

**ANALISIS TEKNIS PENGARUH BAHAN BUBUK KAKAO,
KETEBALAN BAHAN DAN WAKTU PEMBERIAN *STEAM* TERHADAP
KARAKTERISTIK BUBUK MINUMAN KAKAO INSTAN YANG
DIBUAT MENGGUNAKAN *STEAM JET BATCH-TYPE*
*AGGLOMERATOR***

INTISARI

Oleh:

YUSUF FAHRUDIN HARDIYANTO

16/400435/TP/11648

Minuman coklat merupakan salah satu produk minuman yang berbahan dasar bubuk kakao. Akan tetapi, dalam pembuatannya masih dibutuhkan usaha lebih untuk melarutkan bubuk kakao dikarenakan kadar lemak bubuk kakao yang tergolong cukup tinggi. Proses aglomerasi menjadi salah satu metode untuk membuat bubuk kakao menjadi mudah larut dalam air dengan pemberian *steam*. Penelitian ini bertujuan untuk mengkaji pengaruh variasi bahan bubuk kakao, ketebalan bahan dan waktu pemberian *steam* terhadap karakteristiknya. Variasi bahan terdiri dari bubuk kakao C dan bubuk kakao P, variasi ketebalan bahan pada ketebalan 1, 1,5, dan 2 cm serta variasi waktu pemberian *steam* pada 1, 2, 3, 4, dan 5 menit. Adapun karakteristik yang dimaksud antara lain yaitu karakteristik fisik meliputi (kadar air, warna, *density*, *fineness modulus* dan diameter rata-rata), karakteristik instan meliputi (*solubility* dan *dispersibility*) serta karakteristik alir meliputi (*flowability* dan *cohesiveness*). Bubuk kakao setelah proses aglomerasi memiliki nilai karakteristik fisik sebagai berikut: kadar air lebih rendah, nilai L^* lebih rendah, nilai a^* lebih tinggi, b^* lebih rendah, *bulk density* dan *tapped density* lebih rendah, *fineness modulus* dan diameter rata lebih tinggi dibandingkan dengan bubuk kakao sebelum aglomerasi. Selanjutnya karakteristik instan bubuk kakao setelah proses aglomerasi memiliki nilai *solubility* lebih tinggi dan nilai *dispersibility* lebih rendah daripada bubuk kakao sebelum aglomerasi. Untuk karakteristik alir bubuk kakao setelah aglomerasi, nilai CI lebih rendah dan HR lebih tinggi dari bubuk kakao sebelum aglomerasi. Berdasarkan uraian tersebut, terjadi perubahan pada karakteristik bahan setelah proses aglomerasi akibat pemberian *steam* dengan variasi perlakuan yang diberikan.

Kata kunci: *batch-type steam agglomerator*, bubuk minuman kakao instan, bubuk kakao, waktu pemberian *steam*.

Pembimbing: Arifin Dwi S., S.T.P., M.Sc., Ph.D., Dr. Ir. Nursigit Bintoro, M.Sc., Redika Ardi Kusuma, S.T.P., M.Si.

**TECHNICAL ANALYSIS OF THE EFFECT OF COCOA POWDER,
MATERIAL THICKNESS AND TIME OF STEAMING PROCESS ON
THE CHARACTERISTICS OF INSTANISED COCOA BEVERAGE
POWDER MADE USING STEAM JET BATCH-TYPE
AGGLOMERATOR**

ABSTRACT

By:

YUSUF FAHRUDIN HARDIYANTO

16/400435/TP/11648

Chocolate drink is a beverage product made from cocoa powder. However, more effort is needed in its manufacture to dissolve the cocoa powder because the fat content of cocoa powder is quite high. Agglomeration process is one of the methods to produce cocoa powder that dissolves easily in water with *steam*. This research aims to examine the effect of variations in the material of cocoa powder, the thickness of the material, and *steam* time on its characteristics. Variations in cocoa powder material consist of C cocoa powder dan P cocoa powder, variations in the thickness of materials at thicknesses of 1, 1,5, 2 cm, and variations in *steam* time at 1, 2, 3, 4, and 5 minutes. The characteristics referred to; physical characteristics including the moisture content, color, density, fineness modulus, and average diameter, instantaneous characteristics including the solubility and dispersibility, and flow characteristics including the flowability and cohesiveness. After the agglomeration process, cocoa powder has the following physical characteristics: lower moisture content, lower L* values, higher a* values, lower b* values, lower bulk and tapped density, higher fineness modulus, and average diameter than with before agglomeration cocoa powder. Furthermore, the instant characteristics of cocoa powder after the agglomeration process have a higher solubility value and a lower dispersibility value than cocoa powder before agglomeration. On top of that, the flow characteristics of cocoa powder after agglomeration, CI value is lower and HR is higher than before agglomeration cocoa powder. According to the description, there is a changes in the characteristic of the material after the agglomeration process due to application of steam with variety of treatments.

Keywords: batch-type steam agglomerator, cocoa powder, instant powder cocoa beverage, time of steaming.

Pembimbing: Arifin Dwi S., S.T.P., M.Sc., Ph.D., Dr. Ir. Nursigit Bintoro, M.Sc.,
Redika Ardi Kusuma, S.T.P., M.Si.