

The image shows a lush green landscape. In the foreground, there is a field of cassava plants with large, lobed leaves, some showing reddish-purple tints. The middle ground features a dense forest of green trees on a hillside. In the background, a valley is visible with rolling hills and a small town or village. The sky is bright and slightly hazy. The text is overlaid on the right side of the image.

SINGKONG:

MASA DEPAN BIO-INDUSTRI INDONESIA

**ACHMAD SUBAGIO
UNIVERSITAS JEMBER**

BERAPA Nilai Perdagangan Singkong?

- Produksi nasional singkong 19 Juta ton/tahun (BPS, 2018). Nilai perdagangan bahan baku singkong mencapai Rp. 20 T/tahun
- Produk turunan singkong sangat beragam dan volume perdagangannya sangat besar: tapioka mencapai 2,09 juta ton dengan nilai bisnis Rp 12 trilyun, ekspor sorbitol mencapai 83 ribu ton senilai Rp. 1 trilyun, MSG Rp 2 trilyun, polywood, pakan, dll ...
- Total 100 Trilyun?



Total produksi singkong nasional terus turun, apalagi setelah kontraksi harga pada tahun 2016-2017

No.	Provinsi	Tahun				
		2014	2015	2016	2017	2018 ²⁾
1	Aceh	31,621	29,131	24,531	23,738	15,672
2	Sumatera Utara	1,383,346	1,619,495	1,228,138	980,879	803,403
3	Sumatera Barat	217,962	208,386	201,201	209,115	201,833
4	Riau	117,287	103,599	105,992	124,797	133,738
5	Jambi	35,550	43,433	53,944	64,489	56,605
6	Sumatera Selatan	220,014	217,807	386,881	539,009	382,043
7	Bengkulu	78,853	80,309	70,539	64,644	73,491
8	Lampung	8,034,016	7,387,084	6,481,382	5,451,312	6,683,758
9	Kepulauan Bangka Belitung	19,759	35,024	61,471	70,254	59,426
10	Kepulauan Riau	8,979	9,157	24,012	19,473	19,722
11	DKI Jakarta	-	-	-	-	-
12	Jawa Barat	2,250,024	2,000,224	1,792,716	1,901,433	1,635,031
13	Jawa Tengah	3,977,810	3,571,594	3,536,711	3,138,864	3,267,417
14	DI Yogyakarta	884,931	873,362	1,125,375	1,025,693	859,393
15	Jawa Timur	3,635,454	3,161,573	2,924,933	2,908,417	2,551,840
16	Banten	85,943	74,163	90,629	75,486	72,616
17	Bali	131,887	86,070	99,370	77,960	92,144
18	Nusa Tenggara Barat	92,643	107,254	55,041	48,921	58,021
19	Nusa Tenggara Timur	677,577	637,315	618,281	823,114	853,468
20	Kalimantan Barat	192,967	173,449	163,023	139,048	147,475
21	Kalimantan Tengah	43,342	45,712	63,862	96,467	142,852
22	Kalimantan Selatan	92,272	71,751	80,904	88,854	88,974
23	Kalimantan Timur	60,941	53,966	56,508	85,944	86,079
24	Kalimantan Utara ^{*)}	41,947	38,936	37,262	42,878	44,050
25	Sulawesi Utara	46,553	44,123	45,522	44,448	41,651
26	Sulawesi Tengah	84,688	47,295	34,909	54,225	48,405
27	Sulawesi Selatan	478,486	565,958	416,553	368,435	422,601
28	Sulawesi Tenggara	175,086	175,095	161,518	242,901	209,159
29	Gorontalo	3,987	2,653	2,470	2,278	2,781
30	Sulawesi Barat	29,902	24,984	25,698	34,662	22,174
31	Maluku	97,959	134,661	151,767	143,661	85,734
32	Maluku Utara	147,917	120,283	98,907	126,763	122,706
33	Papua Barat	11,169	11,181	10,074	10,783	22,798
34	Papua	45,512	46,388	30,551	24,803	34,173
Indonesia		23,436,384	21,801,415	20,260,675	19,053,748	19,341,233

Volume Impor Bahan Pangan Indonesia

Komoditi	2015	2016	2017	2018
Beras	505,309,999	997,709,858	127,227	1,801,576,451
Gandum	7,623,250,997	10,811,236,625	11,641,089,270	10,378,656,113
Jagung	3,500,103,794	1,331,574,757	714,504,419	1,150,224,953
Ubi Kayu	600,163,056	642,667,224	388,821,935	375,898,367

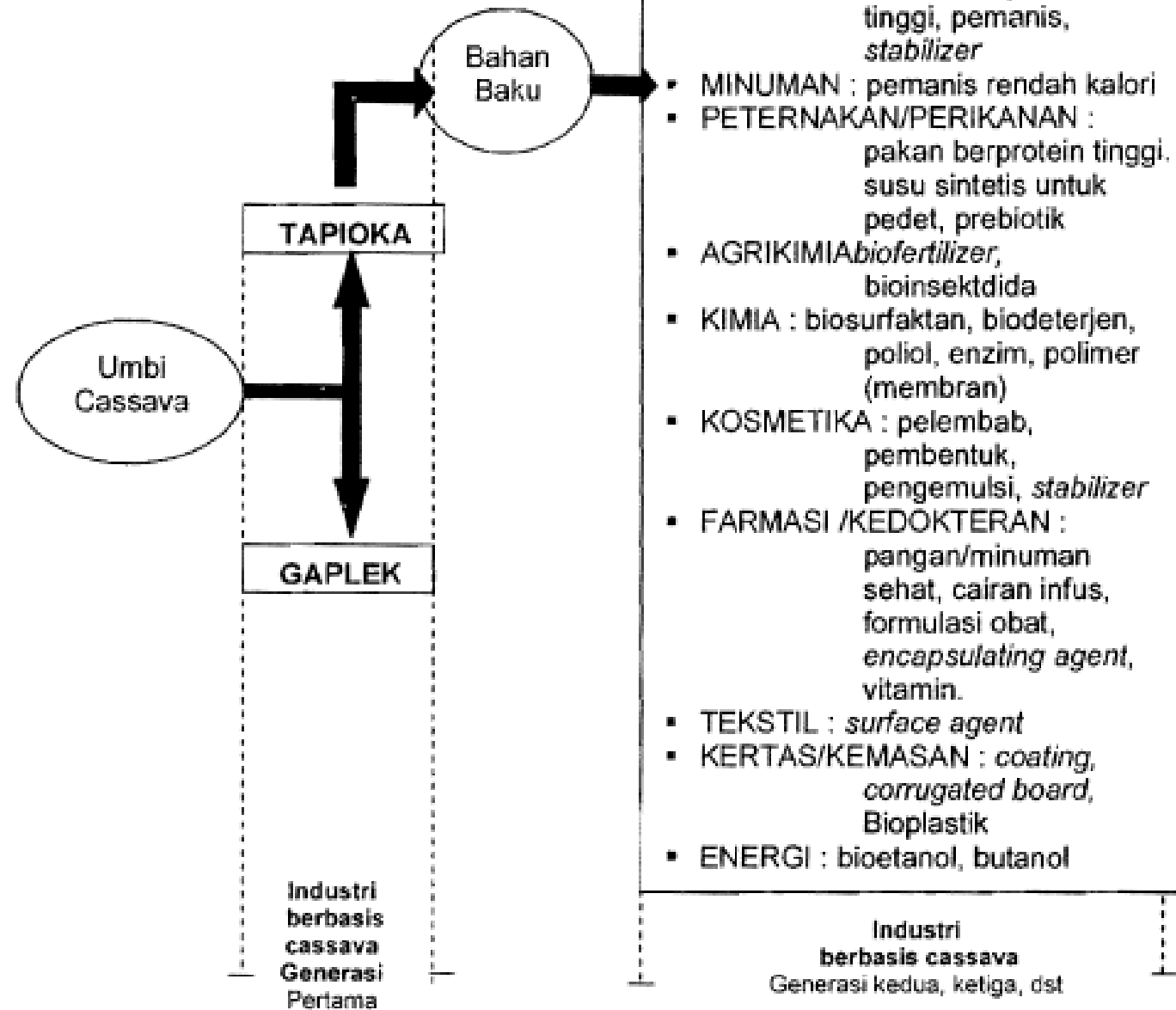
Tapioca Starch

Year	Cassava Roots for Tapioca Starch Production (000 ton)	Production (000 ton)	Import (000 ton)	Export (000 ton)	National Consumption (000 ton)
2014 (*)	12,000	3,360	200	50	3,510
2013	11,472	3,212	256	42	3,426
2012	10,880	3,046	758	7	3,797
2011	10,925	3,060	435	97	3,398
2010	10,767	3,016	295	28	3,283
2009	13,144	3,682	167	15	3,834
2008	13,409	3,756	158	40	3,874

Source : Statistics Indonesia, National Socio-Economic Survey, Research

(*) Projection

Industri Berbasis Singkong



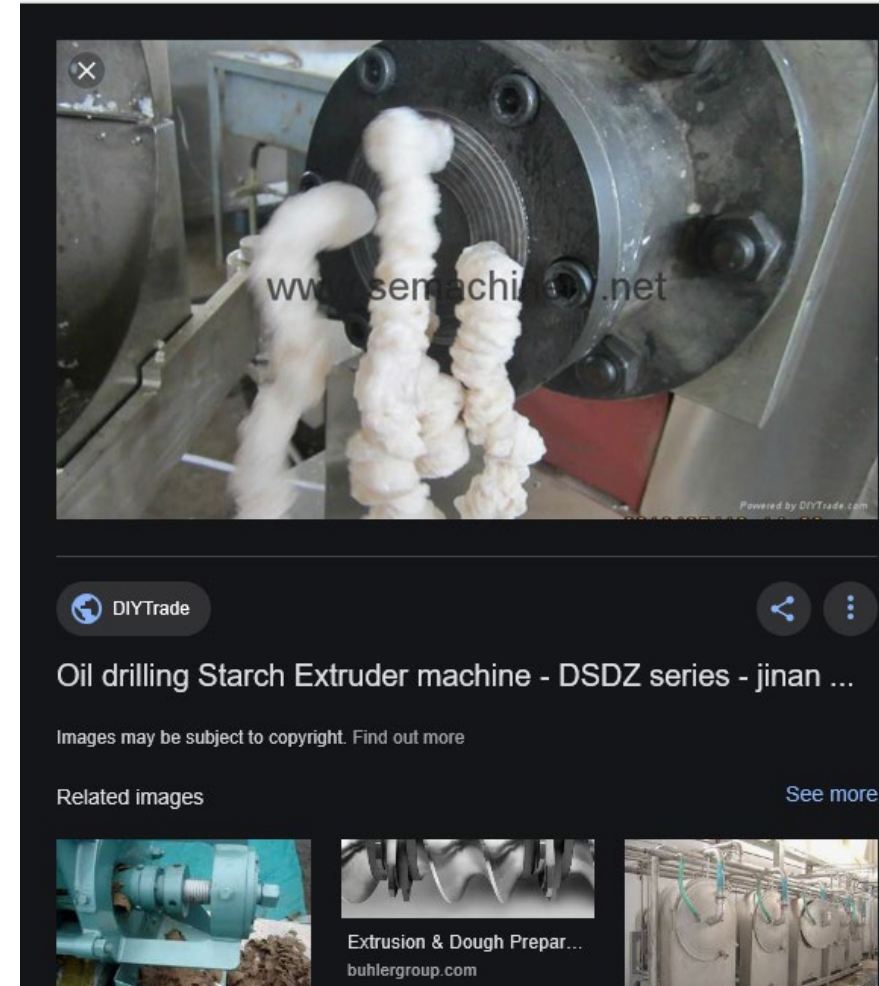
TAPIOKA DI PENGEBORAN MINYAK BUMI



Oil Drilling Starch Starch is used for reducing fluid loss in a variety of water based drilling fluids and has beneficial secondary effects on mud rheology. In drilling wells, a liquid (mud) is pumped into the hole to clean and cool the drill bit and to flush to the surface the drill bit cuttings and suspending the drill cuttings while drilling is paused. The most important physical characteristics of the drilling fluid is the viscosity and the water holding/retaining characteristics.

[<< Danish oil rig in the Halfdan field, Danish sector, North Sea. Denmark is self sufficient in oil from the North Sea.]

Starch is traditionally supplied as cold water soluble - either made by a semi moist/dry thermo-mechanical gelatinisation on screw extruders or by suspension reactions and subsequent drying on drum dryers. Wet reactions carried out in starch suspensions are easy to control and the resulting precisely engineered starches are of high, uniform quality with wider applications.



TAPIOKA DI INDUSTRI TEKSTIL



Modified Starch is used as a significant component to develop textile capability (strength, elasticity and surface strength) reduce friction in the weaving process and improve the feel and appearance of fabric. In addition modified starch derivatives are excellent for yarn coating as ironing starch using in laundry industry. Various types with specific functional properties of our quality products produced for these purposes.

The selection of our products for specific qualification depends on the requirements with respect to the final properties of textile products.

Application

Textile Application



PAPER APPLICATIONS



Tapioca starch will be used in two stages of production process; Beater Sizing or Wet-end, and surfacing sizing.

