CHAPTER - 8

CONCLUSION
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1) There exists a highly significant correlation in case of phyllosphere, soil and air of tea environment with respect to the occurrence of mycoflora.

2) *Aspergillus flavus* and *Aspergillus parasiticus* were observed in the air, phyllosphere and soil which are probable aflatoxin producers.

3) *Aspergillus* sp and *Penicillium* sp are found to be dominant in the phyllosphere of the clonal tea varities.

4) Among the various tea factories surveyed and studied, a large number of mycoflora were observed in Cossipore, Urrunabund and Doyapur T.E.'s. These factories are found to be not well maintained in such cases (i.e. unhygienic)

5) Maximum variety of fungal species were observed from the genera *Aspergillus* and *Penicillium*. In all the factories studied, a comparatively large number of mycoflora appeared during the period of July - August i.e. during the rainy season.

6) It is to be emphasized that the poorly maintained tea factories should improve their hygienic conditions to reduce the pressure of the
aeromycoflora in their factory atmosphere, keeping the potential of aflatoxin contamination in view.

7) There is a uniformity in the pattern of occurrence in the site of observation i.e. fermentation, drying and sorting rooms. However, in case of fermentation room, a sudden fall of the total population was observed in the month of December.

8) Control(0%), 5% of 7% moisture level did not show any toxin production. But 10% moisture level onwards showed gradual increase in the amount of aflatoxin production. However, 20%, 25% and 30% moisture levels showed higher amount of aflatoxin production.

9) Higher amount of aflatoxin was detected after 5 days of inoculation, while 7th, 9th and 11th days showed uniform pattern of aflatoxin production.

10) Strain variation was found to be significant in terms of aflatoxin production in vitro.

11) ANOVA shows that both the quantity of toxin variation as well as the moisture and temperature variation are statistically significant in terms of aflatoxin production in vitro.

12) The most effective bio-control agents against Black rot organism \((Corticium invisum)\) are found to be \(Aspergillus niger, Penicillium -\)
sclerotium, *Trichoderma harzianum* and *T. viride*.

13) The above mentioned potential antagonistic strains of fungi achieved the control of black rot disease of tea in the range of 90% to 100%.

14) Statistical analysis shows that the variations regarding the bio-control agents and control achieved, were highly significant.

15) The potential antagonistic strains may be used in the field of Integrated Pest Management in tea.