Coffee bean: commodity factsheet

**Description:** Coffee beans are the seeds of the coffee plant, a shrub native to tropical Africa. In terms of value they are the second most commonly traded commodity after crude oil and are mainly used to produce coffee, one of the world’s most popular hot beverages. A small minority of coffee beans are also used for flavouring in confectionery.

There are two main varieties of coffee - Arabica (about 60% of world coffee production) and Robusta (40%).

**Production process:** Coffee plants begin producing fruit after three to four years. They need another three years however to reach full fruit production. The life of a coffee tree can exceed 100 years. Arabica coffee is usually cultivated in milder tropical regions of America, Africa and Asia at higher altitudes. Robusta on the other hand, can easily thrive in harsh environments such as tropical rainforests.

When the fruit of the coffee tree is ripe, it is usually picked by hand, although it can be harvested mechanically. It is then de-fruited, dried, sorted, and sometimes also aged, before it is roasted to give it its characteristic aroma and brown colour.

Depending on the temperature and time during the roasting, coffee beans vary in colour and taste. The more intensive the roasting process the darker the colour of coffee. The length of the roasting also affects coffee’s taste. Longer roasting increases coffee’s bitterness but decreases its acidity.

Coffee can also come decaffeinated. The most common method to achieve this involves steaming, soaking and then rinsing the coffee beans in either methylene chloride or ethyl acetate.

**Key facts**

- **Global production:** 80m 60-kg bags (Arabica); 50m 60-kg bags (Robusta) per annum
- **Major producers:** Brazil, Colombia (Arabica); Vietnam, Brazil, Indonesia (Robusta)
- **Major exporters:** Brazil, Vietnam, Colombia
- **Main trading centres:** ICE (New York, Arabica), LIFFE (London, Robusta)
- **Arabica price** (ICE, 2011 average): USD 5,600/tonne
- **Robusta price** (LIFFE, 2011 average): USD 2,200/tonne
- **Uses:** beverages, flavourings

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**Which Datagain price series to use?**

<table>
<thead>
<tr>
<th>Datagain code</th>
<th>Commodity</th>
<th>Grade/details</th>
<th>Origin</th>
<th>Delivery</th>
<th>Location/Destination</th>
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</thead>
<tbody>
<tr>
<td>COFN</td>
<td>Arabica coffee</td>
<td>various</td>
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<td>futures</td>
<td>ICE (New York)</td>
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<tr>
<td>COFL</td>
<td>Robusta coffee</td>
<td>CTML standard grade</td>
<td>various</td>
<td>futures</td>
<td>LIFFE (London)</td>
</tr>
</tbody>
</table>

**Grades/varieties:**

- **Arabica coffee:** This cultivar has a mellow flavour, usually described as sweet, round, slightly acidic and chocolaty with pleasant bitter notes. The cultivation of Arabica is more cost demanding than Robusta which is reflected in its higher market price. The caffeine content varies from 0.8% to 1.7%.

- **Robusta coffee:** This variety of coffee has a more bitter flavour and is widely considered to be inferior to Arabica in its taste and aroma. Most of this variety is used for low-priced and instant coffees. The caffeine content varies from 1.6% to 2.8%.

**Production and trade:** Global production of coffee beans is around 130m 60-kg bags each year. Arabica production amounts to around 80m 60-kg bags. Brazil and Colombia produce the majority of Arabica coffee making up about 44% and 14% respectively of global production. In Brazil however, the majority of Arabica produced is grown at lower altitudes and is mechanically harvested and therefore considered to be of lesser quality. For that reason, Colombia is the major supplier of high-quality Arabica beans. Other important Arabica producers are Ethiopia (5%), Guatemala (5%), Peru (5%) and Honduras (4%). World Robusta output is about 50m 60-kg bags a year. Leaders in the Robusta market are Vietnam, Brazil and Indonesia accounting for around 35%, 23% and 16% respectively of the world’s Robusta production.

Brazil is the largest exporter of coffee (33% of world exports) followed by Vietnam (16%) and Colombia (7%). Two major trading centres for coffee are the ICE (for Arabica) in New York and LIFFE (for Robusta) in London.
Commodity crop calendar:

<table>
<thead>
<tr>
<th>Coffee</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
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<tbody>
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The number of times coffee can be harvested during the year varies and depends mainly on the climate in which it is grown. Regions with latitudes of 16-24°, where the seasons are divided into wet and dry, provide one harvesting season. At equatorial regions such as Colombia with latitudes lower than 10° coffee is usually harvested twice.

Arabica coffee in Brazil follows a two year (biennial) cycle of alternating higher and lower productivity. The country produces around 20% more coffee in a higher yielding year of its Arabica production cycle.

If Arabica and Robusta are grown in the same region, Arabica will generally be harvested later in the season as it requires higher altitudes and colder climates.

Price influencing factors:

- Coffee crops are susceptible to unfavourable weather. Arabica beans can be damaged by harmful frost in Brazil during the period of May-July. Similarly, Robusta can be affected by floods or droughts in Southeast Asia.
- Both varieties, Arabica and Robusta, show a high degree of price correlation. If Arabica is affected by frosts in Brazil and its price on the global market rises, the price of the Robusta will often rise as well. This is due to a substitution effect since an increased price for Arabica may spur demand for cheaper Robusta and vice versa.
- In comparison to Robusta, however, Arabica coffee is more exposed to fertilizer price fluctuations as it requires more intensive cultivation.
- The price of coffee is heavily influenced by transportation costs since it is grown in remote areas of the world and largely consumed elsewhere.
- As the middle class population continues to expand in emerging markets such as China and India, there has been a growing demand for “gourmet” Arabica coffee in these regions.