

# Competitiveness of the Oil Palm Industry in Colombia

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## ABSTRACT

*This article is aimed at discussing the competitiveness of the oil palm industry in Colombia in comparison with Malaysia's own industry in terms of production, trade, consumption and infrastructure. Prospects of investment in the industry in Colombia are also discussed. For the purpose of analysing the information gathered, a SWOT analysis was used to evaluate the strengths, weaknesses, opportunities and threats of the Colombia's oil palm industry. Colombia was chosen for this article based on the fact that there is currently a lack of information and of a database on this country with regard to her oil palm industry. The information in this article was collected primarily from various secondary sources. Not all of this information was of the latest year because of the difficulty in sourcing the most up-to-date information. It is hoped that this article will assist Malaysian oil palm industry players in having a better understanding of the developments pertaining to the oil palm industry in Colombia as well as gauging the challenges, if any, posed by this country and the prospect for investments.*

**Keywords:** oil palm, competitiveness, trade, Colombia.

## INTRODUCTION

Colombia is the largest producer of palm oil in the South American region, and the fourth largest producer in the world after Indonesia, Malaysia and Thailand. Colombia is a developing country with Gross Domestic Product (GDP) of USD 5369 per capita. Oil palm accounts for 2.6% of her agricultural GDP, which in turn accounts for 8.5% of GDP. Consequently, the oil palm sector contributes 0.22% of GDP (RSPO, 2010). The Colombian

oil palm industry actively engages smallholders and small-scale co-operatives which service large-scale plantations in an inclusive business model called Strategic Productive Alliances (SPA). Similar to most palm oil industries around the world, in Colombia this industry represents an important source of income.

Oil palm has been grown with government support in Colombia since the 1960s. From a mere 10 000 ha at its start, the industry has grown steadily to more than 400 000 ha. Initially, the

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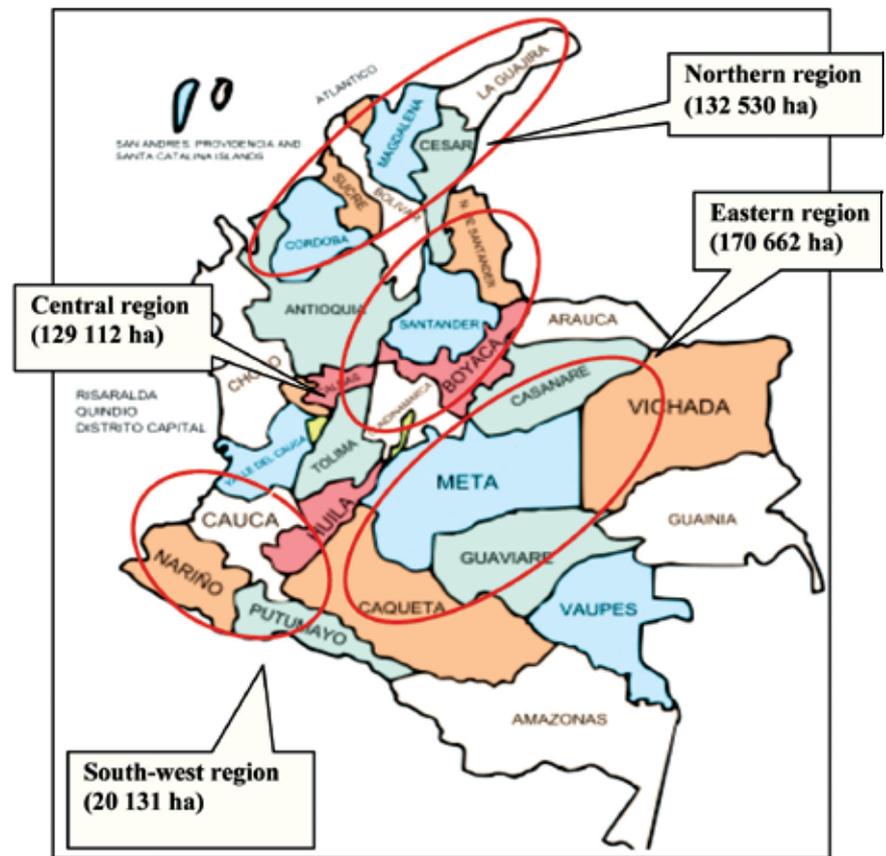
palm oil sector was developed to support domestic demand, especially in the edible oil sector to make cooking oil and margarine. Now, the usage has expanded to other applications such as soap and chemical manufacture. However, the industry truly gained momentum in the 2000s, following the Colombian government's incentives to increase the production of palm oil for export and to meet domestic biofuel production. Expansion in the usage of palm oil for the biofuel industry started in 2007 when the former President, Alvaro Uribe (2002-2010), introduced a law mandating a 5% biofuel blend for domestically distributed diesel. The biofuel programme also provided a push for the country to replace her coca crop with oil palm to overcome the activity of insurgent groups. It was reported that from a peak of about 163 000 ha under coca in 2000, the area has now shrunk to less than 70 000 ha. About half of the domestic palm oil sales in Colombia supports the national palm-based biodiesel programme.

