

# Grain market trends in the stockfeed and biodiesel industries

By the International Grains Council

## USE OF VEGETABLE OILS FOR BIODIESEL

The use of vegetable oils and animal fats in the production of biofuel in 2007 reached a record 9.5 mt, including 4.6 mt of rape/canola oil, 2.1 mt of soyaoil and 1.0 mt of palm oil (Figure 1). In addition to vegetable oils, feedstocks include relatively small amounts of animal fats as well as oils such as corn oil derived from grains or their by-products.

Biodiesel represented around seven per cent of total vegetable oil use, other industrial uses accounting for 10 per cent. Over 80 per cent of vegetable oil is used for food consumption, the tonnage expanding by between 4.0 and 5.0 mt annually.

World biodiesel output in 2007 climbed by 2.3 mt to an estimated 8.6 mt (Figure 2). The EU and the US account for the bulk of it, but there was strong growth in production in Argentina, Brazil and Indonesia.

Further steep increases in biodiesel output are expected in 2008, especially in Argentina, Brazil and Indonesia, although growth in the EU is likely to slow.

### The EU market

The EU produced around 5.4 mt of biodiesel in 2007, a significantly larger amount than bioethanol (estimated at around 1.6 mt). An estimated 80 per cent of the feedstock, or approximately 4.5 mt, consisted of rapeoil.

The use of other feedstocks are limited

by the specifications of the EU biodiesel standard, which require low-temperature operability.

Sunfloweroil accounts for around 10 per cent of EU biodiesel production, while soyaoil and palm oil have smaller shares.

Growth in EU biodiesel output, which had previously been very rapid, slowed to less than 10 per cent last year due to soaring feedstock costs and increasing competition from biodiesel imports.

Rising excise duties in Germany, which accounts for around half of EU output, also contributed to the slowdown. EU output in 2008 may not show any further increase, leaving imports to meet rising demand, driven by member States' biofuels mandates introduced following the implementation of the 2003 EU Biofuels Directive.

In 2007, the EU imported around 1.2 mt of biodiesel, approximately 10 times the previous year's figure. This included about 1 mt from the US.

### The US market

The US is the world's second largest biodiesel producer with output in 2007 estimated at 1.5 mt. Of the 1.7 mt of oils and fats used for biodiesel production, some 1.3 mt (or 79 per cent) consisted of soyaoil.

Increasing amounts of other feedstocks are being used, including 80,000 tonnes

of animal fats and grease (including used cooking oil). Cottonseed oil, rapeseed/canola oil and corn oil (which can be extracted from DDG produced by dry mill ethanol facilities) are also used as raw materials.

Under the US Energy Bill, the biodiesel mandate is 500 m. gallons (1.67 mt) in 2008, rising to 1 bn. gallons (3.34 mt) in 2012.

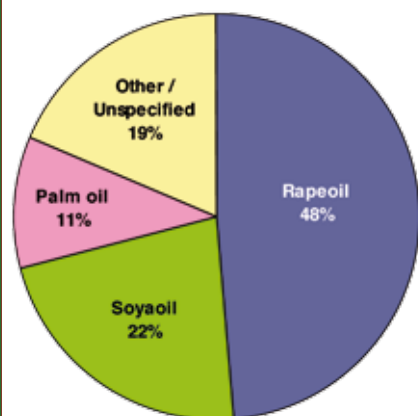
The US is a major exporter of biodiesel, largely because of the blender credit, whereby any amount of fossil diesel added to biodiesel is eligible for the maximum subsidy of US\$1 per gallon (US\$300 per tonne). This applies whether the blend is made from locally produced or imported biodiesel, and is consumed in the domestic market or exported.

### Argentina

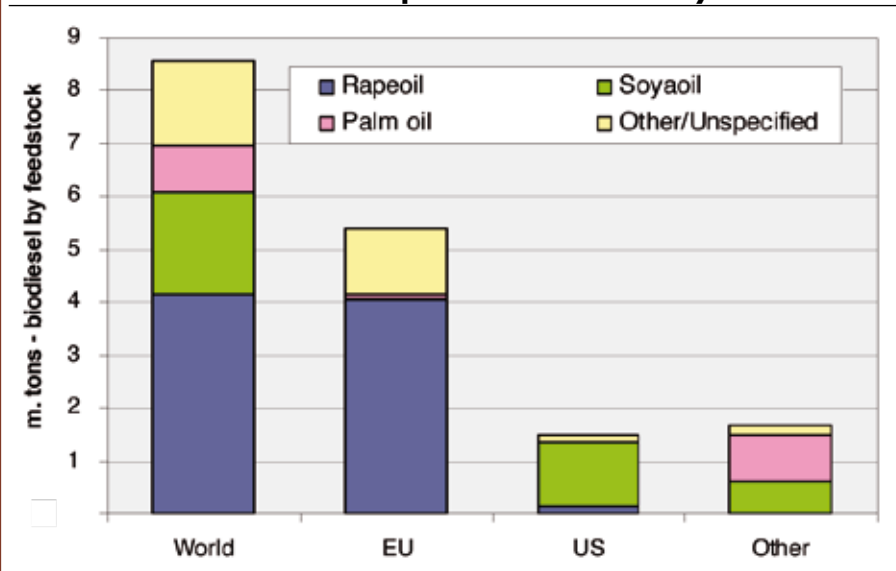
Argentina produced 0.3 mt of soyaoil-based biodiesel, exclusively for the export market, in 2007, the first year of large-scale production. Over 75,500 tonnes were exported to Europe in 2007, with a further 243,000 tonnes shipped to the US. Most of the latter amount was blended with fossil diesel in order to benefit from the US\$1 per gallon blending credit and re-exported to Europe.