The first stage : Cationic starch is employed to flocculate pulp, increasing de-watering rates on the wet end. The starch remains in the finished paper, acting as an internal sizing agent to increase the paper strength.

The second stage : The stage of processing the pulp into sheets. The tapioca starch solution will not only fill up the pores on the sheets while passing through and oven dryer, but also increase the smoothness of the sheet surface, making the sheet smoother to write on and harder for ink to penetrate. Low viscosity starches are applied.

Application



Plywood Industry Description



Cassava Starch Use In Plywood Industry

The cassava starch has freshly been presented to the plywood industry as the manufacturing of the plywood is the supplement of wood using glue. Now, the cassava starch is being used as a component and or ingredient in the production of glue as it has the sticky stuff. The starch is comprised in order to permit the plywood to attach in thick layers and develop strong and durable. Expending starch as an ingredient also benefits to reduce the glue manufacturing cost as well subsequently, it takes up to 50% of the total ingredients. Moreover, cassava starch also has a smooth and charming superficial surface that forms no precipitation in the glue manufacturing process, and a low price.

Peringkat ▾ Jam buka ▾

PABRIK KAYU PT.MUROCO

3,7 ★★★★★ (20) · Kantor Perusahaan

Kabupaten Jember, Jawa Timur · (0331) 540600

Tutup · Buka pukul 07.00 hari Kam



SITUS WEB



RUTE

PT. Muroco Plant Jember

3,7 ★★★★★ (19) · Perusahaan Ekspor-Import

Kabupaten Jember, Jawa Timur · (0331) 540600

Tutup · Buka pukul 08.00 hari Kam

📍 "Pabrik pengolahan **kayu** (plywood)..."



SITUS WEB



RUTE

PT. Sumber Graha Sejahtera Cabang Jember (Sampoer...)

4,0 ★★★★★ (56) · Kantor Perusahaan

Kabupaten Jember, Jawa Timur · (0331) 714514

Tutup · Buka pukul 07.15 hari Kam

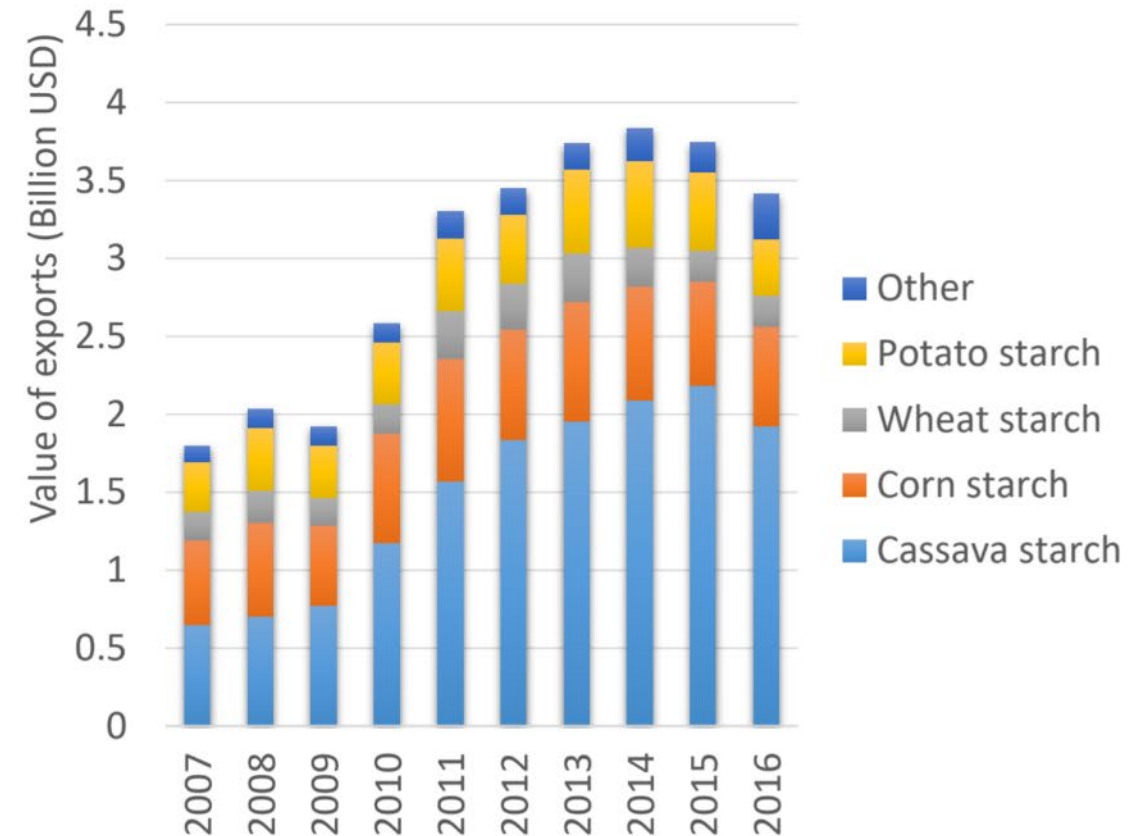
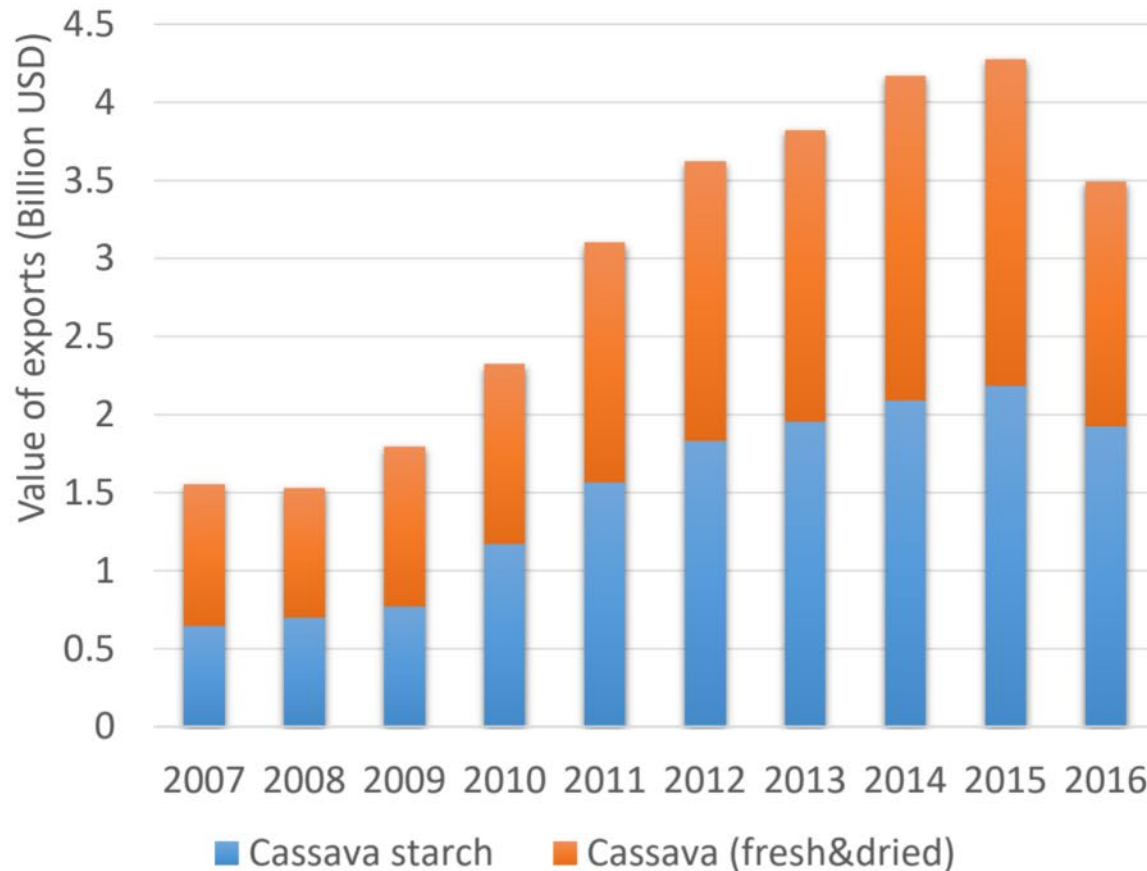
📍 "Perusahaan yang sukses bergerak di pengolahan **kayu** sengon ..."



RUTE

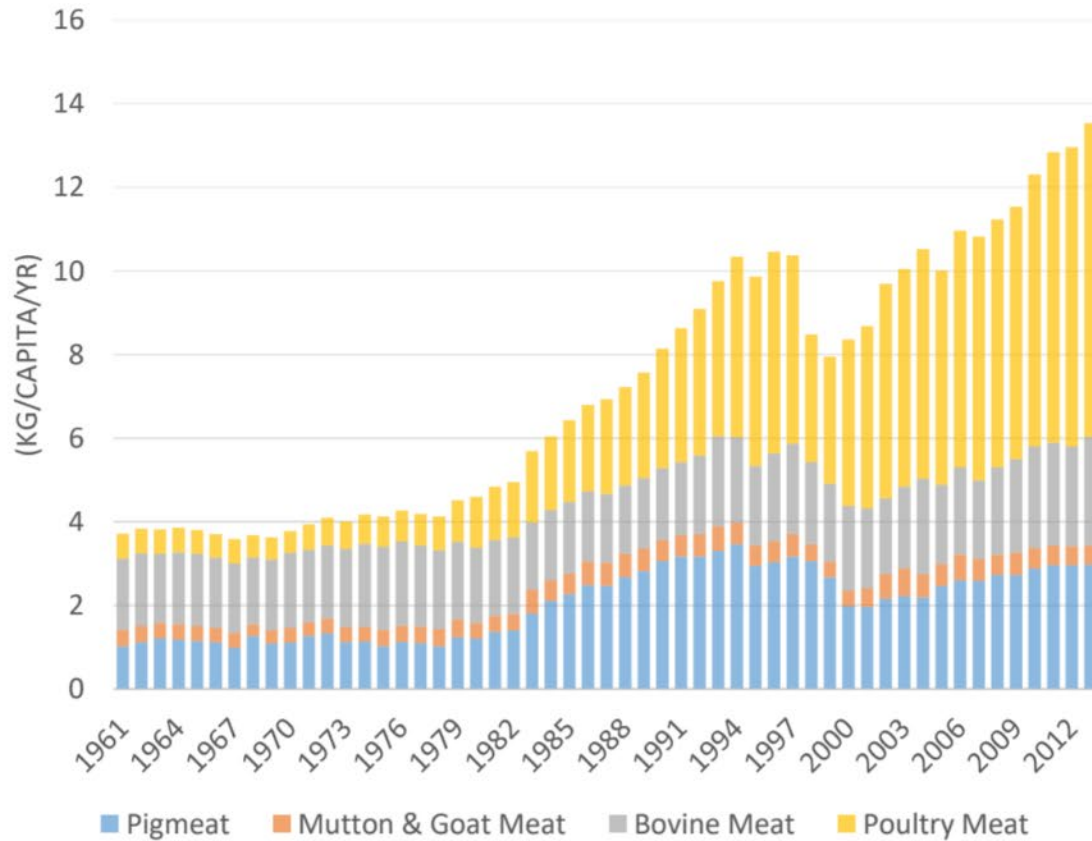
Value of cassava trade and relative importance of cassava starch in global trade

