SUMMARY

1. *P. expansum* and *P. digitatum* cause extensive rotting of apples and oranges in storage. The breakdown of tissues during rotting is attributed to pectinolytic enzymes.

2. The criteria used for determination of activities of the pectinolytic enzymes include maceration of parenchymatous tissues according to Mussel and Morre's quantitative bioassay and changes in viscosity of sodium polypectate.

3. The physical changes accompanying infection and rotting of apples are:

   (i) elastic properties of the cell wall wherefrom with progress in infection the value of the elastic constant increases.

   (ii) increased permeability due to which there is a rise of osmotic pressure with infection in cases of apple and orange.

   (iii) decrease in A.O.V of the cell.

   (iv) decrease in the cell dimension following Boyle's law. The decrease in cell size has been noted in other plant tissues viz. guava, potato, onion, pear, mango, pineapple and sugarcane during infection.
4. Electro-osmotic flows through the apple cells both healthy and infected, are measured. The electro-osmotic flow of water with the anions i.e. \( \text{Cl}^- \) through the cells of healthy tissue is greater than that with the cations i.e. \( \text{K}^+ \) and the process is further enhanced in case of passage through infected cells.