

3.2 Hybridisation

Extensive (105) crosses were attempted among Bidhan Marigold 1 & 2. The seeds of these are harvested. Thirty reciprocal crosses Thuljapur local A& B were attempted and seeds were harvested. The flowering time of Thuljapur local A & B were almost same. The Thuljapur local C and D are late in flowering and reciprocal crosses were also made.

Project 4. Phytonematode in Floriculture: Identification, Occurrence, Distribution and GIS Mapping

Nematode problem diagnosis and sampling form has been prepared including instruction for collecting soil and plant/root sample from the field and protected units. The check list comprising of soil type, crop information including cropping history, distribution of symptoms, and type of planting and nematode management practices followed has been prepared. Preliminary survey was undertaken in Maharashtra (Pune region) in open field and protected units and field symptoms are documented. Soil and plant sample are also collected, processed and identified the nematodes affecting flower crop. Severe infestation of root-knot nematode on tuberose was found in tuberose crop and protected units. Occurrence of lance (*Hoplolaimus*), lesion (*Pratylenchus*) and reniform (*Rotylenchulus*) nematodes were also found in some samples but their populations were significantly lower. Occurrence of root-knot nematode was also observed in China aster.

Project 5. Indian Floriculture Industry: Production, Marketing and Export Dynamics

In order to survey the production and marketing, detailed questionnaires are developed that include questionnaires meant for farmers growing loose flowers, cut flowers and wholesale market vendors. The data was collected based on the questionnaires.

One of the major markets in Western India Mumbai was surveyed and the data on product mix, arrivals, system of marketing of loose flowers, cut flowers, exotic flowers, cut greens was collated. The Dadar market in Mumbai is an unorganized market that opens at 3.00 am and concludes at 7.30 am mostly on the pavements on either side of the main Dadar road. The market has no infrastructure in place except for few cold storages with the exotic flower importers.

The loose flowers, cut foliage, fillers, value added floral products like garlands and veni are sold in the open on the pavements. Data on month wise and area wise arrivals of different flowers was recorded. Data on import of flowers from some of the specialized vendors was also collected. Information on floral accessories like oasis foam, containers, papers, vase solutions, artificial dyes that are used in the florist trade have been documented.

Project 6. Characterization and Natural Spread Sources of Phytoplasmas Affecting Major Floricultural Crops of India

To understand the natural spread sources of phytoplasma disease in chrysanthemum, common weeds occurring in chrysanthemum field were recorded and symptomatology for phytoplasma infections was done. Among the weed stand in field, partheniums were found to harbor symptoms of phytoplasma infections and the incidence was very high from 30-40 percent. Various symptoms shown by parthenium were recorded and the samples were collected for further confirmation of phytoplasma infections.

A survey of insects occurring in the chrysanthemum field was done by installing yellow sticky traps, to understand the potential vectors of phytoplasma in chrysanthemum. Among the various insects observed, Chrysanthemum leaf hopper was found prevalent in chrysanthemum field which may be acting as a vector for the spread of phytoplasma. The vector status of the leafhopper is yet to be confirmed.