

ISOLASI DAN KARAKTERISASI PROTEASE ALKALIN DARI ISOLAT BAKTERI LIMBAH TERNAK DI EXFARM FAKULTAS PETERNAKAN UNSOED

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Abstract	<p>Protease is one of the widely used enzymes for the industry. The potential resource of microorganism that produced protease is milk cow waste. In this research, isolation and characterization has been done toward isolated protease from milk cow waste of the Exfarm?s Animal Husbandry Faculty at University of Jenderal Soedirman, Purwokerto. The research used experiment method and the parameters observed were the genus of bacteria which produce protease and the activity of protease. The characterizations of protease were determination of optimum pH and temperature, the influence of metal ions, EDTA, surfactant, and commercial detergent toward enzyme activity, and also the study of enzyme stability. The results from the research showed that the isolated bacteria from the Exfarm?s of Animal Husbandry Faculty of UNSOED, which produced protease was <i>Salmonella</i> sp. Characterization of isolated <i>Salmonella</i> sp. from 45% ammonium sulphate fraction indicated that the optimum temperature was 50 °C, optimum pH was 8, the enzyme was activated by Ca²⁺ dan Mg²⁺ ion, whereas it was inhibited by Zn²⁺, Cu²⁺ ions and EDTA. The addition of Tween-80 with the concentration of 0.2% and 0.4% increased protease activity, however the addition of Tween-80 with concentration higher than 0.6% decreased the protease activity. Enzyme protease from isolated <i>Salmonella</i> sp. was relatively stable with the addition of commercial detergent such as Attack, Surf, and Bukrim.</p>
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