CONCLUSION

- In last few decades sal density has significantly reduced which was estimated to be 42.11% of the total sal forest area. There are so many factors responsible for the poor regeneration of sal. Poor development or lack of mycorrhizae is one of the factors.

- Fifteen ectomycorrhizal fungi namely *Astraeus hygrometricus*, *Boletus edulis*, *B. fallax*, *Geastrum fimbriatum*, *G.triplex*, *Lycoperdon compactum*, *Scleroderma bovista*, *S. geaster*, *S. verrucosum*, *Russula adusta*, *R. cinerella*, *R. congoana*, *R. delicula*, *R. leelavathyi*, and *R. michiganensis* were reported in the present work. *Boletus fallax* are reported as a new fungal record from sal forest of central India. In addition three Arbuscular mycorrhizal (AM) fungi were also identified with root colonization varied from 6.1 to 11.3%.

- *Asterostomella shoreae*, a new species was reported on freshly fallen leaf litter of sal. *Helicosporium phragmitis* was reported as a new record from India on sal litter.

- In the present study two ectomycorrhizal fungi (*Lycoperdon compactum* and *Russula michiganensis*) were successfully cultured in artificial medium under laboratory conditions.

- Soil amendments with sal litter (treated with consortium of *Aspergillus niger*, *Cladosporium oxysporum* *Trichoderma viride*) or vermicompost, and application of culture of ectomycorrhizal fungi (*Russula michiganensis* and *Lycoperdon compactum*) enhanced growth index, survival, leaf phosphorous and dry plant biomass.

- Application of ECM fungi (*Russula michiganensis* or *Lycoperdon compactum*) to inoculate sal seed during seed sowing in polythene bags or root trainers and application of a consortium of decomposer fungi in pit soil during planting of seedlings can help in better establishment of saplings in the field away from the sal forest.