Although medicinal plants have been used since millennia, knowledge of plant remedies-phytopharmacognistics and traditional medicines-ethnopharmacognistics have only relatively recently been subject of thorough scientific study. With the confirmed resolution of member states of WHO to ensure the attainment for all their people by the year 2000 of a level of health that will permit them to lead a socially and economically productive life. The role of traditional medicine in reaching that goal has been increasingly recognized.

The 1987 symposium in Chicago, provided a forum for the exchange of practices, developments and management produces in traditional medicine and the use of phytopharmacology in various countries throughout the world. Following a broad review of WHO policy on the subject and the organization’s involvement in a number of activities in the evaluation and use of traditional remedies within the primary health-care system, future prospects of the programme were discussed (Akerde, 1990)

At present, more than 7500 species of flowering plants are used for their medicinal properties in India. Most of them are known by their local names. The multitude of local names, imperfect botanical knowledge as well as the intentional adulteration in the raw material available in the Indian market has led to controversy in respect of the identity of genuine plant drugs. Obviously, this has resulted into impure and ineffective Ayurvedic medicines. Although there is a great demand for these medicines, the pharmaceutical companies are not in a position to supply good quality material-mainly due to adulterated raw
material. Identification of raw material available in the market is difficult as it is supplied in the form of either powder or extract. (Rathod et al., 2002)

This adulteration and ambiguity of raw material must be carefully dealt with. Identification of whole plant material as well as the market samples is an urgent need of the day. Sometimes it is noticed that the large scale cultivation for a longer period brings about desirable or more often undesirable changes in the medicinal properties of the drugs. This brings down the market value of the drugs. Once we are confident about the identity, quality and quantity of the plant drug, we can dictate terms and conditions in the international market.

Even since the WHO in its 29th and 30th assembly (1970-77) gave formal recognition to the traditional medicine, there is a great boom throughout the world of traditional healing systems and traditional medicinal plants. The herbal revolution uncovered number of unbelievable miraculous cures derived from traditional medicinal plants from India. Over 7500 wild plants, species are used by Indian tribal and so called rural medicine man and about 1000 are found to be new claims worthy of scientific investigation. The Marathawada area of Maharashtra has about 2000 plant species of higher plants and 20% of these are being claimed as medicinal (Naik, 1998).

The herbal drugs still are maintaining popularity amongst majority of population in almost all Asian countries including India. As plant science developed, many more plants got entry in Indian pharmacopoeia.
Recently the Govt. of India has launched several programs for generating awareness in mass for conservation and cultivation of indigenous medicinal plants (Roy, 2003).

Mycological problems that include association of mycoflora with crude herbals under storage, their role on biodeterioration and mycotoxin contamination have drawn world wide attention for quality maintenance and therapeutic potentials of plant drugs. WHO has also paid serious attention on mycotoxin contamination in herbal drugs considering it as a global problem. However, its incidence is higher in tropical countries than the temperate zone; as the harvesting practices, post-harvest storage methods existing high temperature and moisture contents, especially in monsoon season are conducive for fungal invasion, their proliferation, mycotoxins elaboration and finally in deteriorating the quality of herbals. The traditional methods of collection, storage and marketing coupled with humid climatic conditions make the, in victim to the fungal infestation (Roy, 2003).

**Biochemical Changes:**

Biodeterioration in alkaloid, phenol and protein contents of seed has been reported by Roy, (2003). The seed being produced and used in current plantation programme is of poor quality in many respects, such as low germination percentage, poor emergence in nursery beds, poor survival etc. Because from poor quality, the quantity of seed used is much more than really required, thereby increasing the investment on seed procurement enormously. Seed germination takes place only when mature and viable seeds are supplied
with adequate moisture and effective temperature, which varies from species to species. Therefore, the basic research on seeds revolves around factors like seed collection, moisture, temperature, timing etc. These factors essentially control germination.

Pathogens are carried on seeds as spores, spore bearing structures like scletotia, acervule, pycnidia and mycelia outside or inside the seeds. Some pathogens are seed-borne, but they cannot immediately transmit the disease to seedling. When the pathogens are present on the surface of the seeds, the seeds are said to be infested. In other cases the pathogen may lie with the seed tissue, the seed is said to be infected. Seeds carry several destructive pathogens that often take a heavy toll by causing severe disease to medicinal plants. Spores germinate and penetrate into the seeds. Some of the seed infections are such that if the infected seeds are consumed, they cause disease to humans and domestic animals.

