Tea in the USA

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ABSTRACT: Tea (*Camellia sinensis*) has been grown in the United States since colonial times, and continues to flourish in many coastal parts of the country as well as on the islands of Hawai'i. Cultivars include imported material from China, Japan, Taiwan and India, as well as wind-propagated cross-fertilized cultivars and locally adapted varieties to suit soil and climatic conditions. Longevity of tea ventures, however, has proved short, chiefly due to the relative cost of American labour compared to Asian. Current efforts to grow tea around the country are few, ranging from a relatively large machine-harvested estate in South Carolina to experimental boutique fields on the East and West Coasts and in Alabama and Hawaii which employ hand-plucking and various operations by machine to produce fresh, *terroir* specific American teas. Despite renewed interest in green tea, iced black tea continues to dominate the U.S. tea market. America's few tea planters, with a growing consciousness of geographic variations and sustainable organic production methods, now produce tiny but steadily increasing amounts of tea. They have demonstrated the diligence, devotion and attention to detail that successful tea cultivation requires. Overall, however, North American conditions have proved quite challenging for the production of tea.

Keywords: Yaupon holly (*ilex vomitus*); *terroir*; *Camellia sinenesis* (Linn.) O. Ktze; KW3; KW4

Introduction

History of Tea Cultivation in the USA

"Tea", defined simply as a beverage made from leaves infused with boiled water, was probably first consumed by Native Americans as a drink using the leaves of the yaupon holly (*ilex vomitus*), a plant native to what is now the southeastern United States. The sacred "black drink" was saved for ceremonial occasions.[1] Probably due to communications between the Native Americans and the African slaves, the same drink was also consumed by plantation workers on the Sea Islands off the coast of Georgia and South Carolina where rice and indigo were cultivated.[2]

Motivations for the earliest attempts to cultivate *Camellia sinensis* (Linn.) O. Ktze. in the USA were political as well as economic. The goal was independence from a foreign supplier along with an increase in domestic farm workers and crop diversity. The most common account involves economic espionage, with cuttings included in a "Camellia" shipment to French botanist Andre Michaux in 1799 for his plantation in Middleton, SC, some 15 miles outside Charleston.[3] Michaux's efforts were designed to result in plants shipped back to France, somewhat similar to what Britain's cultivation of tea in India became as a supplier for the Mother Country from stock originating elsewhere. That same year, a ship merchant in Charleston was directed to quickly load a shipment including tea, implying it was already being cultivated there along with rice, sugar and oranges. Michaux's efforts at cultivation lapsed, but interest in

American tea cultivation continued. In 1828, an article in the *Southern Agriculturist* noted existence of similar climates as in South Africa, Charleston and China for tea cultivation, which might provide a new crop with great potential for South Carolina's economy.[4] New York's Linnean Botanic Garden offered to send some of their "Green and Bohean Tea plants" for Charleston's root stock.[4] The next major efforts to grow this commodity

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plant occurred during 1848–1852 on Dr. Junius Smith's Greenville, South Carolina Golden Grove Plantation estate, 20 miles from Wadmalaw Island.[5] This effort was based on using imported plants (India *via* London) as well as seeds. Smith protested the U.S. Patent Office's distribution of tea seeds throughout the south-east as undermining his own (potentially monopolistic) efforts, echoed by later American commercial tea agriculturalists.

Branches of the government persisted, including efforts at tea seed procurement and propagation by Secretary of the Navy Graham in 1851 and Commissioner of Patents Mason in 1857.[6] The botanist-explorer Robert Fortune sent seeds from China in 1858, as requested by the U.S. Department of Agriculture, which resulted in cultivation at multiple locations in the Southeast from Florida through North Carolina. Japanese seeds were distributed in 1867, but most stock continued to be from Fortune's offspring. California was the site for experiments by Japanese colonists seeking to grow tea from their own native stock in the early 1870s. The climate in El Dorado, located in the foothills of the Sierra Nevada close to Sutter Creek, proved unsuitable,[6] and further commercial attempts to cultivate tea in California stopped for a century. The Department of Agriculture continued to distribute tea plants and subsidies throughout the South-east in the 1870s, but the major challenge remained the uncompetitive cost of labour, particularly given the paucity of transportation for southern agricultural products to major markets. During 1874–1879, Forster's successful tea farm in Georgetown, SC, was an exception.[3]

In 1880, the Commissioner of the U.S. Department of Agriculture, William Le Duc, advocated backyard tea cultivation in the South for self-sufficient households. By 1881, John Jackson, a Scottish tea planter experienced in the use of machinery to cultivate tea, transferred stock previously used 30 years earlier by Dr. Jones to grow tea in Liberty County, Georgia, to a new location in Summerville, South Carolina. Seeds of plants from Japan and India were added to the Chinese stock. This experiment was ended in 1887 by a less enthusiastic Commissioner discouraged by climatic conditions.