Global trade largely is Southeast Asia exporting to East Asia and Southeast Asia

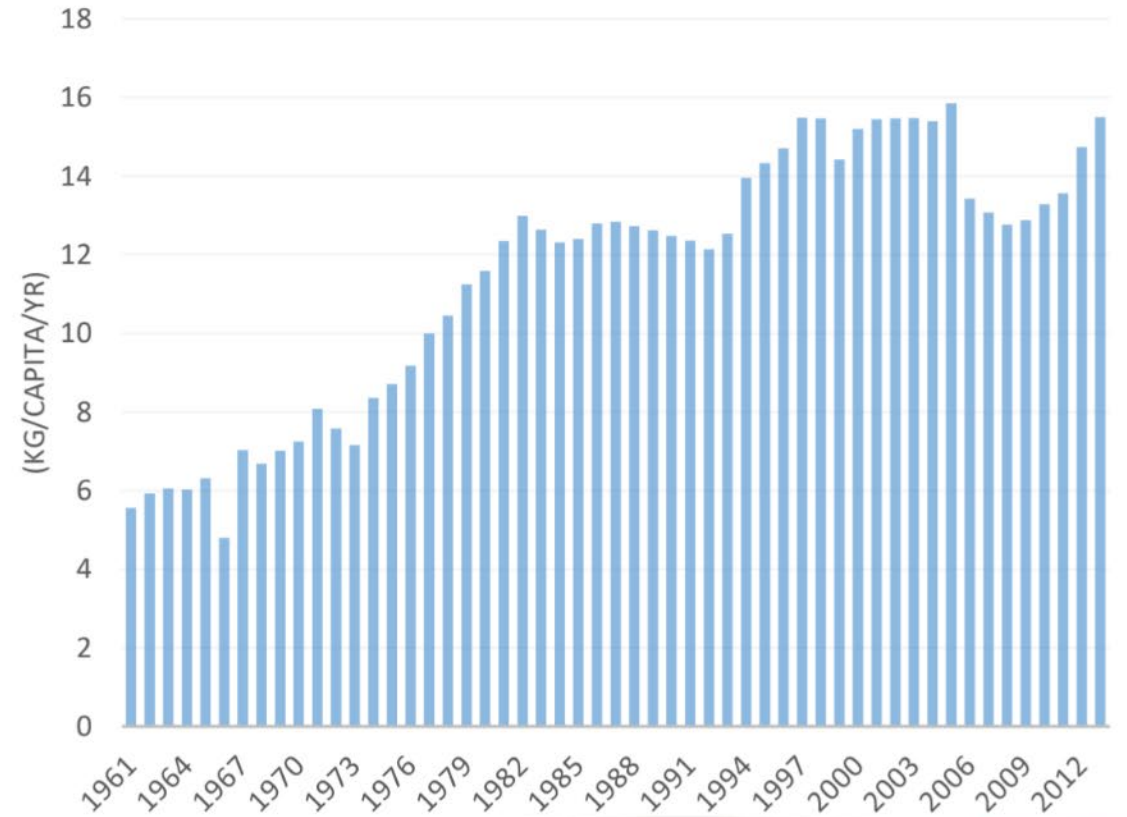


Demand for animal feed and sweeteners in Indonesia

Consumption of meat per capita



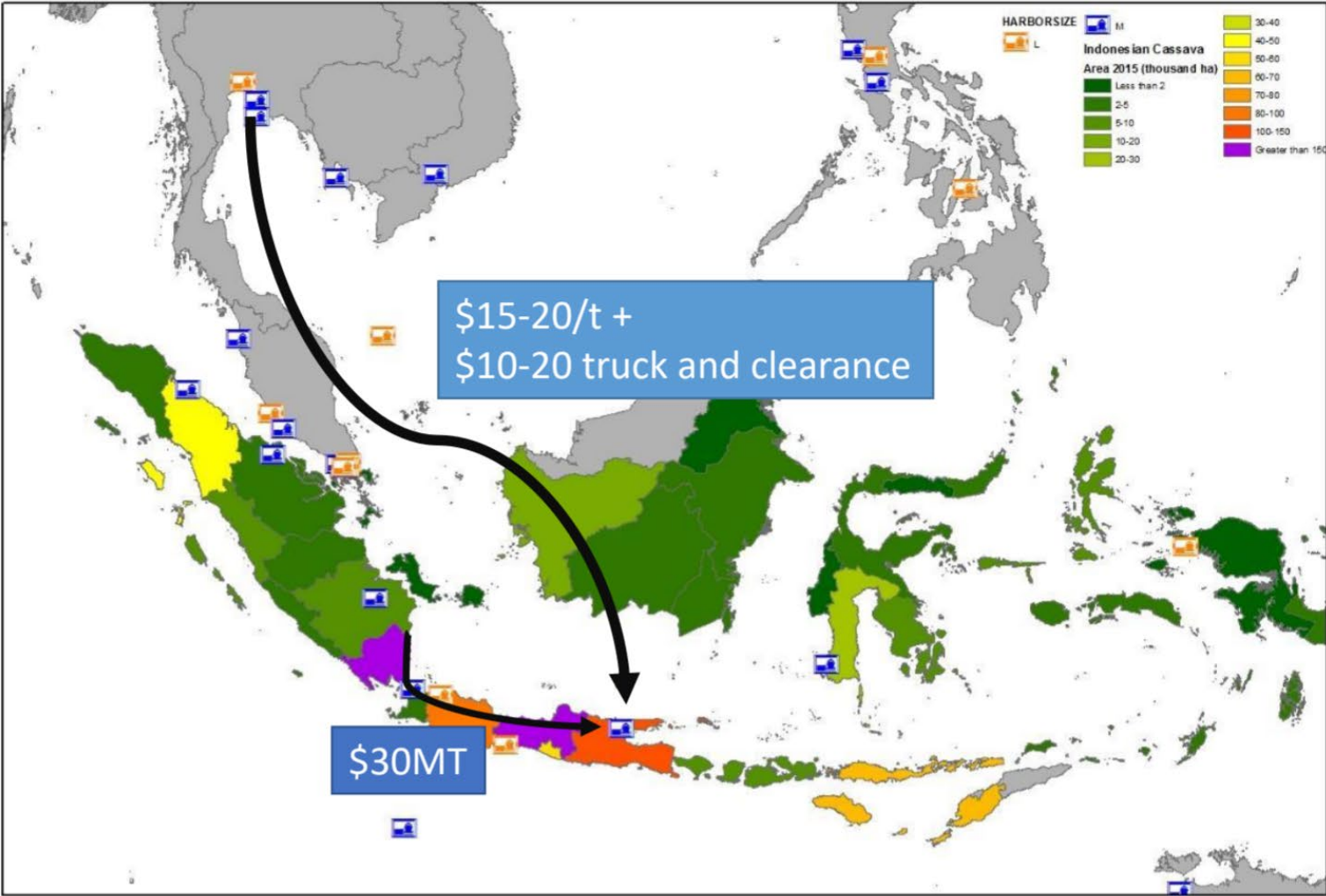
Consumption of sugar per capita (Raw Equivalent)



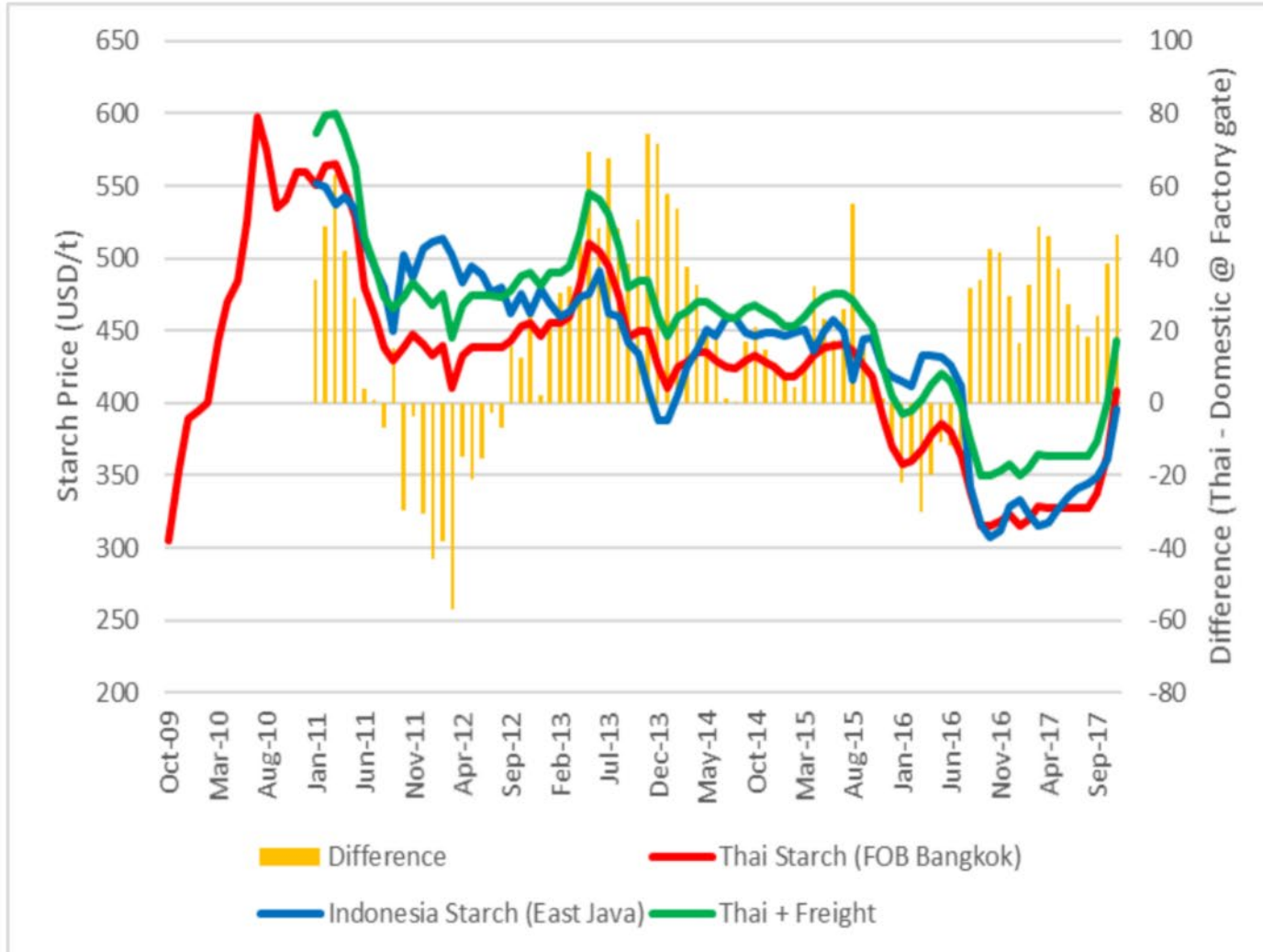
Our vision, a sustainable food future



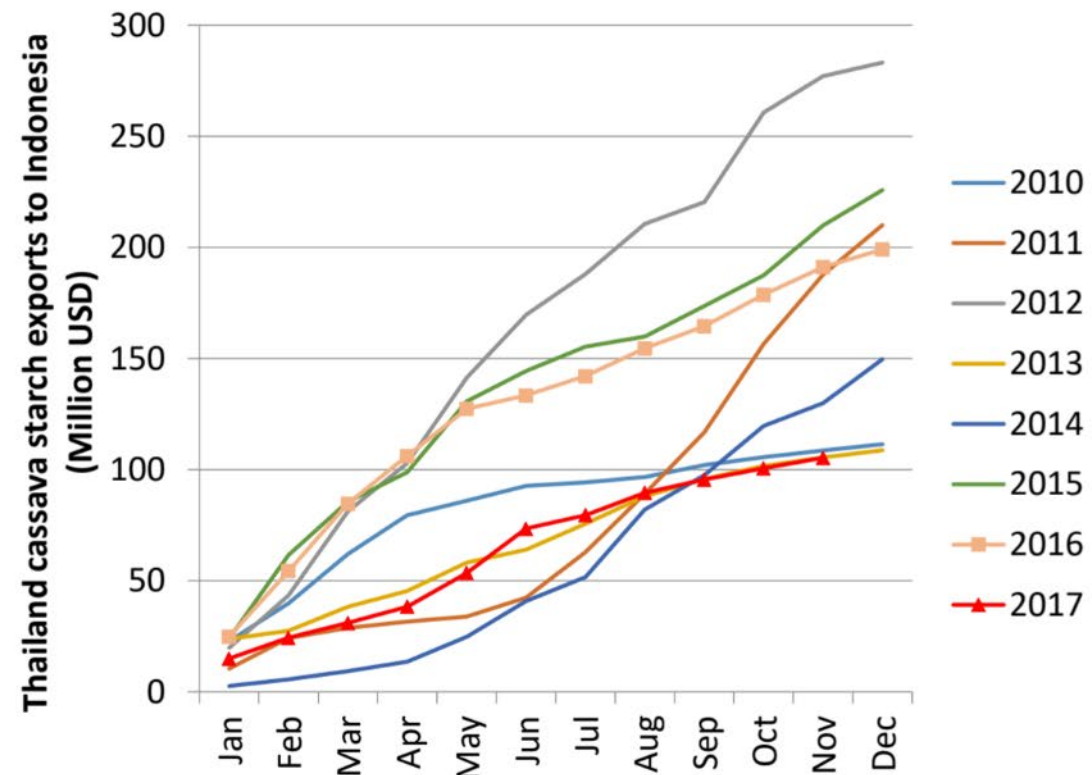
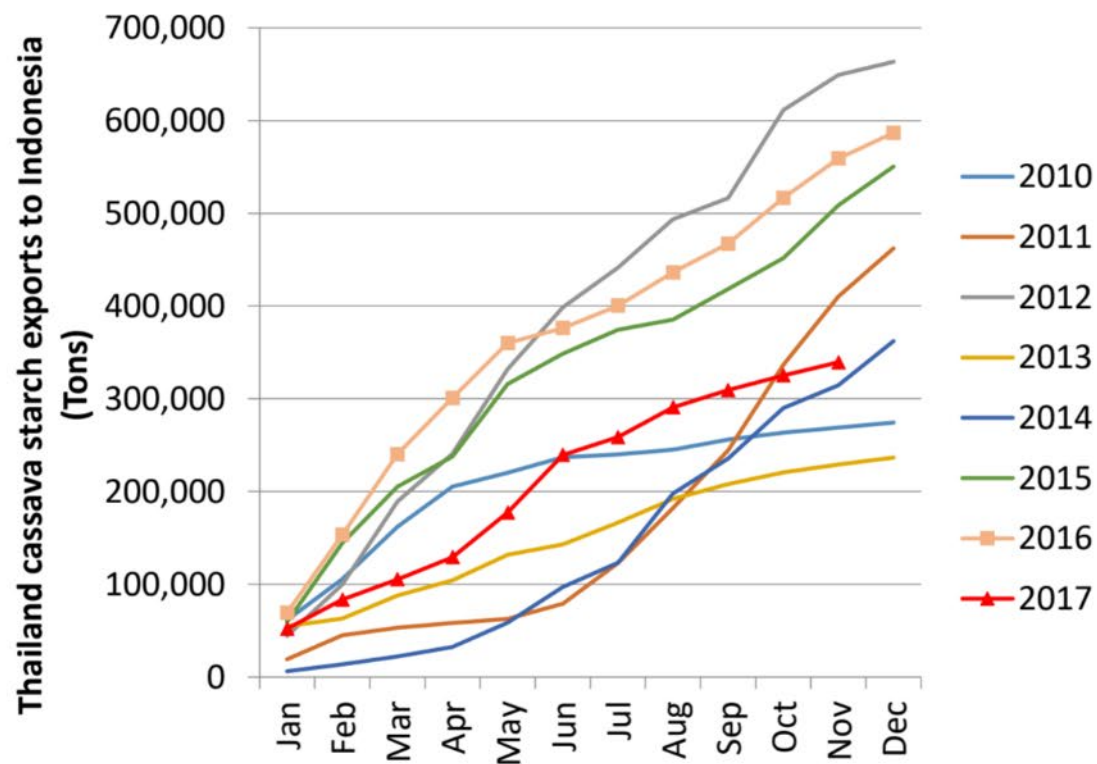
Logistics and freight cost are important



