Finding the Food-Fuel Balance

Supply and Demand Dynamics in Global Vegetable Oil Markets

Rabobank International

Food & Agribusiness Research and Advisory

paula.savanti@rabobank.com
+54 11 4515 5538

www.rabotransact.com

Contents

The global stocks-to-use ratio for vegetable oils is at its lowest level in 38 years. Demand for vegetable oils for food and biofuel use continues to rise and is expected to increase by an additional 23 million tonnes by 2016. However, supply will struggle to keep up with demand due to constraints relating to land, yields and weather. Prices are expected to remain high, which should bring about some demand destruction. Rabobank believes that the sharpest slowdown in demand will come from the biodiesel side rather than the food side of the oils complex. Production of biodiesel in the coming five years will be lower than previously forecast by individual countries.

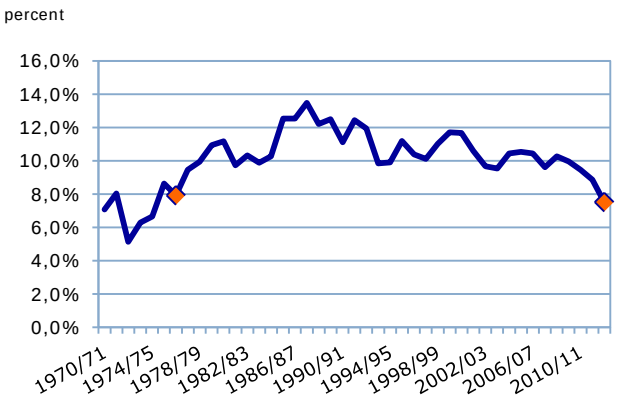
Introduction

For the past four years, the world's stocks-to-use ratio for vegetable oils has been on a declining trend and will reach a low of 7.5 percent in 2012/13, a level not seen since the mid 1970s (*see Figure 1*).

The main reason for this decline has been supply's inability to keep up with rising demand. For the past decade, demand and supply of vegetable oils have been growing at almost the same pace (5 percent per annum). However, production shortfalls in recent years have resulted in a draw-down of stocks that is unlikely to be reversed in the near future.

The rising demand for vegetable oils has been fuelled by increased consumption in Asia due to rapidly rising incomes, and by the growing vegetable-oil based biofuel industry worldwide. Demand growth has proven to be resilient to economic crises and higher prices. This is because vegetable oils are mostly used for food purposes, and while they can be easily substituted among each other, their demand is relatively inelastic as a group. However, supply growth has been less robust as production was negatively affected by adverse weather in some years.

Figure 1: Global vegetable oil stock-to-use ratio is at lowest level in 38 years



Source: Rabobank, USDA, 2012

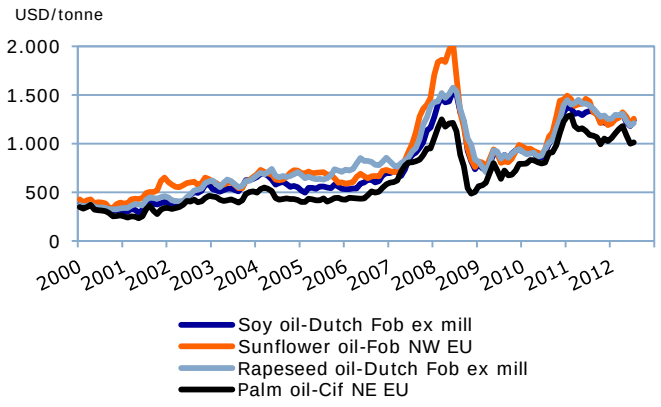
In total, 76 percent of worldwide vegetable oil production is used for food purposes (e.g. cooking oils, frying fats, margarine and spreads, bakery fats, emulsifiers and coffee creams). Biodiesel production accounts for 12 percent, and feed and other non-food industrial purposes (e.g. soaps, shampoos, cosmetics, pharmaceuticals and paint-type products) account for the rest. Currently, demand for all uses is on the rise. The relative importance of food versus industrial use varies for each type of oil. While sunflower oil is

used almost exclusively for food, rapeseed and soy oils are increasingly used in biodiesel production; palm oil is used both for food and non-food purposes.

Compared to historical averages, prices in the entire vegetable oils complex have increased as a result of the increased demand and tightness of stocks (*see Figure 2*).

High prices normally elicit a supply response. However, there are limits to how much production can expand in the short run, particularly at times when stocks of other crops, such as corn and wheat, are also in short supply. Therefore, any adjustment will have to come from the demand side. Growth in vegetable oil consumption will decelerate as price firmness and economic slowdown temper food demand growth. However, growth in biodiesel production will slow much faster, particularly compared to its recent performance. Government mandates, particularly those introduced in the European Union (EU) will probably not be met.