The challenge was taken up in 1888 by plant biologist Charles Shepard, with support including money and machinery from the Department of Agriculture, at a former rice plantation near Summerville called "Pinehurst". Shepard's novel attempt to offset the low cost of labour in Asia and the transportation connection disadvantage of the South was to offer free schooling in the morning to children of emancipated slaves, followed by their uncompensated afternoon labour in the tea fields. An article in the 1887 *New York Times* reported an annual yield of 12,000 pounds. The base stock was an Assam hybrid, mixed with a Chinese *Dah Yeh* ("Big Leaf") variety previously grown for 30 years in England. Stock also included some Chinese *Long Jing* ("Dragon Well") stock and Indian Darjeeling cultivars, yielding what was then characterized as an English breakfast tea—still marketed as "Charleston Breakfast tea" from almost the same location today. Yield remained lower than potential since human cultivation was supplemented by mule-drawn ploughs to save labour, but necessitated wider planting of bushes. Other products from Pinehurst tea plantation included matchbox size compressed tea-tablet pellet and a shelter tea from blue, covered leaves. Shepard's efforts lasted until his death in 1915, at which time commercial activities at the plantation ceased and the untended "Camellia" plants open pollinated into hundreds of different varieties (CTP estimate), including Jackson's stock and cultivars from Formosa (Taiwan) and Assam (India). The site of the plantation and the plants that survived became an important part of the contemporary American tea story.

Tea cultivation was first introduced to Hawai'i in 1887, but was unsuccessful for another hundred years. Attempts to grow tea in Rantowles, SC, site of over a century of rice cultivation, took place from 1901 to 1914. The turn of the 20th century saw a set of consumer-friendly innovations: the invention of muslin tea bags by Thomas Sullivan in 1903 (commercialized in 1909) and the invention of iced tea in 1904 on a hot day at the St. Louis World's Fair. Texas tea was grown west of Galveston at Mackay in 1903 and at Pierce in 1906, but abandoned due to flooding in 1909. George Mitchell introduced tea pruning and picking machinery in 1911, but Department of Agriculture reports on tea ceased in 1912.[6]

Attempts to grow tea in the USA picked up markedly in the mid-1970s with multinational conglomerate Lipton's concern over the reliability of supply from China, then convulsed by its Cultural Revolution. Many experimental tea stations were opened, from various Hawaii island locations and along the U.S. mainland west and southeast coast. These often drew on genetic material from the long-neglected Shepard plantation whose land was being developed for non-agricultural uses due to population pressure expanding from urbanizing areas. The following sections detail developments in specific regions.

Two Models and Markets

Tea is poised to become a significant niche industry catering to two markets: (1) lower cost mass market machine-harvested and processed black tea (South Carolina model) or (2) higher cost hand-cultivated specialty tea (Hawaiian model) (see Table 1). The South Carolina model produces a low-cost mass market crop by relying on the invention of a harvesting machine, the global ties of multinational corporations and a key individual who worked in and uses technology from Argentina, itself the beneficiary of government support and German colonists. The Hawaiian model produces a labour intensive, high-cost, small-batch tea involving the invention of a dryer, university researchers and Asian expertise. Hawaiian growers benefit from government grants, local cooperative networks, industry consultants and local–national organizations.

Table 1: Comparison of two models

Model Type	Invented	Global ties
S. Carolina (mass market)	Harvester	Lipton (UK), Bigelow (MNC), Argentina
Hawaii (hand process)	Dryer	Asian entrepreneurs, experts

Figures (1–4) given below illustrate the machine-intensive "orthodox" format used in South Carolina. This contrasts with the Hawaiian model, also used on the West Coast and South-east, based on hand-picking plus simpler machine processing.