Indonesian domestic market connected to regional market



Indonesian imports of cassava starch from Thailand

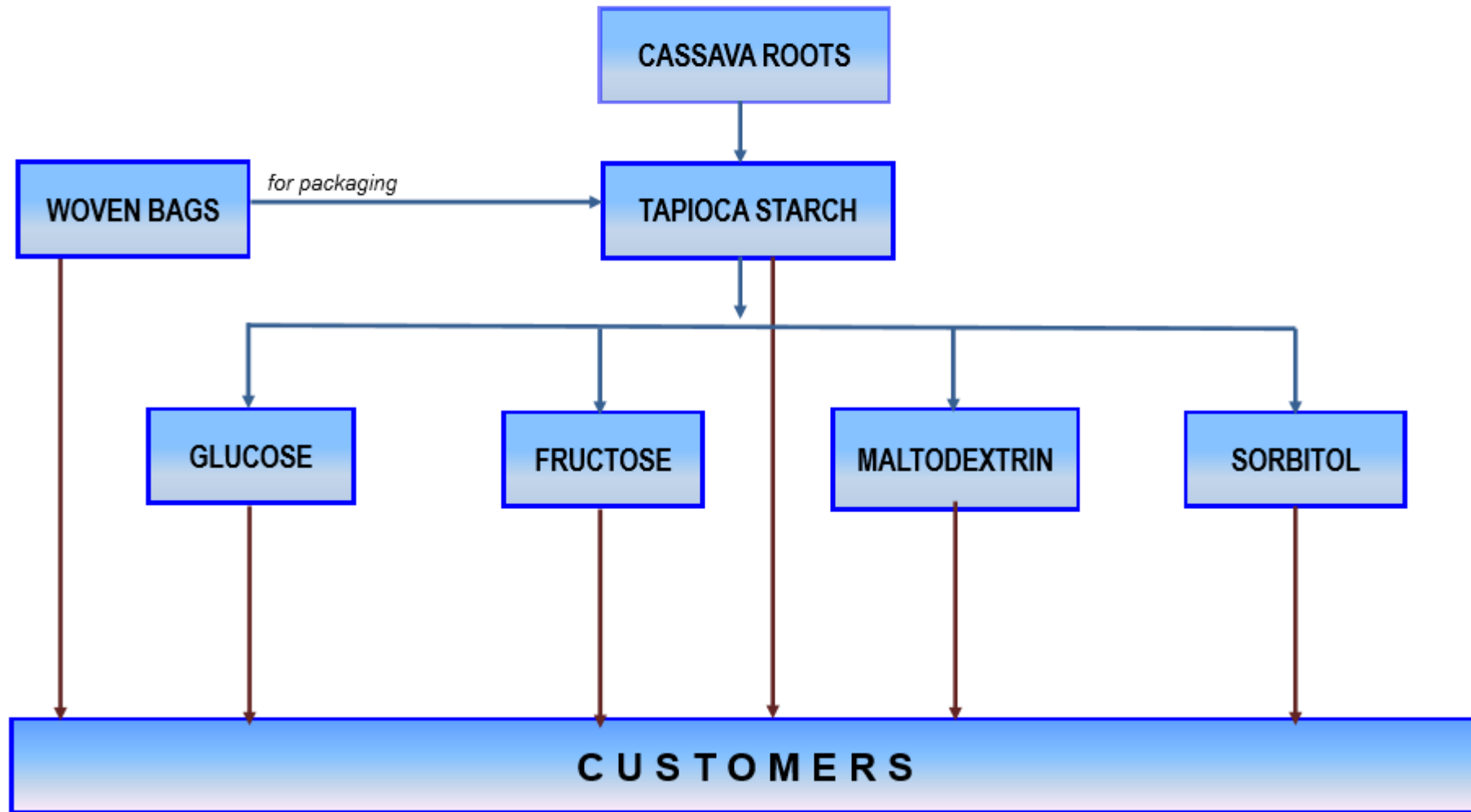


Key Factors of PT Budi Starch & Sweetener Tbk

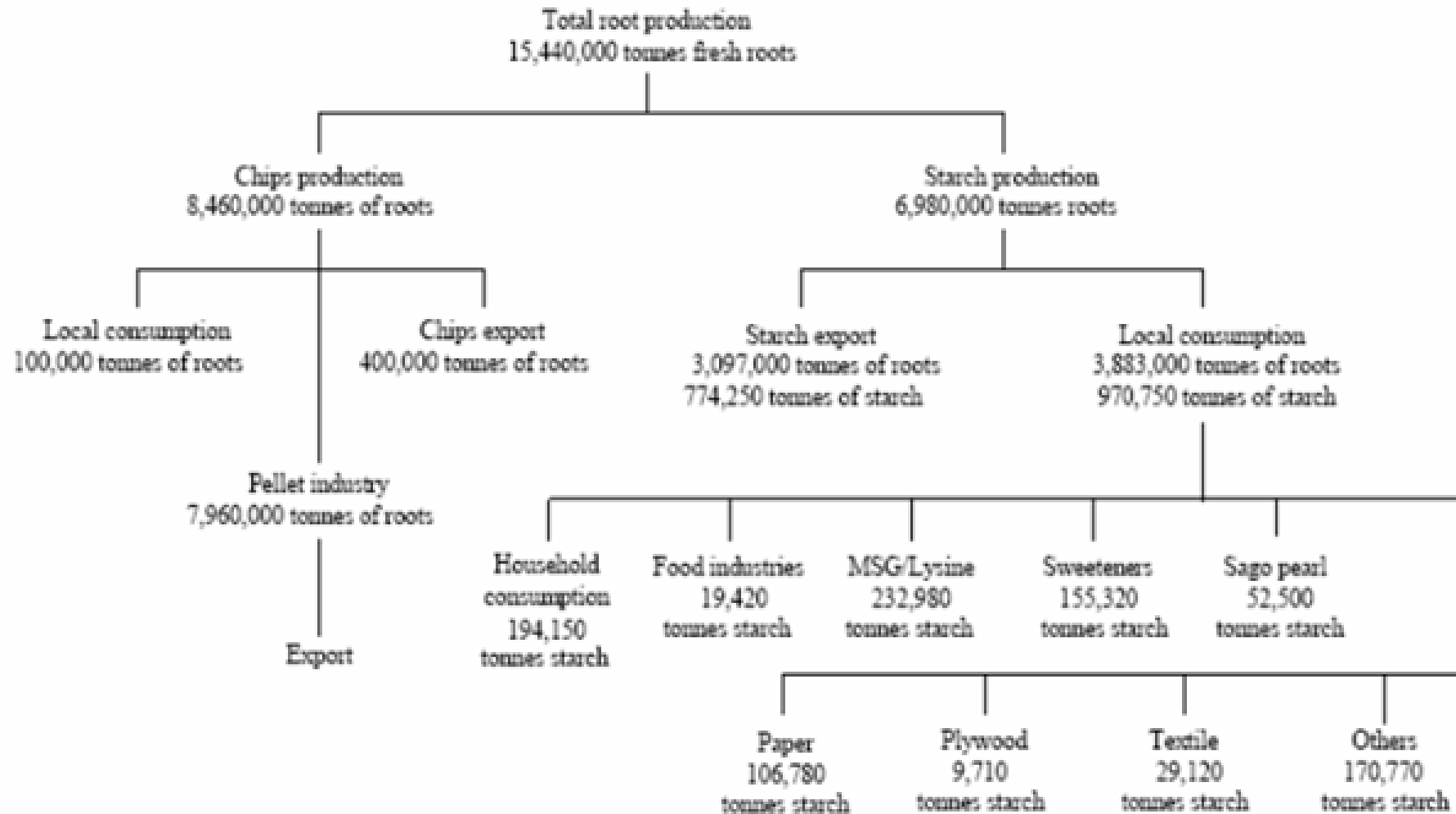
1. One of the world's largest carbohydrate source provider which is daily necessarily used by human.
2. Steady growth of company i.e. :
 - Sales FY03 = IDR 634 billion
 - Sales FY13 = IDR 2,569 billion
 - and potential strong growth in future

} 305%
3. Strengthening Through Downstream
4. Greenery Development

BSSW's Vertically Integrated Product



Pemanfaatan singkong di Thailand 1998 (Sriroth et al., 2002)





Continent

- Select All
- Asia Pacific
- Europe
- Latin America
- Middle East Africa
- North America

Country

- Select All
- China
- Germany
- Middle East Africa
- Rest of Asia Pacific
- Rest of Europe
- Rest of Latin America
- Rest of North America
- United Kingdom
- United States

Application

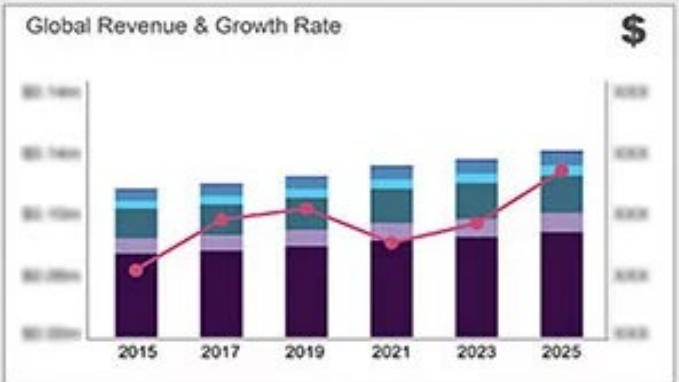
- Select All
- Automotive & Industrial
- Foods
- Household
- Medical
- Others
- Personal Care
- Pharmaceuticals



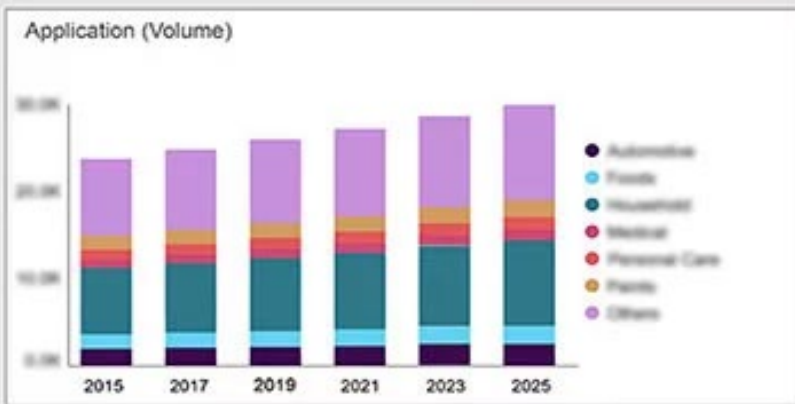
Global Market Snapshot

Select year:

