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AUGUST 1999

## Can Coffee Drinkers Save the Rain Forest?



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*Much of the coffee you drink is "technified"; "sustainable" coffee often tastes better, besides being a lot better for the environment*

by [Jennifer Bingham Hull](#)

IT'S a sunny summer morning as three Americans clamber out of the back of a gray pickup truck, following a tall Guatemalan farmer named Martin Keller toward a row of coffee plants. Armed with notebooks, the Americans scribble furiously as the Guatemalan points with pride to the plants' bright-green cherries. Like a number of Guatemala's large coffee farmers, Keller

is of German descent; three generations of his family worked Finca Santa Isabel before him. High in the hills in the department of Santa Rosa, southeast of Guatemala City, the air is cool and sweet and the setting picturesque, with soaring cedar trees sheltering a ravine thick with laurel, cuernavaca, oak, and inga. For a week David Griswold, Lindsey Bolger, and Betsy Buckley, all coffee buyers, have been scouring the hills of Costa Rica and Guatemala in search of shade-grown, habitat-friendly coffee. An importer based in Emeryville, California, Griswold runs [Sustainable Harvest](#), a company that specializes in shade and organic coffee. Bolger, who is one of his clients, is the green-coffee buyer for Batdorf & Bronson, a roasting house in Olympia, Washington, that sells the fancy specialty coffees so popular now at coffeehouses like Starbucks. Buckley buys coffee from Bolger for her three Aurora cafés, in Atlanta, Georgia. All are relatively small operators who see selling shade coffee as good both for the environment and for business.

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Finca Santa Isabel was the second plantation to be certified by "[ECO-O.K.](#)," one of several new environmental labels for coffee, which is backed by the [Rainforest Alliance](#). The plantation isn't perfect from a naturalist's point of view: in parts the shade trees are sparse and consist of just a few species. Like most big coffee farmers, Keller uses some chemicals. And Finca Santa Isabel, a large plantation, is a far cry from the small cooperatives that fair traders

on the environment.

**From *Atlantic Unbound*:**

**NPR Commentary:**  
**"The Coffee Connection,"**

**by James Falls**  
**(October, 1994)**

"Each morning, as I guzzled cup after cup of the strangely unsatisfying brew, I wondered who exactly had driven a spike into the back of my head."

**Corby's Table:**  
**"My Favorite Coffeehouses,"**

**by Corby Kummer**  
**(October, 1994)**

"My favorite places to sip many kinds of brewed coffee and espresso, nibble on a brioche, a muffin, or some biscotti, and, of course, scrutinize the passing scene."

-- those committed to paying coffee farmers a fair price for their product -- support. But the plantation has shade trees, virgin forest, and an ecologically sound mill, and the Kellers are conservationists. When the Americans ask if Keller will put in fruit and flowering trees to attract more birds, he agrees.

Recently the impact of coffee growing on the environment has been much debated in the specialty-coffee industry, with labels such as Song Bird Coffee and Sanctuary Coffees surfacing in the market. The movement shows promise for one simple, market-driven reason: it asserts that people can have their coffee just the way they like it and also save the rain forest. Indeed, some believe that Americans' growing taste for fine coffee could help to reverse an agricultural fiasco that has turned one of the world's most benign crops into an enemy of the environment. "All we have to do is get just a small fraction of North Americans and Europeans to demand shade-grown coffee, and we can push the industry back and save tremendous amounts of habitat," says Chris Wille, the ECO-O.K. director for the Rainforest Alliance. "And no one has to sacrifice anything."

As traditionally grown, under a canopy of shade trees and amid other vegetation, coffee is an environment-friendly crop. The shade trees fix nitrogen in the soil, fostering the growth of the coffee bushes, and their fallen leaves provide nutrients, further

**Corby's Table:**  
**"The Best**  
**Coffeehouses in**  
**New York**  
**City," by Corby**  
**Kummer (May,**  
**1994)**

"Here's a guide to the best places for charging yourself up, then frequently renewing the charge, starting with chains that span the city and continuing with bars by neighborhood."

**Corby's Table:**  
**"Coffee: The**  
**Wine of the**  
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reducing the need for chemical fertilizers.

The mixture of vegetation prevents erosion and protects the coffee from harsh weather. In contrast to corn and cattle, which almost always require clear-cutting, coffee can be grown in relative harmony with the rain forest.

Recently, however, many coffee farmers in northern Latin America have reduced or eliminated shade to grow new high-yielding coffee plants under direct sun. Fear of a disease known as coffee leaf rust sparked an early round of conversions, most of which took place in the 1970s. To prevent the spread of the disease, coffee farmers "technified," replacing older, shade-loving coffee varieties, such as típica and bourbón, with new varieties, packed in tight hedgerows, that can survive open sun -- but only with chemical inputs.

