ABSTRACT

HAEZY SATRIANI CAHYA WIDYASTUTI. Screening Herbal to Streptococcosis and Motile Aeromonad Septicaemia (MAS) by In Vitro. Supervised by Munti Yuhana and Angela Mariana Lusiastuti.

Streptococcosis is caused by *Streptococcus agalactiae* bacteria, while *Aeromonas hydrophila* bacteria is the causative agent of MAS. This research comprised of basic tests. Eighteen plants extracts were screened for their antibacterial activities. These materials were extracted by maceration method that used two types of solvents, i.e. ddH₂O and 95% ethanol. The results obtained were crude extracts. *In vitro* tests were conducted including the sensitivity test of bacteria to plant extracts and the minimum inhibitory concentration (MIC). MIC was performed by the macrodilution method. The bacteria that used were *S. agalactiae* and *A. hydrophila*. Results of this study showed that 15 plants extracted by 95% ethanol extraction methods, 83.0% indicated their antibacterial capability against *S. agalactiae* whereas 4 plant extracts (22.2%) inhibited the growth of *A. hydrophila*. Extraction method using ddH₂O, showed 5 plant extracts (27.7%) inhibited *S. agalactiae*, and no extracts resulted inhibition zone against *A. hydrophila*. Both extraction methods were applicable for sirih (*P. betle*) and kimanila (*C. alata*) since their extracts showed antibacterial activity to *S. agalactiae*. MIC value of kunyit (*C. domestica*), kunyit putih (*C. zedoaria*), temulawak (*C. xanthorrhiza*), sirih (*P. betle*), meniran (*P. niruri*), ketapang (*T. catappa*) that extracted by 95% ethanol on *S. agalactiae* were at 25 mg/ml, and jawer kotok (*P. scutellaroides*) was at 12.5 mg/mL, the remaining there were bawang putih (*A. sativum*), kirinyuh (*E. inulaefolium*), kimanila (*C. alata*), petai cina (*L. leucocephala*), kipahit (*T. diversifolia*), combrang (*E. elatior*), babandotan (*A. comzoides*), jambu monyet (*A. occidentale*) were above 25 mg/ml. MIC value of sirih (*P. betle*), kimanila (*C. alata*), jawer kotok (*P. scutellaroides*), jambu monyet (*A. occidentale*) on *A. hydrophila* were more than 25 mg/ml. MIC value of bawang putih (*A. sativum*), sirih (*P. betle*), kirinyuh (*E. inulaefolium*), kimanila (*C. alata*), kipahit (*T. diversifolia*) that extracted using ddH₂O on *S. agalactiae* were above 25 mg/mL.

Key words: Streptococcosis, motile aeromonad septicaemia, in vitro, antibacterial, extraction, crude extract, sensitivity test, MIC test.