

PEMBERITAHUAN PERTANYAAN DEWAN RAKYAT

PERTANYAAN : BERTULIS

**DARIPADA : DR. CHE ROSLI BIN CHE MAT
[HULU LANGAT]**

SOALAN :

Dr. Che Rosli bin Che Mat [Hulu Langat] minta MENTERI PERUSAHAAN PERLADANGAN DAN KOMODITI menyatakan senarai produk-produk yang dihasilkan oleh Institut Penyelidikan Minyak Kelapa Sawit (MPOB) yang telah dikomersialkan dan berada di pasaran sama ada dalam Negara dan Antarabangsa.

JAWAPAN :

Tuan Yang Di-Pertua,

Untuk makluman Ahli Yang Berhormat, sejak tahun 1986 sehingga tahun 2016, Lembaga Minyak Sawit Malaysia (MPOB) telah menghasilkan sebanyak 608 produk berasaskan sawit. Daripada jumlah tersebut, sebanyak 185 produk telah dikomersialkan iaitu 183 produk telah dikomersialkan di dalam negara dan 2 produk telah dikomersialkan di peringkat antarabangsa.

Produk-produk yang telah dihasilkan adalah seperti minyak sawit merah, vitamin E, kosmetik, baja organik, santan sawit dan *Sure Sawit*. Senarai produk-produk berasaskan sawit yang telah dikomersialkan oleh Lembaga Minyak Sawit Malaysia (MPOB) adalah seperti di **Lampiran**.

LAMPIRAN

Senarai produk-produk berasaskan sawit yang telah dikomersialkan oleh
Lembaga Minyak Sawit Malaysia (MPOB)

Bil.	Kluster	Teknologi/Produk	Tahun dikomersialkan / diambil pihak Industri	Syarikat yang mengkomersialkan
1	Plantation	<i>Leasing of Dura Mother Palms for Seed Production</i>	2000	IJM Plantation
			2000	RSSB(Risda Semaian dan Landskap Sdn Bhd)
2	Plantation	<i>Elite Oil Palm Pollen</i>	1992	IJM Plantation
			2002	RSSB(Risda Semaian dan Landskap Sdn Bhd)
3	Plantation	<i>PORIM Series No. 1 - Planting Material</i>	1994	UP, FELDA, SPAD
4	Plantation	<i>PORIM Series No. 2 - Planting Materials</i>	1994	UP, FELDA, SPAD
5	Plantation	<i>PORIM Elite Pollen</i>	2001	PAMOL Plantation Sdn Bhd
				J.C
				Chang Sdn Bhd
				RSSB
				IOI
				EPA
				Sime Darby
				IJM
				NLFCS
				SPAD

6	Plantation	<i>Peach Palm: Bactris gasipaes for Palm Heart Production (PS9)</i>	2004	Commercial planting in Ladang PASFA, Pahang
7	Plantation	<i>Application of Oil Palm Efficient Nutrient System (OPENS)</i>	2008	Nutri Plant Technologies Sdn Bhd
8	Plantation	<i>Formulation of balanced fertilizer for oil palm</i>	2002	Union Harvest S.B(F1)
			2004	CCM Fertilizer S.B(F2)
9	Plantation	<i>MPOB F3 Fertilizer for Oil Palm</i>	2007	Malaysian NPK Fertilizer SB
10	Plantation	<i>MPOB F4 dan F4 Premium</i>	2009	All Cosmos Industries Sdn Bhd
			2014	Sabah Softwoods Hybrid Fertiliser Sdn Bhd
11	Plantation	<i>30 Tonnes FFB Technology for Oil Palm Growers – A Case Study on Coastal Area</i>	2000	Smallholders, FELDA settlers and RISDA Mini Estates.
12	Plantation	<i>An Innovative Technique on Management of Biomass during Oil Palm Replanting</i>	2001	EPA Management
				Tradewinds – Ldg Ulu Sibol
				ESPEK – Ldg Sg Chales
				Jaya – Ldg Johor Labis
13	Plantation	<i>Reactive Phosphates Fertilizers Recommended for Young Oil Palm Planted On Inland Soils</i>	2005	Major oil palm plantations in the country
14	Plantation	<i>Fertilizer Management for Immature Oil Palm Planted on an Inland Terraced Soil</i>	2007	Oil Palm Plantation

