Warta IPH/J .of Argo Based- Industry
Vol.17, No 1-2 , Tahun 2000, pp 1-7

Penelitian/R*esearch*

PENGGUNAAN PUREE NANAS,UBIJALAR DAN NATA DE COO PADA PEMBUATAN MAKANAN RINGAN FUNGSIONAL

The Use of Pineapple Puree, Sweet potato and Nata de coco on the Preparation of Dried Functional Snack

M. Maman Rohaman dan Elly Nurlaelyah

Balai Besar Penelitian dan Pengembangan Industri Hasil Pertanian (BBIHP)
Jl.Ir H.Juanda No. 11 Bogor 166122

ABSTRACT: Research on the prepation of dried functional snack has conducted. The formulation was developed based on sweet potato leather i.e the addition of pineapple puree 150 and 300 g , nata de coco 0, 100, 200, and 300 g with sweet potato 500 g respectively . The products were stored for 0, 4, 8 and 12 weeks. The result showed that the effect of storage gave the decrease of moisture, protein and sugar content for the addition of each nata de coco, while the effect of storage gave the increase of pH for the addition of each pineapple pure . The dietary fibre and microbial content were relatively unchanged during storage. The best product was accepted by the panelist with the formulation i.e. pineapple puree 150 g, nata de coco 100 g and sweet potato 500g.

***Keywords** : dried functional snack, sweet potato, nata de coco, pineapple puree*

Warta IPH/J .of Argo Based- Industry
Vol.17, No 1-2 , Tahun 2000, pp 8-12

Penelitian/R*esearch*

MEMPELAHARI SORPSI ISOTERM, PENGARUH SUHU DAN JUMLAH LAPISAN TERHADAP NILAI K PADA PENGERINGAN SARAT SABUT KELAPA

A study of Isotherm Sorption, Temperature and Number of Layers on the k Value of Coconut Fiber Drying

H. Guring Pohan dan Yang Yang Setiawan

Balai Besar Penelitian dan Pengembangan Industry Hasil Pertanian (BBIHP)
Jl. Ir. H. Juanda No. 11, Bogor 166122

ABSTRACT: The research of coconut fiber has been carried out to determine isotherm sorprtion and rate of weight decrease during drying. Isotherm sorption was done by adjusting room water activity which are 10%, 35%, 65%, 90%, and 99%. The calculating data of research `show linier regression with equation Y =0,336156 X - 0,02038 R^2 = 0,9743, C = 15.49 and m_O = 3.16. Decreasing weight of fiber was studied to find out the effect of amount of layer (1,3 and 5 layers) and drying temperature (50^{o}C, 60^{o}C and 70^{o}C). The result show that the temperature has no singnificant effect while amount of layer very singnificant to the dryness of fiber. The hinghest k value was found in the 1 layer treatment between 0.47912 – 0.85270, while the lowest k valus found in the 5 layers treatment those are vary between 0.16770 – 0.19793.

Keywords : *coconut fiber, isotherm sorption, drying.*

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Vol.17,No 1-2, Tahun 2000, pp 13-20

Penelitian/R*esearch*

PENGARUH JENIS HIDROKOLOID TERHADAP TEKSTUR GEL CINCAU HITAM

Effect of Hydrocolloid Types on Texture Characteristics of Black Cincau Gel

Dhiah Nuraini [1], Dedi Fardiaz [2], Ni Luh Puspitasari[2] dan Atjeng M.Syarief[2]

[1] Balai Besar Penelitian dan Pengembangan Industri Hasil Pertanian (BBIHP)
Jl. Ir. H. Juanda 11, Bogor 16122

[2] Fakultas Teknologi Pertanian, Institut Pertanian Bogor
Kampus Dramaga, P.O. BOX 122, Bogor

ABSTRACT: The experiment was aimed to observe effects of type and amount of added hydrocolloid to texture characteristics of black *cincau* gel forming compound powder. Three types of hydrocolloids added are Arabic gum, kappa-carrageenan and alginic acid. The texture characteristics observed were included breaking point, breaking strength, rigidity, height decrease and syneresis. The result showed that Arabic gum and alginic acid has synergistic affect in black *cincau* gel formation, while kappa-carragenan has antagonistic one. The addition of Arabic gum resulted in the lowest values of rigidity, height decrease, and syneresis at addition level of 5%. On the countraty, addition of kappa-carrageenan resulted gel with breaking point, breaking strength, and height decrease which decreases with the increasing of addition. While addition of alginic acid produced gel with various texture characteristics, depended on the level of addition.