**Production of mycotoxins:**

The potential of fungal isolates to produce mycotoxins also vary widely with the variation of substrates as well as with the changes of strains. *Aspergillus flavus* strains are able to produce only Aflatoxin $B_1$ and $B_2$. Similarly production of citrinin by *Penicillium* is reported. Reports on production of mycotoxins by toxigenic fungi in plant drugs are quite poor. Only scanty work has been carried out in this direction (Roy, *et al.*., 1998). Roy and Chourasia (1990), and Roy and Kumari (1992) have reported the potentials of fungi for mycotoxin production in plant drugs.
Physical and chemical factors responsible for mycotoxins:

Physical factors: The encounter of deleterious moulds to plant drugs, especially during the post-harvest operation and mycotoxin contamination depends on number of factors; which may be categorized as physical factors-like temperature humidity, rain fall, moisture level of the substrate, and type and duration of storage systems used.

Chemical factors: Level of CO₂, Oxygen, Chemical nature of substrate and nutrient.

Biological factors: Spore load, Strain potential and microbial interaction.

All the above stated factors are important, however, oxygen level, temperature, moisture content of substrate and storage periods are determining factors for the mould growth as well as mycotoxin elaboration by them (Roy and Kumari, 1994; Roy,2003).

Control in storage: Storage of crude herbal seed samples under hygienic conditions with low moisture content (about 8%) and low temperature protect them from mould and insect infestation (Roy,2003).

With these factors in mind, the present investigation was planned. For this 9 medicinal seeds, viz; Azadirachta indica, Butea monosperma, Holarrhena pubescence, Madhuca longifolia, Pongamia pinnata, Semecarpus anacardium, Tectona grandis, Thespisia populnea and Plantago ovata were selected; of which the first 8 are available in the forest of
Aurangabad and the last is collected from Gujrat. These seeds are having high medicinal properties and are used in rural and tribal areas for curing different diseases. These seeds are used for the several ayurvedic preparations by various pharmaceutical companies like Baidyanath pharmaceutical (P) Ltd., Maharshi Ayurveda, Sandu, Patanjali Ayurveda, Nagarjan pharmaceutical, Zandu etc.

The seeds of *Azadirachta indica* are used in Balantkadha, ‘Mahamanjishthadi’, etc. *Butea monosperma* seeds are used in ‘Arjunkalp granules’, *Holarrhena pubescens* seeds are used in ‘Mahamanjishthadi Kashaya’. Seeds of *Madhuca longifolia* are used in ‘Saraswatarishta, Abhayarishta, Arjunarishta, Usheerasava’ etc. In the preparation of ‘Cervilon soft gel capsules’, seeds of *Plantgo ovata* are used. Use of seeds of *Pongamia pinnata* is made in preparation of ‘Mahasudershan Kadha, Mahamanjishthadi kada, Mahasudershan churna’ etc. Seeds of *Semecarpus anacardium* are used in Amarutabhalltaka Lehya, Madhurishtra Asav’ etc. The seeds of *Tectona grandis* are used in herbal medicines prepared by Vidyanand Co. Rajasthan. However, the herbal drugs are adulterated by various ways. They may be substituted with inferior commercial verities, by artificially manufacturing substitutes, substitution by exhausted drugs, substitution by superficially similar but cheaper natural substances, addition of synthetic principle, use of vegetative matter of the same plant, etc (Mukherjee, 2008). Besides being adulterated by different means, the crudes drugs are prone to deterioration on storage. The shelf life of crude drugs is influenced by many factors which include not only the storage condition but also the mycoflora present on the
material and the stability of secondary metabolites produced by them. For management of mycoflora of herbal drugs, fungicides can not be used; therefore non toxic, safe, eco-friendly product should be used.

Therefore, with these factors in mind, the present investigation has been planned, which includes study of seed mycoflora, search for best storage container, study of metabolites produced by fungi and use of plant extracts for the management of mycoflora of the medicinal seeds.

The study of infestation of fungi on medicinal seed is important as more than 1000 different species of moulds or saprophytic fungi are known and each one of them differs in secretion of their metabolites and the adverse effect they cause on the seeds. Further more, very scanty research has been done on the mycoflora of medicinal seeds.