15	Plantation	Maximizing The Potential Of Phosphate Fertilizers For Increasing Mature Oil Palm Yield	2007	Oil Palm Plantation
16	Plantation	Efficient Use of Urea as Nitrogen Fertilizers For Mature Oil Palm In Malaysia	2007	MITCO (Petronas)
				Oil palm Plantation
17	Plantation	Bio-fertilizer from Oil Palm Biomass and POME Solids by Mobile Composter	2009	Clear Water Revival
18	Plantation	Environmental Friendly Palm Based Inert Ingredient for EW - Insecticide Formulation	2007	Cognis Oleochemicals (M) Sdn Bhd
19	Clonal Industry	Oil Palm Tissue Culture Tracking System (OPTRACKS)	2006	Creative System Consultant Sdn Bhd
20	Clonal Industry	MPOB Fast Transfer Technique in Liquid Culture System (MoFatt)	2006	Sinar Fokus (M) Sdn Bhd
21	Clonal Industry	MPOB Modified Vessel (MOVess) for Liquid Tissue Culture System	2010	Bina Integrated Sdn Bhd
22	Clonal Industry	Two-in-one MPOB-Simple impeller (2-in-1 Mo-SLIM) In liquid culture system	2006	RTL Corporation
			2007	
23	Clonal Industry	Simple impeller with fast transfer technique (SLIM-FaTT) In liquid culture system	2006	RTL Corporation
			2007	
24	Clonal Industry	Flameless Sterilizer	2004	Erla Technologies Sdn Bhd
25	Farm Machinery	Harvesting Pole (Zirafah)	1995	Alcom Extrusion Sdn Bhd

26	Farm Machinery	Mechanical Loader (The Grabber)	1995	Scanmech Sdn Bhd
			1999	Gallant Crane
			1993	Jamsa Sdn Bhd
				Sime Kubota Sdn Bhd
27	Farm Machinery	Soil Stabilizer for Plantations Roads	1999	Pro Base S B
				Microtech S B
28	Farm Machinery	Wakfoot 2 (FFB In-Field Transporter)	2000	P&G Industries
29	Farm Machinery	Hi Reach Harvesting Pole (Hi-Reach)	2001	Hi-Engineering (M) Sdn Bhd
			2006	Synergy Rotate Sdn Bhd
30	Farm Machinery	Hand-held Mechanical Cutter (Cantas)	2008	Jariz Technologies Sdn Bhd
				Saplantco Sdn Bhd
				Fancy power Sdn Bhd
31	Farm Machinery	Mechanical Trunk Injection for Control of Ganoderma	2005	Mentitas Sdn Bhd
32	Farm Machinery	Mobile Ramp for Mainline Loading of Oil Palm FFB	1999	Magviews.
				To be used by Felda
33	Farm Machinery	Compact transporter for in-field activities	2006	Magview (M) Sdn Bhd
34	Farm Machinery	Motorcycle Trailer		Prestar
		The production of motorcycle trailer as multipurpose transport for smallholders	2011	AAZ Bina Kejuruteraan & Pembekal Sn Bhd
35	Farm Machinery	The Production of Mechanical Harvesting Machine	2010	Mizou Holdings Sdn Bhd
			2015	Omega Perantis sdn Bhd