Fig. 1. Harvest machine, S. Carolina; Original machine sweeps between rows.

Fig. 2. Drying bed under lights, SC Machinery from Argentina.

Fig. 3. Air-drying of macerated leaves.

Fig. 4. Rotating leaves, sorting through screens.

Contemporary American Tea Regions

The variety of locations and methods utilized by American tea entrepreneurs illustrate the multifunctionality of contemporary agriculture. The timeliness of these endeavours, largely launched in the past two decades or less, corresponds to the rise of a new market demography pushing the production of personally and environmentally healthy products that fit the portrayal of tea.

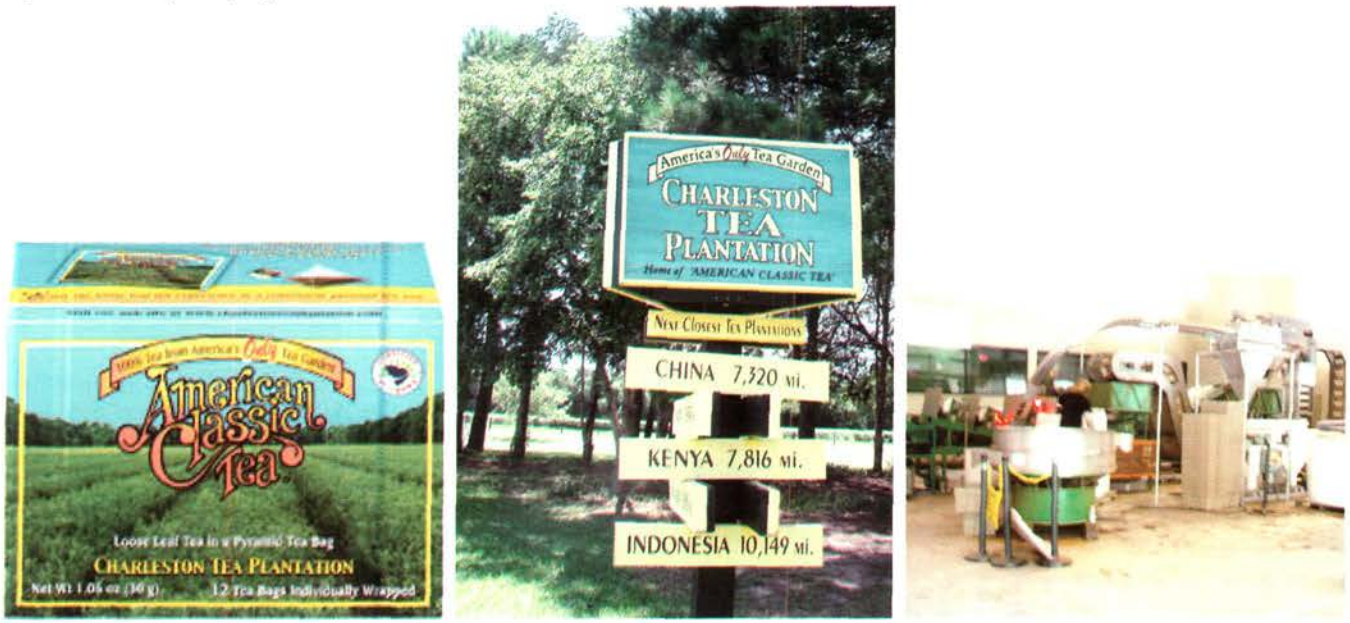

Fig. 5. Bigelow Charleston Tea Plantation: field photo tea box, distance vane, machinery. The tea box image conforms to social and cultural geography's interest in language ("from America's Only Tea Garden") and visual representation: tea plants in regular machine-trimmed rows, unlike in the developing world measured on the distance vane in the center.