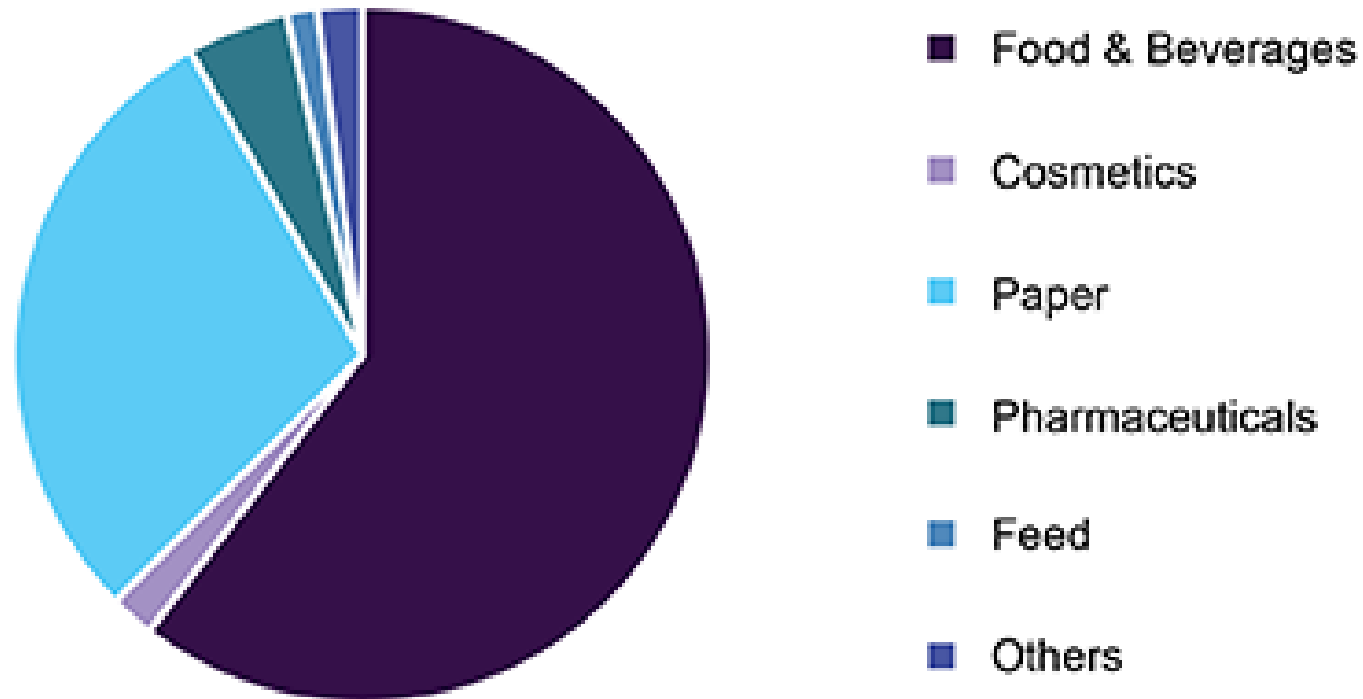
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021
- 2022



Global Market By Application, 2015 - 2025



Global starch derivatives market share, by application, 2016 (%)



Source: www.grandviewresearch.com

Review Article

Use of modified tapioca starches as pharmaceutical excipients

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Thiraphong Sanga-ngam,
Satit Puttipatkhachorn*

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Faculty of Pharmacy, Mahidol University,
Bangkok 10400, Thailand

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KEYWORDS:
Tapioca starch; Cassava starch;
Modified starch; Excipients

ABSTRACT

Tapioca starch is derived from the roots of cassava which is abundantly available in the world. During a past few decades, many attempts have been made to modify tapioca starch by physical and chemical processes. This review summarizes the current knowledge of modified tapioca starch and their applications as pharmaceutical excipients. These modified tapioca starches are carboxymethyl tapioca starch, acid-modified tapioca starch, cross-linked tapioca starch, grafted tapioca starch, enzyme-catalyzed tapioca starch, pregelatinized tapioca starch and hydroxypropyl tapioca starch. Wide ranges of application as a carrier for solid dispersion, a suspending agent, a direct compression filler, a matrix forming agent for controlled release tablet, a film coating agent and a carrier for mucoadhesive microsphere are reported. Thus, modified tapioca starches have a potential to be used as pharmaceutical excipients. Nevertheless, systematic studies on their properties and excipient functionalities are still be needed.

- Native Starch
- Pre-gel Starch
- Dextrin/maltodextrin
- Nano starch
- carboxymethyl starch (CMS)
- etc



Wide ranges of application as a carrier for solid dispersion, a suspending agent, a direct compression filler, a matrix forming agent for controlled release tablet, a film coating agent and a carrier for mucoadhesive microsphere are reported.

Modified Cassava Flour (MOCAF)

New Perception on Cassava





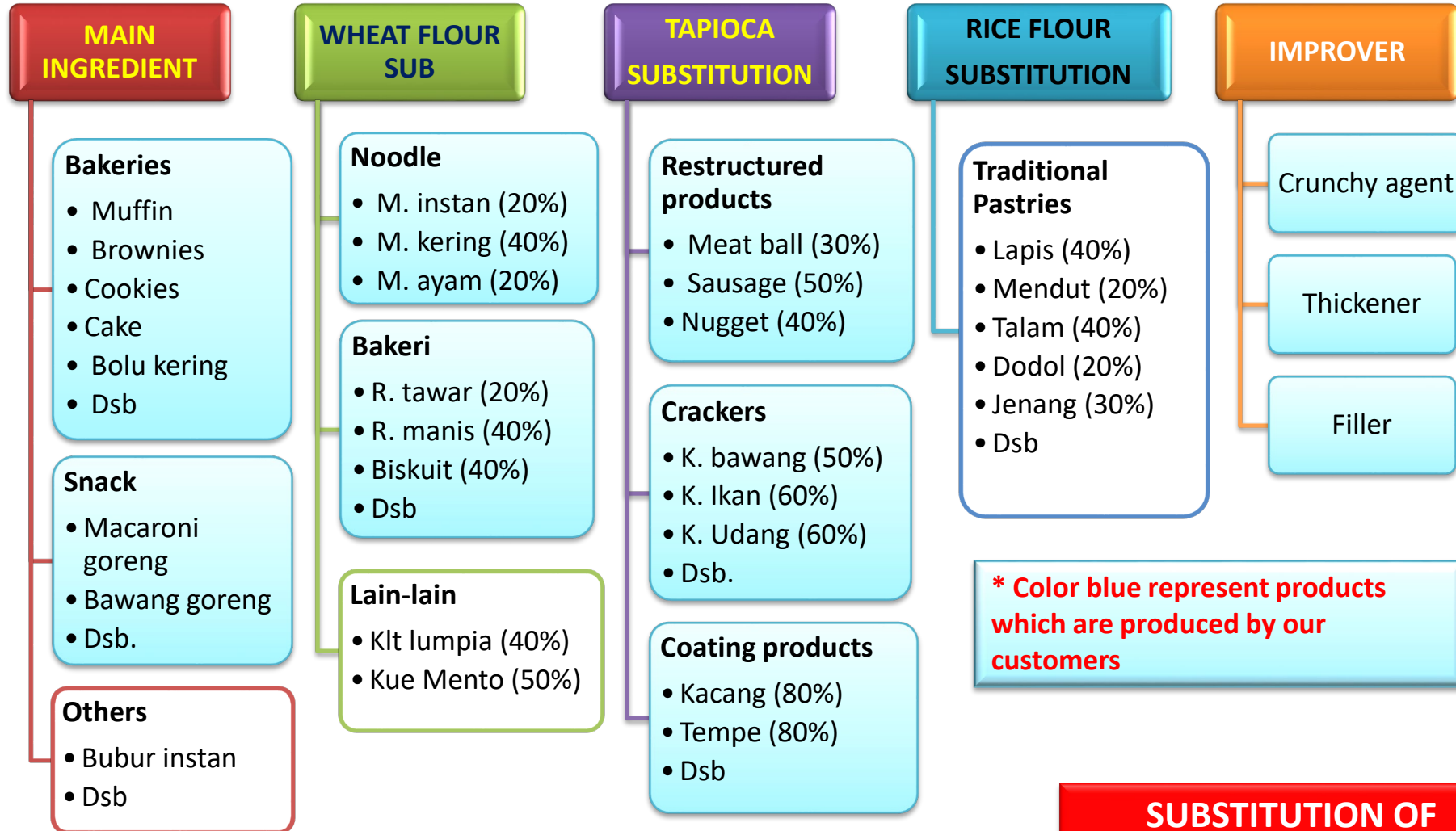
mocaf[®]

New Generation

lebih lembut dan tahan lama



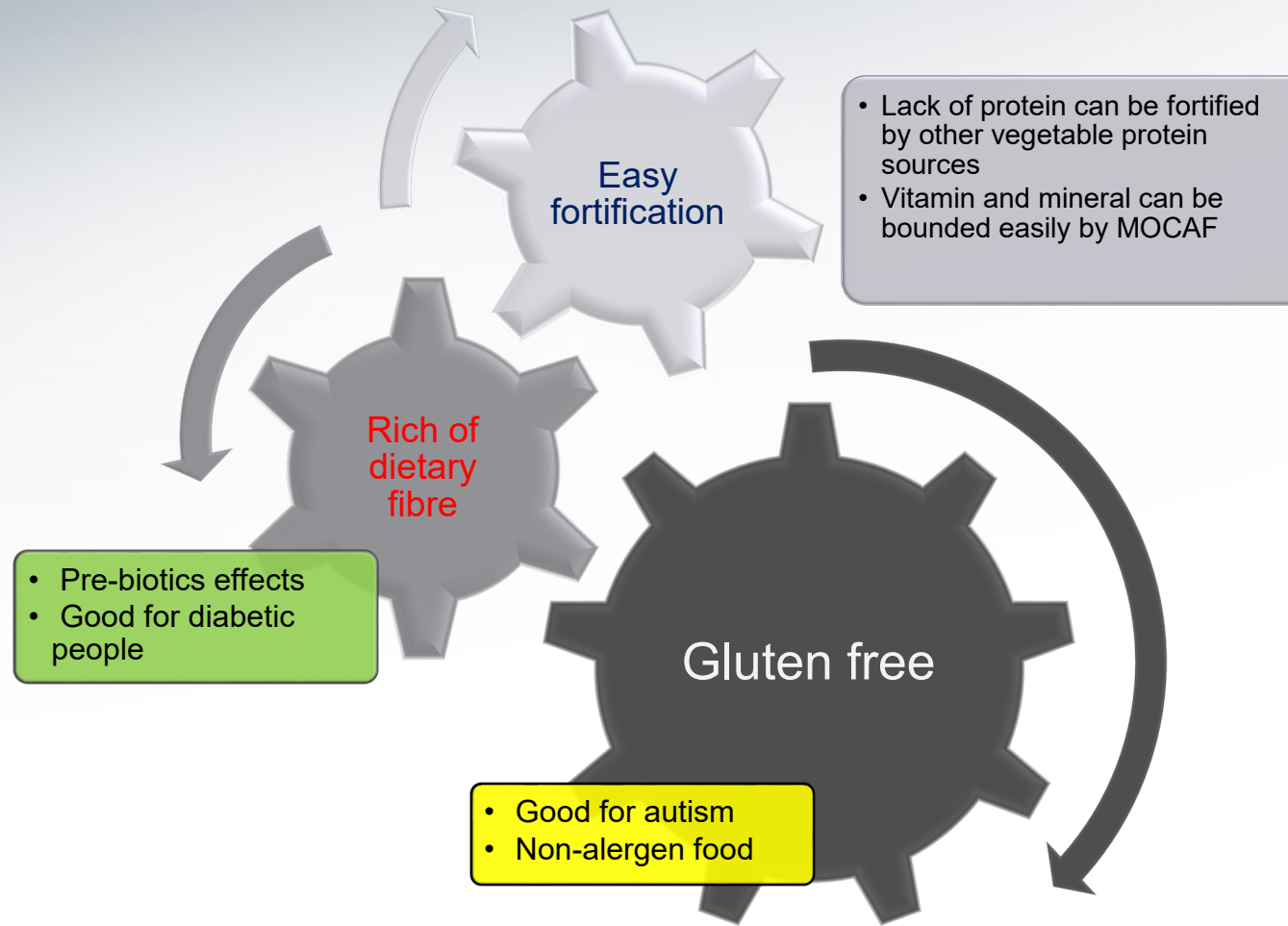
MOCAF APPLICATION



SUBSTITUTION OF POTATO STARCH

New

Healthy aspects of MOCAF



MOCAF and ITS RESISTANCE STARCH for Diabetic (1)