36	Farm Machinery	<i>The Production of Powered Wheelbarrow an Implement to Assist Oil Palm Filed Activities</i>	2011	AAZ Bina Kejuruteraan & Pembekal S.B
37	Farm Machinery	<i>The Production of Roller Picker – Roller Type Oil Palm Loose Fruit Picker</i>	2010	MyHardware Trading
38	Farm Machinery	<i>Oil palm Motorised Cutter (Cantas Mark-II) / Mark III</i>	2010	Fancy Power Sdn Bhd
			2011	Nafas Jentera Sdn Bhd
			2011	Felda Agricultural Services sdn Bhd (FASSB)
			2015	SCH Palmtech Sdn Bhd
			2015	JWR Technology (M) Sdn Bhd
		<i>Cantas Evo</i>	2015	Alpha Centennial (M) Sdn Bhd
39	Plant protection	<i>Powder Formulation of Metarhizium anisopliae for Control of Oryctes rhinoceros-Ory X</i>	2007	Felda Agriculture Services Sdn. Bhd. (FASSB)
40	Plant protection	<i>Cassia cobanensis as Beneficial Plant for Sustenance of Parasitoids in Bagworm Control</i>	2005	Industry
41	Plant protection	<i>Parator VI.0 -A Diagnostic Tool for the Identification of Parasitoids and Predators for Bagworms and Nettle Caterpillars in Oil Palm</i>	2002	Industry
42	Plant protection	<i>Metarhizium Granule for Control of Rhinoceros Beetle</i>	2008	FASSB

43	Plant protection	<i>The identity of Ganoderma responsible for basal stem rot disease in oil palm</i>	2000	FELDA
		<i>The Identity of Ganoderma responsible for Basal stem rot disease of oil palm pathogenicity test</i>		
44	Plant protection	<i>Field Practices for Reducing Risk of Rhinoceros Beetle (Oryctes rhinoceros)</i>	2000	Most Plantation and agencies
45	Milling and Processing	<i>Sequencing Batch Reactor (SBR) of Palm Oil Refinery</i>	1986	Palm Oil Refineries
				Food Industry
				Sewage treatment KLIA
46	Milling and Processing	<i>Continuous Sterilization of Fresh Fruit Bunches</i>	2002	CB Industrial Products S. B
47	Milling	<i>New clarification system for oil palm mill based on continuous sterilization process</i>	2004	Westfalia Separator Sdn Bhd
48	Milling and Processing	<i>Process System for Production of Shell Free Palm Kernel (Rolek Nut Cracker)</i>	2005	Hur Far Engineering Works Sdn Bhd
49	Milling and Processing	<i>Maximizing the Recovery of Dry Kernel and Shell via a Four Stage Winnowing Column</i>	2009	Hur far Engineering Works Sdn Bhd
50	Milling and Processing	<i>Crude Palm Oil Clarification by Membrane Filter Press</i>	1996	Tambusai Timur palm Oil Mill (Milling capacity = 60 t/hr)
51	Milling and Processing	<i>Mobile filter press for effluent pond cleaning</i>	2007	PROPEL
52	Green energy	<i>Palm Diesel with Low Pour Point for Cold Climate Countries</i>	2005	Oiltek Sdn Bhd
		<i>Palm biodiesel production technology</i>		

53	Green energy	Used frying oil : Recovery and applications	2007	MPV Technologies Sdn Bhd
54	Green energy	Palm-based additive to improve Lubricity of Ultra Low Sulphur Diesel	2006	Rovski Sdn. Bhd.
55	Green energy	Briquetting of Empty Fruit Bunch Fibre and Palm Shell using Piston Press Technology	2010	Global Green Synergy Sdn Bhd
56	Phytonutrients & Nutraceutical	Extraction of Vitamin E	2006	Golden Jomalina Food Industries (Sime Darby Biogenic)
57	Phytonutrients & Nutraceutical	Red Palm Oil	1997	Global Palm Products Sdn Bhd (Carotino Sdn Bhd)
58	Phytonutrients & Nutraceutical	Production Technology for Carotenes	2007	Carotino Sdn Bhd
59	Phytonutrients & Nutraceutical	Recovery of Carotenes and a Method of Extracting and Isolating Minor Components from Vegetable Oil	2010	Inventa Technologies (S) Pte Ltd
60	Oleochemicals	Palm-based General Cleaning Agent- Degreaser	2004	Millennium Partners (M) Sdn. Bhd
61	Oleochemicals	Food Grade Palm-based Industrial Lubricant – Hydraulic Fluid	2007	Yap Phooi Hoon Enterprise
62	Oleochemicals	Environment friendly palm-based inert ingredients for Ew- insecticides formulation	2007	Imaspro Biotech Sdn Bhd
63	Oleochemicals	Palm Oil Based Adjuvant Formulated in Glyphosate Isopropylamine and Glyphosate Monoammonium Herbicides Formulation	2010	Ancom Crop Care Sdn Bhd