South Carolina: Charleston Tea Plantation

The coastal plains of South Carolina are composed of thick beds of sand (88–90%), clay, marl, calcium carbonate and a fine sandy loam. The average growing season is 266 days, with an average annual rainfall of 49.1 inches—sufficient sun, insufficiently distributed rain for prime tea conditions.[7] Wadmalaw Island, 20 miles south of Charleston, is the site of a 127 acre former Lipton tea experiment station started in 1963 due to concern about possible interruption of trade with China. In 1987 the business was sold to Former Directors Mack Fleming and William Hall, a trained tea taster who previously worked in England, Argentina and the Netherlands. Their company, the Charleston Tea Plantation (CTP, see Fig. 7), produced "American Classic Tea" utilizing their own invention of a mechanical harvester adapted from a combination of cotton and tobacco picking machine.[8] Labour largely came from local descendants of former plantation workers. The firm was sold to Bigelow Tea Company in 2003. The connection to Bigelow came from its "Constant Comment" brand, based on a recipe from the founder's Carolina grandmother that launched the company. Bigelow supplied the additional capital for major investments including machinery and an irrigation system from Argentina where Hall once worked, setting up agritourism field tours and a Gift Shop, and the development of market-oriented flavoured teas (*e.g.*, Earl Grey and peach). A total of three field workers replace the efforts of 500 hand-pickers (CTP estimate). Tea is bagged at Bigelow's main facility in Connecticut. CTP uses no insecticides or fungicides, but a light nitrogen-potassium-phosphate fertilizer. Plants are harvested every 15–18 days from May to October, for an annual yield of around 12,000 lbs. The major climate challenge of insufficient rainfall is remedied by the use of three transfer ponds and drip irrigation. Approximately three acres of 4,900 plants, each are added annually by cloning propagation. CTP recently signed a contract to supply the Whole Foods chain, which represents a significant challenge and opportunity for expansion; boxes featured in groceries are currently supplemented with Argentinean tea as CTP's supply is insufficient. A recent shift to single pass plucking saves time for plants on additional land that is needed to supply the new market demands.

Hawai'i Grown Tea

Tea flourished on a five-acre plot in Kona, on the island of Hawaii, until 1892, when it subsided possibly due to

competition with coffee and low tea production costs in Asia. Coffee is easier to grow and process, with less expensive start-up investment and a shorter learning curve. The US market at that time was not large enough for reduced shipping costs to offset lower wages in Asia. As Thomas Lipton found in his Sri Lankan/Ceylon experience, land good for growing coffee is often suitable for tea too. In the 1960s the CTAHR introduced Assamese and Japanese cultivars. Currently cultivars include Bohea, Yabukita, Yutaki Midori, Benikaori and Chin Shin Oolong (Braber, et al. 2010).9 A variety of soils support tea plants, from rich young volcanic deposits to degraded natural forests menaced by invasive species. A number of companies including Lipton, Alexander & Baldwin, C. Brewer and Amfac looked into Hawaiian tea cultivation to replace sugar on plantations. Lipton ultimately opted for Argentina. A variety of cultivation methods and cultivars are grown on small plots on three islands, including an Assam type on an acre in Hakalau since 1994, using a Japanese hedge trimmer and CTC machine, and small plots on Maui and Kauai.

The island of Hawaii supports three fields corresponding to the three major altitude zones for tea cultivation as part of joint experiments between the state's College of Tropical Agriculture and Human Resources (CTAHR)[10] at the University of Hawaii Manoa and the private Agribusiness Development Corporation. An estimated 80 acres were under cultivation in 2003. Of the fields in Waiakea (elevation 500 feet), Mealani (2,800 feet), and Volcano (4,000 feet), the latter is particularly successful. Management relies on a variety of Japanese and Taiwanese machines as well as an innovative microwave oven process devised by horticulturalist Francis Zee. Development of innovative culinary products related to tea is also envisioned for the agritourism market, including candy and tea-infused honey wine.