## THE OIL PALM SITUATION IN COLOMBIA

### Planted Area

According to the National Federation of Oil Palm Growers of Colombia (Fedepalma), in 2012, the total oil palm planted area was 452 435 ha, having increased by 11.9% from 404 104 ha recorded in 2010. Besides oil palm, the country also plants soyabean, cottonseed and sesame but these areas are small, amounting to less than 50 000 ha. The oil palm planted area is distributed over 32 departments (districts) which can be categorised into four regions (Figure 1) as listed below:

- northern region consisting of the Caribbean coast in the



Source: Fedepalma (2013a).

Figure 1. Oil palm regions in Colombia (2012).

- departments of Magdalena, Cesar, Bolivar and La Guajira;
- central region located in the inter-Andean valley of the Magdalena River system (Santander and Norte de Santander);
- eastern region primarily consisting of the departments of Meta, Casanare and Guaviare in Los Llanos; and
- south-west region situated at the south-western department of Nariño.

In 2012, the eastern region had the largest oil palm planted area with 170 662 ha (37.7% of total planted area), followed by the northern region 132 530 ha (29.3%), the central region 129 112 ha (28.5%) and the south-west region with 20 130 ha (4.4%). Out of the total of 452 435 ha, 299 953 ha (66.3% of the total planted area) were in the production/mature stage, while 152 482 ha

(33.7%) were at the developing/immature stage (Table 1).

The oil palm planted areas grew rapidly in the 2000s, mainly in response to the government incentives for increasing palm oil for exports, as well as for meeting the blending targets for biodiesel production. In Colombia, palm oil and sugar-cane are the main feedstocks for the biofuel industry. Colombia produces almost all her biodiesel from palm oil whereas ethanol is produced from sugar-cane. In fact, Colombia has emerged as the largest producer of palm biodiesel and is the second largest producer of ethanol in Latin America. The Colombian government has promoted the production and use of biofuel with the aim of diversifying the country's sources of energy and reducing her dependency on fossil fuels, thus reducing greenhouse gas emissions as well as developing

**TABLE 1. DISTRIBUTION OF OIL PALM PLANTED AREA BY REGION IN COLOMBIA (ha)**

Year	Area	Eastern		Northern		Central		South-West		Total	
		ha	Part (%)	ha	Part (%)	ha	Part (%)	ha	Part (%)	ha	Part (%)
2010	Mature	90 521	36.1	87 365	34.9	67 822	27.1	4 954	2.0	250 663	100
	Immature	67 505	44.0	27 621	18	45 164	29.4	13 151	8.6	153 441	100
	Total planted area	158 026	39.1	114 986	28.5	112 986	28	18 105	4.5	404 104	100
2011	Mature	100 601	37.7	92 082	34.5	71 206	26.7	3 033	1.1	266 922	100
	Immature	62 846	39.2	32 258	20.1	50 015	31.2	15 327	9.6	160 446	100
	Total planted area	163 447	38.2	124 340	29.1	121 221	28.4	18 360	4.3	427 368	100
2012	Mature	113 820	37.9	100 273	33.4	81 631	27.2	4 229	1.4	299 953	100
	Immature	56 842	37.3	32 257	21.2	47 481	31.1	15 902	10.4	152 482	100
	Total planted area	170 662	37.7	132 530	29.3	129 112	28.5	20 131	4.4	452 435	100

Note: Planted area refers to the net area, which is the area occupied by oil palm, calculated based on plant density as reported by the producers. According to a national survey carried out in 1997-1998, the net area to gross area ratio is 93.3%. The annual planted area series was corrected by netting annual renovated/replanted areas. Data was not available for 2013.

Source: Fedepalma (2013b).

the Colombian agro-industry to promote agricultural employment in rural areas. As a result of the abundant supply of palm oil as raw material for biodiesel, production has increased steadily over the years and has overtaken ethanol output in 2010.

### Composition of Industry Sector

The Fedepalma is the main organisation that backs the oil palm industry and plays a leading role in promoting smallholder development. One of Fedepalma's major efforts has been in promoting the development of smallholders through the SPA. SPA consists of a company that owns a mill which invites local oil palm smallholders/farmers who own 1-4 ha of oil palm to integrate into a productive unit. The company participating in this scheme benefits from financial assistance from the government, increases the usage of its installed capacity and secures its supply of fresh fruit bunch (FFB). In return, the smallholders get guaranteed purchase of their FFB, enjoy backing from the company for obtaining credit and incentives,

and receive higher incomes as well as employment opportunities. Instead of having large plantations owned by only one company, SPA provides a way for developing larger, nuclear estates. Most oil palm plantations are in the hands of vertically integrated private companies. The two largest are Casanare (owned by Palmar del Oriente SA) and Extractora del Sur de Casanare. International companies include Mondelez, Unilever and Cargill.