Figure 2: Vegetable oil prices have been well above historical averages in last four years



Source: Rabobank, USDA, 2012

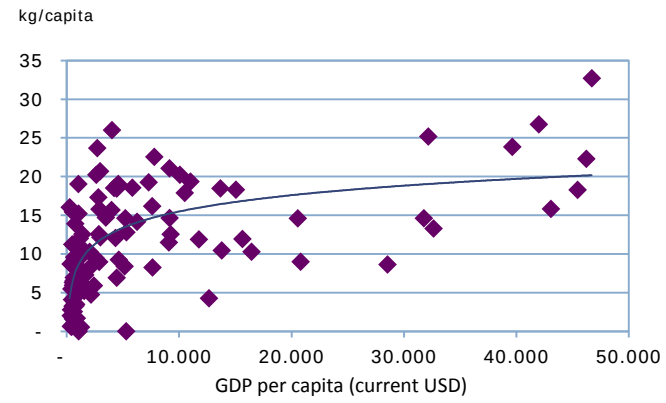
Developing countries will continue to demand vegetable oils for food

With world population recently reaching 7 billion, population growth has been one of the drivers behind the increasing demand for food. However, economic growth and urbanisation in developing countries have been more significant in determining the rate of vegetable oil consumption growth. In fact, consumption of vegetable oils for food purposes has increased at a faster rate than population growth, with global per capita consumption increasing from 13 kilogrammes in 2001 to 16.4 kilogrammes in 2011.

As incomes increase in developing countries, the population is able to purchase a more diversified consumption basket that includes a greater share of higher value products, including animal proteins, vegetable oils, and fruits and vegetables (*see Figure 3*). Even in middle income countries, demand for vegetable oils has been rising along with demand for more processed foods as women are more likely to work outside of the home, which increases the opportunity cost of cooking time.

The developing world is not only becoming more populated and prosperous, it is also becoming more urbanised. Urbanisation plays an important role in changing diets. The availability of supermarkets and convenience stores with cold chains and the multitude of restaurants and low-cost fast food options result in higher meat and vegetable oil consumption among urban populations.

Figure 3: At lower income levels, consumption of vegetable oils increases with GDP



Source: Rabobank, World Bank, UN, USDA, 2012

Of the total growth in vegetable oil consumption over the past decade, China and India combined account for over 37 percent of this increase (*see Figure 4*), most of which (80 percent) is as a result of increased vegetable oil consumption for food uses. The EU has been responsible for the second biggest share of the total growth in vegetable oil consumption (15 percent), with over 90 percent of it being used for biodiesel production.

Figure 4: Top 10 countries in vegetable oil consumption growth, 2001/02 vs. 2011/12

	Consumption 2001/02 (thousand tonnes)	Consumption 2011/12 (thousand tonnes)	Consumption growth (thousand tonnes)	Share of total growth (percent)
China	13,520	29,022	15,502	25
EU	14,618	24,023	9,405	15
India	10,466	17,823	7,357	12
Indonesia	4,237	8,961	4,724	8
Brazil	3,318	6,591	3,273	5
US	9,766	12,875	3,109	5
Argentina	713	3,484	2,771	4
Malaysia	2,549	5,287	2,738	4
Pakistan	2,116	3,495	1,379	2
Egypt	1,055	2,234	1,179	2
Total world use	88,601	150,707	62,106	100

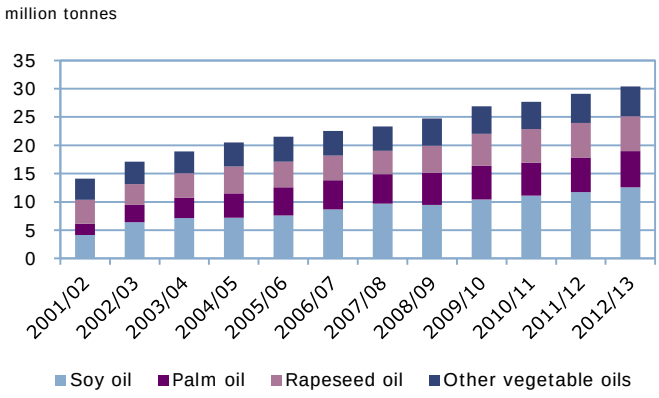
Source: Rabobank, USDA, 2012

China's strong demand for vegetable oils is key

China's appetite for vegetable oils has been one of the key factors supporting the markets in recent years. With current consumption of 29 million tonnes, they are the largest consumer of vegetable oils in the world, accounting for 19 percent of total consumption. Due to economic development and changing dietary habits, China's consumption increased 15 million tonnes over the past decade, and is forecast to continue growing.

Over 90 percent of China's vegetable oil consumption is for food purposes. Soy oil is the most widely used vegetable oil in China as it is traditionally a key ingredient used for cooking. Soy oil currently represents 40 percent of total Chinese vegetable oil consumption and has been growing at a rate of 7 percent per year over the past decade. Palm and rapeseed oils each account for another 21 percent of consumption in China. Palm oil consumption has been growing even faster than soy oil as it is increasingly used in the food processing industry (*see Figure 5*).