The longest standing tea garden, in commercial production since 1993, is owned by John Cross of Johnny's Tea Garden on Hawaii island in the town of Hakalau. It is a rare garden that grows both "China" and "Assam" cultivars all, harvested and processed by hand. Cross currently produces a black tea labeled "Hawaii Grown Makai Black". Since 2001, Mike Riley of Volcano Tea Garden has had the largest tea garden on Hawaii island; all of Hawaii's tea farms are less than five acres, and have developed since the turn of the century.[11] Eva Lee of "Tea Hawaii & Company" is one of the few female Hawaii tea farmers. She has grown tea since 2002 on over two acres in Volcano Village, along with maintaining an agro-tourism business and tea studio gift shop with her husband, tea grower/potter Chiu Leong. The company represents a collective of five fellow tea growers producing white, green, oolong and black teas for the domestic and international specialty tea market. Lee and Leong propagate and distribute tea plants of specific cultivars and information to small Hawaii producers, aided by CTAHR research and the Hawaii County Office of Research & Development support (CTAHR).[12] The advocacy group Hawaii Tea Society was founded in 2004 to help bridge public research with Hawaii tea industry development. Hawaii grown teas are developing standardizations within the early stages of marketing, allowing refinements to be specified as determined by market demands. Hawaii growers are selling tea wholesale as well as direct retail. Around half a dozen small tea farms exist on the island of Hawaii, with several on other islands. Challenging climate conditions include occasional strong winds and heavy rainfall, but the acidic volcanic soil is an excellent growth medium.

Fig. 6. Fairhope tea bushes.

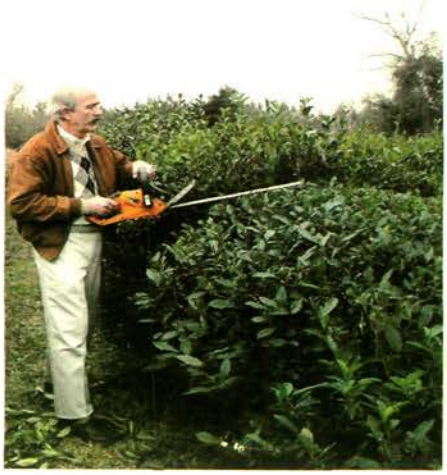

Fig. 7. Pruning tool.

Fig. 8. Agritourism iced tea.

Other U.S. Locations

Five other regions of American tea cultivation offering an alternative terroir should be noted as a subset of the Hawaii hand and machine cultivation method.

In California, tea is to be grown on a 23 acre farm in Esparto, Yolo County, close to Sacramento, by Roy Fong, a Bay Area tea importer and teacher. Fong started his field in 2011 on land previously supporting an almond orchard. Lipton's tea experiments in the USA culminated at a station near Fresno, California, operated with the U.C. Davis as Kearney Research Station. Lipton's efforts terminated as relations with China improved. Tea was unsuccessfully attempted several times near the foothills of Cool, California.

Oregon's Minto Island Growers, a part of Mt Jefferson Farms in Salem, grow various tea cultivars in a project dating back to 1988 involving John Vendeland – a former Lipton Tea consultant in Hawaii – and Rob Miller. The family farm and nursery also grow mint and hand cultivates the tea, hoping to develop an Oregon terroir varietal in the drier eastern as well as wet western parts of the state.

Washington's Skagit Valley, a berry-growing area in the northwest corner of Washington, supports five acres of plants used to produce oolong, white and black tea on the Sakuma Brothers Farm. A partnership of John Vendeland with local grower Richard Sakuma, some of the tea is hand-cultivated, some harvested by machines similar to those used in Japan and Taiwan.

Fig 9. Camellia Forest tea plants Pine understory in North Carolina.

Alabama's Fairhope Tea Plantation on the east side of Mobile Bay supports 40,000 tea bushes surrounded by a canopy of oak trees in a hot, humid sea level setting. They are *Camellia sinensis* Fairhope, bred from Chinese root stock by owner Donnie Barrett. He retrieved three bushes from a burnt and bulldozed pile when the Lipton Tea Company (along with Auburn University's Gulf Coast Research and Extension Center) abandoned their experimental tea station following the 1979 Gulf hurricane. Starting in 1989 when he managed the FTP full-time, Barrett drew tour buses from as far as Orlando, Florida. Green and iced teas were particularly popular with the agritourists who enjoyed picnic lunches as at CTP in South Carolina.

North Carolina's winter-hardy tea bushes flourish near Chapel Hill in the Camellia Forest garden maintained by Christine Parks. Typical of artisanal producers, she hand processes small batches of various types of teas from Chinese and Assamese stock. The family came to Carolina as an ideal location to raise camellias 50 years ago. The outdoor tea garden started 5 years ago, and now *Camellia sinensis* is the most popularly requested of all the Camellia cultivars. Deep mulching is important to protect against frost and cold snaps. The healthiest variety appears to be a mid-size leaf Chinese cultivar. Drip irrigation periodically supplements rainfall, as in South Carolina.

