

## CHAPTER VI

### CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 Conclusions

The study shows the antioxidant activity of three different varieties of mango seed kernel and grape seed extract, which are extracted by four different extraction solvents, in comparison to the appropriate extraction method that usable by local industry.

The three different mango seed kernels varieties (*Mangifera indica* L.), which were Kaew, Mahachanok and Keaw morakot, and the Black queen grape seed variety (*Vitis vinisfera* L.) were extracted with four different extraction solvents comprised 95% ethanol, rice whisky (contained 40% ethanol), water and hot water. These extracts were determined by their antioxidant activity in three analysis, including total phenolic contents, reduction power and DPPH radical scavenging activity. The results of the present study revealed that the extracts prepared by rice whisky (contained 40% ethanol) exhibited better antioxidant activities and higher total phenolic contents, followed by 95% ethanol, water and hot water. Moreover, the mango seed kernel extracts of the Kaew variety were found the highest antioxidant activities and total phenolic contents, followed by Keaw morakot and Mahachanok respectively when compared with the Black queen grape seed, Kaew extracts were found less antioxidant activity than those found in Black queen grape seed extracts. Furthermore, the weight per unit of mango seed kernel is much more than the grape seed weight, so in 100 grams dry weight sample, we used fewer mango seed kernels than grape seeds. The present data would certainly help to confirm that mango seed kernel from the agricultural waste can be the potential source of natural antioxidants and the rice whisky was effective to be used as the extraction solvent.

## **6.2 Recommendations**

The study shows the antioxidant activity of difference variety of mango seed kernel and grape seed extract which extracted by difference extraction solvents to comparison the appropriate extraction method that usable in local industry. In this study used a constant sample concentration to determine the potential of antioxidant content. However, the study of various concentrations can indicate the precision and accuracy in the determination of antioxidant activity. Thus, further research is important to focus on the variation of the concentration of mango seed kernel extracts and grape seed extracts to indicate the optimal concentration of the extract and determine the proper amount of antioxidants compound for further utilization. Furthermore, further researches are needed to identify the components that forming antioxidative system to develop their applications on food and pharmaceutical sectors in local industry.