In 2010, the contribution of smallholders with less than 20 ha under the SPA scheme equated to 18% of the total oil palm planted area (Table 2). About 36% of the oil palm plantations are on landholdings greater than 1000 ha in area, while 33% are between 200 and 1000 ha in size. In 2012, out of the total 452 435 ha of oil palm, there were 126 SPA, comprising more than 6000 smallholders with 70 000-80 000 ha of oil palm (Hernandez-Salame, 2014).

### Work Force

More than 130 000 people are involved directly and indirectly in

the Colombian oil palm industry. Wages in this sector are 20% higher than in the other agricultural sectors. Based on Fedepalma data, wages amount to USD 24.80/day compared with USD 11.40/day in Malaysia and USD 4.70/day in Indonesia. According to the World Bank, in 2012, minimum wage in Colombia was USD 260.76/month, which is above those in Malaysia (no minimum wage) and Indonesia (at USD 132.66/month) (Table 3).

Malaysia only started implementing a minimum wage policy on 1 January 2013. The policy sets a minimum wage of RM 900/month (RM 4.33/hr) for Peninsular Malaysia and RM 800/month (RM 3.85/hr) for Sabah, Sarawak and the Federal Territory of Labuan, covering both the local and foreign workforce, with the exception of domestic workers such as domestic helpers and gardeners.

### Infrastructure

Based on the data available from Fedepalma, in 2012, a total of 58 palm oil mills were in operation in Colombia with a total capacity of

Size (ha)	Planted area (ha)		% of total planted area	
	1999	2010	1999	2010
SPA	645	64 023	0.4	15.9
0 – 20	4 908	11 319	3.3	2.8
21 – 200	19 366	52 089	12.9	13.0
201 – 1 000	57 454	132 029	38.4	32.8
More than 1 000	67 391	142 553	45.0	35.5
<b>Total</b>	<b>149 764</b>	<b>402 013</b>	<b>100</b>	<b>100</b>

Note: SPA - Strategic Productive Alliance.  
Source: Fedepalma (2011).

Source	Colombia (USD)	Malaysia (USD)	Indonesia (USD)
Fedepalma	24.80/day	11.40/day	4.70/day
World Bank	260.76/month	No official minimum wage	132.66/month

1374 t FFB/hr compared to 51 mills with a capacity of 1236 t FFB/hr in 2011. Most of the mills show a trend towards expansion to include biodiesel processing. Most of the palm oil mills are concentrated in the eastern region (40.8%), which is also the major oil palm planting area in Colombia. In 2012, out of 58 mills, 24 mills were relatively small with a capacity of less than 15 t FFB/hr, 13 mills are medium-sized with a capacity of 15-25 t FFB/hr and 21 mills had a capacity larger than 25 t FFB/hr (Tables 4 and 5).

According to the available information from Fedepalma, in 1997, there were three palm oil refineries in operation with a total capacity of 57.8 t/hr, and these refineries were located mainly at the eastern region. The latest information obtained from the Ministry of Commerce, Industry and Tourism indicates that there are now nine refineries in operation and are located in Barranquilla (three plants), Bogota (two plants), Valle del Cauca (two plants) and Villavicencio and Bucaramanga (with one plant each).

#### Yield

According to Fedepalma, in 2012, Colombia's national yield of FFB was 15.52 t/ha, a decline by 9.7% from the yield of 17.18 t/ha recorded in 2011. In 2012, most of the regions recorded lower FFB yields except for the northern region which recorded 16.97 t/ha that was higher than the national yield. The Colombian FFB yield was lower than the national FFB yield in Malaysia, which was at 18.89 t/ha (Table 6). The Colombian national yield of crude palm oil

Size range*	Number of mills		Aggregate installed capacity**	
	2011	2012	2011	2012
0 – 5	3	2	12	9
5 - 10	9	9	81	74
10 - 15	7	13	97	179
15 - 25	11	13	231	276
More than 25	21	21	816	837
<b>Total</b>	<b>51</b>	<b>58</b>	<b>1 236</b>	<b>1 374</b>

Note: \*Refers to the classification of palm oil mills according to their processing capacity.  
\*\*Calculated by aggregating the installed capacity of palm oil mill in each size range.  
Source: Fedepalma (2013a).

TABLE 5. INSTALLED CAPACITY OF PALM OIL MILLS BY REGION (t FFB/hr)				
Region	2010	2011	2012	% share in 2012
Eastern	464	493	560	40.8
Northern	372	375	375	27.3
Central	294	312	369	26.9
South-west	119	57	70	5.1
Total	1 249	1 236	1 374	100

Source: Fedepalma (2013a).

TABLE 6. ANNUAL YIELD BY REGION (t/ha)				
Product	Region	2010	2011	2012
FFB	Eastern	12.92	16.81	14.62
	Northern	15.03	16.58	16.97
	Central	18.15	18.48	15.07
	South-west	12.95	17.7	14.17
	Total	15.07	17.18	15.52
	Growth rate	(7.9)	14.0	(9.7)
CPO	Eastern	2.72	3.55	3.11
	Northern	2.86	3.32	3.42
	Central	3.63	3.84	3.26
	South-west	2.24	2.96	2.44
	Total	3.00	3.54	3.25
	Growth rate	(11.9)	17.9	(8.3)

Note: FFB – fresh fruit bunch.