Keywords : *Hydrocolloid, gel, texture characteristics, gel forming compound.*

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Vol.17, No 1-2 , Tahun 2000, pp 21-27

Penelitian/R*esearch*

ANALISIS TEKNO-EKONOMI INDUSTRI PAKAN UNGGAS SKALA KECIL

Techno-economic Analysis of Small Scale Poultry Feed Industry

Lukman Junaidi, Rizal Alamsyah, Mochamad Noerdin NK, Tiurlan F. Hutajulu

Balai Besar Penelitian dan Pengembangan Industri Hasil Pertanian (BBIHP)
Jl. Ir. H. Juanda 11, Bogor 16122

ABSTRACT: Techno-economic analysis was conducted to evaluate the financial viability of small-scale poultry feed industry. The analysis was based on three scale of capacity, that is: 4 tones, 2 tones, and 300 kg feed per day. The result of analysis shown that the poultry of 300 kg feed per day was not feasible financially. The utilization of relatively cheap substituted-raw-material was remarkably increasing the financial viability of poultry feed industry. Sensitivity analysis was conducted to explore the influence of changes on investment cost, raw material cost and feed price to the financial viability of the poultry feed industry. The sensitivity analysis shown that the viability of the poultry feed industry was not sensitive to changes in the investment cost. However, the viability of the poultry feed industry was very sensitive to changes in the raw material cost and feed price.

Keywords : *Net Present Value (NPV), Internal Rate of Return (IRR), financial viability, and sensitivity Analysis.*

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Vol.17, No 1-2 , Tahun 2000, pp 28-35

Penelitian/R*esearch*

PROSES PENGOLAHAN MINYAK KELAPA DENGAN METODE PENGEPRESAN SEMI BASAH

Coconut oil extraction using the intermediate moisture content technology

Dadang Supriatna, Bakri Rosidi, dan Hitler Guring Pohan

Balai Besar Penelitian dan Pengembangan Industri Hasil Pertanian (BBIHP)

Jl. Ir. H. Juanda 11, Bogor 16122

ABSTRACT: Alternative technology to extract the coconut oil has been improved and investigated. This technology was the *Intermediate Moisture Content* (IMC) *technology* which is suitable for small and medium scale industry. The main product is virgin coconut oil which is to be used for cooking without further chemical treatment and also used in cosmetic and pharmacy industry. The by-product that is low fat dried grated coconut flesh can be used in bakery industry. The observation done were moisture content of dried grated coconut flesh before pressing, oil yield, oil moisture content, free fatty acid (FFA), organoleptic test, and shelf life. The moisture and oil content of the by-product was also analysed, along with the mass balance, and techno-economic analysis. The result showed that the FFA and moisture content of the oil met the requirements of the Indonesia National Standard for cooking oil during 3 months storage. The organoleptic test showed that the virgin oil was more acceptable than refined coconut oil that sold in the market. The techno-economic analysis showed that using the capacity of 80 nuts/day, the profit would be Rp. 745,450,- per month, and the pay back period would be 3.24 year.

Keywords : *Coconut oil extraction, Intermediate Moisture Content (IMC) technology, techno-economic analysis.*

Warta IPH/J .of Argo Based- Industry
Vol.17, No 1-2 , Tahun 2000, pp 36-41

Penelitian/R*esearch*

EKSTRAKSI KOMPONEN PEMBENTUK GEL CINCAU HITAM DAN KARAKTERISTIK GELATINISASINYA

Extraction of Black Cincau Gel Forming Compound and Its Gelatinization Characteristics

Dhiah Nuraini, Paulus Sunarto dan Lucyana
Balai Besar Penelitian dan Pengembangan Industri Hasil Pertanian (BBIHP)
Jl. Ir. H. Juanda 11, Bogor 16122

ABSTRACT: A study to extract and isolate gel forming compound (GFC) of black *cincau* had been conducted successfully using soda ash and alcohol as extracting and isolating agent. The results showed that the yield of GFC will increase with the increase of soda ash, and so will the pH value of black cincau gel. The sensory test result showed that the highest acceptance score of black cincau gel was obtained from the extract using 5% soda ash. Observation on gelatinization characteristics of black *cincau* showed that the additional of GFC will produce changes on amylogram pattern of tapioca, i.e. the increase of consistency with the increase of GFC addition. The amylogram also showed that black *cincau* GFC has two fractions which interacted with starch.

