CONCLUSION

Study on pericarp hardening of mangosteen fruit stored at low temperature can be summarized as following:

1. Mangosteen fruit stored at 6^{o}C had greater firmness than those stored at 12^{o}C and reddish purple fruit had greater firmness than reddish brown fruit.

2. Pericarp firmness and lignin contents of mangosteen fruit stored at low temperature increased whereas total free phenolics contents decreased.

3. *p*-Coumaric and sinapic acids were identified by HPLC; *p*-coumaric acid in mangosteen pericarp hardening slightly decreased, whereas sinapic acid increased throughout the storage time.

4. Reddish purple mangosteen fruit stored in normal air and low O_2 at 6^{o}C, with or without transfer to room temperature, showed no significant difference in firmness, lignin and total free phenolics level. PAL and POD activities in fruit transferred to room temperature were higher than those without transfer to room temperature.

5. Low O_2 treatment had no effect on mangosteen pericarp hardening when applied either during low temperature storage or at room temperature following storage at 6^{o}C.

6. Low O_2 treatment had no significant effect on PAL and POD activities in mangosteen fruit stored at 6^{o}C whereas it had slightly effect on PAL and POD activities after transfer to room temperature.

7. PAL and LgPOD genes expression increased with lower temperature, storage time and their activities.

8. Low O_2 treatment had slight effect on PAL and LgPOD genes expression.