FORMULASI DAN EVALUASI GRANUL EFFERVESCENT EKSTRAK ETANOL BUAH ANDALIMAN *(Zanthoxylum acanthopodium DC)* DENGAN KOMBINASI ASAM SITRAT-ASAM TARTRAT DAN NATRIUM BIKARBONAT

ABSTRAK

Andaliman mempunyai kandungan senyawa berupa steroid, flavonoid, alkaloid, fenol, tanin, glikosidia, lemak, minyak, dan karbohidrat. Pemanfaatan Andaliman dalam bidang kesehatan masih tergolong kecil, oleh karena itu dibutuhkan bantuan pengembangannya dalam bentuk sediaan *effervescent*. Tujuan penelitian ini yaitu mengetahui pengaruh penggunaan kombinasi asam sitrat-asam tartrat dan natrium bikarbonat terhadap sifat fisik granul effervescent ekstrak etanol buah andaliman, serta untuk menentukan konsentrasi kombinasi yang memberikan efek terbaik pada sifat fisik granul effervescent. Pembuatan granul ekstrak etanol andaliman dilakukan melalui metode granulasi basah. Hasil penelitian menunjukkan bahwa ketiga formulasi kombinasi asam sitrat-asam tartrat dan natrium bikarbonat berpengaruh pada bobot jenis, laju alir, sudut istirahat, waktu dispersi, dan pH granul effervescent ekstrak etanol buah andaliman. Formula I didapatkan hasil uji bobot jenis 20.93%, laju alir 7.44, sudut istirahat 25.73^{o}, waktu dispersi 4.8 menit, dan pH 5.7. Untuk formula II didapatkan hasil uji bobot jenis 23.86%, laju alir 6.64, sudut istirahat 25,46^{o}, waktu dispersi 2,35 menit, dan pH 5.6. Sedangkan untuk formula III didapatkan hasil uji bobot jenis 23.86%, laju alir 6.34, sudut istirahat 25.07^{o}, waktu dispersi 2.23 menit, dan pH 5.5. oleh karena itu, pengaruh yang paling baik pada sifat fisik granul *effervescent* yaitu pada konsentrasi 67,2% (formula III).

Kata kunci : *Andaliman, granul effervescent, granulasi basah, evaluasi granul, formulasi sediaan effervescent, asam sitrat, asam tartrat, natrium bikarbonat*.

FORMULATION AND EVALUATION OF EFFERVESCENT GRANULES OF ANDALIMAN FRUIT ETHANOL EXTRACT (Zanthoxylum acanthopodium DC) WITH A COMBINATION OF CITRIC ACID-TARTRIC ACID AND SODIUM BICARBONATE

ABSTRACT

Andaliman contains compounds in the form of steroids, flavonoids, alkaloids, phenols, tannins, glycosidia, fats, oils, and carbohydrates. The use of Andaliman in the health sector is still relatively small, therefore development assistance is needed in the form of effervescent preparations. The purpose of this study was to determine the effect of using a combination of citric acid-tartric acid and sodium bicarbonate on the physical properties of the effervescent granules of the ethanol extract of Andaliman fruit, as well as to determine the concentration of the combination that had the best effect on the physical properties of the effervescent granules. Manufacture of granular ethanol extract of Andaliman was carried out using the wet granulation method. The results showed that the three combination formulations of citric acid-tartric acid and sodium bicarbonate had an effect on specific gravity, flow rate, angle of repose, dispersion time, and pH of effervescent granules of ethanol extract of andaliman fruit. Formula I obtained specific weight test results of 20.93%, flow rate 7.44, resting angle 25.73°, dispersion time 4.8 minutes, and pH 5.7. For formula II, specific weight test results were obtained 23.86%, flow rate 6.64, rest angle 25.46°, dispersion time 2.35 minutes, and pH 5.6. As for formula III, the specific weight test results were obtained 23.86%, flow rate 6.34, resting angle 25.07°, dispersion time 2.23 minutes, and pH 5.5. therefore, the best influence on the physical properties of effervescent granules is at a concentration of 67.2% (formula III).

Keywords : *Andaliman, effervescent granule, wet granulation, granule evaluation, effervescent preparation formulation, citric acid, tartric acid, sodium bicarbonate.*