Keywords : *black cincau, soda ash, gel forming compound, concentration of mixture*

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Vol.17, No 1-2 , Tahun 2000, pp 42-48

Penelitian/R*esearch*

PENGARUH PENAMBAHAN HIDROKOLOID TERHADAP MUTU SELAI NENAS RENDAH KALORI

The Effect of Hydrocolloids Addition on The Quality of Low Calorie Pineapple Jam

Elly Nurlaelyah, Shinta D. Sirait dan Dhiah Nuraini

Balai Besar Penelitian dan Pengembangan Industri Hasil Pertanian (BBIHP)
Jl. Ir. H. Juanda 11, Bogor 16122

ABSTRACT: Most pineapple jam found in the market is high calorie food because it usually contains about 55 percent of sugar. For certain reason such as obesity preventation and keeping healthy, jam can be diversified by reducing its sugar content. This research was aimed at finding out the effects of hydrocolloid addition on the quality of pineapple jam produced. Two kinds of hydrocolloid used i.e. low methoxyl pectin and carboxy methyl cellulose (CMC). As much as 0.9 percent of the pectin or CMC was added into pineappleslurry to produce jam A (CMC or jam C (low methoxyl pectin). A preference test was carried out to investigate 3 (three) different jams i.e. jam A, pineapple jam purchased from local market (jam B), and jam C. the result showed that jam C had the biggest average score of 3,75 in terms of colour, taste, and flavor, whereas jam B was the least acceptable by 20 panelists with an average score of 3,24. However after 3 months storage the quality of jam A was better than jam C physic-chemically and microbiologically. The calorie content of every 100 9 of jam A and jam C was 14,80 and 14,90 respectively.

Keywords : *low calorie jam, low methoxyl pectin, carboxy methyl cellulose*

Warta IPH/J .of Argo Based- Industry
Vol.17, No 1-2 , Tahun 2000, pp 49-56

Penelitian/R*esearch*

PENGEMBANGAN DISAIN PROSES TEKNOLOGI PENGGORENGAN (HOID) PEMBUATAN MINYAK KELAPA

The Improvement of Hot Oil Imersion Drying (HOID) Method in Coconut Oil Production

Dadang Supriatna dan Yang Yang Setiawan
Balai Besar Penelitian dan Pengembangan Industri Hasil Pertanian (BBIHP)
Jl. Ir. H. Juanda 11, Bogor 16122

ABSTRACT: Hot Oil Immersion Drying (HOID) or fry dry technology is a method of coconut oil extraction that involves drying the grated coconut kernel by immersion in hot coconut oil and then expelling the oil from the cooked pieces. The technology used was the second generation, which has been improved from the first one. The coconut oil can be used as cooking oil without any chemical purification and also to be used in cosmetic and pharmaceutical manufacturing. Observation was done on processing technology and techno-economical study. The result showed that the improved technology was more efficient then the first one and is able to reduce the oil spilled out of the pans which happened in the first generation technology. The coconut oil produced met the FFA and moisture content requirements of Indonesian Industrial Standard of cooking oil. Base on the financial analysis, conducting this technology commercially at 2000 nuts/day capacity was feasible which will give the Internal Rate of Return (IRR) value at 22.38% and Pay Back Period (PBP) 4.5 years. Adding on initial investment of second-generation technology was not influencing the feasibility of the factory operational.

Keywords : *Hot Oil Immersion Drying (HOID) technology, technology improvement, techno-economical study, coconut oil production.*

Warta IPH/J .of Argo Based- Industry
Vol.17, No 1-2 , Tahun 2000, pp 57-63

Penelitian/R*esearch*

PEMBUATAN PAKAN JADI (RANSUM) AYAM DAN IKAN DENGAN MENGGUNAKAN BEBERAPA BAHAN SUBSTITUSI

The Production of Chicken and Fish Feeds Using Some Substitution Materials

Rizal Alamsyah, Tiurlan F. Hutajulu, Mochamad Noerdin NK, dan Lukman Junaidi

Balai Besar Penelitian dan Pengembangan Industri Hasil Pertanian (BBIHP)
Jl. Ir. H. Juanda 11, Bogor 16122

ABSTRACT: The study was aiming at investigating for both chicken and fish feeds by using substitution materials which so far is used as by product. These substitution feeds were comprised of palm oil sludge, shrimp shell, gold snail, and by product from leather fleshing. Feed formulations, were based on Least square methods represented in Feedmania program and calculated by using computer. These raw materials can be substituted for amount parts of conventional materials e.g. yellow corn, soybean meal, and fish meal. Based on feed consumed for broiler chicken, it is obtained the results as follow feed convertion ratio (FCR) was 1.95/l, and the feed efficiency for fish was 41%.

Keywords : *Feed processing, feed substitution, feed formulation, chicken feeds, fish feeds.*