Figure 5: Consumption of all vegetable oils has increased in China, led by soy oil



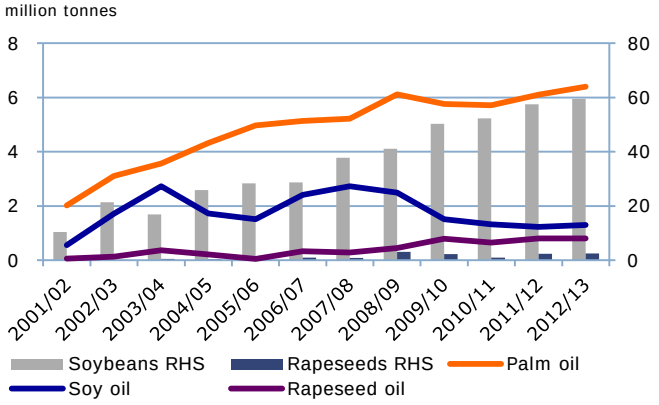
Source: Rabobank, USDA, 2012

China produces both soybeans and rapeseeds, although production is insufficient to meet domestic demand. This means China must rely on imports to feed the domestic crushing industry. Imports of both soybeans and rapeseeds have been strongly increasing, although rapeseeds started from a much lower base (*see Figure 6*). Furthermore, Chinese production of soybeans has stagnated at about 15 million tonnes for more than a decade. Going forward, we expect Chinese production of soybeans and rapeseeds to decline moderately and imports are therefore forecast to continue increasing.

Palm oil, the second most important oil in terms of consumption in China, accounts for the lion's share of vegetable oil imports at 70 percent. With no domestic production, China imports approximately 6 million tonnes of palm oil from Southeast Asia.

China's growth in vegetable oil consumption has been strongly linked to its economic performance. Over the next five years, consumption growth is expected to slow due to a weaker macroeconomic environment and the high consumption levels already achieved. At present, China's per capita consumption of vegetable oils is approximately 22 kilogrammes per person, a level on a par with more developed Asian nations.

Figure 6: Chinese imports of palm oil and soybeans increased sharply in the past decade



Source: Rabobank, USDA, 2012

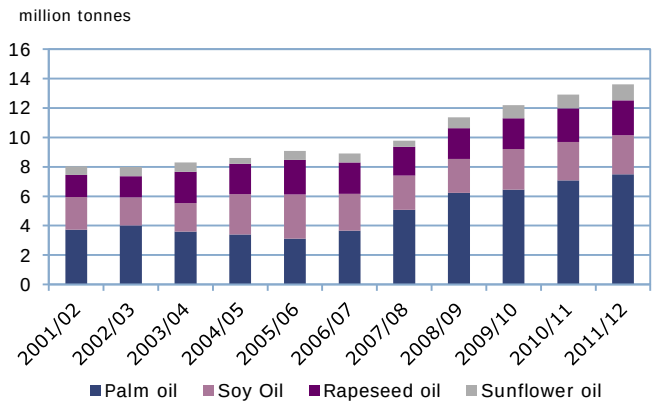
India's consumption growth mainly in palm oil

With a total consumption of 17 million tonnes, India is the third largest consumer of vegetable oils in the world, after China and the EU. Per capita consumption of edible oils continues to steadily rise as population and incomes increase. In total, consumption of vegetable oils has increased by 5.5 million tonnes in the past decade, a rate of growth second only to China.

Demand for vegetable oils in India is highly price elastic, meaning that there is greater demand for lower priced oils. Being the cheapest vegetable oil, palm oil accounts for 42 percent of total vegetable oil consumption, while soy oil and rapeseed oil account for 15 percent and 13 percent, respectively, and sunflower only accounts for 6 percent. Palm oil is

not only the most consumed oil in India but is also the fastest growing. In fact, most of the growth in vegetable oil consumption in India can be attributed to palm oil, which has been growing at 15.4 percent each year for the last five years (*see Figure 7*).

Figure 7: Consumption of vegetable oils in India has been particularly strong in the past four years



Source: Rabobank, USDA, 2012

Although India produces soybeans, rapeseed and sunflower—among other oilseed crops—domestic production is unable to satisfy demand. While sunflower production has been falling, soybean and rapeseed production grew at annual average rates of 7.4 percent and 3.7 percent, respectively, during the last decade. However, overall growth has slowed in the past five years, with production of oilseeds only increasing 2 percent annually (see Rabobank report *Edible Oils in India*, June 2010). In contrast, consumption has grown 9 percent per year over the last five years.