CPO – crude palm oil.

Source: Fedepalma (2013a).

(CPO) in 2012 was 3.25 t/ha, a decrease by 8.3% from 3.54 t/ha in 2011. Similar to FFB yield, most of the regions recorded declines in CPO productivity except for the northern region, which recorded a CPO yield of 3.42 t/ha which is an increase by 3.01% over the yield in 2011, and was above the national yield. Compared with Malaysia, the Colombian CPO yield (3.25 t/ha) is 18.1% lower than that of Malaysia (3.84 t/ha).

### Production

According to *Oil World* (2014), palm oil dominates Colombia's domestically produced oils and

fats. Palm oil makes up 1 million tonnes, representing 84.6% of all the oils and fats produced in 2013. Other locally produced oils and fats include soyabean oil 69 000 t (5.6%) and palm kernel oil 92 000 t (7.4%). According to Fedepalma, in 2013, Colombia produced 1.04 million tonnes of palm oil, an increase by 7.0% from 973 680 t attained in 2012. Production of palm oil has been on an increasing trend due to the increase in planted and mature areas. Production is expected to increase further because palm oil is an important component in Colombia's biofuel industry which started in 2008. In terms

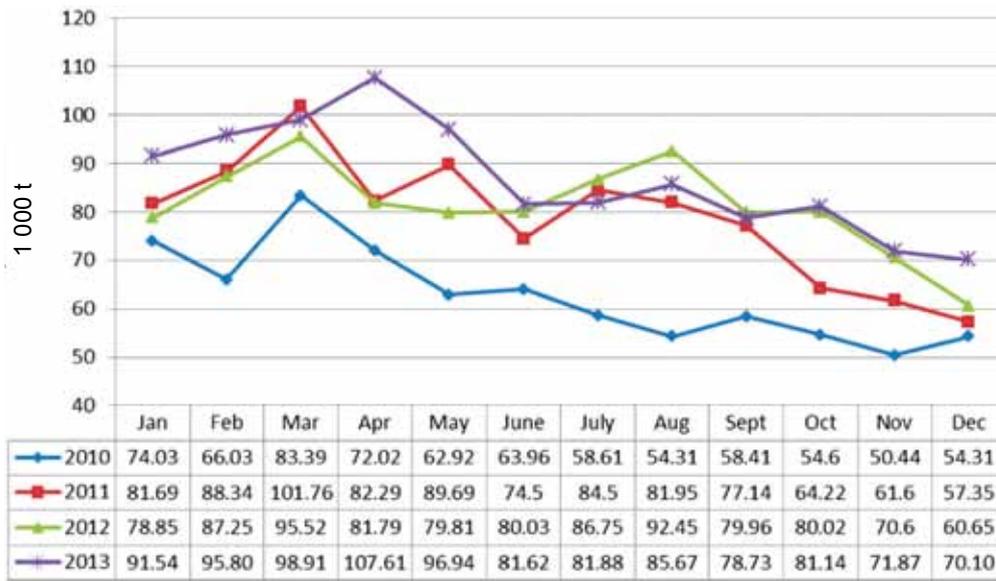
of production pattern, there are four months with higher CPO production, namely, from January to April, while lower production occurs from September to December (*Figure 2*).

The eastern region was the largest CPO-producing region in 2012 with 354 234 t (36.3% of total CPO production), followed by the northern region with 343 314 t (35.2%), central region 265 844 t (27.3%) and south-west region 10 310 t (1.0%) (*Table 9*). In 2014, Colombia produced 1.1 million tonnes of palm oil, an increase by 6.6% from 1.04 million tonnes in 2013 (*Oil World*, 2014) (*Figure 3*).

### Sales of CPO in the Domestic Market

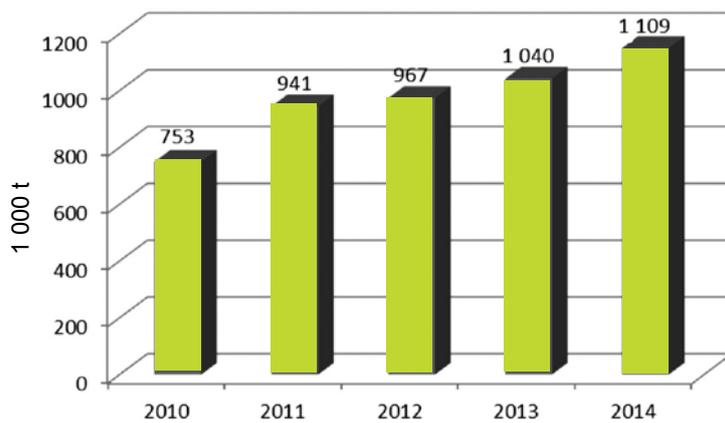
In Colombia, domestic sales in CPO take precedence over exports. About 85% of the palm oil produced in Colombia is for domestic use; however, in recent years production for domestic usage and export for both edible and non-edible purposes is also being promoted. According to Fedepalma, in 2012, about 46% of the domestic palm oil sales went to the biodiesel industry, with 40% for food and other uses, while the remaining 14% was exported.

