

Abstract:

Activity levels for polyphenol oxidase (PPO) and peroxidase (POD) enzymes were examined in crude extracts and showed significantly higher values in photosynthetic tissue than in vascular tissue. Time courses at 50 °C showed a rapid loss of POD activity and a similar but slower loss of PPO activity in all tissue while incubations at 4 °C and 25 °C showed no significant loss of activity over the same time period. The thermal treatment of the extracts (50 °C) caused a decrease in the PPO and POD activities over time, in all the samples. PPO had less dependence on temperature than POD. The model prediction for PPO and POD for the first one minute at 50 °C has little effect on either enzyme with the loss of ~6 % of the total activity. Minimal processed lettuce washed at 50 °C and stored at 4 °C during 10 days showed significantly lower PPO and POD activity throughout the storage period than those washed at 4 °C and 25 °C in the same conditions.