India relies on imports to compensate for the mismatch between production and consumption growth. Currently, India imports 9 million tonnes of vegetable oils, or 66 percent of their total consumption, making India the third largest importer of vegetable oils in the world. Palm and soy oils constitute over 90 percent of total vegetable oil imports. Import tariffs for vegetable oils in India are frequently adjusted to protect domestic oilseed producers and processors as well as domestic consumers from inflationary pressures. An increase in sunflower oil imports has been observed in the last four years, in response to its price discount compared to soy oil. Currently, sunflower oil imports stand at slightly below 1 million tonnes as do soy oil imports.

Demand growth is expected to continue, reaching 18 million tonnes by 2015. India will continue to depend on imports for their vegetable oil requirements, thus contributing to the world's appetite for vegetable oils.

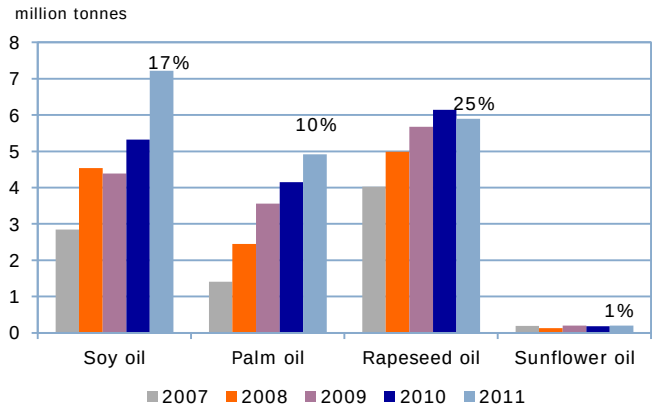
The higher demand for vegetable oils as a result of higher incomes and urbanisation is not exclusively a China-India phenomenon. Pakistan, Bangladesh, Egypt and Turkey are also among the biggest importers of vegetable oils for food consumption, and their imports have seen annually growth in the double digits.

In total, Rabobank believes that global demand for vegetable oils for food use will grow at 2.6 percent for the next five years, which is lower than the 4.7 percent rate of the past five years. The reduction in forecast growth is due to the projected price firmness, the high levels of consumption already achieved in some of the largest countries, and a moderate slowdown in the economic growth of developing countries. Nevertheless, even at a lower rate, the continued increase in demand implies an additional 15 million tonnes of vegetable oil.

Biodiesel policies provide a floor for vegetable oil demand

Production of biodiesel is the other major driver of demand for vegetable oils. Over the past decade, worldwide biodiesel production grew from almost nothing to 19 million tonnes. Most of the biodiesel is made from vegetable oils—palm, soy and rapeseed. In total, about 12 percent of the production of these oils was used for biodiesel, and biodiesel production has been responsible for about 30 percent of the total increase in vegetable oil demand over the past decade (*see Figure 8*).

Figure 8: Use of vegetable oils for biodiesel production has increased sharply in recent years



Note: Number above bars denotes for each oil, the percent that biodiesel use represents out of total use

Source: Rabobank, OIL WORLD – ISTA Mielke-Hamburg, 2012

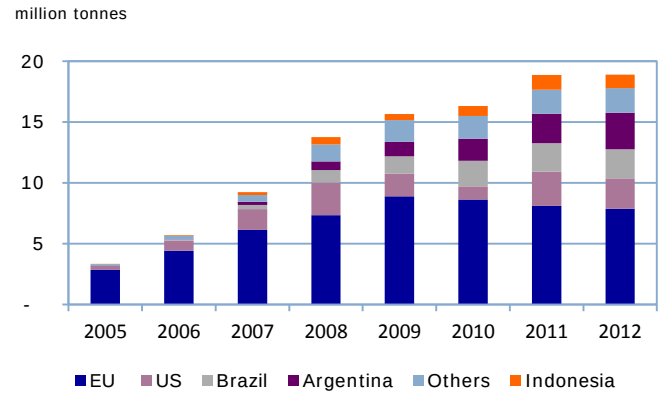
As such, biodiesel has become more and more important as a price determinant for vegetable oils, linking vegetable oil prices to energy prices. As the price of crude oil increases, profitability and incentives for biodiesel production also increase. However, biofuels also introduce non-price determinants in the supply and demand function for vegetable oils. Blending mandates adopted in several countries provide a floor for biodiesel demand, which is relatively independent of price changes, while incentive policies for production substantially alter the economics of supply. Changes in any of these policies can have major impacts on biodiesel demand and supply, and therefore on the demand for vegetable oils.

The EU leads in biodiesel production, but 2020 targets are unlikely to be met

Biodiesel production and consumption has been led by the EU, with an estimated 8 million tonnes of biodiesel production and an additional 2.6 million tonnes of imports in 2011 (*see Figure 9*). Most of the biodiesel produced in the EU is made from domestically produced rapeseed oil, although imports of rapeseed and palm oil have also increased sharply due to the inability of domestic production growth to keep pace with demand.