64	Oleochemicals	<i>Palm Oil-based Printing Ink</i>	1999	TCI Graphics (M) Sdn Bhd
65	Oleochemicals	<i>Palm-based Blanket And Roller Wash for Offset Printers</i>	1999	TCI Graphics(M) Sdn Bhd
66	Oleochemicals	<i>Palm-based Polyols and Polyurethanes</i>	2006	Intermed Sdn Bhd
67	Oleochemicals	<i>Laminated palm-based polyurethane sheets</i>	2008	Rokisar Sdn Bhd
68	Oleochemical	<i>Palm-based esterquat: a cationic surfactant from palm stearin fatty acid followed by quaternization with dimethylsulfate</i>	2015	Allied Quats Sdn Bhd
69	Wood-based product	OP-Fibre Moulded Plastic Composites	1999	Proton-Assembled
				Kejuruteraan Emas Sdn Bhd
				(Perdana V6)
				(Waja)
				(Gen 2)
				(Pesona)
				Paragon Car Carpet
70	Wood-based product	<i>Oil Palm Plywood</i>	2003	(Honda city)
71	Wood-based product	<i>Production of Carboxy Methyl Cellulose (CMC) from Oil Palm Empty Fruit Bunch(EFB)</i>	2008	Business Esprit Sdn Bhd
72	Wood-based product	<i>Production of MDF from Oil Palm Biomass</i>	2002	Waris Nove Sdn Bhd
				Hume Fibreboard SB
				Donghwa Fibreboard SB

73	Wood-based product	Solvent-soda Extraction of Cellulose and Lignin from Oil Palm Biomass	2002	Universities
74	Wood-based product	Oil Palm Flat Particleboard	2003	Isotop Sdn Bhd
75	Wood-based product	Activated Carbon Production from Oil Palm Wastes and By-product	2009	M-Trex Active Carbon
76	Wood-based product	NoSkin Moulded Particleboard from Oil Palm Biomass	2003	Isotop Sdn Bhd
77	Automotive Component	Automotive components:	1999	Proton-Assembled
		Thermoformable Plastic Composites from OP-Fibre-Rear Parcell Shell		Kejuruteraan Emas Sdn Bhd
				(Perdana V6)
				(Waja)
				(Gen 2)
				(Pesona)
				Paragon Car Carpet
				(Honda city)
78	Automotive Component	Sound Deadners Asphaltics Melt Pads (Damping Sheet) from Oil Palm Fibres for the Automotive Industry	2008	Base Components Sdn Bhd
79	Oleochemicals	Goat's Milk Skin Freshener	2000	HR Marketing
80	Oleochemicals	Palm-based Soap with Goat's Milk	2000	HR Marketing
81	Oleochemicals	Goat's Milk Lotion with Palm Vitamin E for Dry Skin	2000	HR Marketing
82	Oleochemicals	Goat's Milk Lotion with Palm Vitamin E for Normal Skin	2000	HR Marketing

