CONCLUSIONS

1. The seed dormancy in *C. sophera* L. is due to the exogenous barrier effect of the hard and impermeable seed coat. Scarification treatment of seeds with 90 percent sulphuric acid for 20 minutes is found to be an effective method of breaking dormancy.

2. Presowing treatment of seeds with IAA has a beneficial effect in enhancing the rate of seedling growth. Growth substances accelerate the synthesis of cell constituents viz., starch, sugar and protein as well as enzymic activities like catalase during juvenile phase and adult plant life.

3. Plant height is increased by presowing seed treatment with growth substances and distilled water. Dry weight of roots and leaves during the later period of growth shows an increment due to presowing seed treatment with growth substances.

4. Presowing seed treatment with growth substances, especially IAA and GA<sub>3</sub> results in an enhanced production of medicinally active principle viz., total phenols in roots, leaves and whole plant parts. The beneficial effect of growth
substances on the enhanced production of total phenols is paralleled with an enhanced synthesis of starch and total sugar, especially during specific periods of growth.

5. The study of metabolic drifts during different periods of growth shows that the roots, leaves and whole plant parts of *C. sophora* are enriched with the medicinally active principle i.e., total phenols during the early period of growth (i.e., 2nd week) and again in the immediate post flowering periods (i.e., 18th and 20th weeks) of growth. So the above periods are recommended for the collection of plant parts of medicinal value.

6. Initiation of root primordia as well as root elongation in the stem cuttings of *S. ciliata* H.B.K. is enhanced by the treatment with IAA, IBA and AA. Thermal and hormonal treatment gives a cumulative effect on the rooting potential of cuttings.