The EU has set a target of 10 percent renewable energy consumption in the land transport sector by 2020 as well as strict sustainability requirements for biofuels. To accomplish this target, the EU will require an additional 10.2 million tonnes of biodiesel in the coming decade. Meeting this ambitious target presents challenges—both technical and policy related—especially at a time when profitability in the European biodiesel industry is low or even negative. Rabobank expects the EU to underperform its 10 percent renewable energy target (see Rabobank report 'Recalculating the Route'). Any slowdown in biodiesel production in the EU will have a big impact on allowing world vegetable oil stocks to rebuild. However, Rabobank's estimations indicate that use will remain at current levels in the lowest case scenario, and will increase by 4.8 million in the highest case.

Figure 9: Biodiesel production is dominated by five countries



Source: Rabobank, F.O. Licht, 2012

Argentina's biodiesel boom may be flattening out

With production of 2.5 million tonnes, Argentina is the second largest producer of biodiesel. The industry grew on the shoulders of an already highly developed oilseed crushing industry, and benefitted from a lower export tax for biodiesel compared to oils and beans. Until 2010, almost all production was exported mainly to the EU. However, since 2010, a blending mandate came into effect—initially set at 5 percent and then increased to 7 percent—and currently, about 30 percent of production is consumed locally while the remaining 70 percent is exported.

All of Argentina's biodiesel production is made from soy oil. Out of the 7 million tonnes of soy oil produced in 2011, over 2 million tonnes were used for biodiesel. Although Argentina's soy oil production has increased, soy oil exports have declined as a result of increased biodiesel production.

Regulation changes introduced in August 2012 increased the export tax on biodiesel, setting it almost on par with the tax on vegetable oil. This change could have significant consequences for the domestic industry as the tax incentive to transform soy oil into biodiesel has been eliminated and thus production in excess of the domestic requirements will depend on the relative export prices of oil versus biodiesel. We expect the growth rates of biodiesel production (and exports) in Argentina to sharply decline as a result of this change.

The Renewable Fuels Standard implies that biodiesel production in the US will increase

The United States (US) biodiesel industry has grown significantly in recent years, mainly thanks to the Renewable Fuels Standard (RFS2) and a USD 1 per gallon credit for blending biodiesel into conventional diesel. The US is currently the third largest producer of biodiesel, producing an estimated 2.5 million tonnes (0.9 billion gallons) in 2012. Around half of US biodiesel is produced from soy oil, while the rest is produced from rendered fats and corn oil.

Although the blending credit was removed, the RFS2 mandate remains, and sets a 1.28 billion gallon (4.47 million tonne) target for biomass-based diesel, which is 96 percent biodiesel. Meeting this target would require production to nearly double in two years, and even assuming that soy oil remains responsible for only half of the production, it implies more than an additional 920 thousand tonnes of soy oil to be used for fuel—a 56 percent increase on the amount of soy oil currently used for biodiesel. If this target were to be met, the increase in vegetable oil use will be probably be offset by a reduction in exports, and/or an increase in canola oil imported from Canada for food purposes. Either way, increased US biodiesel production will continue to tighten the world stock situation for vegetable oils.

Brazilian biodiesel production is confined to the domestic market

The Brazilian biodiesel industry has also been growing sharply at 24 percent per year for the last four years. Currently, Brazil produces 2.4 million tonnes of biodiesel per year, 77 percent of which is produced from soy oil.

This growth was a direct result of governmental support. The introduction of mandatory blending of biodiesel with regular diesel fuel resulted in instantaneous growth in demand for biodiesel and, consequently, in the incorporation of new biodiesel production facilities. As a result of these policies, the industrial capacity in Brazil is vastly underused, with total production currently accounting for only 41.4 percent of the total installed capacity.

Most of the biodiesel produced in Brazil is consumed domestically. The industry has been trying to find ways to export the product, especially to European markets. However, long distances to the ports and lack of clear specifications and quality have been hindering such prospects.

The considerable overcapacity makes it likely that an increase in the blending target, from 5 percent to 8 percent, will be brought forward in the next few years. We expect that in the short term, this will be the limit to Brazilian biodiesel production growth.

Indonesia and Malaysia lag in biodiesel production

Given the availability of palm oil, South East Asia has also become a player in biodiesel production in recent years, with installed capacity in Malaysia and Indonesia reaching 7

million tonnes. However, much of this installed capacity remains idle. In Malaysia, the local fuel is highly subsidised, making the use of biodiesel uncompetitive. Indonesia has also seen little domestic consumption. However, the country produced 1.2 million tonnes of biodiesel in 2011, and exported most of its production to the EU.

The speed at which palm oil is adopted for more frequent use in biodiesel production will largely depend on government regulations or state incentives to promote palm oil use for biofuels in South East Asia, and on the industry's compliance with the EU standards of desired reduction in greenhouse gas emissions.