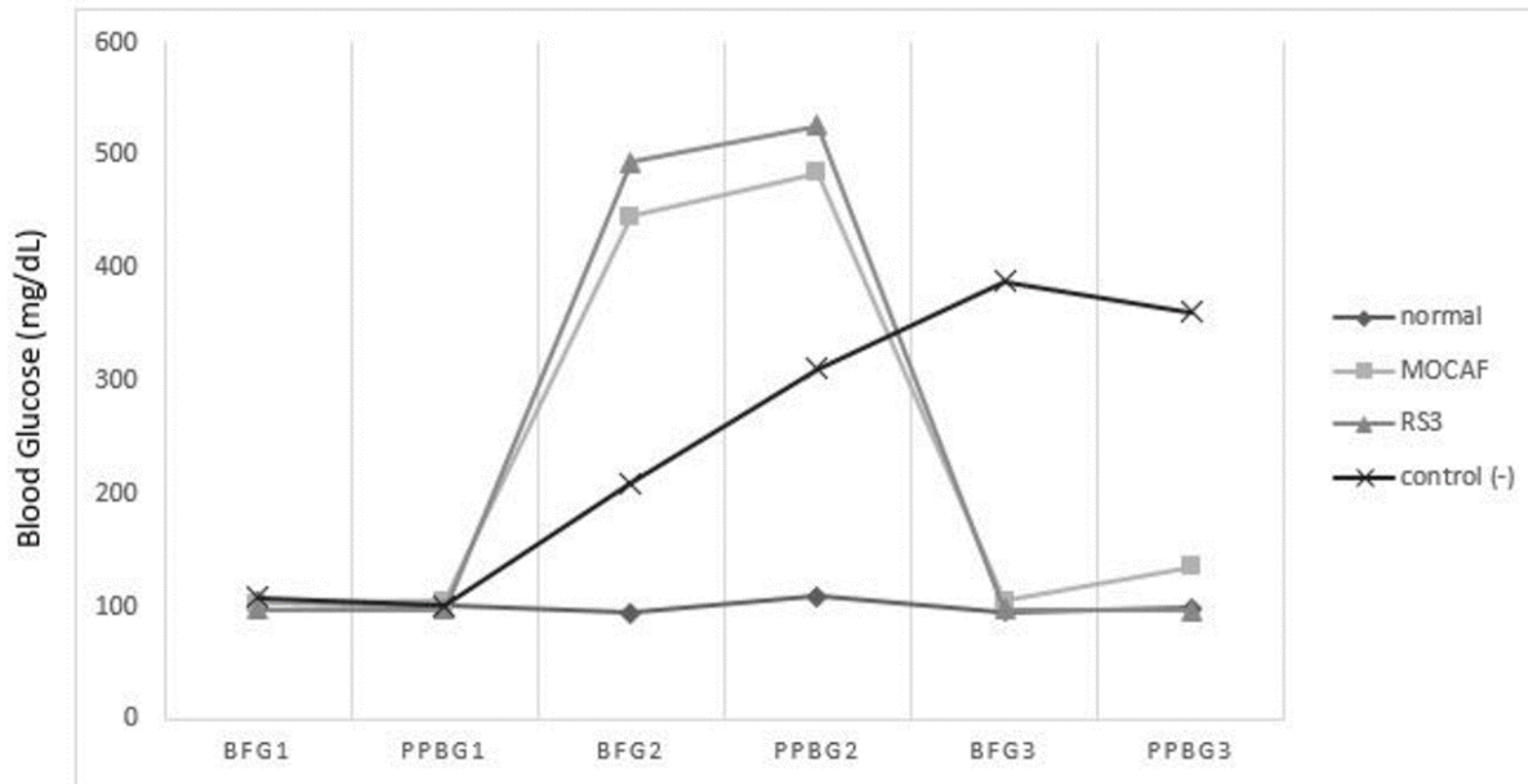


Figure 1. Blood glucose analysis: BFG1: blood fasting glucose pretreatment, PPBG1: post prandial blood glucose pre treatment, BFG2: blood fasting glucose post stz induction, PPBG2: post prandial blood glucose post stz induction, BFG3: blood fasting glucose post treatment, PPBG3: post prandial blood glucose post treatment

MOCAF and ITS RESISTANCE STARCH for Diabetic (2)

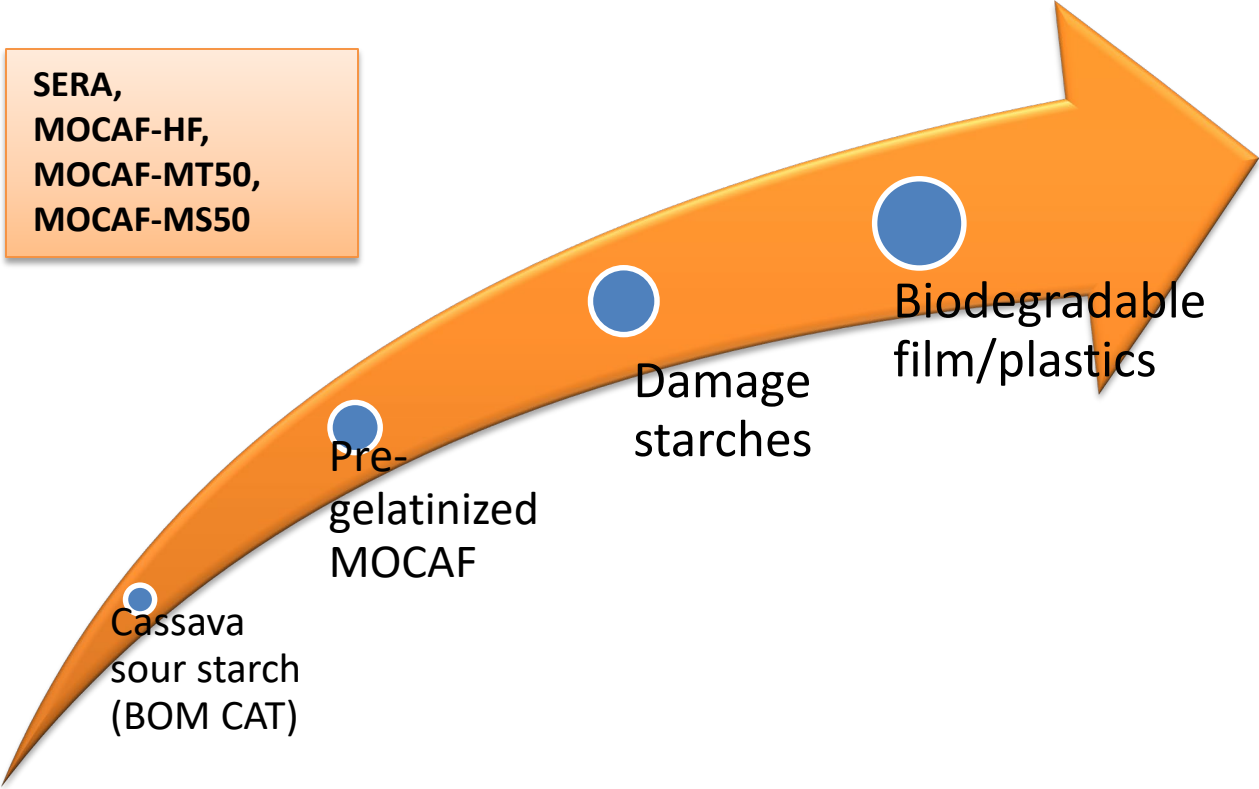
Table 1. Analysis of GLP-1, insulin, HOMA-IR and Short Chain Fatty Acid (SCFA)

Group	GLP-1 (pg/dL)	Insulin (ng/mL)	HOMA-IR	Short Chain Fatty Acid (mM)			
				acetate	propionate	butyrate	valerate
normal	0.083	47	1.30	35.16	13.15	6.48	0.31
MOCFAF	0.083	21	0.65	19.83	5.17	0.32	2.35
RS3	0.083	41	1.15	16.18	5.51	0.57	2.52
control (-)	0.082	50	5.53	25.28	11.48	4.00	0.42



High-end derivative products

SERA,
MOCAF-HF,
MOCAF-MT50,
MOCAF-MS50



Peel

- Feed
- Fertilizer

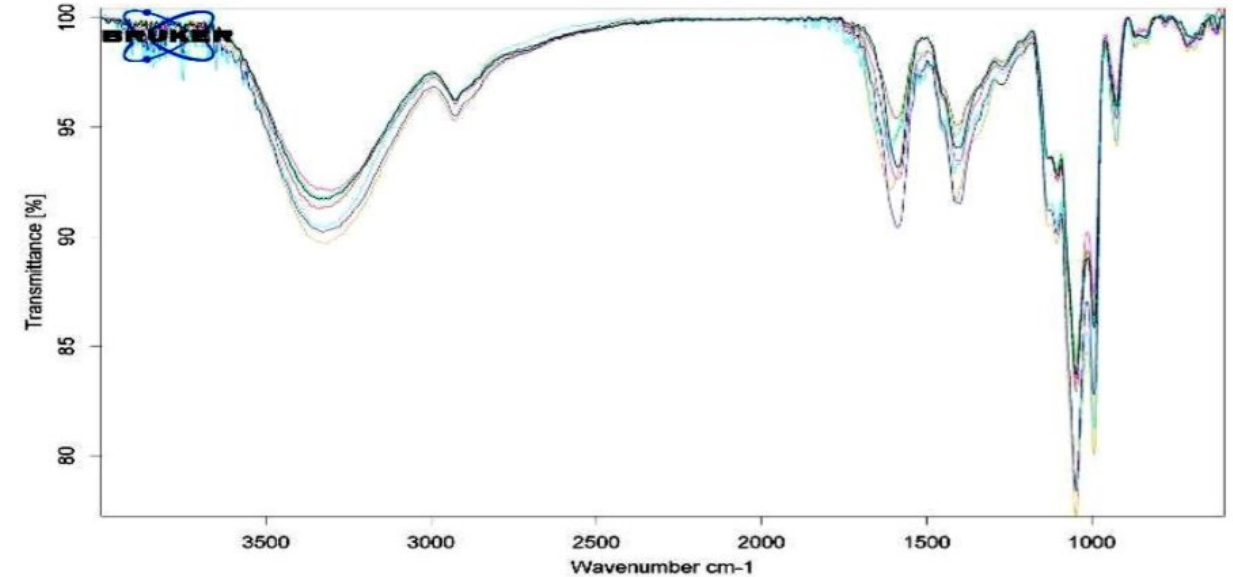
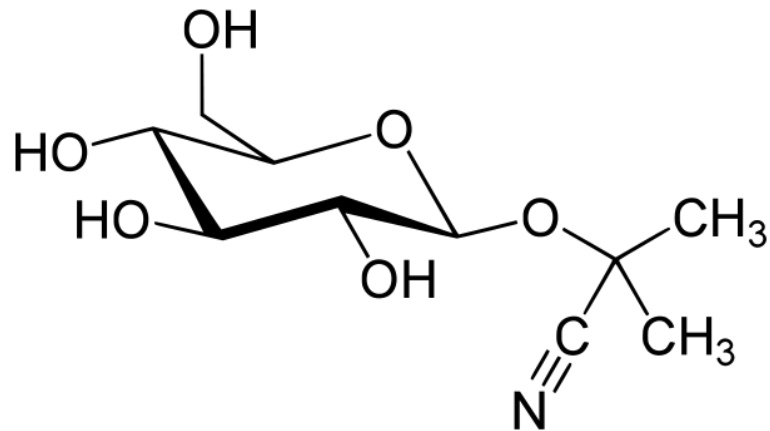
Liquid waste

- Fertilizer
- Protein isolate
- Soluble Starch

Fiber

- Dietary Fiber
- Feed

LINAMARIN : VITAMIN B17 ANTI-CANCER FROM CASSAVA



Tabel 4.2 Hasil analisis LC-MS/MS senyawa linamarin

Varietas	RT		Molekul Target (Area)	
	Linamarin 1	Linamarin 2	Linamarin 1	Linamarin 2
Malang-4	0,92	1,22	593.193,00	110.159,00
Malang-6	0,94	1,16	151.419,00	30.714,00
Kaspro	0,94	1,22	64.087,00	29.788,00
Ketan	0,94	1,16	59.789,00	26.739,00
Cimanggu	0,96	1,32	36.721,00	17.464,00
Mentega	0,92	1,18	1.102,00	3.672,00

Gambar 4.6 Hasil analisis FTIR pada sampel senyawa linamarin

Keterangan:

- █ = Kontrol
- █ = Cimanggu, perebusan
- █ = Cimanggu, pengukusan
- █ = Cimanggu, Penggorengan
- █ = Ketan, perebusan
- █ = Ketan, pengukusan
- █ = Ketan, penggorengan



Kapasitas : 125 kg tepung/jam ... 1,25 ton tepung/hari ... 390 ton/tahun

Kebutuhan chips: 1,36 ton chips/hari ... 425 ton chips/tahun

Kebutuhan singkong: 1.700 ton/tahun

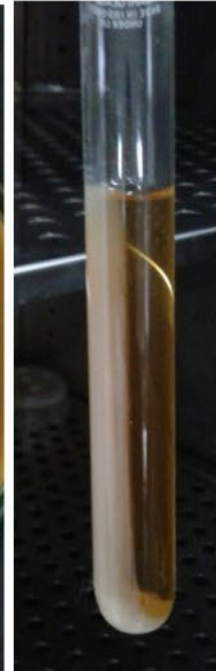
Kebutuhan luasan: 68 ha

CONTOH BERPIKIR DARI BUDAYA INNOVASI (4)



PRODUKSI PEPTON HALAL HASIL HIDROLISAT UDANG REBON (*Mysis, Sp.*)
KERING SEBAGAI SUMBER NITROGEN BAKTERI ASAM LAKTAT

HALAL PEPTONE PRODUCTION



KEMENTERIAN HUKUM DAN HAK ASASI MANUSIA
REPUBLIK INDONESIA
DIREKTORAT JENDERAL KEKAYAAN INTELEKTUAL
Jl. H.R. Rasuna Said Kav 4-9 Kuningan, Jakarta Selatan, 12940
Telepon: (021) 57905611 Faksimili: (021) 57905611
Laman: <http://www.dgip.go.id> Surel: dopatent@dgip.go.id

Nomor : HKI.3-HI.05.01.02.P00201806175
Lampiran : 1 (satu) berkas
Hal : Pemberitahuan Persyaratan Formalitas Telah Dipenuhi
Jakarta, 20 Agustus 2018

Yth. Universitas Jember
Lembaga Penelitian dan Pengabdian Masyarakat (LP2M)
Jalan Kalimantan No. 37, Kampus Tegallolo, Jember 68121

Dengan ini diberitahukan bahwa Permohonan Paten:
Tanggal Pengajuan : 15 Agustus 2018
(21) Nomor Permohonan : P00201806175
(71) Pemohon : Universitas Jember
(54) Judul Invenisi : PEPTON UDANG REBON KERING SEBAGAI SUMBER NITROGEN BAKTERI ASAM LAKTAT DAN PROSES PEMBUATANNYA

(30) Data Prioritas :
(74) Konsultan HKI :
(22) Tanggal Penerimaan : 15 Agustus 2018

telah melewati tahap pemeriksaan formalitas dan semua persyaratan formalitas telah dipenuhi. Untuk itu akan dilakukan:

1. Pengumuman, segera 7 (tujuh) hari setelah 18 (delapan belas) bulan sejak tanggal penerimaan atau tanggal prioritas dalam hal Paten Biasa (Pasal 46 UU No 13 Tahun 2016); atau segera 7 (tujuh) hari setelah 3 (tiga) bulan sejak tanggal penerimaan atau tanggal prioritas, dalam hal Paten Sederhana (Pasal 123 UU No 13 Tahun 2016).
2. Pemeriksaan Substantif segera setelah masa publikasi selesai dan pemohon telah mengajukan permohonan pemeriksaan substantif (Pasal 51 UU No 13 Tahun 2016).

