PREFACE

West Bengal's topography and agro climates are well suited for growth of horticultural crops and it is an ideal method of achieving sustainability of small holdings, increasing employment, improving environment, providing an enormous export potential and above all, achieving nutritional security. As a result, due emphasis on diversification to horticultural crops was given during the last one decade. However, chronic production problems are persistent due to major disorders like anthracnose in several fruits and vegetables, malformation and spongy tissue or anthracnose in mango, guava wilt, citrus decline, root wilt in coconut, *Phytophthora* and *Fusarium* diseases in large number of crops etc. which remained largely unresolved. Of these, fungal diseases remain a major factor in limiting product yield.

Bottle gourd (*Lagenaria siceraria*) is one of the oldest cultivated crops, having been used by humans for over 14,000 years. Archaeological remains show that the bottle gourd was used in Egypt about 3500 to 3300 B.C., in Mexico date from 7000 to 5500 B.C. and in Peru from about 10,000 B.C. (Stephens, 2009). Moreover, bottle gourd is an immensely popular vegetable throughout India and it is a household vegetable cultivated in small holdings in sub-Himalayan West Bengal.

In recent years, the use of chemical fungicides for crops has increasingly become unpopular due to an overall awareness on its adverse effect on the environment and human health. This situation has induced extensive research on alternative control methods that are environment-friendly. Its use in India is still limited due to lack of awareness and low efficacy of marketed products. Variability in results stem from a failure to address all the possible interactions and neglecting the ecology of the plant in relation to the environment of use. Thus, there is a need for better understanding of the complex interactions between plant, applied molecules, and the invading pathogen in order to increase the efficiency and realize the true potential of sustainable disease control methods.