

Shinta Amanatul Khoiriyah. NPM 19.03.3.1.1.00093. *Piper Longum Powder Formulation (Piper retrofractum Vahl) Encapsulated in Liquid Milk.* Under the guidance **Dr. Moh. Fuad Fauzul M, S.TP., M.Si.** and **Dr. Ir. Raden Faridz, M.P.**

ABSTRACT

Piper Longum is one of the spices that is used as a traditional medicine. People use piper longumes as traditional medicine and are believed to be able to treat low blood pressure, colds, gout, and headaches. Along with the development of food processing technology, many processed spice products are found. Processed spice products can be found in instant form in the form of powder. Processing chili herbs into powder makes it easier to serve and store. The process of making piper longum powder can be done by the methodspray drying or spray drying. The drying process in the manufacture of piper longum powder can result in the loss of the active compounds contained in the piper longum extract. The loss of the active compounds contained in the piper longum extract can be prevented by using the encapsulation method. Encapsulation is a process of coating a material using another material that aims as a protector. The purpose of this study was to determine the effect, the real differences in the treatment of the composition of piper longum extract and liquid milk with variations in inlet temperature spray drying on the characteristics of piper longum powder encapsulated in liquid milk, and the antioxidant activity of piper longum powder encapsulated in liquid milk. This research method used a completely randomized design using two treatment factors, namely the composition of piper longum extract with liquid milk and inlet temperaturespray drying. The research parameters include water content test,waktu larut, wettability, antioxidant test and granule test. The results showed that the composition of piper longum extract and liquid milk with variations in inlet temperaturespray drying give a real influence on the water level,waktu larut, andwettability. The antioxidant activity of piper longum powder encapsulated in liquid milk is best found in the 90:10 treatment with inlet temperaturespray drying 160 °C with IC value₅₀ 44,83 ppm.

Keywords :*cabe jamu powder, encapsulation, liquid milk*