and weeds harmful to the agriculture of a country/state/region and if introduced, prevent their establishment and further spread.

During 1976-2009 more than 15,000 samples of more than 70 medicinal and aromatic plants were imported from 42 countries and 330 samples were found to be infected with 29 fungal pathogens. The major interceptions of quarantine significance included Dendryphion penicillatum (Corda) Fr., the blight pathogen of opium poppy, a destructive seed-borne pathogen and potential mycoherbicide for opium poppy crop. Alternaria zinniae Pape ex. Ellis and Botrytis alli Munn having limited geographical distribution in the country; Fusarium oxysporum Schlecht., known to possess a number of physiological races; B. cinerea Pers. Fr., Botryodiplodia theobromae Pat., Colletotrichum dematium (Pers.) Grove, C. gloeosporioides (Penz.) Sacc., Drechslera sorokiniana (Sacc.) Subram. & Jain, F. moniliforme Sheldon, F. solani (Mart.) Sacc., Macrophomina phaseolina (Tassi) Goid and Rhizoctonia solani Kuhn etc. having wide host range. Further Alternaria brassicicola (Schw.) Wiltshire and F. solani (Mart.) Sacc. on non-host crops and Ascochyta sp., A. linicola, A. ricini Groves & Skolko, Curvularia lunata (Wakker) Boedjin, Cercospora traversciana Sacc., D. papaveris, Pestalotia sp. and Phomopsis phaseoli Sacc. causing damage of economic significance also were intercepted. Introduction of these exotic pathogens or their more virulent strains along with germplasm could pose a serious threat to the indigenous crops. Interception of such a large number of pathogens signifies the role of quarantine in regulating the safe introduction of plant genetic resources needed for the crop improvement programmes of medicinal and aromatic plants of the country.

TS3-O4

**Effect of different dates of transplanting and harvesting on the morphology and androphrapholide content in Andrographis paniculata**

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An experiment was conducted at Directorate of Medicinal and Aromatic Plants Research, Anand on the effect of different dates of transplanting and different dates of harvesting on the change in the morphology and chemical content in three accessions of Andrographis paniculata. Same aged seedlings were transplanted at four different dates at 15 days interval. The plants were harvested at three different dates at 90, 105 and 120 days after transplanting (DAT). Morphological data and chemical data were collected at different intervals. It was observed that different dates of transplanting significantly influenced the plant height, number of leaves per plant, fresh and dry herbage, stem and leaf yields and andrographolide yield. Andrographolide content in leaf decreased with delayed transplanting; but in stems, andrographolide content increased with delayed transplanting. Andrographolide yield in leaves and herbage increased with early transplanting whereas in stems, delayed transplanting resulted in more andrographolide yield. All the morphological characters were recorded maximum as well as the andrographolide content in herbage were maximum at 120 DAT harvesting. However, andrographolide yield in leaf and herbage were maximum at 105 DAT harvesting. There was not much significant influence of the interaction of transplanting dates and harvesting dates except few morphological characters viz. plant height, number of primary branches, stem diameter and number of leaves per plant. There was no significant influence of the interaction of accessions and harvesting time on any characters. The yield of andrographolide was calculated as maximum in accession 1 and accession 3 at age 120 DAT when the stem : leaf ratio became 1:2 having the indication that this ratio can be fixed as harvesting index in A. paniculata and accordingly harvesting of the crop can be advised to achieve maximum yield of crude drug. So, an early transplanting (15-30 July) and a late harvesting (105-120 DAT) would be an ideal for the cultivation of this crop so to get maximum yield in herbage as well as andrographolide content.