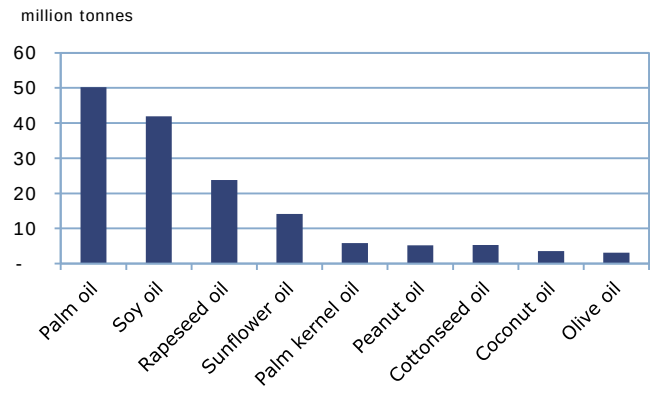
Concentration of production in key regions impacts supply response

Although there are more than ten vegetable oils currently used for human consumption, four of them—palm, soy, rapeseed and sunflower oils—account for 85 percent of the total production (*see Figure 10*).

For the last decade, global vegetable oil production has increased at an average rate of 5 percent YOY, with palm oil showing the best performance and soy oil showing the weakest growth. Total production for the current season is forecast to be 157 million tonnes, 60 million tonnes higher than 10 years ago.

However, overall growth has slowed in the last four years, mainly due to lower growth rates in soy oil and palm oil production. Weather problems in the Americas affected the soybean harvests in 2008/09 and 2011/12, and palm production, although still growing, has been unable to sustain the breakneck growth of the earlier years of the decade.

Figure 10: Palm, soy, rapeseed and sunflower oils account for 85 percent of world vegetable oil production



Source: Rabobank, USDA, 2012

Despite the short term fluctuations, price levels in vegetable oils have been higher than the historical average in recent years, and similar to other agricultural commodities, are expected to continue this way. Higher prices provide incentives to increase production. However, constraints on the production side, such as resource availability or weather disruptions, limit the possibilities of an immediate response to price signals.

Land availability is the main constraint to increased production. In regions such as the US or China, where most of the available land is already under production, oilseeds compete for acreage with other food crops, such as corn or wheat. In other countries, such as Brazil or Indonesia, area expansion raises environmental concerns and policies have been implemented to avoid expansion at the expense of natural forests. Untapped land resources exist in some areas of South America and Sub-Saharan Africa. However, significant investments in infrastructure and technology are required to bring these areas under production, and results will not be seen in the near future.

Another way to increase production is through improved yields. However, the main oilseeds producers seem to have reached a plateau in how much can be obtained per hectare. Only 'newer' production areas, such as the Black Sea region, could see substantial yield improvements in the short term, through the adoption of new technologies such as improved varieties.

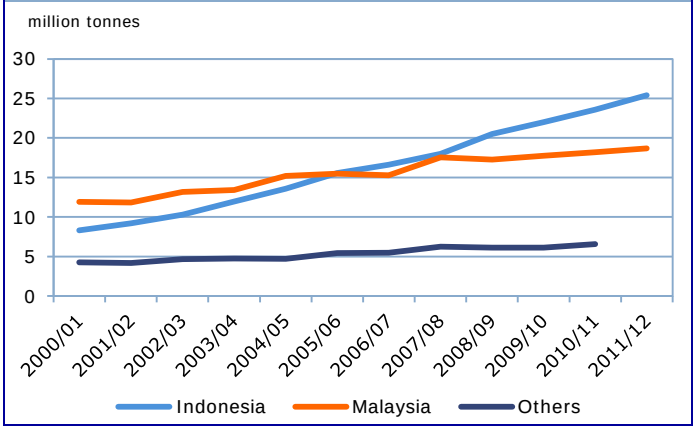
Weather can also be a key factor in determining supply response. In the current year, oilseed production is expected to fall by about 9 million tonnes due to inclement weather in North America. The Black Sea region saw its crop decimated in the face of a record heat wave and drought in 2010, and Indian monsoons have become less predictable. Climate change analysts indicate that extreme weather events will become more frequent in the future. In the case of oilseeds, these events are particularly damaging given the concentration of crop production in a few key regions.

Increases in palm oil production will mainly come from Indonesia

Palm oil is the most abundantly produced vegetable oil and production is almost solely concentrated in Indonesia and Malaysia, which combined represent almost 87 percent of the world's total production (*see Figure 11*).

Over the last decade, palm oil production expanded at an annual average growth rate of 7.1 percent. This is a better performance than almost any other agricultural product, and makes it the fastest growing vegetable oil. However, palm oil production has been unable to sustain the breakneck growth of the earlier part of the decade, and the rate of growth decelerated to 4.4 percent in the past four years.