Fig 10. Experimental China and "Assam" varieties test for winter hardiness; hand-grown.

Competition: The Global Tea Trade

Location considerations for tea production include climate, labor, taxes, shipping, and pest control. Over 85% of tea consumed in the U.S.A. is served as iced tea. This condition favors a low-quality black tea for the largest segment of the domestic market. In 2009, the U.S.A. was the 7th largest tea consumer after China, India, the CIS, Turkey, Japan, and the UK, with Ireland having the highest per capita consumption. World tea production in 2000 was 77% black, 21% green, and only 2% oolong. Approximately 84% of the land used to grow tea is in Asia.[13] China harvests twice the land area of India, while India out-produces China (Table 2). Globally, from 2004 to 2009, black teas represented 65% of production, 67% of consumption and 80% of tea traded, with an increasing shift to green tea due to health and environmental concerns.[14]

Table 2: Major Global Tea Producers, by 1,000 tons, for the year 2000 (FAO 2001)

		Black	Green
	World	2145	681
1)	India	815	0
2)	Sri Lanka	305	0
3)	Kenya	236	0
4)	China	65	500
5)	Indonesia	131	38
6)	Japan	0	90
7)	Vietnam	0	38

Table 3: Amounts imported by major tea-importing countries[15] in the year 2000

	World	1251
1)	EC	208
2)	CIS	212
3)	Pakistan	111
4)	US	88
5)	Egypt	63
6)	Japan	58

Note: These countries have market needs exceeding domestic production, principally due to unsuitable growing conditions.
Note: The USA is the fourth largest import market.

Major imports to the United States originate from China for green tea (Tables 3 and 4) and Argentina for black tea (Table 5). Argentina utilizes mechanical harvesters and processing technology for almost its entire tea crop. A large portion of the tea crop in Japan, a nation which consumes most of what it produces, and Taiwan is also mechanized largely due to the high wages of the small amount of labor available.

Table 4: Major origins of green tea imported into the United States as of March 2010

	Country	1,000 kg	%Tea imports
1)	China	3,747.9	68.8
2)	Germany	356.9	6.5
3)	Japan	301.8	5.5
4)	India	148.9	4.9
5)	Brazil	145.3	2.7
6)	Vietnam	128.9	2.4
7)	Sri Lanka	114.1	2.1
8)	Canada	102.9	1.9
Total YTD March		5,447.2	

Note: As per Tea Association of the USA, Inc., USDA-FAS and Bureau of Census reports.

Table 5: Major origins of black tea Imported into the United States, March 2010

	Country	1,000 kgs	%Tea imports
1)	Argentina	9528.6	31.25
2)	China	2986.7	9.8
3)	India	2540.3	8.33
4)	Indonesia	1452.6	4.76
5)	Vietnam	1404.9	4.61
6)	Kenya	718.8	2.36
Total YTD March		23,031	75.54

Note: As per Tea Association of the USA, Inc., USDA-FAS and Bureau of Census reports.

The following are examples of global tea production processes competitive with the U.S. tea industry: one highly mechanized (the South Carolina model), and the other the world's largest producer of principally hand-picked green tea (the Hawaii model).

Argentina's government distributed Chinese tea plants in 1924, and further encouraged the industry in 1954 with inducements and import protection. By 1958 Argentina had the most tea acreage in Latin America and successful factories aided by links with the Indonesian tea industry.[16] German colonists were the initial cultivators for this crop which still grows in the rolling hills (1,000–1500 ft) of Misiones and Corrientes provinces, close to road and rail routes to Buenos Aires.[17] The regional climate is humid subtropical, there is 75" of rain a year and 70°F temperature average. The soil is a mildly acidic combination of deep, reddish, crumbly clay and sandy loams, weathered basaltic lavas. The tea industry grew in response to a downturn in the market for yerba

mate (still the favorite drink of Argentineans), much as Lipton's planting of tea in Sri Lanka came from a coffee blight. Production problems include leaf cutter ants, few knowledgeable laborers, strikes, and world tea price oscillations, all of which inhibit growth of plantations. Stock is basically high-yielding lower grade Assam hybrids, planted at wide intervals for machine picking and interplanting with other crops. Widely used mechanization introduced in the mid-1970s results in a coarse plucking but greatly lowered labor cost. In addition to being the major black tea exporter to the USA, Argentina furnishes most of Chile's tea and is a major exporter to Germany, Netherlands, UK and Poland.[18]

China is the homeland and largest producer of green, oolong and pu'er tea, largely handpicked. The authors have visited Hangzhou, China tea fields that are directly linked with American Classic Tea's "big leaf China" prevalent cultivar. Both China and Taiwan provide examples of tea cultivation methods useful for American adaptation, and have hosted American tea growers interested in improving their knowledge of tea production.