In 2012, total sales of CPO to domestic and export sectors reached 972 525 t, representing an increase of 3.8% compared with 937 017 t in 2011. Of the total sales, 795 800 t went to the domestic



Source: Fedepalma (2013a).

Figure 2. Monthly production of crude palm oil in Colombia (2010 – 2013).



Source: Fedepalma (2013a). Oil World (2014).

Figure 3. Annual production of crude palm oil in Colombia (2010 – 2014).

market, accounting for a share of 81.8%, while exports amounted to 18.2%. Sales to the domestic market in 2012 represented an increase by 3.6% over 2011 due to the increase in sales of CPO to the biodiesel sector, while exports of CPO constituted an increase by 4.8% over 2011 (Table 7).

In terms of market segment, of the 795 800 t of CPO sold in the domestic market, 445 476 t (45.8%) went to the biodiesel sector, while the remaining 350 324 t (36.0%) went to the

traditional sector, comprising processing industries such as edible oils and fats processing, feed manufacture and other uses (Table 8).

Based on the data highlighted in bold, domestic CPO market share in the biodiesel sector had increased from 41.1% in 2011 to 45.8% in 2012. However, the market share of CPO in the edible sector (processing industries for oils and fats) had decreased from 37.6% in 2011 to 31.3% in 2012. The main buyers of CPO in the

domestic market in 2012 were Aceites Manuelita SA, Ecodiesel Colombia SA, Bio D SA, Oleoflores SA and Grupo Grasco, which accounted for about 58.5% of total purchases. All these companies, except for Grupo Grasco, are involved in the production of biodiesel.

### Exports

Exports of Colombian palm oil and palm-based products have been on an increasing trend. In 2012, exports of palm oil and palm-based products totaled 239 959 t, an increase by 11.5% from 215 237 t exported in 2011 (Table 9).

In terms of value, the total export value of Colombian palm oil and palm-based products was USD 264.5 million in 2012, a decrease by 4.9% from USD 277.9 million in 2011 due to the low prices of palm oil (Figure 4).

Palm oil products at 188 435 t were the major product group exported in 2012. Out of the total exports, 141 016 t was CPO (74.8% of total), followed by refined, bleached and deodorised (RBD) palm oil and fractions

<b>TABLE 7. SALES DISTRIBUTION OF CRUDE PALM OIL (CPO) IN COLOMBIA</b>						
<b>Distribution</b>	<b>2011</b>		<b>2012</b>		<b>Difference</b>	<b>Growth rate (%)</b>
	<b>t</b>	<b>% share</b>	<b>t</b>	<b>% share</b>		
Production	945 030	-	973 703	-	28 673	3.0
<b>Markets:</b>						
Costa	249 138	26.6	245 489	25.2	(3 649)	(1.5)
Bogota	362 106	38.6	383 437	39.4	21 331	5.9
Cali	13 004	1.4	11 328	1.2	(1 676)	(12.9)
Centro	144 108	15.4	155 545	16.0	11 437	7.9
<b>Domestic sales</b>	<b>768 356</b>	<b>82.0</b>	<b>795 800</b>	<b>81.8</b>	<b>27 443</b>	<b>3.6</b>
<b>Exports</b>	<b>168 660</b>	<b>18.0</b>	<b>176 725</b>	<b>18.2</b>	<b>8 065</b>	<b>4.8</b>
<b>Total CPO Sales</b>	<b>937 017</b>	<b>-</b>	<b>972 525</b>	<b>-</b>	<b>35 508</b>	<b>3.8</b>

Note: Values in brackets are negative.

Source: Fedepalma (2013a).

<b>TABLE 8. DISTRIBUTION OF CRUDE PALM OIL (CPO) IN THE COLOMBIAN DOMESTIC MARKET (2011 and 2012)</b>				
<b>Market segment</b>	<b>2011</b>		<b>2012</b>	
	<b>t</b>	<b>% share</b>	<b>t</b>	<b>% share</b>
Processing industries for oils and fats	352 380	37.6	304 247	31.3
Feed manufacture	17 832	1.9	27 416	2.8
<b>Biodiesel/biofuel</b>	<b>385 100</b>	<b>41.1</b>	<b>445 476</b>	<b>45.8</b>
Others	12 903	1.4	18 661	1.9
Total	768 215	100	795 800	100

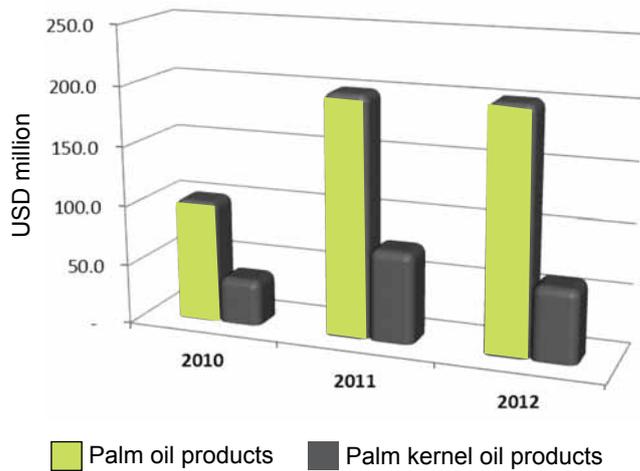
Source: Fedepalma (2013a).

