

# STUDY OF MIXED VARIATION OF CORN STARCH (*Zea mays L.*) AND CELERY (*Apium graveolens L.*) ON KUNARENA LE MAKING AS ALTERNATIVE SNACK FOR HYPERTENSION PATIENTS

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## ABSTRACT

**Background:** The habit of consuming high-fat food and excessive sodium intake is closely related to the risk of hypertension. The proportion of Indonesian population with the consumption behavior of fatty foods, cholesterol and fried foods  $\geq 1$  times a day was 40.7%, consumption of salty foods  $\geq 1$  times a day was 26.2%, this proportions were not include the consumption of flavoring  $\geq 1$  times a day. The alternative snacks for hypertension patients were snacks which low in sodium and fat, some ingredients that can be used were corn and celery. Corn can be processed into corn starch and celery can be used to complement the snack. Corn and celery can be used as a baking ingredients, for instance "Kunarena Le" nastar cookies. **Objective:** A study to ascertain the process of making corn starch, assess the sensory evaluation (physical and organoleptic properties), examine sodium and fat content of "Kunarena Le" nastar cookies with mixed variation of corn starch and celery powder. **Methods:** This research was an experimental research with Simple Random Design and have 4 treatments (K=4). Each treatment was made into 2 replications (i=2) with 2 experimental units (n=2). Later on, sensory evaluation performed based on the level of consumer preferences. Then examine the sodium content and fat content. The panelists for sensory evaluation were 25 semi-trained panelists. **Results:** The more corn starch and celery powder added, the yellowish nastar color, a distinctive nastar flavour with strong smell of corn and celery, crunchy cookies texture, and distinctive taste of a nastar cookies with a light celery taste. The results showed significant differences on the level of consumer preference of color, aroma, texture and nastar taste ( $p < 0.05$ ). The sodium content of "Kunarena Le" nastar in each treatment were A 0.1115 g%, B 0.1162 g%, C 0.1150 g%, D 0.1085 g%. The fat content of "Kunarena Le" nastarin each treatment were A 20.4225 g%, B 19.2875 g%, C 19.76% g%, D 19.1700 g%. **Conclusion:** There were different physical properties based on mixed variations of corn and celery. There were significant differences on the level of consumer preferences of color, flavour, texture and taste of the "Kunarena Le" nastar. The lowest sodium and fat content in "Kunarena Le" nastar was D variation of the "Kunarena Le" nastar with sodium 0.1085g% and fat 19.17g%

**Keywords:** Corn starch, celery, physical properties, organoleptic properties, sodium content and fat content.

# VARIASI CAMPURAN TEPUNG JAGUNG (*Zea mays L.*) DAN SELEDRI (*Apium graveolens L.*) PADA PEMBUATAN KUNARENA LE SEBAGAI SNACK ALTERNATIF PENDERITA HIPERTENSI

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## ABSTRAK

**Latar belakang:** Kebiasaan mengkonsumsi lemak dan konsumsi natrium yang berlebih erat kaitannya dengan risiko terjadinya hipertensi. Proporsi penduduk Indonesia dengan perilaku konsumsi makanan berlemak, berkolesterol dan makanan gorengan  $\geq 1$  kali per hari sebesar 40.7%, konsumsi makanan asin  $\geq 1$  kali perhari penduduk Indonesia sebesar 26.2%, proporsi tersebut belum termasuk perilaku mengonsumsi penyedap rasa  $\geq 1$  kali per hari. Pemilihan snack alternatif bagi penderita hipertensi yaitu snack rendah natrium dan rendah lemak, beberapa bahan yang dapat digunakan yaitu jagung dan seledri. Jagung dapat diolah menjadi tepung jagung dan seledri dapat digunakan untuk pelengkap hidangan. Jagung dan seledri dapat digunakan sebagai campuran membuat kue, salah satunya yaitu kue nastar “Kunarena Le”. **Tujuan Penelitian:** Mengetahui proses pembuatan tepung jagung, mengetahui sifat fisik, sifat organoleptik, kandungan natrium dan kandungan lemak nastar “Kunarena Le” dengan variasi campuran tepung jagung dan seledri. **Metode Penelitian:** Penelitian ini merupakan jenis penelitian eksperimen dengan desain penelitian Rancangan Acak Sederhana 4 kali perlakuan (K=4). Masing-masing perlakuan akan dibuat 2 kali ulangan (i=2) dengan 2 unit percobaan (n=2). Kemudian diuji organoleptik untuk melihat tingkat kesukaan dan uji kandungan natrium serta lemak. Sampel untuk uji organoleptik yaitu 25 panelis agak terlatih. **Hasil Penelitian:** Semakin banyak tepung jagung dan seledri yang ditambahkan maka nastar berwarna semakin kuning kehijauan, aroma khas nastar dengan bau jagung dan seledri yang tajam, tekstur *crunchy*, renyah khas kue kering dan rasa yang khas kue nastar dengan sedikit rasa seledri. Hasil penelitian menunjukkan terdapat perbedaan yang signifikan terhadap tingkat kesukaan warna, aroma, tekstur dan rasa nastar ( $p < 0,05$ ). Kandungan natrium nastar “Kunarena Le” pada setiap perlakuan yaitu perlakuan A 0,1115 g%, B 0,1162 g%, C 0,1150 g%, D 0,1085 g%. Kandungan lemak nastar “Kunarena Le” pada setiap perlakuan yaitu perlakuan A 20,4225 g%, B 19,2875 g%, C 19,7600 g%, D 19,1700 g%. **Kesimpulan:** Terdapat perbedaan variasi campuran tepung jagung dan seledri terhadap sifat fisik nastar. Terdapat perbedaan yang signifikan terhadap tingkat kesukaan warna, aroma, tekstur dan rasa nastar. Kandungan natrium dan lemak terendah pada nastar perlakuan D yaitu natrium 0,1085g% dan lemak 19,17g%

**Kata Kunci:** Jagung, tepung jagung, seledri, sifat fisik, sifat organoleptik, kandungan natrium dan kandungan lemak.