Consumption: The U.S. Tea Market Characteristics

The U.S. tea consumption shifted strongly to black tea after WWI (Fig. 8). Since the introduction of Nestea instant tea at the end of WWII, black tea held a steady dominance until reports lauding the health effects of green tea emerged in the 1980s. This decade also saw a new interest in higher cost specialty teas.

The current market for tea consists of a new demographic. Specialty teas appeal to a younger, more affluent, educated, health conscious and socially responsible market, consisting principally of 20/39-year-old students and professionals, as well as internet visitors. A large increase in the "Ready to Drink" (RTD) category indicates a preference for ease of consumption and product availability; the increase in green tea reflects health research results (Fig. 9). Previous studies indicated that the highest American consumers of tea were households without children, having incomes in the lower-middle and highest income brackets. Iced tea mix drinkers tend to be younger, and provide a target for tea to replace their high soft drink consumption – on which the highest amount of drink budget is spent, with tea costing the least. Pacific Coast state residents consume the most, followed by those in the Mountain West. Fully 80% of US households buy tea, **with**.[19]

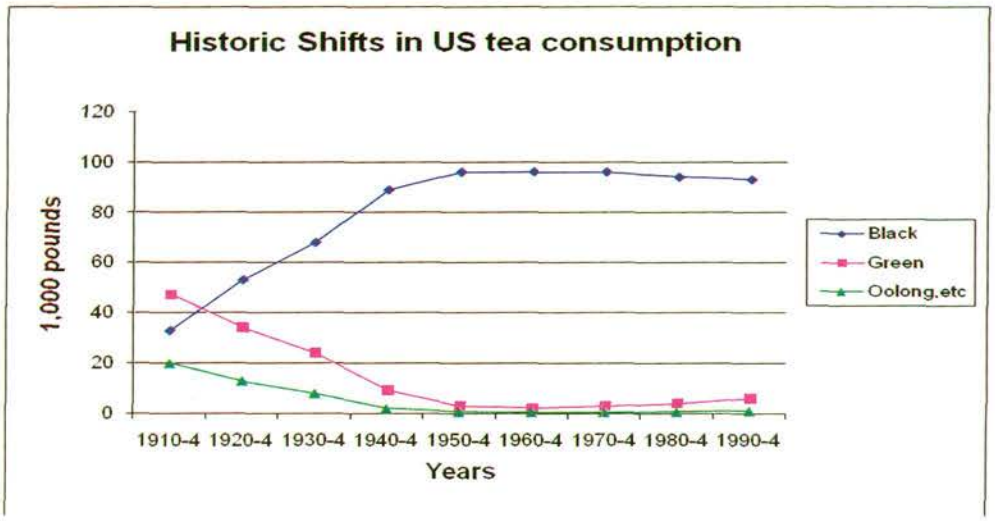

Fig. 11. U.S. tea consumption shift, 1910–1994 (U.S. Tea Board, discontinued 1994).

Selling points for tea target concerns of the new demographic by featuring beneficial health factors that continue to emerge from clinical studies, including a decrease in the risk of cancer, cardiovascular disease, dental cavities, osteoporosis and diabetes. An organic (low to no pesticides) product, tea plants shield themselves from the sun's photosynthetic stressors by producing polyphenols, boosting antioxidants when consumed and thus increasing cancer fighting properties. Health claims, actively explored by the USDA researchers, test insulin properties, weight loss promotion by increasing metabolic and oxidation rates, lowering total and LDL cholesterol. Tea is high in flavonoids, especially green