<b>TABLE 9. EXPORTS OF OIL PALM PRODUCTS FROM COLOMBIA FROM 2010-2012 (t)</b>			
<b>Product</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Crude palm oil	59 434	126 489	141 016
Refined, bleached and deodorised palm oil and fractions*	30 373	24 228	32 244
Palm oil in soap	8 912	8 182	8 029
Palm oil in margarine and hydrogenated products	14 867	9 883	7 145
Total for palm oil products	113 586	168 782	188 435
Crude palm kernel oil	33 024	38 505	40 217
Palm kernel oil (PKO) in kernels**	0	0	1
Refined palm kernel oil and fractions	1 772	3 100	6 509
PKO in processed products	4 831	4 850	4 798
Total for palm kernel oil products	39 627	46 455	51 525
Total	153 213	215 237	239 959

Note: \* Fractions refer to palm oil stearin and olein.

\*\* The conversion coefficient for palm kernels to crude palm kernel oil is 42%.

Source: Fedepalma (2013a).



Source: Fedepalma (2013a).

Figure 4. Export value of oil palm products from 2010-2012 (USD million).

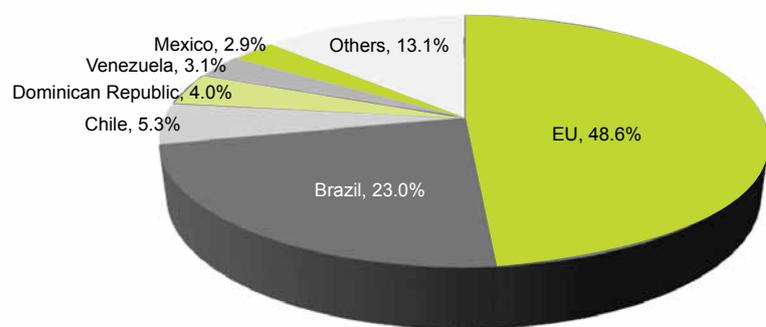
(including olein and stearin) at 32 244 t (17.1%), palm oil in soap at 8029 t (4.3%) and palm oil in margarine and hydrogenated products at 7145 t (3.8%) (Table 9).

With regard to export destination, European Union (EU) continued to be the major market for Colombian palm oil with 48.6%, followed by Brazil 23%, Chile 5.3% and other destinations (Figure 5). Exports to Europe were mainly from the ports of Barranquilla, Santa Marta and Cartagena, which are located in the Caribbean coast.

Table 9 shows that in 2012 a total of 51 525 t of palm kernel oil products were exported. Of this amount, 40 217 t or 78.1% was crude palm kernel oil, while refined palm kernel oil and fraction made up 6509 t (12.6%) and palm kernel oil in processed products 4798 t (9.3%). In terms of export destination for palm kernel oil, the major market in 2012 was the Netherlands, accounting for 42% of the total exports. This is followed by Mexico (15.3%), United Kingdom (12.4%) and Germany (10.9%). Unlike Malaysia, exports of Colombian palm oil are mainly

to the European countries as well as to neighbouring countries such as Brazil, Chile and others due to the preferential import tariff given by the importing countries under preferential trade arrangements such as the Colombia – EU Free Trade Agreements (FTA), Southern Common Market (MERCOSUR) and Latin American Integration Association (ALADI).

Figures in italic form (Table 9) show that most of the Colombian exports are of the crude oils, i.e, CPO and crude palm kernel oil, as these are the most competitive products due to the fact that it



Source: Fedepalma (2013a).

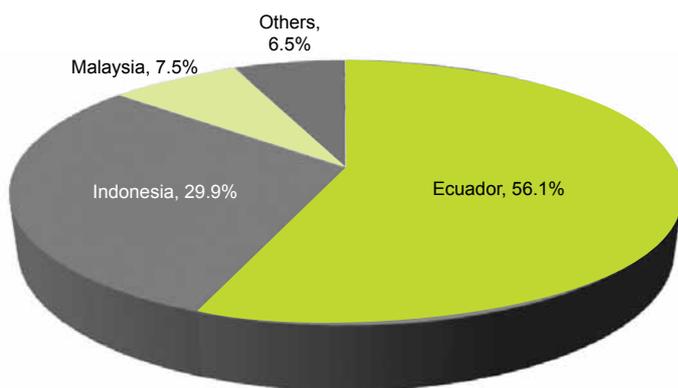
Figure 5. Exports of Colombian palm oil by destination.

is more expensive to refine palm oil in Colombia. According to data from the year 2000, the cost of refining 1 t of CPO in the Netherlands was USD 36.90, while in Colombia it was USD 60.30 (Mingorance, 2006).

