INTRODUCTION

Use of fungicides has become an important part of agriculture. They are most extensively used in countries those are having high agronomic technology. Generally the countries with high use of pesticide are highest producers of agricultural products. India ranks 6th in the use of fungicides and is 7th in the productivity (Schwin, 1981). At present there are more than 35 thousand pesticidal compounds in the world involving about 1,500 basic ingredients. Government of India has approved more than 128 pesticidal compounds for the management of crop diseases. But in recent years application of fungicides has plagued with very serious problems. Among these problems, development of fungicide resistance in the pathogenic fungi is very important. There are many examples of fungicide resistance in the fungal pathogens from developed, developing and underdeveloped countries. (Arora *et. al.*, 1992; Annamalai and Lalithakumari, 1990; Kamble, 1993; Chander and Thind, 1995).

***Alternaria* blight of castor** caused by ***Alternaria ricini* (Yoshii.)Hansf.** is very serious disease. There are heavy losses of castor due to this disease. The disease is managed by using various contact and systemic fungicides. The use of systemic fungicides has many problems. Therefore the aim of present study was to manage the fungicide resistant strains of *Alternaria ricini* causing blight of castor in **Western Maharashtra.**

Samples of the *Alternaria ricini* infected leaves of castor were collected from five districts of **Western Maharashtra** viz. Kolhapur, Pune, Sangli, Satara and Solapur. From these samples, five isolates of *Alternaria ricini* were obtained. These isolates were maintained on castor leaf extract agar medium. *In vitro* MIC of carbendazim was determined by **'Food poisoning Test'**. These five isolates showed variability in MIC against carbendazim.

Development of fungicides resistance in *Alternaria ricini* was observed due to **UV** and **Sodium azide**. As spray programmes influence the development of resistance in the pathogen. Therefore, effect passage on carbendazim individually, alternately or in a mixture with other fungicide with different mode of action was studied. Carbendazim resistance in *Alternaria ricini* may increase or decrease its virulence. Comparison between the wild sensitive and resistant mutant was made for pathogenecity.

Agrochemicals other than fungicides, such as insecticides, antibiotics, herbicides, fertilizers, salts and micronutrients are also used in crop disease management. There

is possibility that these chemicals may affect development of carbendazim resistance in *Alternaria ricini.* Many chemicals used may break the resistance or *vice-versa* when applied in combination. Synergistic effects of agrochemicals on carbendazim resistance in *Alternaria ricini* were studied both *in vitro* and *in vivo.*