Figure 11: Production of palm oil is dominated by Malaysia and Indonesia



Source: Rabobank, USDA, 2012

The Malaysian palm plantation sector is relatively more mature than the Indonesian one, meaning that plantations are older and there is little land left for further expansion. Rabobank estimates that Malaysia will reach its limit for land expansion within the next three to four years. Growth in production has slowed to only 1.6 percent per year in the past four years, in comparison to a 7 percent annual growth rate at the beginning of the decade. Investments to increase production in Malaysia have focused on replanting rather than expanding acreage.

Palm plantations in Indonesia are younger, which will boost production in the coming years as a higher percent of the trees have yet to reach their peak production stage. Furthermore, there is still area available for expansion. In the last four years, Indonesian production grew at 9 percent per year, and is responsible for much of the global production growth. Rabobank estimates that Indonesia still has an additional 16 million hectares marked for plantation, however, expansion of new plantation is becoming increasingly difficult due to regulatory constraints and infrastructure bottlenecks.

For the next five years, growth in palm oil production will continue to come from Indonesia. The industry is also looking to expand outside of Asia, particularly into Africa or even South America due to the similar agro-climatic conditions and land availability. However, even if these industries begin to develop, environmental and infrastructure constraints make it unlikely that they will become large enough in the short term to make an impact on world supply.

Rabobank estimates that under the current environmental and technical constraints, Indonesia and Malaysia can increase their production of palm oil by approximately 10.7 million tonnes in the next five years, and that global palm oil production will continue to expand at 4.4 percent.

Soy oil production growth will require additional acreage

World soybean production grew 2.9 percent per year over the past decade, reaching a record number of 264 million tonnes in 2010/11, although it fell almost 20 million tonnes in 2011/12 due to bad weather in most productive regions. South America (Brazil, Argentina and Paraguay) accounts for almost 50 percent of total soybean production and has grown mainly through area expansion.

In total, 42 million tonnes of soy oil was produced in 2011. Over the last decade, growth in global soy oil production has averaged a compound annual growth rate (CAGR) of 3.8 percent. Currently, about 90 percent of global soybean production is crushed into oil and meal; either in the country of origin or once it has reached its export destination.

Beyond crushing a higher proportion of total soybean production—which at approximately 90 percent leaves little room for improvement—growth in soy oil must come from increased soybean production.

Growth in soybean area is possible, although it will take time, and price incentives must be high and stable enough to justify the cost of opening new lands and building additional infrastructure. In Brazil, production of soybeans is moving north into what is known as the MAPITO region. It is estimated that another 3 million hectares can be brought into production in the next five years. The rate of area expansion in the last decade has been 4 percent per year, and will probably continue to expand under current price scenarios, although at a slower rate of 2.5 percent.

Some area expansion is also possible in Argentina as production moves further west. However, the projected rate of expansion for the next five years is 1.6 percent per year, much lower than the 5 percent of the last decade. Other South American countries, such as Paraguay or Bolivia, also offer some potential for growth, and production has been expanding in the Black Sea region as well; Russia and Ukraine combined are currently producing 4.5 million tonnes of soybeans. In the US, expanding production into new areas seems unlikely as most of the feasible land is already under production. In fact, the US has seen a decline in soybean acreage in recent years as competition for land intensified and corn has become a strong and profitable competitor.

In total, assuming area growth in some parts of the world and stable yields, global soybean production can be expected to increase by around 30 million tonnes in the next five years. On average, each soybean yields 81 percent meal and 19 percent oil when crushed. With an 88 percent crush rate (last five years' average), an expansion of soybean production of 2.3 percent per year would translate into an additional 5 million tonnes of soy oil.

Rapeseed oil

Rapeseed is grown primarily in the EU (32 percent of world production), Canada (where they grow Canola, a different species of the same plant) and China. Global production of rapeseed has grown 5.3 percent per year over the past decade, reaching a peak production of 61 million tonnes worldwide in 2009/10. Almost all rapeseed production is crushed into oil and meal, and the increase in crop production translated into 6.2 percent annual growth in rapeseed oil production, reaching 23.8 million tonnes in 2011/12.

However, Canada's performance has been twice that, and the country recently surpassed China as the second largest producer. Growth in the EU has also been strong at 5.1 percent per year. In particular, production grew in Germany, France, Poland and the UK. The future evolution of rapeseed oil production in the EU is closely linked to the evolution of the biodiesel industry and whether biodiesel will continue to be produced from domestic rapeseed oil, or if imports from lower cost competitors will increase.

Rapeseed production has also been growing strongly in Russia and Ukraine. Although starting from a very low base, production in these two countries has increased ten-fold over the last decade, now producing over a million tonnes each.

In China, on the other hand, rapeseed production has been decreasing in recent years, after peaking in 2009/10. State sponsored subsidies appear to favour grains, such as corn and wheat, relative to rapeseed and other oilseeds, and without a significant change, we expect oilseeds to continue to lose acreage to wheat and other crops.