83	Oleochemicals	<i>Palm-based Night Cream with Calendula Extract</i>	2000	Millennium Pro Care Marketing Sdn Bhd / Geena Classic Sdn Bhd
84	Oleochemicals	<i>Palm-based Soap with Tawas</i>	2000	Millennium Pro Care Marketing Sdn Bhd / Geena Classic Sdn Bhd
85	Oleochemicals	<i>Palm-based Soap with Scrubbing Agent</i>	2000	Millennium Pro Care Marketing Sdn Bhd / Geena Classic Sdn Bhd
86	Oleochemicals	<i>Palm-based Soap with Reishi Mushroom (Ganoderma)</i>	2001	DXN Industries
87	Oleochemicals	<i>Namari Olive Oil Soap</i>	2002	Subnex Refrigeration Sdn Bhd
88	Oleochemicals	<i>Palm-based cream with Retin-A</i>	2002	HOE Pharmaceuticals Sdn Bhd
89	Oleochemicals	<i>Pearlised goat's milk shower foam</i>	2000	HR Marketing
90	Oleochemicals	<i>J Pearl Liquid Foundation</i>	2003	Herba Al-Nabawiy
91	Oleochemicals	<i>J Pearl Lipsticks</i>	2003	Herba Al-Nabawiy
92	Oleochemicals	<i>J Pearl Lip gloss</i>	2003	Herba Al-Nabawiy
93	Oleochemicals	<i>Transparent Soap for Skin Care</i>	2007	HR Marketing
			2008	Muslimah Skin Care Cosmetics Manufacturing Sdn Bhd
94	Oleochemicals	<i>Lipgloss stick pink</i>	2003	Intercosmetic Sdn Bhd
95	Oleochemicals	<i>Sulphur bar soap with "gamat"</i>	2003	BJ Vesta Laboratories Sdn Bhd

96	Oleochemicals	Herbal bran soap hydno cream	2003	Mardi
97	Oleochemicals	Facial foam, facial toner, moisturiser with SPF 15 and massage oil with Gold Tri. E	2006	Golden Hope Research Sdn Bhd
98	Oleochemicals	Palm-based massage oil	2006	Cyberview Lodge Sdn Bhd
99	Oleochemicals	Transparent Soap With Perfume	2008	Sirius Excel Sdn Bhd
100	Oleochemicals	Transparent Soap for Decoration	2007	HR Marketing
101	Oleochemicals	Improved technology for the production of Palm Based DHSA	2010	Ecovintage Sdn. Bhd.
102	Food	Palm Olein Salad Dressings /Mayonnaise	2004	Aromaspice Sdn Bhd
103	Food	Protein Fortified Trans-Free Margarine	2001	CSM Distribution Sdn Bhd
104	Food	Trans Free Margarine	2002	MMvitaoils (formerly known Naluri Pesona Sdn Bhd)
105	Food	Trans Free Palm-based Shelf Stable Margarine Formulation	2007	Emec Enterprise SB - Produced and marketed by Pwani Kenya
			2009	Alunan Cahaya Food Ind
			2010	Kim Chuan Foodstuff & Edible Oil Ind
			2015	Tri Hat Technology Sdn Bhd
		Palm oil based Garlic spread	2015	Sterling Food Industries

106	Food	<i>Palm-based Trans Fatty Acid-free Biscuit Cream Fat</i>	2009	Kucukbay Oil & Detergents Ind. Co. Ptd Ltd.
107	Food	<i>Production Palm-based Processed Cheese</i>	2009	D'Qisra Sdn Bhd
			2012	HPA Industries Sdn Bhd
108	Food	<i>Palm oil-based Shortenings</i>		Nola, South Africa
			1995	Ngo Chew Hong Oils & Fats (M) Sdn Bhd
				Cargills
			2015	Tri Hat Technology Sdn Bhd
109	Food	<i>Palm-based ghee cooking fat</i>	2015	Tri Hat Technology Sdn Bhd
110	Food	<i>Smart Balance</i>	1999	Brandeis University
111	Food	<i>(a) Novel Oil Compositions</i>	2009	Ace Edible Oil Industries Sdn Bhd
		<i>(b) Production of Novel Oil (Health Balanced Oil) with Cold Stability</i>	2008	Lipochem (M) Sdn Bhd
112	Food	<i>Speciality Animal Fats Replacer for Meat Products(SAFar)</i>	2006	Golden Jomalina Food Industries Sdn Bhd
			2002	Perusahaan RT Sdn Bhd