At just five per cent, the export tax on biodiesel compares with 32 per cent on

**FIGURE 1: Vegetable oil use in biodiesel**



**FIGURE 2: Biodiesel - world production in 2007 by feedstock**



soyaoil, providing strong incentives to export biodiesel. Production and exports are officially forecast to rise to 1.17 mt in 2008.

Local consumption will remain insignificant until 2010, when a 5 per cent biodiesel blend is mandated.

### Brazil

Brazil produced almost 0.4 mt of biodiesel in 2007, mainly from soyaoil, the amount expected to double this year. Due to the introduction of a mandate for a two per cent biodiesel blend (B2) from 1 January 2008, the whole of this amount will be consumed locally.

### Indonesia

Indonesia produced about 0.7 mt of biodiesel in 2007, using palmoil as a feedstock, and is expected to double output this year. Over half of its production is exported.

### Malaysia

Malaysia produced 0.13 mt, mainly for export. Domestic consumption is likely to remain small, since the tropical climate allows the direct use of refined liquid palm oil (RLPO), which is cheaper than producing biodiesel and can also be blended with fossil diesel.

But plans to expand biodiesel output for export have been hampered by rising feedstock costs, and plants are operating at only 10 per cent of capacity.

## STOCKFEED USE TRENDS

World stockfeed use (grains and other key ingredients) is forecast to increase by 2.9 per cent in 2007–08, to a record 998 mt. Limited supplies and resulting high prices are containing feed use of some grains, especially wheat and barley, but feeding of maize is sharply higher after last year's bumper harvest in the US. In addition, global feed use of oilmeals continues to grow strongly (Table 1).

Following a slow-down in global poultry meat production in 2006 due to the impact of Highly Pathogenic Avian Influenza (HPAI), output is estimated to have increased by 3 per cent in 2007.

The disease is being effectively controlled in most countries, aided by greater awareness and improved disease surveillance, with fewer reported outbreaks during 2007 compared with the year before.

Nonetheless, several countries are still reporting a relatively large number of HPAI cases, including Indonesia, Vietnam, China, Egypt and Nigeria. This has disrupted local markets and resulted in continued culling, albeit mainly on a small scale in terms of total inventories.

**TABLE 1: World stockfeed use – grains and selected protein meals (million tonnes)**

	2004–05	2005–06	2006–07	2007–08 f'cast
<b>TOTAL GRAIN</b>	<b>756.0</b>	<b>744.0</b>	<b>734.7</b>	<b>748.0</b>
Wheat	106.4	107.8	96.2	90.9
Maize	471.6	469.7	467.7	484.6
Barley	101.4	95.9	102.9	96.0
Sorghum	28.1	26.9	25.5	31.6
Oats	18.9	17.0	16.7	17.9
Rye	8.5	8.3	7.2	7.7
Other	21.2	18.6	18.6	19.3
<b>OILMEALS</b>	<b>201.2</b>	<b>211.7</b>	<b>218.9</b>	<b>227.4</b>
Soya	135.6	144.2	149.4	157.5
Rape	23.4	25.3	26.2	27.0
Other	42.2	42.2	43.2	42.8
<b>DDG</b>	<b>9.4</b>	<b>12.0</b>	<b>15.7</b>	<b>22.3</b>
<b>TOTAL of which:</b>	<b>966.6</b>	<b>967.7</b>	<b>969.3</b>	<b>997.7</b>
Pigs	494.3	492.7	494.9	509.1
Poultry	301.2	301.1	296.6	307.4
Cattle	158.5	160.1	163.8	165.5
Unspec.	12.7	13.6	13.9	15.7

In early January, India reported its worst outbreak of the disease to date, resulting in a cull of around 3.4 million chickens, representing only about 0.5 per cent of total inventories. As poultry meat production in most countries affected by HPAI typically recovers relatively quickly, India's poultry feed needs are not expected to be significantly impacted in the long term.

With strong consumer demand continuing to encourage poultry sector expansion in most countries, global feed use for poultry is forecast to rise by 3.6 per cent in 2007–08, to 307 mt.



**China accounts for around half of the world's pork output.**

### Pigs down but cattle up

Global pigmeat production is estimated to have declined by one per cent in 2007, mainly because of the impact of Porcine Respiratory and Reproductive Syndrome (PRRS or Blue Ear disease) in China, which accounts for around half of world pork output.

But increased subsidies for pig production are encouraging rapid herd rebuilding in China and, with expanding output in other countries, especially in Brazil, Russia and the US, global feed use in this sector is forecast to grow by 2.9 per cent in 2007–08, to 509 mt.

World feed use for cattle is forecast to increase by around one per cent, to 166 mt. Grains use is expected to decline slightly but is more than offset by increased feeding of other ingredients, especially DDG in the US, availabilities of which continue to rise as the result of expanding ethanol output.

In some countries, including the US, the world's largest feed user, official supply and demand estimates for grains and oilseeds combine feed and 'residual' uses as a single figure.

The residual part includes unspecified uses and waste, and also any inaccuracies in the estimates of the other components of the balance sheets (including production and stocks).

This should be taken into account when analysing year to year changes in the estimates of feed use, including the apparently large increase in 2007–08. ■