CHAPTER V

SUMMARY & CONCLUSION
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On the basis of the survey made during 2006-07, 94 Citrus species were collected and described systematically. From the above types, finally 52 types of Citrus species were found superior and selected. This type of survey on citrus was not done earlier by any worker in the state. For the first time this investigation could focus the local varieties for references. The germplasm bank could be useful as planting materials to the research workers for further study in breeding and root stock trials. Due to urbanization and deforestation, these species need to be preserved fearing the possible erosion from the genetic sphere in the present context. Since these screened types of citrus species were best adopted under the existing agro-climatic condition of the state, these species could be comparable with the leading commercial types having superior characters and quality and therefore could be multiplied for distribution to the growers and for in situ planting in rainfed areas, forest and denuded lands. Based on the detailed morphological description, the following species of Citrus have been found promising in the different regions of the state.

i) *C. grandis* [Pummelo]
(ii) *C. paradisi* [Grapefruit]
(iii) *C. megaloxycarpa* [Keem]
(iv) *C. pennivesiculata* [Gajanimma]
(v) *C. medica* [Citron]
(vi) *C. limon* [Lemon]
(vii) *C. pseudolimon* [Hill lemon]
(viii) *C. jambhiri* [Rough Lemon]
(ix) *C. karna* [Karnakhatta]
(x) *C. sinensis* [Sweet Orange]
(xi) *C. reticulata* [Mandarin]
(xii) *C. limonia* [Rangpur Lime]
(xiii) *C. limettioides* [Sweet Lime]
(xiv) *C. madurensis* [Calamondin]
(xv) *Fortunella margarita* [Kumquat]
(xvi) *C. reticulata x C. paradisi* [tangelo]
• The terminology and different categories for describing the characters of tree, leaf, flower and fruit precisely and objectively have been standardized. The size of the petiole has been classified in relation to the size of the lamina and the size of the anthers has also been classified in relation to the size of the filaments.

• The different morphological characters of leaf, flower and fruit have been evaluated for their relative importance in the classification of the species and have been grouped as primary, secondary and tertiary characters.

• The vegetative characters have been considered to be most useful characters for the identification and classification of citrus at species level.

• The primary characters for the identification of species are articulation of leaf; size and shape of petiole wing; cupping, rumpling and twisting nature of leaf blade; size, shape, colour and hairiness of style and the degree of merging with ovary; shape of flower bud; number of stamens; length, hairiness and nature of attachment of filaments; thickness, texture and adherence of the rind; size, shape and nature of central axis and colour of cotyledons.

• The secondary characters are petiole length, hairiness of young shoots; colour of emerging leaves; leaf margin; nature of inflorescence; sex of flowers; shape of calyx and nature of oil glands on rind (number, size and level).

• Tertiary characters are tree habit; oil glands and veins on lower surface of leaf; size and shape of leaf; colour of foliage; size and number of thorns; number of petals and their reflexion; shape and colour of disc; nature of stigma; apex of anthers; number of segments; thickness of septa. Orientation and length of vesicles; colour of chalazal and surface of seeds.

• The important characters for the classification of cultivars are the thickness of rind, gross differences in its colour; nature of fruit surface and presence of furrows; shape and size of nipple; shape of base; presence of areole; size of style scar; number of seeds; quality of juice.
CONCLUSION

The suitable citrus species and cultivars identified from the present study are as follows:

- The citrus species like Mandarin orange, Sweet orange (mainly Mosambi cultivar), Acid lime, Lemon, Grape fruit and Pummelo have been found suitable for commercial cultivation in different localities of the State.
- Similarly, Jambheri, Karna khatta, Rough lemon, Rangpur lime, Sweet orange, Sweet lime and Acid lime have also been found promising for root stock purpose.