### Imports

According to *Oil World* (2014), prior to 2009, imports of palm oil by Colombia were small, averaging about 24 000 t/yr. At that time, imports were mainly dominated by soyabean oil at an average of 150 000 t/yr. However, since 2009, imports of palm oil have been increasing with total imports of more than 100 000 t/yr, and in 2013, these imports reached 117 700 t. At the same time, imports of soyabean oil have also been increasing with a total averaging 220 000 t/yr. Imports of palm oil have increased to support the expanding domestic biodiesel sector. According to Fedepalma, in 2012, Ecuador was the biggest supplier of palm oil to Colombia, accounting for 56.1% of the total palm oil imports, followed by Indonesia (29.9%), Malaysia (7.5%) and other countries (6.5%) (Figure 6).

Imports of oil palm products by Colombia in 2012 increased by 9.3% to 123 381 t from



Source: Fedepalma (2010).

Figure 6. Imports of palm oil into Colombia by country of origin.

112 907 t in 2011. Palm oil products were the major product group imported, at 122 081 t in 2012. Palm oil fractions made up the major product, accounting for 60.3% (73 596 t) of the total palm oil imports in 2012, while CPO accounted for the remaining 48 485 t (Table 10).

Imports of palm kernel oil in 2012 stood at 1299 t, having reduced by 15.3% from 1535 t in 2011. The major palm kernel oil product imported in 2012 was palm kernel oil fractions at 1085 t (83.5%), while imported crude palm kernel oil was only 193 t (14.9%) and palm kernel oil

(PKO) in kernels at 21 t (1.6%). PKO products were imported mainly from Ecuador.

#### Imports of Malaysian Palm Oil

Exports of Malaysian palm oil to Colombia have been irregular since 1990. Exports peaked in 1996 at 8995 t. Since 1997, these exports to the country decreased to less than 100 t. However in 2002, exports of Malaysian palm oil to Colombia increased significantly to 145 t due to competitive prices. In 2013, the country imported 6032 t of Malaysian palm oil, with the main products

being RBD palm stearin at 3000 t (49.7% of total palm oil products imported), RBD palm olein at 2989 t (49.5%) and hydrogenated RBD palm olein at 43 t (0.7%). Other Malaysian palm-based products were oleochemicals and finished products. In 2013, imports of palm-based oleochemical products decreased by 8.7% to 2814 t from 3083 t in 2012. However, PKO products increased by 11.0% to 151 t in 2013 from 136 t in 2012. In 2014, total imports of Malaysian palm oil products had decreased by 92.4% to 455 t due to increase in import of palm oil from neighbouring countries such as Brazil and Peru (Table 11).

Colombia is a net exporter of palm oil. Thus, Colombia offers very little prospects in being a large importer of Malaysian palm oil products.

Based on the strengths, weaknesses, opportunities and threats (SWOT) analysis (Table 12), the greatest strength of the Colombian oil palm industry is the ample availability of land compared with Malaysia. According to CONPES 3477, a study carried out by Cenipalma and the Colombian Ministry of Agriculture and Rural Development, the country has

Product	2010	2011	2012
Crude palm oil	54 385	40 012	48 485
Palm oil fractions	60 043	71 360	73 596
Total palm oil products	114 428	111 372	122 081
Crude palm kernel oil	1 494	316	193
Palm kernel oil fractions	975	1 199	1 085
PKO in kernels*	33	20	21
Total palm kernel oil products	2 502	1 535	1 299
<b>Total</b>	<b>116 930</b>	<b>112 907</b>	<b>123 381</b>

Note: \*The conversion coefficient for palm kernels to crude palm kernel oil is 42%.

Source: Fedepalma (2012).

<b>Palm product</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Palm oil products	1 447	29 203	16 639	10 238	6 032	455
Palm kernel oil products	237	216	260	136	151	33
Palm kernel cake	0	0	0	0	0	0
Oleochemical products	2 407	2 197	2 793	3 083	2 814	1 875
Finished products	32	0	87	30	176	0
Others	0	0	0	0	0	0
<b>Total</b>	<b>4 123</b>	<b>31 616</b>	<b>19 778</b>	<b>13 488</b>	<b>9 173</b>	<b>2 363</b>

Source: MPOB (2014).

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
Ample land availability	Unfavourable climatic conditions in certain planting areas	Palm-based biodiesel	Environmental concerns
Strong institutional support	Bud rot disease affecting yield	Organic palm oil	Human rights violations
The EU – Colombia FTA	Prevalence of insurgent groups	Biomass	
Strong biofuel policy and commitment from the government	High cost of production		
	Weak currency		

a potential area of 3.5 million hectares with the appropriate growing conditions to further expand the oil palm area as well as production. Thus, investment in oil palm planting is one of the options that Malaysian oil palm industry players can consider. However, the lack of security in the oil palm growing areas could be a major hindrance/obstacle to investment unless the Colombian government is able to guarantee security in those areas.