Coffee leaf rust never turned out to be a major problem for Latin America. But sun coffee's high yields soon began to be seen as a major advantage. To boost farmers' incomes, the U.S. Agency for International Development spent some \$80 million from the 1970s to the early 1990s, according to a 1996 report from the [Smithsonian Migratory Bird Center](#) and the [Natural Resources Defense Council](#), to help growers in Central America and the Caribbean technify. In countries where USAID was not involved, national coffee federations promoted the change, supporting the technification of 69 percent of Colombia's

maintained  
"forum for issues  
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production,  
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surrounding this  
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Coffee  
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"A non-profit  
trade  
organization  
comprised of  
retailers,  
roasters,

coffee and nearly 40 percent of Costa Rica's. In places including Mexico, Colombia, and parts of Central America and the Caribbean some 30 to 40 percent of all coffee land had been converted to modern reduced-shade systems by the early 1990s. Some countries, like El Salvador, missed the boat, their desultory attempts to convert slowed by war and revolution.

**L**ATELY scientists have begun to raise questions about sun coffee, focusing on the effects that technification has had in northern Latin America. For developing countries, coffee is the second most important export commodity, after oil, and it is the United States' largest legal import from Latin America. In this region the crop grows mostly in middle-altitude tropical forests. These areas contain some of the highest levels of biodiversity in the world, providing habitat for many of the planet's plant and animal species. They also have some of the world's highest deforestation rates, and some scientists assert that conversion to sun coffee is contributing to the deforestation.

In recent years the populations of many of the migratory birds familiar to Americans have declined drastically. The North American Breeding Bird Survey shows an annual drop of two to six percent from 1980 to 1994 for the Baltimore oriole, the Tennessee warbler, and the Cape May warbler. Other migratory birds have

roaster/retailers,  
producers,  
exporters,  
importers, green  
coffee brokers,  
manufacturers of  
coffee  
processing  
equipment and  
other allied  
products."

suffered similarly. These birds winter in northern Latin America and summer in North America. Scientists attribute their decline partly to the destruction of forests throughout the hemisphere.

Naturalists have long viewed shade coffee as an important habitat for wildlife, especially compared with other crops. From 1990 to 1994 a team from the Smithsonian Migratory Bird Center found more than 150 species of birds on shade-coffee farms in Chiapas, Mexico, with numbers of migratory species particularly high. Species diversity on well-shaded farms can rival that in a tropical forest. Sun plantations, in contrast, hold little appeal for wildlife. Research in Colombia and Mexico has found that sun farms have just a tenth as many bird species as do shade holdings. "A verdant open-to-the-sun coffee plantation qualifies as a 'green desert,' virtually devoid of bird activity," writes Robert Rice, a policy specialist at the Smithsonian Migratory Bird Center.

Sun coffee also requires more agrochemicals than its shaded counterpart. And growers sometimes use chemicals that are banned in the United States. The coffee is considered safe for consumption because the roasting process, at 400°, breaks down whatever chemical residues are left on the coffee. However, in Latin America, where environmental regulations are often unenforced, the chemicals have contaminated water supplies and sickened



workers.

In addition, the economic advantages of sun coffee are no longer so obvious. Although sun producers, because of large yields, earn more than shade farmers when coffee prices are high, their reliance on chemicals and the techniques of intensive agriculture means that their costs are higher, leaving them more vulnerable than traditional growers to low prices. The world coffee market is volatile, making total dependence on the crop a risky proposition, especially for small farmers. Shade trees can provide fruit and wood for fuel, helping farmers to diversify.

Shade coffee plants also tend to outlive sun trees. "Exposing coffee to sun is like giving the plants a shot of steroids. The sun speeds up photosynthesis, accelerating the plant's growth," says Paul Katzeff, whose company, [Thanksgiving Coffee](#), sells shade-grown Song Bird Coffee. Juiced up, the hungry plant quickly depletes the soil, so that farmers must apply chemical fertilizers to support the plants. All this activity exhausts the coffee plants. "It's living in the fast lane, so the plant lives only fifteen years as opposed to eighty or a hundred," Katzeff explains.

Aware of all this, international agencies have begun promoting shade. [Conservation International](#) is supporting organic coffee farmers in Mexico, using their shaded holdings to buffer important wildlife areas. The group is launching a similar project in

Colombia, with the support of the powerful Colombian Coffee Federation. In heavily deforested El Salvador the World Bank is financing a shade-coffee project to promote biodiversity. USAID is helping Haitian farmers plant shade trees to grow gourmet Haitian Bleu coffee, and supporting organic-coffee projects in El Salvador and Nicaragua. Largely grown under shade trees, organic coffee sells at a premium. By going organic, USAID's small farmers have tripled their incomes.

