Preface....

Agriculture, the lifeblood of Indian economy is not only suffering from problems of land degradation, salinity, pest out break but it is also seriously threatened by environmental pollution particularly, from air pollution. The problem of air pollution in relation to agricultural production is a cause of serious concern requiring immediate attention to ensure the food security. The present work "Assessment of Crop Damage from Ground Level Ozone and Evaluation of Ethylene Diurea (EDU) Treatment on the Performance of Plants Exposed to Ozone" is an outcome of my research work, solely devoted to determine the impact of phytotoxic ground level ozone on agricultural crops. In India, some short-term preliminary studies have shown that build up of ground level ozone is widespread in different parts of the country. The study deals with the effect of ozone on the growth and yield of wheat (Triticum aestivum), moong (Phaseolus aureus), mustard (Brassica campestris) and paalak (Spinacia oleracea). It also evaluates the efficacy of ethylene diurea (EDU) in preventing ozone damage. The results of the study may be of help in developing strategies for preventing crop loss from ground level ozone.

The thesis is divided into seven chapters. Chapter-I provides a brief introduction and the objectives of the present investigation. Chapter-II provides a critical review of literature on three aspects: a) tropospheric ozone, b) effect of ozone on plants and c) effect of protectant chemicals including ethylene diurea (EDU) in preventing ozone damage in plants. A description of the study area is given in Chapter-III. The results of the study are presented in Chapter-IV. Chapter-V is devoted to discussion, and chapter-VI to assess the crop loss from ground level ozone and its economic implications. Chapter -VII includes a summary and conclusions. A list of cited references is provided at the end. Paper published by the candidate is given in annexure- I.

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