes of plant are governed by various habitat factors such as climate, physiography, geology and biotic influences etc. Very little work has been done on MAP in relation to environmental conditions and productivity regime in our country (Singh et al, 1986; Nandi, 1992; etc) and particularly in Bundelkhand region. However, some inaugural ethnobotanical studies were conducted in this central part of India by Karnick (1981), Saxena and Tripathi (1989 and 1990) etc. Locally *Vitex negundo* is found growing naturally in Chandpura and Bangawa forest. Not only locally but Nirgundi is well distributed in tropical environments of India. Though it is widely distributed and is frequently used in various Ayurvedic preparations even then it has been neglected by the research workers. Hence in order to understand its various life processes particularly germination and growth dynamics in relation to various environmental factors the plant was selected for present study. The aim of this study is to understand its ecological requirements.

Ethnobotanical significance of Nirgundi.

*V. negundo* Linn. (Vern. Nirgundi) is a shrub or a small tree, grown for reclamation of forest land. It stabilize soil near railway tracts
which are often subjected to wind and water erosions creating traffic hazard. By planting as shelterbelts along the railway lines so that the uplifting of finer soil particles and deposition railway tracts is reduced (Gupta, 1979).

Branches of Nirgundi are used for manufacturing baskets. Leaves are considered tonic, also smoked for curing headache, catarrh, discutient. Leaves are useful in dispersing swellings of joints from acute rheumatism and of the testis from suppressed goner. Used in several Ayurvedic preparations. Also posses insecticidal properties.

Juice of leaves is used for removing foetid discharge and worms from ulcers. An oil prepared with it is applied to sinuses and scrofulous sores. Decoction of leaves is used as a bath in the puerperal state of women.

The following quotation quoted form "Brahmvarchas" rightly speaks about the medicinal importance of V. negundo:

“निर्गुंडि शरीर रक्षति सोगेष्म्य: तस्माद् निर्गुण्डि”

It means which protect our body form disease is called "Nirgundi". Dr. William Boric said "Nirgundi" is an "Indian Arnica". In Unani medical science Nirgundi is also known as "Vergay Sambhalu".
The bark of root is used as tincture in rheumatism or rheumatic arthritis. According to Dr. Nadkarni - "This medicine excite the nervous system, hence is very useful in headache specially in trigeminal neuralgia".

Proposed research design

For the present assignment, some suitable sites in the local forest area in and around Jhansi were selected after extensive yield surveys. The broad outline of the present research work conducted is as below:-

* Periodical phenological observations.
* Physical characteristics of seeds.
* Mycoflora associated with the seeds.
* Effect of various pre-sowing treatments on germination behavior of \textit{V. negundo} seeds.
* Nursery techniques in order to asses the effects of different external and internal factors on the pattern of growth performances during initial stages of establishment of \textit{V. negundo}.