113	Food	Palm-based Trans free Liquid Santan	2009	Palmyra Enterprise
			2009	Biomc Coolet Sdn Bhd
			2009	Premium Food Corporation Sdn Bhd (previous comp. is Bay Exclusive sdn Bhd)
			2012	Felcra Processing & Engineering Sdn Bhd
			2013	Palmy Industry Sdn Bhd
114	Food	high Fibre Chocolate	2002	Unicocomas Sdn Bhd
115	Food	Trans Free Palm based chocolate spread	2009	Palmilk Food Industries (M) Sdn Bhd(Asa palmilk Industries Sdn Bhd)
			2012	HPA Industries Sdn Bhd
116	Food	Palm-based non-hydrogenated creamer	2004	DXN Industries Sdn Bhd
117	Laboratory equipment	Certified Reference Materials from Palm Oil Products	2005	Palmshoppe, MPOB
118	Laboratory equipment	Standard reference materials-fatty acid composition of palm oil, palm olein and palm stearin (MRM -2)	2007	Palmshoppe, MPOB
119	Laboratory equipment	Palm Oil Standard Reference Materials for Determination of Solid fat Content	2007	Palmshoppe, MPOB
120	Laboratory equipment	Determination of Glyphosate in oil matrix, part I, pre column derivation method	2005	Kumpulan Guthrie Berhad

121	Laboratory equipment	Determination of paraquat residue in edible oil	2005	Sime Darby Bhd
122	Laboratory equipment	Determination of Methamidophos in oil using Gel Permeation Cleanup and Capillary Gas Chromatography	2005	Kumpulan Guthrie Berhad
123	Laboratory equipment	Determination of Monocrotophos in Palm Oil using Gel Permeation Chromatography Cleanup and Capillary Gas Chromatography	2005	Kumpulan Guthrie Berhad
124	Laboratory equipment	Determination Of Acephate In Palm Oil using Gel Permeation Chromatography Clean Up and Capillary Gas Chromatography	2005	Kumpulan Guthrie Berhad
125	Laboratory equipment	Determination of deltamethrin in edible oil	2005	Kumpulan Guthrie Berhad
126	Laboratory equipment	Determination of Organochlorine Pesticide in Edible Oil (using sweep co-distillation clean-up method)	2005	Kumpulan Guthrie Berhad
127	Laboratory equipment	Determination of Chlorpyrifos in Edible Oil Liquid-Liquid Extraction Method	2005	Kumpulan Guthrie Berhad
128	Laboratory equipment	Determination of Hydrocarbon (n-alkanes) in oil Matrix	2005	Golden Hope
				Kumpulan Guthrie Bhd
129	Laboratory equipment	Determination of Benzo (a) pyrene in edible oils and fats by HPLC and fluorescence detection	2005	Kumpulan Guthrie Bhd
				Perkin Elmer
130	Laboratory equipment	Bio-degradation Testing Services	2002	MPOB, Kimia Suchi SB, Natural Soap SB, Goodmaid SB, Lam Soon SB, Evergreen Solution (Canada)

131	Laboratory equipment	Eco-Toxicity Testing services	2002	MPOB, UPM
132	Laboratory equipment	Deterioration of Bleachability Index	2004	All mills/refineries
				Used by industries
133	Laboratory equipment	Slip Melting Point Meter	1999	Fotontec
134	Services	Palmoilis (Palm Information Online Service)	1993	(Statistic as at 2008)
				Palmoilis Subscribers (confirmed): Corporate and Individual
135	Plant biotechnology	Quality Control Process for Oil Palm Tissue Culture using DNA Probes	1996	AAR
136	Plant biotechnology	Genome Analysis Laboratory for Oil Palm (GALOP)	2002	AAR
137	Plant biotechnology	PalmGenes	2003	MPOB, Universities and research institutes
138	Plant biotechnology	Microsatellite Probes for Fingerprinting of Oil Palm Clones	2006	FELDA, IOI, AAR
139	Plant biotechnology	Markers to Predict Skin Colour of Oil Palm Fruit	2006	IJM Plantation
140	Livestock industry	Systematic Integration of Cattle in Oil Palm	2000	Felda, Espek, Tabung Haji. JTOP.
				Far East Holding
				Chin Tech Plantation
				Ladang Mara

