

CHAPTER 5

CONCLUSIONS

It was shown in this study that the significant main effects of the crystal violet decolorization by pellets of *Pycnoporus sanguineus* were process time (days) and agitation speed (rpm). The significant squared effect of the variables studied were also process time and agitation speed. Both variables (process time and agitation speed) were also shown to be interacting significantly with each other. The optimum conditions for the dye decolorization process were: two (2) days process time, 128 rpm of agitation speed and 40 ppm of initial dye concentration. It was also shown that 45% of the decolorization was due to biomass adsorption while 48% was attributed to biological decolorization mechanism(s). Only 7% of the original dye remained in the solution. The use of radial-flow curved blade impeller resulted in higher percentage of decolorization with increasing impeller rotational speeds. However, the used of axial-flow angled blade 60° impeller resulted in lower percentage of decolorization with increasing impeller rotational speeds.