

INTISARI

Penelitian ini bertujuan untuk menetukan kadar optimal amilum bengkoang sebagai bahan penghancur. Penelitian ini merupakan kelanjutan dari penelitian sebelumnya mengenai kemampuan amilum bengkoang sebagai bahan penghancur dengan amilum manihot sebagai bahan pembanding. Kadar optimal ditentukan berdasarkan parameter waktu hancur dan daya serap tablet.

Penelitian ini dikerjakan dengan metode granulasi basah dan menggunakan tablet parasetamol sebagai model. Digunakan lima formula dengan lima tingkat kadar amilum bengkoang. Tingkatan kadar yang digunakan adalah 8%; 9%; 10%; 11%; dan 12%. Uji sifat fisik granul yang dilakukan meliputi waktu alir, sudut diam dan pengetapan sedangkan uji fisik tablet meliputi keseragaman bobot, kekerasan, kerapuhan, waktu hancur, daya serap dan kadar zat aktif dalam tablet. Hasil dari penentuan waktu hancur dan daya serap dianalisis secara statistik menggunakan analisis variansi satu arah ($P=0,05$) dan dilanjutkan uji t jika ditemukan perbedaan.

Kelima formula memenuhi persyaratan untuk kedua uji sifat fisik. Perbedaan yang bermakna terlihat pada waktu hancur dan daya serap tablet. Formula pertama sampai dengan kelima berturut-turut mempunyai waktu hancur sebesar $(369 \pm 3,36)$; $(634,8 \pm 4,06)$; $(599,6 \pm 7,61)$; $(300,6 \pm 3,11)$; $(251 \pm 3,52)$ detik. Untuk daya serap tablet formula pertama sampai formula kelima berturut-turut sebesar $(0,166 \pm 8,14)$; $(0,117 \pm 0,86)$; $(0,178 \pm 5,41)$; $(0,183 \pm 3,5)$; $(0,224 \pm 4,45)$ ml. Dari hasil tersebut kadar amilum bengkoang 12% mempunyai waktu hancur paling cepat dan daya serap terbesar serta memenuhi uji sifat fisik tablet yang lain. Hal ini menunjukkan bahwa kadar amilum bengkoang sebesar 12% adalah paling baik diantara kelima formula.

ABSTRACT

This research was aimed to determine the optimal level of starch of bengkoang (*Pachyrrhizus erosus* (L) Urb) as a disintegrating agent. This research was based on the previous study of the ability of starch of bengkoang (*Pachyrrhizus erosus* (L) Urb) as a disintegrating agent using manihot starch as comparison. The optimal level of the bengkoang starch was determined according to the disintegration-time and the water uptake of tablet parameter.

The research was done using wet granulation method and using paracetamol tablet as model. The five formulas were based on concentration variation of bengkoang starch 8%, 9%, 10%, 11%, and 12%. The physical-test of granula included the flow time, the angle of repose, and tapping index. The physico-chemical characteristic of tablet were tested included the uniformity of weight, hardness, friability, disintegration-time, water uptake and the active matter in tablet. The data obtained of the physical granula test and physico-chemical of tablet were analyzed statistically using one way analysis of variance ($P = 0.05$) and continued using T test for the different.

The five formulas were accomplished for the two physical test. The significant different were observed for the disintegration-time and water uptake of tablet. The disintegration-time of tablet from the five formulas (FI-FV) were (369 ± 3.36) , (634.8 ± 4.06) , (300.6 ± 3.11) , (251 ± 3.52) second respectively. The water uptake of tablet from the five formulas (FI-FV) were (0.166 ± 8.14) , (0.117 ± 0.86) , (0.178 ± 5.41) , (0.183 ± 3.5) , (0.224 ± 4.45) ml respectively. From the data obtained, the 12% of starch level showed the highest in absorbing water - ability and the fastest in disintegration-time than others besides accomplished the other physico-chemical characteristic.