

CHAPTER VI

CONCLUSION

Agaricus bisporus (button mushroom), *Lentinus edodes* (shiitake mushroom), *Pleurotus ostreatus* (oyster mushroom) and *Pleurotus abalones* (abalone mushroom) were studied on their antimutagenicity in the wing spot mutation and recombination test using *Drosophila melanogaster*. All the mushroom extracts did not express mutagenicity. In simultaneous feeding study, only fresh/fermented shiitake mushroom and blanched/fermented oyster mushroom showed a protective effect. Fresh/blanched button mushroom showed mutagenic effect, while the other mushroom extracts demonstrated no effect. In the pre-feeding study, the results show that the mutagenicity of urethane increased when the larvae pre-fed with each fresh button mushroom, fresh/blanched oyster mushrooms. The potential mutagenicity of *A. bisporus*, may be due to the possible role played by agaritine.

All fermented mushrooms exhibited their antimutagenicity against urethane in simultaneous feeding study and pre-feeding study. It was proposed that some compounds obtained from biochemical changes during fermentation might activate glutathione-S-transferase activity or decrease the activity of cytochrome P-450 or lactic acid bacteria existed during fermentation process could retard the activity of any toxicant. In addition, the result in pre-feeding study indicated that prolonged consumption of all fermented mushrooms showed a trend to increase antimutagenic activity against urethane. On the other hand, oyster mushroom extract exhibited mutagenic potentiating activity. However, mushroom consumption is recommended because of their nutritive value.