Selain itu hal-hal yang perlu diperhatikan adalah sebagai berikut:

1. Permohonan pemeriksaan substantif dilakukan selambat-lambatnya 36 (tiga puluh enam) bulan sejak tanggal

SERTIFIKAT HALAL - HALAL CERTIFICATE
NO. : 07310040320817

بسم الله الرحمن الرحيم
MAJELIS ULAMA INDONESIA - JAWA TIMUR
THE INDOONESIAN COUNCIL OF ULAMA OF EAST JAVA
شهادة حلال

Jenis Produk : Yeast
Nama Produk : Ragi Mocaf

Nama Perusahaan : LEMBAGA PENELITIAN UNIVERSITAS JEMBER
Alamat Perusahaan : Jl. Kalimantan No. 37, Jember, Jawa Timur

09 Agustus 2017
08 Agustus 2019

Dr. K.H. Hasyim Abbas, M.H.I.
K.H. Abdulshamud Bashori

Teknologi Baru ala Tradisi:

- Makanan pokok
- Cadangan pangan

PASTA JAWA

Seblak adalah makanan gurih yang kadang pedas, dibuat dari kerupuk basah yang dimasak dengan campuran telur, sayuran, dan sumber protein lain seperti ayam, boga bahari (udang, ikan dan cumi-cumi), atau irisan sosis sapi. Bumbunya antara lain bawang putih, bawang merah, kecap manis, dan sambal (<https://id.wikipedia.org/wiki/Seblak>).



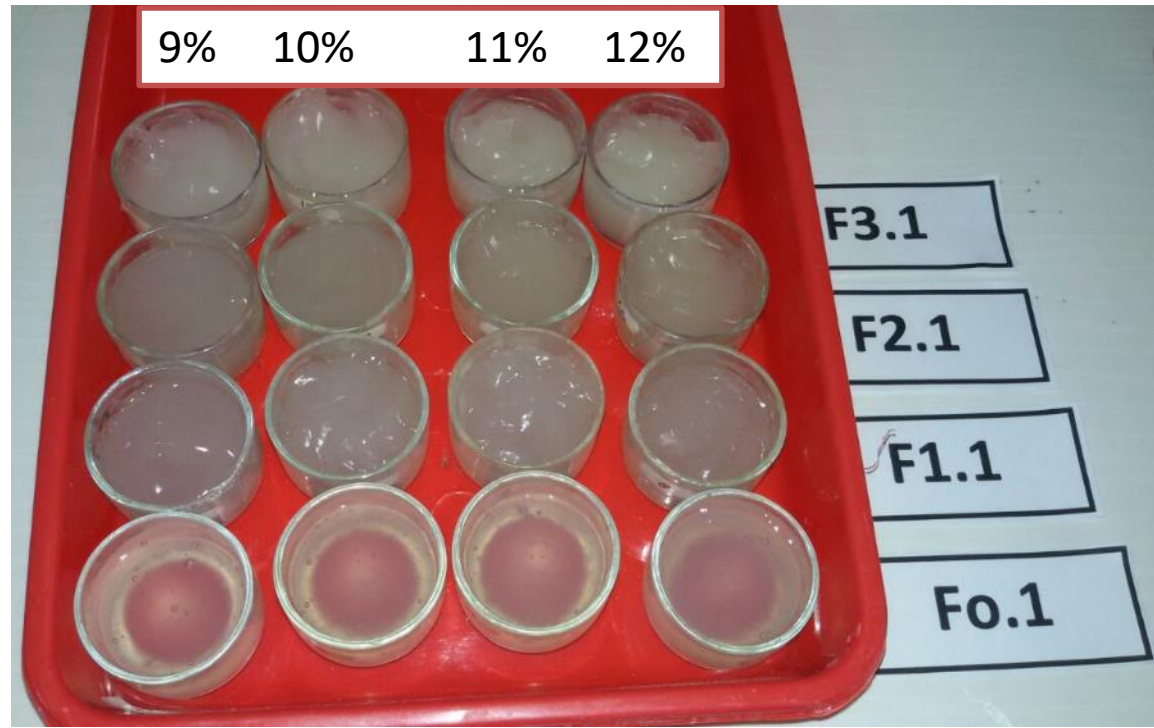
Bentuk Makaroni



VARIAN KERUPUK PLAIN DENGAN RASA UDANG DAN LELE



BOM – CAT (Biologically Modified Cassava Starch)

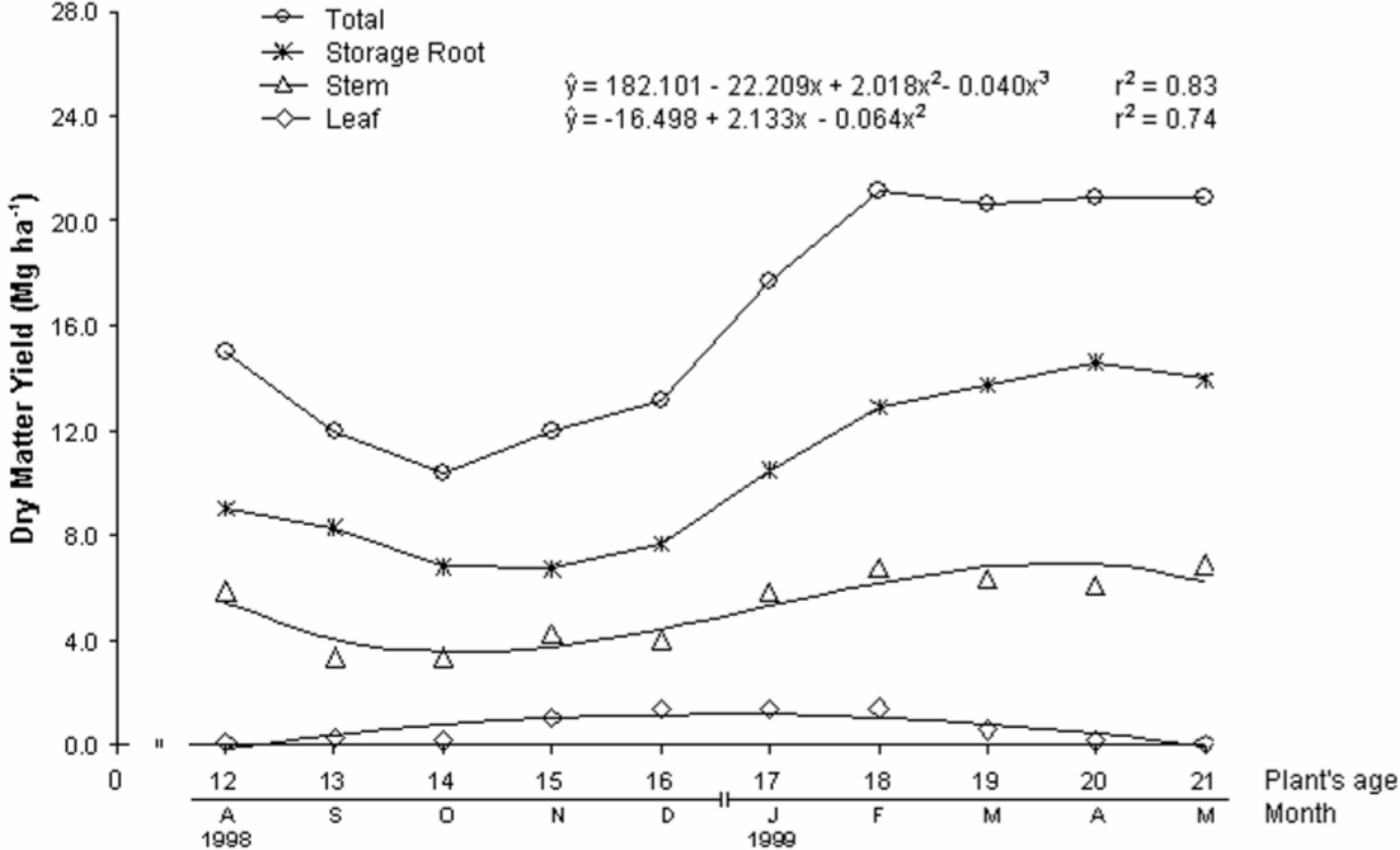




beras
cerds

The logo for 'beras cerdas' features the word 'beras' in black and 'cerd' in red. The letter 's' is replaced by a stylized graphic of a hand holding a rice stalk that forms a lightbulb shape. The rice stalk has three leaves: one red, one green, and one grey.

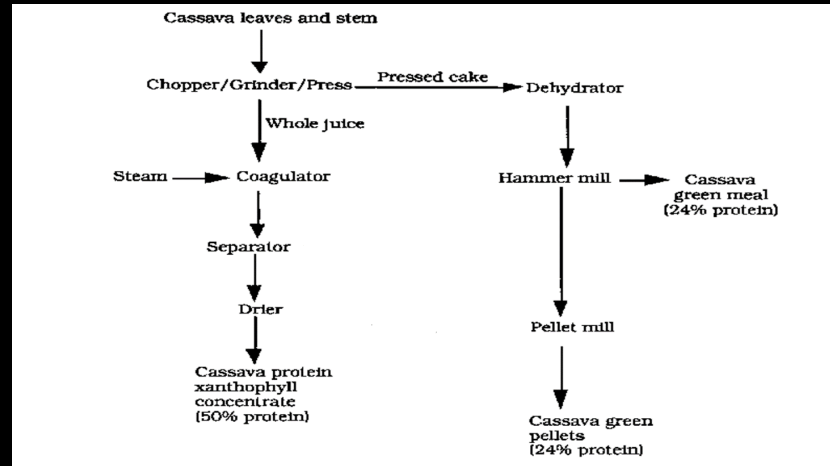
CASSAVA DRY MATTER PRODUCTION (Sagrilo, et al., 2008)



Profitable feeding strategies for smallholder cattle in Indonesia

- Robust treatment processes for removal of HCN from cassava
- NPD of Feeds from cassava plant parts
- Simple analysis for HCN
- As impacts, capacity building for new study program of animal science :
 - ✓ Networking
 - ✓ Staff development
 - ✓ Branding

Feeds from cassava



KEMENTERIAN PERTANIAN
BADAN PENELITIAN DAN PENGEMBANGAN PERTANIAN
PUSAT PENELITIAN DAN PENGEMBANGAN PETERNAKAN

Seminar Nasional
Teknologi Peternakan dan Veteriner

“Teknologi Peternakan dan Veteriner Mendukung Kemandirian Pangan di Era Industri 4.0”

Universitas Jember, Jember, 15-17 Oktober 2019

Ikhtisar
Seminar Nasional Teknologi Peternakan dan Veteriner merupakan kegiatan reguler yang diselenggarakan Pusat Penelitian dan Pengembangan Peternakan, Badan Penelitian dan Pengembangan Pertanian, Kementerian Pertanian. Kegiatan ilmiah ini bertujuan untuk percepatan penyebaran hasil-hasil penelitian teknologi peternakan dan veteriner. Seminar juga merupakan media dan sarana untuk saling bertukar informasi serta menyampaikan hasil-hasil penelitian terkini. Forum ini juga berperan dalam membina peneliti dan membangun jejaring kerjasama penelitian dengan multi pihak, baik dalam negeri maupun luar negeri.
Seminar mengambil tema “Teknologi Peternakan dan Veteriner Mendukung Kemandirian Pangan di Era Industri 4.0”. Tema ini cukup relevan dengan kondisi sekarang ini, mengingat pelaksanaan Making Indonesia 4.0 telah diumumkan oleh Presiden RI pada tahun lalu. Sektor pertanian sebagai salah satu penopang kebutuhan pangan dan perekonomian memiliki peran penting dalam menjaga kestabilan nasional di Era Industri 4.0. Kewajutan kemandirian pangan ini menjadi komitmen pemerintah dalam rangka pembangunan pertanian.
Era Industri 4.0 menjadi titik balik fundamental bagi perubahan cara berbagai sektor termasuk pertanian. Dukungan teknologi peternakan dan veteriner sangatlah penting untuk ketersediaan dan pengembangan ternak.

