EXTRACTING OIL FROM BANGLE ROOT (ZINGIBER PURPUREUM ROXB) BY USING HYDRO DISTILATION AND STEAM DISTILATION

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ABSTRACT

Essential oil from bangle root is the one of type essential oil that always say volatile oil. Essential oils or oils esteris is the term used for the volatile oil composition and boiling points of different. For raising selling price, it is necessary to attempt for raising the quality so that it will be appropriate to standart.

Research purposes are analyzing the effect of the root mass ratio Bangle when shooting against the oil yield of oil produced, analyze the influence of different cross-sectional area of the Bangle root yield and oil quality, analyze the influence of differences in yield and operating time of the oil produced, comparing and analyzing the results of different methods on the quality and quantity of oil Bangle between steam distillation with distilled water.

We used root bangle and method hydro distilation and steam distilation. For hydro distilation we use distilation time during 8 hour (decision distillate every 2 hours) and for steam destilation we use distilation time during 8 hour (decision distillate every 2 hours). Variabel process using for all method are mass raw material (200, 300, 400, 500)
gram. Hydro Distillation of this in terms of chemical leaching process can be called for in this method occurs making process with the aid of solid solutes in water as a solvent and extracted oil teruapkan besama join with water. For steam distillation, this method is combination between hydro distillation in the process, steam is contacted in a material that will take the oil, while the material is soaked in water.

Operating conditions for both of these methods is at a temperature of 100°C and a pressure of 1 atm. The resulting vapor is condensed and distillate in the form of oil and water mixture is separated using a separator funnel, then the distillate in the form of water from the separation process using a separator funnel refluxed to the distillation flask. The oil obtained was cooled at a temperature of 0 °C to purify the remaining oil from the water contained in the oil. From research data obtained rendeman, density, refractive indeks, and components contained in essential oil. From these data it can be concluded that the oil rendeman bangle best of each variable obtained by hydro distillation method. Treatment chopped 0.5 cm produced the highest oil rendeman minced 2 cm compared to the treatment, the optimal distillation time is 6 hours, the number of components that read on hydro distillation method is steam distillation and the component 24 is 29 components.