141	Industrial biotechnology	<i>Oryctes virus for Biocontrol of Rhinoceros beetles, Oryctes rhinoceros</i>	2003	Pekan Est, Johor Sengkang Est, N.Sembilan Kuala Bikam & Yew Lee Est, Perak, Lam Soon Est Pahang, Kemayan Estate,
142	Plantation	<i>Integration of Banana (Berangan variety) with Oil Palm Planted in Double Avenue Planting System</i>	2004	Smallholders PASFA
143	Plantation	<i>Integration of Bactris (Bactris gasipaes) for Palm Heart with Oil Palm Planted in Double Avenue Planting System</i>	2005	PASFA
144	Plantation	<i>Integration of Banana Tanduk variety with Oil Palm Planted in Double Avenue Planting System</i>	2005	Smallholders
145	Plantation	<i>Integration of Yellow Sugar Cane with Oil Palm</i>	2008	Smallholder - 10
146	Plantation	<i>Integration of Yellow Cattle with Oil Palm –</i>	2008	Ladang Rakyat Terengganu Ladang Raja Alias Ladang Palong Satu
147	Plantation	<i>Bio organic fertiliser(TKJ)</i>	2011	MPV Technologies Sdn Bhd
148	Plant protection	<i>Co-active biofertiliser containing fungal GanoEF1 for controlling Ganoderma in oil palm</i>	2011	All Cosmos Biotech Holding Corporation
149	Milling and processing	<i>A biogas trapping facility for handling palm oil mill effluent (POME): Agreement (Development of a model palm oil mill processing wastewater biogas system at the palm oil</i>	2011	Biogas Environmental Engineering Sdn Bhd

		mill)		
150	Phytonutrients & Nutraceutical	Fractional distillation plant for downstream processing of palm methyl esters	2011	WS Bionengineering SB (Sister company of Oiltek)
151	Phytonutrients & Nutraceutical	Recovery of oil palm phytonutrients	2011	WS Bioengineering SB (Sister company of Oiltek)
			2014	SOP Green Energy Sdn Bhd
				FGV Lipid Venture Sdn Bhd
			2009	Carotino Sdn Bhd
152	Milling and processing	Mechanical works on nut cracker: An implement to crack oil palm nuts and separate kernels from cracked mixture in oil palm bunch analysis laboratory	2011	Min Engineering & Mechanical Works
153	Food	Palm-based creamer	2012	HPA Industries Sdn Bhd
154	Plant Protection	Bacillus thuringiensis productss Ecobac (EC) and Bafog-1(S) from MPOB BT 1	2012	Malaysia Agri Hi Tech Sdn Bhd
155	Milling and Processing	Development of a new commercial scale clarification system based on evaporation for palm oil mills	2012	CB Industrial Sdn Bhd
156	Plant Protection	Actinomycete /	2012	Pascal Biotech Sdn Bhd
		Streptomyces GanoSA1 Powder as biological control of Ganoderma in Oil Palm		
157	Farm Machinery	Beluga: Small Vehicle for Field Operation on Peat	2012	Mizou Holdings Sdn Bhd

