

Article from Coffee & Conservation

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Shade coffee certification

Unfortunately, there is no set definition of the term "shade grown." Coffee may be labeled shade grown even if it is grown under minimal overstory that does little to preserve biodiversity.



The [Smithsonian Migratory Bird Center](#) has made the most well-known effort to establish criteria for shade grown coffee. In order to carry their trademarked "Bird Friendly" label, coffee must be grown under a minimum shade cover of 40%, and the overstory should include at least ten different species of shade trees, with no more than 70% of the trees being *Inga* species. Pruning of the overstory and the removal of epiphytes is discouraged, and buffer zones are encouraged. *These are the most stringent environmental criteria.* Bird-Friendly certification is primarily focused on growers in Central and South America, but expanding to Africa. A description of [Smithsonian's Bird Friendly criteria is here.](#)

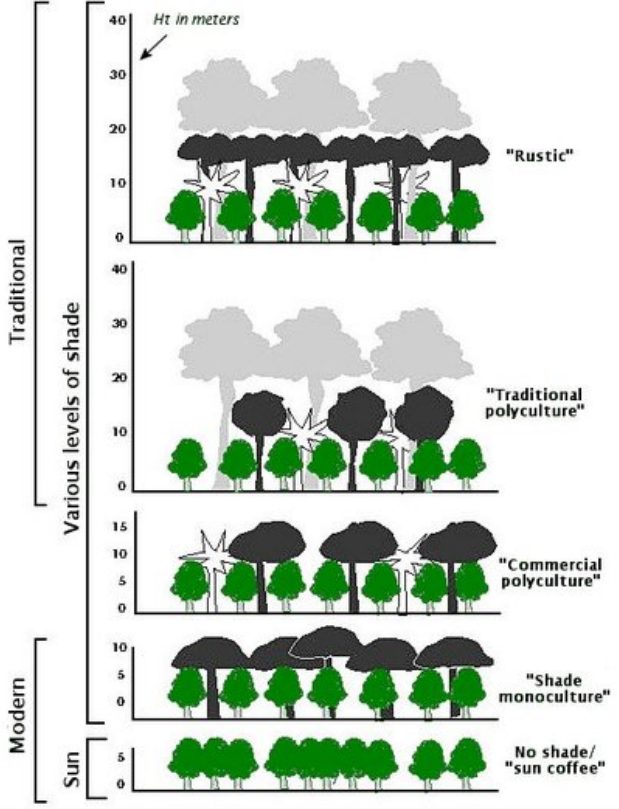
The [Rainforest Alliance](#) has a certification program, sometimes known as ECO-O.K., which they apply not only to coffee, but to other crops as well. This certification does not focus on shade growing methods per se, but deals with an array of ecosystem issues such as water conservation, and as well as use of chemicals, community relations, and fair treatment of workers. There are no specific standards for shade management. Criteria include protecting biodiversity in general, and using polycultures "where practical." More information on [Rainforest Alliance coffee standards can be found here.](#)



A paper on coffee certification, [Field-testing ecological and economic benefits of coffee certification programs.](#) included a summary table of the criteria used for shade certification by Rainforest Alliance, and Smithsonian Migratory Bird Center (under the "Bird-Friendly" trademark). Here is a summary, with a little commentary.

| Criteria | SMBC | RA |
|-----------------------------------|------|--------|
| No. tree species | >10 | >12/ha |
| No. trees/ha (mean) | na | >70 |
| % allowed to be <i>Inga</i> trees | <60 | na |
| % shade cover | >40 | >40 |
| No. of shade layers | 3 | 2 |
| % leaf volume in each shade layer | | |
| >15 m (emergent) | >20 | >20 |
| 12 to 15 m (backbone) | >60 | na |
| <12 m (understory) | >20 | na |
| Epiphytes required? | Yes | na |

The criteria having to do with vertical stratification -- the number of layers of vegetation and the leaf volume in each -- are critical components for preserving a rich mix of species. Many ecological studies support the key role of structural diversity (sometimes referred to technically as *floristic heterogeneity*) in increased biodiversity -- of many types in many ecosystems well beyond the realm of coffee growing. This is the classic schematic illustrating the various coffee production systems and their layers of shade diversity, from a paper by Patricia Moguel and Victor Toledo [1].



What is sustainable coffee?

"Sustainable coffee is produced on a farm with high biological diversity and low chemical inputs. It conserves resources, protects the environment, produces efficiently, competes commercially, and enhances the quality of life for farmers and society as a whole." - Smithsonian Migratory Bird Center, First Sustainable Coffee Congress

The Fine Print

This article originally appeared at Coffee & Conservation, a blog by Julie Craves. Learn more about eco-friendly, sustainable coffee, and how your morning cup can change the world by visiting www.coffeehabitat.com. Are your beans for the birds?

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As you can see from the table, Rainforest Alliance requires only two layers of shade, while Smithsonian requires three. While RA has a requirement for leaf volume in the emergent or canopy layer (identical to SMBC), they have no requirements for leaf volume in the understory or mid-canopy (backbone) layer. In short, RA certified farms that only meet their minimum criteria would have structurally-simpler habitats (closer to commercial polyculture) that would likely not support as much biodiversity as farms that met SMBC criteria (closer to traditional polyculture).

A further note. SMBC inspectors visit farms and set up a number of plots and measure various vegetation parameters following methods used in typical ecological studies. The aforementioned paper reports that "Rainforest Alliance inspection auditors rely heavily on data provided by farm managers" (who are not ecologists), and confirm data provided during visits by various estimates and extrapolations.

As an ecologist myself, I am more comfortable that SMBC offers the more stringent, reliable assurance that coffee is grown sustainably if one is comparing certification schemes. And not to beat a dead horse, but the usual caveats apply: there are [pros and cons](#) of certification, and problems with applying one-size-fits-all biodiversity criteria to different regions. Many uncertified farms grow coffee sustainably, meeting or exceeding the strongest criteria.

Coffee farmers, particularly small producers, are ultimately in the business of growing coffee to support their families. They are not in the biodiversity preservation business. If we want them to do so, we have to respect that and be willing to make it profitable for them.

Some roasters offer shade coffee that is not certified, but evaluated in various ways. Some say they use independent auditors, or visit the farms themselves. I don't know how many, if any, of these evaluators have experience in actually assessing biodiversity.

[1] Biodiversity Conservation in Traditional Coffee Systems of Mexico. 1999. *Conservation Biology* 13:11–21.