

ABSTRACT

TEST ACTIVITY OF THE RESPONSIBILITY OF NEEM (*Azadirachta indica* A.Juss) LEAF EXTRACT AGAINST *Bacillus subtilis* WITH ETHANOL SOLUTION USING PERCOLLATION METHOD

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Background : Many types of plants that can grow in Indonesia, most of which can be used as a source of natural medicinal ingredients and have been widely used by the community for generations for medicinal purposes to overcome health problems. One of the plants in Indonesia that has many benefits in the health sector is the neem plant. Neem leaves are compound leaves arranged opposite each other on the petiole, the leaves are oval, unpaired, 3-8 cm long and 3-4 cm wide. A distinctive feature of the leaves is a scalloped edge. *Bacillus subtilis* is a saprophytic, rod-shaped, gram-positive non-pathogenic spore-forming bacterium that is usually found in water, air, dust and soil. The design in this study was to repeat 6 times at 3 different concentrations of 1%, 2%, 3%. The outline of this research consists of instrument sterilization, extraction process. **Objective:** To determine the ability of neem leaf extract (*Azadirachta indica* A. Juss) to inhibit *Bacillus subtilis* bacteria. **Method :** The extraction method used in this study is the percolation method, because percolation is an extraction method that does not use heat, so the compounds contained in it are not damaged. **Results :** Based on the results of research conducted, it can be concluded that neem leaf extract using ethanol as a solvent has antibacterial properties that can inhibit the growth of *Bacillus subtilis* bacteria. So with this research, it is hoped that neem leaf extract is used as a herbal product from natural ingredients that can be used for the treatment of infections, so it is expected to produce a product such as tea, capsules, etc. **Conclusion :** Based on the results of research that has been done, it can be concluded that neem leaf extract (*Azadirachta indica* A. Juss) with a concentration of 1%, 2%, 3% effect on the diameter of the inhibition zone of *Bacillus subtilis* bacteria. Extraction is the process of separating materials from the mixture by using a suitable solvent.

Keywords: *Neem Leaf, Percolation, Bacillus subtilis*