

Grading and Classification of Green Coffee

After milling, green coffee is graded and classified for export. The aim is to produce homogenous commercial lots that meet defined quality criteria, and hence facilitate a fair system of pricing. However, there is no universally accepted grading and classification system for green coffee. Each producing country has developed its own classification and grade charts, which are often also used to set minimum standards for export.

Strictly speaking, grade indicators are used to describe the size of the bean and are commonly expressed in 1/64 of inch. *E.g.* beans of grade 18 will pass through screen 18 (holes with a diameter of 18/64"), but are retained by screen 16/17. The theory behind classification based on bean size is that coffees of the highest altitudes are more dense and larger in size than those produced at lower altitudes. Similarly, coffees develop more slowly at higher altitudes and often have the best flavour profiles. The size and size distribution of beans also has an impact on optimisation of roasting conditions.

There would thus appear to be a loose correlation between size, density, and sensory quality. However, this correlation has numerous exceptions, and size classification should only be used to verify that the coffee lot in question is uniform in size - which helps ensure a uniform roast.

In reality, grading and classification systems are usually based on some, or all, of the following criteria. Invariably this means that most systems are often very detailed and diverse, and open to confusion and mis-interpretation regarding the 'transferability' of certain descriptions and terminologies between producing countries:

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|------------------------------------|--------------------------|
| 1. Altitude | 6. Bean shape and colour |
| 2. Region | 7. Number of defects |
| 3. Botanical variety | 8. Permissible defects |
| 4. Preparation method (wet vs dry) | 9. Bean density |
| 5. Bean (screen) size | 10. Cup quality |

Systems of grading have evolved primarily in response to quality requirements of buyers of green coffee. New sensibilities to safety considerations in the coffee trade may lead to changes in international recommendations on grading. Should it be found that certain defects are associated with increased risk of contamination, then systems of grading should then accord these defects greater importance.

Below we provide examples of classifications systems and/or specific grades (and their associated criteria) from a number of coffee producing countries to illustrate the nature and diversity currently in use. These examples are mainly concerned with the bulk coffee trade, and do not necessarily reflect the more detailed descriptions used for niche and specialty markets. This listing is not intended to be exhaustive, and additional reference sources are provided at the end.



Brazil	<p><u>Typical descriptions</u></p> <p>Santos NY 2/3 Screen size 17/18, fine roast, strictly soft, fine cup.</p> <p>Santos NY 4/5 Screen size 14/16, good roast, strictly soft, good cup (sometimes referred to as 'Swedish preparation').</p>										
Colombia	<p><u>Classification by defects</u></p> <p>Group 1: 8 to 12 defects Group 2: 35 to 60 defects</p> <p><u>Commercial descriptions</u></p> <p><u>Supremo</u>: screen 17, high grade washed arabica, often specified with further details. <u>Excelso</u>: Type 'Klauss': screen 16.5 for Germany Type 'Europa': screen 15 for France, Spain, Italy (Tolerance: 2.5% of beans between screens 12 and 15) Type 'Scandinavia': screen 14 for Nordic countries <u>UGQ</u>: 'Usual Good Quality': screen 14 for the US (Tolerance: 1.5% of beans between screens 12 and 14) <u>Caracol</u>: screen 12 (Tolerance: 10% of flat beans)</p>										
Côte d'Ivoire	<p><u>Classification by screen size</u></p> <p>Grade 0: milled over screen 18 Tolerance: Max 6% below screen 18 Tolerance: Max 1% below screen 16</p> <p>Grade 1: passing screen 18, milled over screen 16 Tolerance: Max 20% above screen 18 Tolerance: Max 6% above screen 16 Tolerance: Max 1% below screen 14</p> <p>Grade 2: passing screen 16, milled over screen 14 Tolerance: Max 20% above screen 16 Tolerance: Max 6% below screen 14 Tolerance: Max 1% below screen 12</p> <p>Grade 3: passing screen 14, milled over screen 12 Tolerance: Max 20% above screen 14 Tolerance: Max 6% below screen 12 Tolerance: Max 1% below screen 10</p> <p>Grade 4: passing screen 12, milled over screen 10 Tolerance: 20% above screen 12 Tolerance: 6% below screen 10</p> <p><u>Classification by defects</u></p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: right;">Total defects allowed</td> <td></td> </tr> <tr> <td>Grade 0 and I</td> <td>60</td> </tr> <tr> <td>Grade II</td> <td>90</td> </tr> <tr> <td>Grade III</td> <td>120</td> </tr> <tr> <td>Grade IV</td> <td>unspecified</td> </tr> </table>	Total defects allowed		Grade 0 and I	60	Grade II	90	Grade III	120	Grade IV	unspecified
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	<u>Typical description</u>
Ethiopia	<p>Ethiopia Djimmah 5 UGC</p> <p>The bulk of unwashed Ethiopian Arabicas, of which the major component is coffee from Kaffa and Illubabor regions. The liquor is plain indicating that good quality coffees are present in the mixture. Usually Good Quality refers to coffee of either Grade 3 (13-25 defects) or Grade 4 (26-45 defects).</p>

