II. THE HOST

Diosgenin, a steroidal sapogenin, is commercially derived from various species of *Dioscorea* Linn. which grows wild in different parts of world. It is now a widespread, highly commercialised crop in many countries. Commercially most important species are those occuring wild in Central America, notably in Mexico belt and also in Guatemala (*D.composita* Hemsl., *D.floribunda* Mart. & Gal. and *D.spiculiflora* Hemsl.), in India (*D.deltoidea* Wall and *D.prazeri* Prain and Burk.) and in China.

In India, out of about 60 species, *D.deltoidea* and *D.prazeri* from North West Himalayas and North Eastern Himalayan regions of India respectively, have been identified to contain diosgenin in amount which are commercially feasible to extract. *D.deltoidea* contains higher quantities of diosgenin and grows wild in Jammu and Kashmir and Himachal Pradesh but all attempts to cultivate *D.deltoidea* successfully have so far failed for various reasons. In view of this, cultivation of other species of *Dioscorea*, especially *D.composita* and *D.floribunda* have been taken up although the diosgenin content in these two species are not the same as in *D.deltoidea*.

Cultivation trials of three species of *Dioscorea* viz.,

D.composita, D.floribunda and D.prasoni, have been carried out in the altitudinal regions between 150 and 450 m of Darjeeling hills under the Directorate of Cinchona and Other Medicinal Plants, West Bengal. The performance of D.composita proved to be most satisfactory and about three percent diosgenin could be extracted after three years of growth, which in case of locally growing D.prasoni came to about one percent. Diosgenin content was remarkably low in D.floribunda though the growth of tubers was extremely satisfactory. Fusarium solani (Mart.) Sacc.,a pathogen causes extensive decay of tubers of these three cultivars during storage and transit. As such, the present investigation has been designed to evaluate the deterioration of the tubers by the pathogen and the possible method of preservation by the application of different preservatives.