**T**O most Americans, however, shade coffee's appeal lies in its taste. Processing, altitude, and climate significantly affect coffee flavor. However, variety is also important. Whereas sun plantations grow new high-yield coffee varieties, the vintage típica and bourbón varieties that many experts prefer grow in shade. "Most people in our industry feel that the new high-yield varieties are simply not as good in the cup," says Ted Lingle, the executive director of the Specialty Coffee Association of America. Some also assert that shade itself contributes to taste, for reasons that any gardener can grasp: when a plant matures slowly and produces few berries, as shade bushes do, the berries it does produce tend to be sweet and of high quality. James Stewart, the chairman and founder of Seattle's Best Coffee Company, has been buying coffee from Latin America since the late 1970s. He has perceived a decline in taste as producers have technified. "All the



coffees used to have nice different flavors characteristic of the soil," Stewart says. "These hybrids have a tendency to taste the same. They're a little bland, kind of medicinal." Stewart's company has introduced shade-grown and organic coffees.

Technification and the forces that encouraged it help to explain why it was hard for a number of years to get a good cup of coffee in this country. This wasn't always the case. Prior to the 1960s, Lingle explains, U.S. coffee roasters competed primarily on quality, using high-grade arabica beans in their coffees. However, from the 1960s to the 1980s fierce price competition among U.S. roasters encouraged these companies to use lower-grade robusta beans in their blends. To compete, arabica producers technified to improve yields, further contributing to the general decline in coffee quality. "Technification was a response to the industry focus on quantity, not quality," says Lingle.

Fred Houk, a specialty roaster in North Carolina, who in 1996 began selling the line of shade-grown called Sanctuary Coffees, agrees. "Coffee quality in the past fifteen years or so has gone dramatically down, and there's no question that the major reason for that is technification."

**T**HE view from the hilltop overlooking the coffee farm of El Chorro is magnificent. Across a valley of verdant coffee, clouds

draped the mountains like long, wispy blankets. On the hilltop a lush forest canopy shades a patch of coffee. While Griswold videotapes the coffee forest, Buckley photographs the view. After disappearing into the growth, Bolger returns enthusiastic. "I hear about six different kinds of birds in there," she reports.

It's an unusual scene -- an importer, a retailer, and a roaster all perched on a producer's mountaintop. Traditionally, coffee buyers haven't traveled to farms. Most roasters buy coffee through chains of brokers, selling it as a blend. With little incentive to keep their products separate, farmers take their coffee to local mills to be mixed with that of their neighbors. Shaded, unshaded -- it all goes in the same bag. "Folgers buys coffee from Guatemala," Ted Lingle says. "They don't need to separate their coffee, because they blend it. They are promoting their brand, and their brand is a blend, and the Guatemala component gets lost in their other coffees. So they don't pay extra for separation. In specialty coffee it is the opposite -- these differences are quite important, and the specialty industry is willing to pay for them."

Indeed, differentiation is now the name of the game in specialty coffee. When Betsy Buckley opened her first café in Atlanta, few others existed. Then Starbucks came to town, and Buckley nearly went broke. Aurora survived, but the competition has encouraged Buckley to take some extra

marketing measures, including selling environment-friendly, or "sustainable," coffee. Aurora now regularly features an environment-friendly coffee. "We're trying to distinguish our business from the competition," Buckley explains.

**R**ECENTLY, sustainable coffee has taken some major steps forward in the marketplace. In a significant development, Starbucks has begun providing financial support for Conservation International's shade-coffee project in Chiapas, Mexico. This month Starbucks will begin offering the Chiapas shade coffee in its stores. In April the specialty retailer introduced an organic coffee from Costa Rica to its customers after market tests showed strong demand for the coffee. Starbucks buys in such large volume that securing constant supplies of environment-friendly coffees may be difficult. But the company says it is now committed to offering these coffees.

Still, sustainable coffee has a long way to go before it takes off among America's coffee drinkers. Most coffee still comes from big roasters who currently have little commercial reason to take interest in the issue. What's more, shade is just one of the environmental issues involved in coffee growing, making it difficult to define sustainability, as some in the specialty industry are trying to do. Two other critical issues are water pollution, which is a problem on many shade and sun farms, and

the use of chemicals, which shade tends to reduce but not necessarily eliminate. In addition, growing practices vary widely. "What is sustainable in one part of the hemisphere is not sustainable in another," Michael Glenister, a specialty-coffee importer with Amcafe, says. Some countries, including Brazil, are not well suited to shade production. Parts of Costa Rica are already shaded by cloud cover and either don't require or can't use shade, which can support fungal growth.

Even where shade works well, not everyone agrees on how much is enough. Depending on how many species and what type of trees are used, what looks environment-friendly to a farmer can appear desertlike to a naturalist. "I no longer draw the line between shade and sun in terms of the benefits to biodiversity," Russell Greenberg, the director of the Smithsonian Migratory Bird Center, says. "Much of the coffee in northern Latin America is called shade, but it's marginal in terms of biodiversity."

Meanwhile, fair traders assert that coffee growing should be beneficial to workers, not just birds. Fair-trade companies eliminate the middlemen, who are notorious for gouging peasant producers. So far, fair trade has not been a focus of discussions about sustainability. Bruce McKinnon, a former marketing director of the fair-trade concern Equal Exchange, says, "While the environment is a very popular issue, as always humans seem to be left to last."

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Illustration by Stéphan Daigle.

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