		Area		
158	Oleochemical	Green Polyurethane for Ornamental Products	2012	I-NAI Green Sdn Bhd
			2012	PU Profile Sdn Bhd
159	Livestock Industry	Animal Feed - Keratong	2012	Tiara Kesturi
		Broiler starter feed using improved MPOB-HiE		
160	Livestock Industry	Animal Feed - Keratong : MPOB-HiE as high energy fat supplement for lactating dairy cows	2012	Tiara Kesturi
161	Milling and Processing	Nationwide monitoring of oil losses at Palm Oil Mills using Infrared Spectrometer	2013	Matrix Analytical Technologies Sdn Bhd
162	Milling and Processing	Zero Waste Technology for Palm Oil Mills (POMEDfree)	2013	Nexus Technology Consultancy Sdn Bhd
163	Farm Machinery	Rhyno: A Multipurpose Wheel Type Transporter for Oil Palm Activities on undulating Terrain and soggy areas	2013	Mizou Holdings Sdn Bhd
164	Plant Protection	EMBIO™ actinoPLUS for Biological Control of Ganoderma Disease	2014	Pascal Biotech Industries Sdn Bhd
165	Biomass Industry	Removable Peeler Lathe for Palmwood Veneer Productions	2014	Nexfuel Sdn Bhd
166	Food	Red Palm Oil-based Ice Cream	2014	One Food Industry Sdn Bhd
167	Biomass Industry	The development of a process system and technology for the formulation and production of palm based biomass pellets	2015	Global Green Synergy Sdn Bhd
168	Plant biotechnology	Oil Palm Translationally Controlled Tumor Protein Constitutive Promoter	2015	Craun Research Sdn Bhd

169	Food	Antioxidant chili oil	2015	Sterling Food Industries
170	Food	Palm based mayonnaise	2015	Sterling Food Industries
		Thousand island	2015	Sterling Food Industries
		Tartar sauce	2015	Sterling Food Industries
171	Plant Protection	A composition for Ganoderma disease in plants : Chemical fertiliser Ganocare™ Preventive Treatment in Controlling Ganoderma Disease of Oil Palm	2015	Felcra Plantation Services Sdn Bhd / UPM
172	Plant Protection	A composition for Ganoderma disease in plants : Organic Fertiliser GanoCare for Ganoderma Control	2015	Felcra Plantation Services Sdn Bhd / UPM
173	Food	Increasing olein yield using MPOB's modified fractionaton process	2015	Yee Lee Edible Oils Sdn Bhd
174	Plant Biotechnology	Clonal Performance Biomarker License	2015	Orion Biosains Sdn Bhd
175	Plant Biotechnology	SureSawit™ VIR - A Diagnostic Assay to Predict Colour of Oil Palm Fruits. Genes Related to the Virescens Genes (VIR)	2015	Orion Biosains Sdn Bhd
176	Milling and Processing	Process System for the Production of Premium Feed Quality Palm Kernel Cake (PKC)	2016	Hur Far Engineering Works Sdn Bhd
177	Milling and Processing	Feed Grade Palm Kernel Cake	2016	Sime Darby Plantation Bhd
178	Phytonutrients	The Production of Individual Palm Tocol	2015	Carotino Sdn Bhd

179	Food	Production of Processed Tea from Oil Palm Leaves (OPAL)	2016	TRP Technologies Sdn Bhd
180	Food	Production of PMF-based Bakery Fats for Margarine Formulation, Shortening Formulation and Frying Fat	2016	Abu Dhabi Vegetable Oils Company (ADVOC)
181	Green energy	Production Technology of Biodiesel from Palm Fatty Acid Distillate (PFAD)	2014	Oiltek Sdn Bhd
			2014	Lipochem Sdn Bhd
			2015	SOP Green Energy Sdn Bhd
			2016	Sime Darby Biodiesel Sdn Bhd
182	Green Energy	Palm-Based Mould Oil for the Steel/ Concrete Industry	2015	SL Engineering & Trading
183	Services	SureSawit Karma : A diagnostic assay for clonal conformity	2016	Orion Biosains Sdn Bhd
184	Plantation	MPOB F5	2015	Banyan Agri Sdn Bhd
			2014	Brier Resouces
185	Plantation	MPOB F6	2014	Consolidated Fertiliser Corp SB