Waktu dan Tempat
Seminar diselenggarakan oleh Pusat Penelitian dan Pengembangan Peternakan bekerjasama dengan Universitas Jember pada tanggal 15-17 Oktober 2019. Field trip pada tanggal 17 Oktober 2019 menuju Taman Nasional Baluran dan Kawah Ijen, Jawa Timur.

Pembicara Utama (dalam konfirmasi)

1. Kepala Balitbang, Pawitan Peternakan dan Veteriner di Era Industri 4.0 (keynote Speech)
2. Dr. Heryono, Menuju Industri 4.0 untuk Riset Peternakan
3. Prof. Dr. Achmad Subagio, Hasil Penelitian Pakan Ternak Berbagai Jenis Pakan Lokal Menuju Riset Peternakan Berbasis Industri 4.0
4. Prof. Heather Burrow, Strategy Increasing Beef Cattle Production Under Dry Land Farming System
5. Dr. James McGree, Preparedness for Emerging and Re-Emerging Animal Diseases in Global Perspective
6. Dr. Sheela Leppy, Green House Gas Emission from Ruminant Sucky Chain: A Life Cycle Assessment
7. Agus Sholahudin, Uda, Upti, Success Story Usana Peternakan Umtra Berbasis Kembaran Menemusu Pasar Luarpor

Makalah Pendukung: Makalah hasil penelitian peternakan
Jadwal Penyerahan Makalah

1. Batas akhir penerimaan makalah lengkap: 10-juli-2019- 31 Juli 2019
2. Penyerahan hasil review mulai: 30 Agustus 2019
3. Batas akhir penerimaan makalah perbaikan sebelum: 6 September 2019
4. Pangiriman undangan: 27 September 2019

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E-mail: seminar2019@gmail.com

Pendaftaran, tidak dikenakan biaya
http://peternakan.litbang.pertanian.go.id/seminar/

Simpatik TV 2019



Harga Ubi Kayu Rp 600, Petani di Tiga Dolok Mengeluh

Selasa, 18 Februari 2020 14:37 WIB



Ilustrasi

republika.co.id

Tiga Dolok (SIB)

Harga ubi kayu saat ini hanya sekira Rp 600 per kilogram, sejumlah petani ubi di Tiga Dolok Kecamatan Dolok Panribuan mengeluh karena harga penjualan tidak sebanding dengan biaya yang dikeluarkan mulai dari penanaman hingga panen.

Demikian dikatakan petani ubi kayu Marga Purba ke SIB di Tiga Dolok Jalan Parapat Simlaungum, Senin (17/2).

Purba mengatakan para petani ubi kayu di Kecamatan Dolok Panribuan mengeluh karena

Harga Singkong Anjlok, Petani di Lamtim Merana

8 Maret 2020 - 258 views

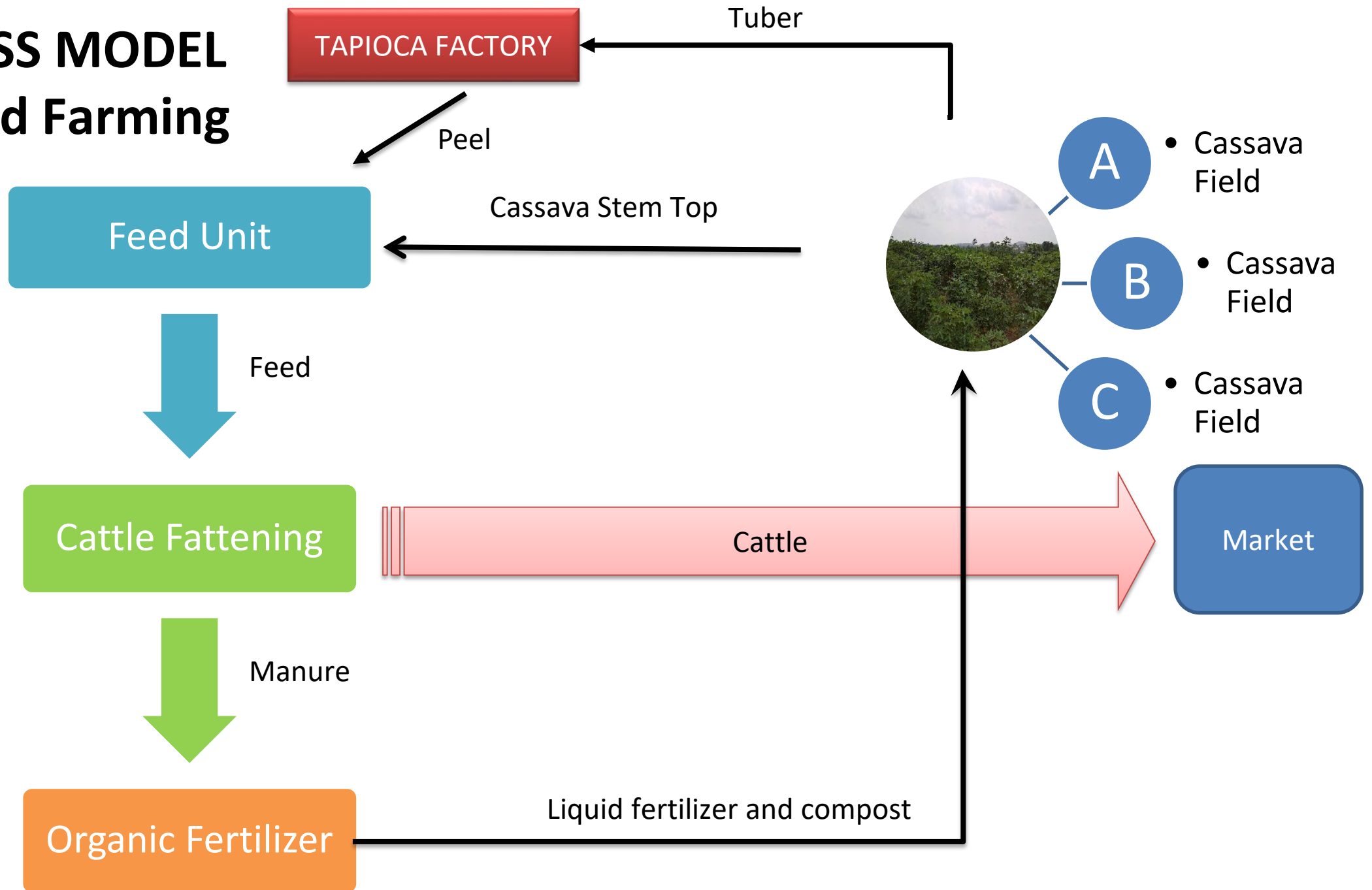


Lapor Pak Gubernur Lampung, harga singkong anjlok di Lamtim. Kapan petani berjaya



BUSSINESS MODEL

Integrated Farming



Assumptions

1. Amount of cassava stem top/ha = 10 ton/ha
2. Cassava peel = 20% of tuber 5 ton/ha
3. Manure per cattle = 4 kg/day 45% Water Content 2,5 kg/day... 900 kg/year
4. Feed consumption = 5,35 kg/day 1.950 kg/year/cattle

1 ha Cassava plant

Need: 10 ton compost, chemical fertilizer

- Tuber 25 ton/year MOCAF
- Feed 15 ton/year

7 – 8 Cattles

7 Cattles

Need: 15 ton feed, additives, fodder crop

- Manure 6,3 ton/year

0.6 ha

DERIVATIVE BUSINESS

Other business with Tapioca as RM

- Mono Sodium Glutamate
- Sorbitol
- etc

Highend Products

Small Volume, but High profit

- Pre-gel Starch
- Dextrin
- Maltodextrin
- etc

Intermediate Product

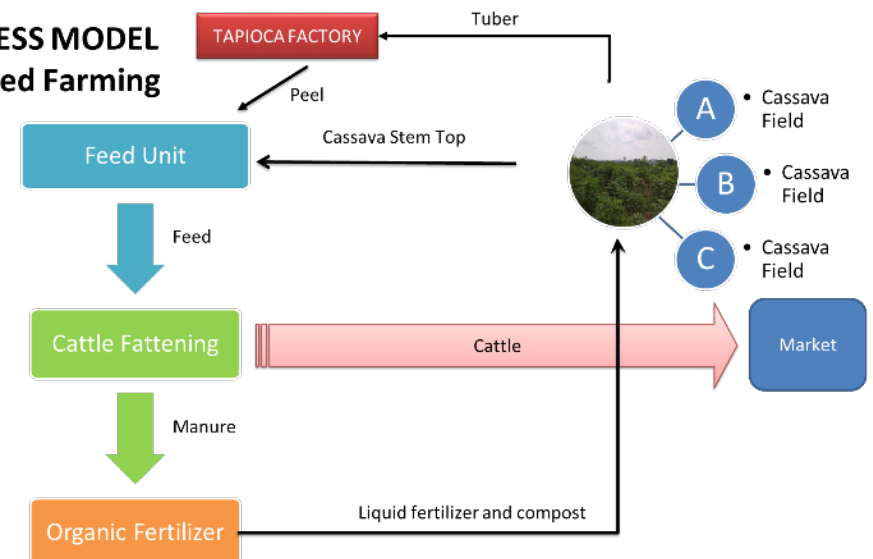
Backbone Business

- Tapioca
- MOCAF

Raw Materials

Raw Materials sustainability
(Availability, Quality and Price)

BUSINESS MODEL Integrated Farming



DERIVATIVE BUSINESS

- Mono Sodium Glutamate
- Sorbitol
- etc

Other

Highend Products

- Pre-gel Starch
- Dextrin
- Maltodextrin
- etc

Small

Intermediate Product

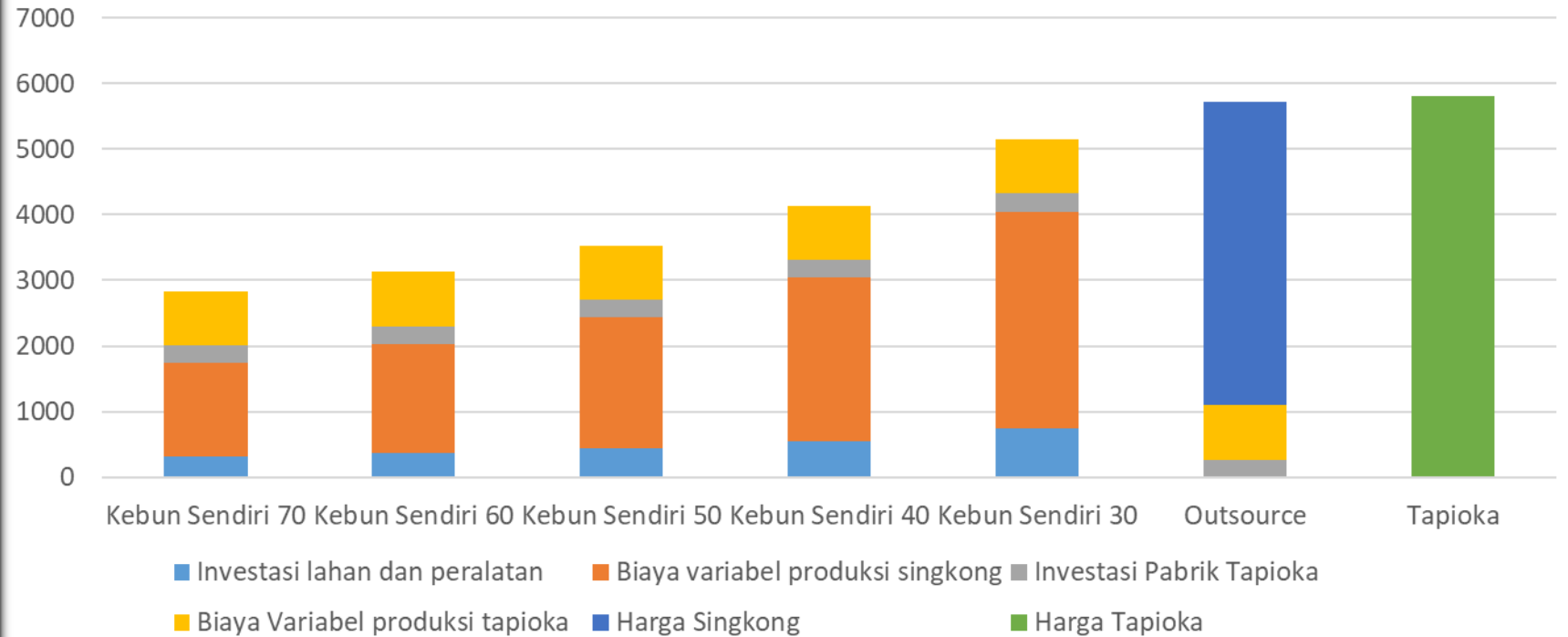
- Tapioca
- MOCAF

Backbone Business

Raw Materials

Raw Materials sustainability
(Availability, Quality and Price)

Perbandingan Model Bisnis Tapioka



BUSSINESS MODEL Integrated Farming