	<u>Typical description</u>
Guatemala	<p>Guatemala SHB EP Huehuetenango</p> <p>Strictly Hard Bean (SHB) coffee is grown between 1,600 and 1,700 m a.s.l. (amongst the best coffees in the world: complete, full bodied taste, with an acid and fragrant cup), from the region of Huehuetenango.</p> <p>EP refers to 'European Preparation' which is 100% above screen 15; allows a max. of 8 defects per 300g (by contrast an 'American Preparation' is 100% above screen 13, and allows 23 defects per 300g, but only for washed arabicas); clean cup.</p>

	<u>Typical description</u>
India	<p>India Arabica Plantation A</p> <p>Washed arabica, screen 17. Shall be 'clean garbled' and not contain 'PB' subject to a tolerance of 2% by weight; can contain 2% by weight of 'triage'. Other classification systems apply to unwashed arabica and robusta.</p>



	<u>Classification by defects (robusta)</u>	
	Grade 1: Total value of defects maximum 11	
	Grade 2: Total value of defects between 12 and 25	
	Grade 3: Total value of defects between 26 and 44	
	Grade 4a: Total value of defects between 45 to 60	
	Grade 4b: Total value of defects between 61 to 80	
	Grade 5: Total value of defects between 81 to 150	
	Grade 6: Total value of defects between 151 to 225	
Indonesia	<u>Type of defects</u>	<u>Value of defects</u>
	1 black bean	1
	2 partly black beans	1
	2 broken black beans	1
	1 husk coffee	1
	4 brown beans	1
	1 large husk fragment	1
	2 medium husk fragment	1
	5 small husk fragment	1
	10 beans in silverskin	1
	2 beans in parchment	1
	2 large parchment fragment	1
	5 medium parchment fragment	1
	10 small parchment fragment	1
	5 broken beans	1
	5 immature beans	1
	10 beans with one hole	1
	5 beans with more than one hole	1
	10 spotted beans	1
	1 large stick, piece of hard earth or stone	5
	1 medium stick, piece of hard earth or stone	2
	1 small stick, piece of hard earth or stone	1
Regional or other details are sometimes specified, e.g. quality (EK1 - in Dutch = 'Eerst Kwaliteit' = first quality). Processing depends on the island of origin. There are no specifications regarding bean size.		



	<p><u>Classification by defects (washed)</u></p> <p>PB - Peaberries AA - Screens: 17 and 18 = 7.2 mm AB - Screens: 15 and 16 = 6.6 mm C - Screens: 14 and 15 E – Elephant - when the beans separate during processing, they are chipped and called "Ears". This category also contains large "Peaberries". TT - Light beans separated from AA and AB by air current T - Smaller than TT, many fragments. Light beans separated from C by air current UG - Ungraded: all that does not fit the specific criteria for each official grade</p>
Kenya	<p><u>Classification by defects (natural)</u></p> <p>M'buni - Deteriorated beans, processed by the dry method MH - M'buni Heavy = large beans ML - M'buni Light = small beans</p> <p><u>Typical description</u></p> <p>Kenya AB FAQ fly crop Kenya arabica grade AB, based on internal grading system above, fair average quality. There are 10 classes of Kenyan coffee dependent on cup quality, 1 being the best and 10 the poorest. Various descriptions include: Fine, Good, Fair to Good, Fair to average Quality (FAQ), Fair, Poor to Fair, and finally Poor. These classes and descriptions are becoming obsolete, and FAQ is the only one still commonly used. Main crop coffee is usually better than fly crop coffee.</p>

	<p><u>Typical description</u></p> <p>Viet Nam Grade 2 - 5% (<i>max 5% blacks and brokens, max 1% admixture and pods, max 1% excelsa beans, max 13% moisture, 95% above 5mm.</i>)</p> <p>Grade 2 out of six grades. Special Grade and Grade 1 to 5 are based on screen size and defects. Descriptions often include details on moisture content, acceptable mix of bean types, bean size, etc.</p>
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For additional information on the export classification of coffees from most origins, one website that lists the classification system of each country of origin is the 'Coffee Origins Encyclopaedia' (www.supremo.be). Information on size and defects used in classifications can also be found at www.coffeeresearch.org/coffee/classification.htm, as can details of the Specialty Coffee Association of America (SCAA) Green Coffee Classification Method.