Another strength of the Colombian oil palm industry is the country's expanding biofuel industry, especially the biodiesel sector. Malaysian oil palm players can tap the potential in investing into the biodiesel sector in the country, either by direct investment or through joint ventures with the

existing biodiesel companies in the country. Colombia through ProExports (an agency under the purview of the Ministry of Commerce, Industry and Tourism) is also promoting foreign direct investments in various sectors such as agribusiness, manufacturing and services. Under these three sectors, there are 20 sub-sectors to be promoted. Palm oil, vegetable fats and biofuel make up one of the sub-sectors under the agribusiness sector. Currently, Colombia neither imports nor exports palm-based biodiesel. However, the biofuels industry aspires to become an exporter of biodiesel as the oil palm area expands and new biodiesel production facilities come online. Cosmetics and toiletries are being promoted under the manufacturing sector, and this is a sector in which

our Malaysian palm oil companies can consider investing.

A major concern of the oil palm sector in Colombia is the bud rot or spear rot disease, which is the main limiting factor in FFB yield improvement as well as quality of the extracted oil, thus lowering the overall profitability of a plantation. The disease is present at different degrees of incidence, pathogenicity and virulence. In the last five decades, Colombia lost almost 100 000 ha of oil palm crop to this disease. Concentration of the disease is higher in the central region in the areas of Puerto Wilches, Santander and Norte de Santander, where a total of 27 000 ha was infected. Generally, the disease is present in 70 000 ha, which is more than 15% of the oil palm area and affects small- and

medium-scale farmers, who lack the resources to eradicate the infected palms.

Security is another concern of the oil palm industry in the country, and the threat of guerrilla attacks is an obstacle to the sector's advancement. The alleged lack of security in the countryside has given rise to frequent attacks perpetrated by a number of rebel groups, including the Revolutionary Armed Forces of Colombia (FARC) which threaten the work of local communities which grow oil palm. This situation has also discouraged investments in oil palm plantations, as the government does not guarantee security in those areas. Apart from security concerns, high financial costs are also cited as the major reason for the low growth rate in oil palm plantation development in Colombia.

Colombian palm oil producers also face a loss in competitiveness as production costs are higher compared with other producing countries such as Malaysia and Indonesia. According to Fedepalma (2010), producing 1 t of palm oil in Colombia costs USD 340 compared with USD 216 in Malaysia and USD 154 in Indonesia. The high cost is due to the high labour cost, poor soil conditions, bud rot disease that affects yield performance, low degree of mechanisation, and poor road conditions (Table 13).

#### PROSPECTS IN COLOMBIA'S OIL PALM INDUSTRY

The Colombian oil palm industry has the potential to further develop in response to the immediate domestic demand, especially from the developing biodiesel sector, as well as to cater to demand from neighbouring countries.

**TABLE 13. COST OF PRODUCTION OF PALM OIL IN MAJOR PRODUCING COUNTRIES**

Cost of production	Colombia	Malaysia	Indonesia
Cost to produce 1 t of palm oil (USD)	340	216	154

Source: Fedepalma (2010).

#### THREAT POSED BY COLOMBIA TO THE MALAYSIAN PALM OIL INDUSTRY

The Colombian palm oil industry does not pose a threat to the Malaysian palm oil industry. This is due to the fact that palm oil production in Colombia is mainly for domestic consumption, especially to fill the demand of the growing biodiesel sector. In terms of palm oil exports, the figure is still relatively small and export destinations are deemed to be rather limited, *i.e.* mainly to neighbouring countries and also to EU (resulting from the preferential import tariff provided under the Colombia's FTA arrangement with EU).

#### CONCLUSION

The Colombian palm oil industry is at present significantly smaller than those of major producers such as Indonesia and Malaysia. For now, Colombia's agricultural sector is expected to move forward with plans to expand palm oil production, targeting a six-fold increase in output by 2020. With legal protection of the environment and communities where oil palm is grown in place, increased production will bode well for the country, creating new jobs and promoting growth in renewable energy. The palm oil sector is one of

the 20 sectors under the Productive Transformation Programme (PTP) of the Colombian Ministry of Trade, Industry and Tourism. The Colombian government aims to transform sectors of the economy with high potential into world-class players that contribute to the sustained growth of the national economy. Efforts to produce palm oil based on sustainability standards, however, are becoming more widespread in Colombia, in order to ensure continued access to markets which request certified sustainable palm oil. These include efforts to improve oil palm production practices and to move towards sustainable production by following Roundtable on Sustainable Palm Oil (RSPO) standards and adopting good agricultural practices.

According to a study by the Centre for International Forestry Research (CIFOR), instead of clearing natural forests, Colombian palm oil ambitions could be met by converting degraded pastures into plantations. This will allow this South American country to develop her palm oil industry in a manner which will not call for the expansion of her agricultural frontier or implicate her biodiversity. The study states that as much as 20 million hectares of agricultural land currently lending themselves to inefficient agricultural systems can be used to that end.

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