INTRODUCTION
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Legumes form an important source of dietary proteins. A few types of legumes viz. pea, chick pea, bean, gram, green gram and black gram are cultivated as pulse crops in the region of Marathwada, Maharashtra state. Among these, green gram (Vigna radiata (L.) Wilczek) and black gram (V. mungo (L.) Hepper) are major pulse crops which are cultivated mainly during kharif under rain-fed conditions and also in a small portion under irrigated condition with assured water supply. These crops are cultivated either sole-crops or intercrops with jowar and bajra.

It has been observed during our survey that since last few years the crops, black gram and green gram suffer with number of diseases caused by variety of pathogens like fungi, bacteria and viruses. Such infected plants yield abnormal and poor quality of pods and seeds, which may carry number of vital pathogens, as has been studied in the case of other leguminous crops (Wu, 1973; Saxena & Sinha, 1977; Saxena & Gupta, 1981 and Maheshwari et al., 1984). Similarly, Neergaard (1977) stated that in general leguminous crops carry seed-borne diseases so commonly. However, such information regarding the seed-transmission of fungal pathogens in case of black gram and green gram is meagre
in the literature. Therefore, these crops were selected for the present study and the results obtained are presented in the thesis.

The thesis is divided into two main parts. In the first part attempts have been made on the isolation and identification of field fungi (i.e. fungi occurring on developing seeds in the fields). In order to study the seed mycoflora responsible for various seed abnormalities, fungi were also isolated from rotten, shrivelled, discoloured and undersize seeds. These fungi were screened for varietal resistance by seedling grow test in the laboratory.

Second part of the thesis deals with seed biodeterioration. For this, fungi were isolated from the seeds stored under different conditions, and period. It is known from the literature that storage fungi cause significant changes in chemical composition of seed, reduce the germinability and toxify its food content (Goodman & Christensen, 1952; Lalithakumari et al., 1971; Cherry & Buchan, 1975; Vidhyasekaran et al., 1976; and Bilgrami et al., 1976). In order to understand the above facts, changes in protein, carbohydrates and dry weight of artificially infested seeds
were studied in detail. Reduction in seed protein may be due to proteases produced by seed mycoflora. Hence, some experiments on production and properties of proteolytic enzymes of seed mycoflora have been carried out. The toxic metabolites of seed borne fungi are found to be lethal to seed embryos and seedlings in various crops (Agarwal et al., 1972; Rao & Singh, 1974; and Panchal, 1985). Therefore, attempts on degree of toxin production and its effects on seed germination and seedlings growth have been studied. The results showed that the toxins produced by different seed borne fungi have specialization regarding the mode of their action upto the varietal level of the hosts.