ABSTRAK

Kathleen Michelle Zaneta (00000025560)

KARAKTERISTIK FISIKOKIMIA KOMPLEKS PATI *KERNEL* MANGGA–*XANTHAN GUM* DENGAN PENAMBAHAN GARAM
Skripsi, Fakultas Sains dan Teknologi (2021)

(xiv + 49 halaman; 18 gambar; 2 tabel; 12 lampiran)

Pati *kernel* mangga berpotensi sebagai *stabilizer* dan *thickener* pada pengolahan produk pangan. Namun, pati *kernel* mangga memiliki kecenderungan sineresis. Penambahan *xanthan gum* dan garam dapat mengubah karakteristik fisikokimia pati. Penelitian mengenai pengaruh penambahan *xanthan gum* dan garam terhadap karakteristik fisikokimia pati *kernel* mangga jarang diteliti. Tujuan dari penelitian adalah untuk mengekstrak pati dari *kernel* mangga, mengetahui karakteristik pati *kernel* mangga dan mengetahui pengaruh penambahan *xanthan gum* dan garam pada berbagai konsentrasi terhadap karakteristik fisikokimia pati *kernel* mangga melalui pengukuran *swelling power* dan *solubility*, kejernihan pasta, tingkat sineresis, *cohesiveness*, dan *springiness*. Penelitian dibagi menjadi dua tahap, yaitu penelitian tahap pendahuluan dan tahap utama. Pada penelitian tahap utama, pati *kernel* mangga diberi penambahan *xanthan gum* pada konsentrasi 0, 0,25, dan 0,50% dan garam pada konsentrasi 0, 1, dan 2% dan kombinasi kedua faktor pada tiap konsentrasi. Rendemen pati *kernel* mangga sebesar 11,43%±0,39. Secara fisik, pati *kernel* mangga berwarna putih kekuningan dengan nilai derajat putih sebesar 93,71%±0,03. Secara kimia, pati *kernel* mangga memiliki kadar pati sebesar 97,55%±2,26, kadar amilosa sebesar 24,30%±1,40 dan kadar amilopektin sebesar 73,25%±1,91. Kemampuan *swelling* dan *solubility* pati *kernel* mangga meningkat dengan penambahan konsentrasi *xanthan gum* hingga 0,50% dan garam hingga 2%. Penurunan tingkat sineresis, nilai *cohesiveness*, dan *springiness* pati *kernel* mangga diperoleh dengan penambahan *xanthan gum* 0,50%.

Kata Kunci : pati *kernel* mangga, *xanthan gum*, garam, sineresis

Referensi : 62 (1980-2020)

ABSTRACT

Kathleen Michelle Zaneta (00000025560)

PHYSICOCHEMICAL CHARACTERISTICS OF MANGO KERNEL STARCH–XANTHAN GUM COMPLEX COMPLEX WITH ADDITION OF SALT

Thesis, Faculty of Science and Technology (2021)

(xiv + 49 pages; 18 figures; 2 tables; 12 appendics)

Mango kernel starch has the potential as a stabilizer and thickener in food product processing. However, mango kernel starch has the tendency for syneresis. The addition of xanthan gum and salt is known to improve the physicochemical characteristics of starch. Research on the effect of adding xanthan gum and salt on the physicochemical characteristics of mango kernel starch has rarely been studied. This study was aimed to extract starch from mango kernel, determine the characteristics of mango kernel starch and to determine the effect of adding xanthan gum and salt at various concentrations on the physicochemical properties of mango kernel starch by measuring swelling power and solubility, paste clarity, level of syneresis, cohesiveness, and springiness. The research is divided into two stages, namely the preliminary stage and main stage. In the main stage research, mango kernel starch was added with xanthan gum at concentrations of 0, 0,25, and 0,50% and salt at concentrations of 0, 1 and 2% and a combination of both factor at each concentration. The yield of mango kernel starch extracted was 11,43%±0,39. Physically, mango kernel starch has yellowish white color with 93,71%±0,03 whiteness index. Chemically, mango kernel starch has a starch content of 97,55%±2,26, 24,30%±1,40 amylose content, and 73,25%±1,91 amylopectin content. Swelling ability and solubility of mango kernel starch increased with the addition of xanthan gum concentration up to 0,50% and salt up to 2%. The decrease in syneresis level, cohesiveness, and springiness value of mango kernel starch was obtained by addition of 0,50% xanthan gum.

Keywords : mango kernel starch, xanthan gum, salt, syneresis

References : 62 (1980-2020)