Production increases in rapeseed in the next five years will come mainly from Canada, but also the EU and Ukraine. For the coming five years, we estimate approximately 2.2 million tonnes of additional rapeseed oil production.

Sunflower oil production growth will be concentrated in the Black Sea region

Sunflower production is currently concentrated in Europe and the Black Sea region. Of total world production, Russia and Ukraine combined contribute 50 percent of production and the EU contributes another 20 percent. Argentina comes in at a distant third, with 9 percent of world production.

The increase in production in Russia and Ukraine has been at an impressive CAGR of 15 percent for the past 10 years, surpassing both Argentina and the EU during that period. This growth has been a result of area expansion and yield increases due to increased technological adoption. Also, government policies taxing seed exports supported the growth of the domestic crushing industry. Global production increased at a lower rate of 6 percent per annum during the same period as soybeans displaced sunflower production in regions such as Argentina and the US. Globally, 39 million tonnes of sunflower seeds were produced in 2011/12.

Any growth in sunflower seed (and sunflower oil) production will come from the Black Sea region and eastern European countries, which have the ability to further increase area and yields. Rabobank estimates that sunflower oil production can increase by 3.1 million tonnes in the next five years. However, growth will be uneven, with strong contractions and expansions from one year to the next, given the concentration of production in the Black Sea region, a region with greater weather variability.

Outlook

Vegetable oil stocks have been drawn down to 38 year lows due to sustained growth in demand and weather shocks that set back a supply growth that was barely keeping up. Going forward, the question is how the balance will be restored.

High prices will induce a supply response that will be limited by technological and environmental constraints in the short term. In the next five years, we expect rapeseed and sunflower production to grow at a faster rate than soybeans, but their lower acreage on a global scale means their impact will be more limited. In total, rapeseed and sunflower oil will each account for 13 percent of the overall growth in vegetable oil production. Production growth will come mainly from Canada, the EU, Russia and Ukraine. Soy oil will account for another 22 percent of total vegetable oil production growth, with expansion coming mostly from South America, while the lion’s share of growth will come from increased palm oil production in Malaysia and, mainly, Indonesia.

In total, we expect vegetable oil production to increase by 23 million tonnes in the coming five years, which translates to a 3.3 percent annual growth rate, a lower value than the 4.7 percent seen in the previous five years. Growth in global demand for vegetable oils for food uses will continue to increase in the next five years, although at a decelerated rate of 2.6 percent per year. This diminished rate of growth is due to a weaker macroeconomic environment but is also a result of the high consumption levels already achieved in the past decade. Nevertheless, this increase implies an additional 15 million tonnes of oil to be used for food purposes by 2016.

The sharper reduction in consumption growth will come from the biodiesel side. Considering that most countries with biodiesel programmes have already introduced blending targets of 5 percent to 7 percent, additional increases in consumption will have to come from implementation of higher mandates. Although these are on the table in countries such as Argentina and Brazil to absorb an additional share of their surplus production, other countries, particularly the EU and the US, are facing waning support for biofuels: higher vegetable oil prices—combined with relatively low crude oil prices—have squeezed margins and government support proves costly in times of economic duress. The food versus fuel and sustainability debate raises additional concerns among the public, which has lowered the initial enthusiasm for the industry. Overall, considering food and fuel uses, we expect demand of vegetable oils to increase by 3.2 percent per year in the coming five years.

These estimations assume no radical changes in the underlying conditions with respect to global macroeconomic performance, policy decisions, technology and weather. A severe downturn in the global economy or developing countries in particular, additional changes in biofuels legislation, or continued weather shocks in high production areas, could be substantial game changers.

Although production will continue to grow, in the medium term adjustment will need to come from the demand side for the market to find its equilibrium. This suggests that higher prices will be maintained. Consumption for both food and fuel will slow their pace of growth relative to recent performance, but the greatest adjustment will come from the biodiesel side.

Rabobank International

Rabobank Food & Agribusiness Research and Advisory Global Grains & Oilseeds Sector Team

US—David C. Nelson
author@rabobank.com

Argentina—Paula Savanti
paula.savanti@rabobank.com

Australia—Graydon Chong
graydong.chong@rabobank.com

Brazil—Renato Rasmussen
renato.rasmussen@rabobank.com

Chile—Valeria Mutis
valeria.mutis@rabobank.com

China—Daron Hoffman
daron.hoffman@rabobank.com

China—Jean-Yves Chow
jeanyves.chow@rabobank.com

EU—Vito Martielli
vito.martielli@rabobank.com

EU—Bryan Willey
bryan.willey@rabobank.com

Indonesia—Pawan Kumar
pawan.kumar@rabobank.com

Mexico—Pablo Sherwell
pablo.sherwell@rabobank.com

US—Ethan Hendricks
ethan.hendricks@rabobank.com

www.rabobank.com