

ABSTRACT

Salehurrahman, 2009. The Effect *Curcuma domestica* Rhizome Extract on *E. coli* and *Salmonella* in Tahu. Thesis: Biology Department. Science and Technology Faculty- The State Islamic University of Malang. Advisor I: Ir. Lilik Harianie, AR. MP. Advisor II: Ach. Nasichuddin, M.Ag.

Kata Kunci : Tahu (tofu), Bacteria, *E. Coli*, *Salmonella*, *Curcuma domestica*.

The technique in food saving with using chemical synthetically compound like formaldehyde had affected negative effect on man healthy. So, the precise technique must be introduced to save food with using natural product like antibacterial plants.

The aims of this research are: (1) to know the effect of concentration variations of *Curcuma domestica* rhizome extract on *E. coli* and *Salmonella* in Tahu food (2) to know the effect of soaking stripper variations of *Curcuma domestica* rhizome extract on *E. coli* and *Salmonella* in Tahu food; and (3) to know the interaction effect of concentration and soaking stripper variations of *Curcuma domestica* rhizome extract on *E. coli* and *Salmonella* in Tahu food

This research had been conducted with using completely randomized design compiled with two factor and three replication. The first factor is concentration variations of *Curcuma domestica* rhizome extract (0%, 1%, 3%, 5%, 7% and 9%) the second factor is soaking stripper variations of *Curcuma domestica* rhizome extract ((1 hari, 2 hari, 3 hari, 4 hari, 5 hari, 6 hari). Data is analyze with Two Way ANOVA with significance 95 %. If there is effect of curcuma extract, the date is analyzed with Duncan Test.

The research shows that there is effect of concentration variations of *Curcuma domestica* rhizome extract on *E. coli* growth which 7 % extract is very effective concentration in inhibiting the growth of *E. coli* with low rate total of bacteria: 48.55 cfu/ml. The soaking stripper variations also affect on *E. coli* growth which 2 days of soaking stripper is most effective in inhibiting the growth of *E. coli* with low rate total of bacteria: 55.11 cfu/ml. The research also shows that there are interaction between concentration and soaking stripper variations on *E. coli* which 7 % extract combined with 1 days of soaking stripper is most effective in inhibiting the growth of *E. coli* with low rate total of bacteria: 12,67 cfu/ml. The effect of *Curcuma domestica* rhizome extract on *Salmonella* is not quantified because *Salmonella* is not growth till the fourth day, *Salmonella* grows very rapidly at the fifth and the sixth day.