

Irsyadatun Ni'mah. NIM 190331100008. Formulasi Serbuk Cabe Jamu (*Piper Retrofractum Vhal.*) Berenkapsulasi Xanthan gum. Di bawah bimbingan **Dr. Moh. Fuad Fauzul M, S.TP., M.Si.** dan **Dr. Ir. Raden Faridz, M.P**

ABSTRACT

Beverages derived from extracts of natural ingredients such as chili herbs, generally have a greater risk related to product storage and delivery. A process that can help reduce this risk is by changing liquid drinks into powder or powder using the encapsulation method. Encapsulation is a process of coating the active ingredient using a coating material. The active ingredient in question is the active ingredient contained in herbal chilies, while the coating is xanthan gum. The purpose of this study was to obtain results of the influence of xanthan gum concentration and inlet temperature on the physical characteristics of herbal chili powder, to analyze how much the physical characteristics of herbal chili powder were, and to obtain the best formulation based on the combination of treatments performed. The method of this study used a non-factorial completely randomized design (CRD) with two variables, namely xanthan gum concentration and inlet temperature. The parameters of this research are granule size, solubility test, wettability test, water content test, antioxidant test, effectiveness index and determination of Cost of Production (HPP). The effect of temperature and concentration of xanthan gum has a significant effect on solubility and not significant on wettability. Meanwhile, xanthan gum concentration and temperature did not significantly affect granule size. In the granule size test, the sample that has the smallest diameter is the K1T1 sample with a diameter of 27.7039 μm . Meanwhile, the solubility test produced the lowest solubility value in the K1T1 treatment with a xanthan gum concentration of 1 g/l and a temperature of 160°C for 4.17 minutes. The lowest water content value was found in the K3T3 treatment with a xanthan gum concentration of 3 g/l and a temperature of 180°C, namely 2.76%. The sample that has the best formulation in the manufacture of xanthan gum-encapsulated herbal chili powder is the K1T1 treatment with a xanthan gum concentration of 1 g/l and a temperature of 160°C. This treatment resulted in a granule diameter of 55.407 μm , wettability 4.05 minutes, solubility 4.17 minutes, moisture content 3.322% and antioxidant 856 ppm.

Keywords: Herbal chili, Xanthan gum, Encapsulation

DAFTAR ISI

DAFTAR ISI	xi
DAFTAR TABEL	xiii
DAFTAR GAMBAR.....	xiv
DAFTAR LAMPIRAN	xv
I. PENDAHULUAN	1
1.1 Latar Belakang	1
1.2 Rumusan Masalah	2
1.3 Tujuan	2
1.4 Manfaat	2
II. TINJAUAN PUSTAKA.....	3
2.1 Tanaman Cabe Jamu	3
2.1.1 Kandungan Senyawa Cabe Jamu	3
2.2 Enkapsulasi	4
2.3 <i>Spray drying</i>	4
2.4 Enkapsulat	5
III. METODE PENELITIAN.....	7
3.1 Waktu dan Tempat Penelitian.....	7
3.2 Bahan dan Alat.....	7
3.2.1 Bahan	7
3.2.2 Alat	7
3.3 Rancangan Penelitian	7
3.4 Prosedur Penelitian	8
3.4.1 Ekstraksi Cabe Jamu	8
3.4.2 Enkapsulasi Cabe Jamu	9
3.5 Parameter Penelitian	11
3.5.1 Ukuran Granula	11
3.5.2 Uji <i>Wettability</i>	11