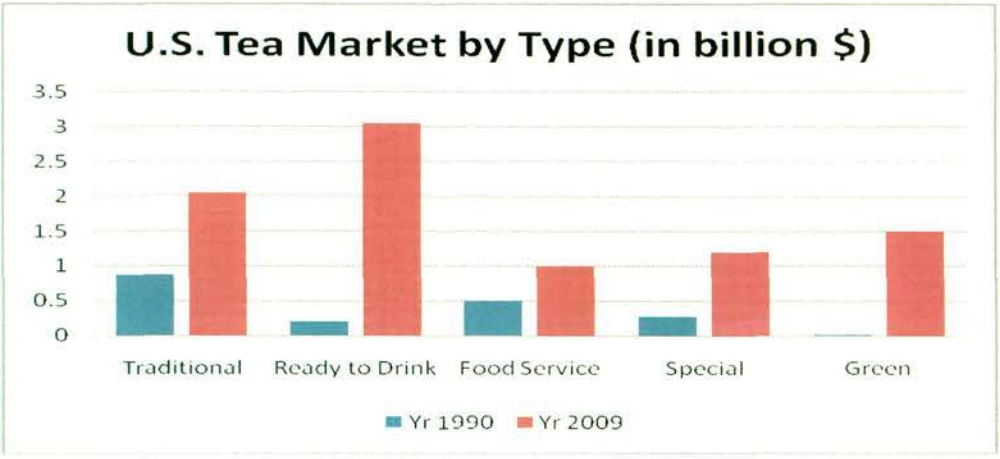

Fig. 12. Shifts in U.S. tea consumption categories.

tea (highest in catechin, or simple flavonoid); black tea has more complex flavonoids such as thearubigins and theaflavins. By weight, green tea has 14 times more catechins than apples.[20] Tea is perceived as easier to digest and has lesser caffeine than coffee.

Large coffee chains such as Starbucks and Caribou recently began to offer whole leaf or specialty bag brewed tea in response to renewed market interest. Tea is acknowledged by the American coffee industry as an emerging new "Starbucks" industry segment, hence Starbucks' purchase in 1999 of Tazo Tea (headquartered in Portland, started by founders of Stash Tea in 1994) and Caribou Coffee's recent feature of loose-leaf tea in its offerings. Language and images are used in Tazo's web description to create market appeal for an exotic and healthy product that prioritizes "taste and aroma" over cost considerations, with specialty teas offering "fruit and herb concoctions" (www.tazo.com). Exotic tea blends of black and green tea popular in the last decade include Indian "chai" prepared with sugar, milk and spices, and Taiwanese "bubble tea" with tapioca-based particles.

The appeal particularly for high priced specialty tea could be the rarity of U.S. tea and its terroir distinctions that are used to sell wine and coffee for similar reasons thus promoting consciousness of "geographical identity",[21] not dissimilar to the appeal of microbreweries for an affluent American market interested in supporting local products. As a marketing strategy, "Buy American" could draw a national appeal. Industry innovations adding to the market appeal of tea include varieties catering to a busy American lifestyle such as instant, iced, cold brew, pyramidal-shaped teabags, concentrates (powder and liquid), Ready-to-Drink (RTD) bottled, availability in vending machines, plus inclusion as a food and cosmetic ingredients. Various uses target different demographics and price points. Value-added alternative uses of tea include its addition to cosmetics, promotion in nutritional supplements, use as an energy drink, in concentrates, and an ingredient in chocolate, gum, cooking recipes, soaps, toothpaste, and alcoholic beverages; all of these are opportunities for American producers. Tea rooms are projected to increase in the U.S.A. in the two decades of 2000–2020, and many mainstream branded coffee houses offer specialty tea.[22]

Leadership promoting the U.S. tea industry largely resides in its national and regional organizations. In 1991, the Tea Council of the USA organized an International Scientific Symposium on "Tea & Human Health" and in 1992 cooperated with Canada to start a seed fund for scientific research on tea's health benefits. The TCUSA promotes organized international tea tourism, funds research, jointly promotes North American GI brands, and encourages agricultural extension services.[22] Leadership of this group includes Marty Kushner, president of Southern Tea Company, and Eva Lee, head of "Tea Hawaii" and associated with various websites addressing this field.

Challenges for the American industry include the amount of land required (400–500 acres) for economies of scale in yield in order to be commercially viable.[23] The market for a specifically American-grown products also needs development to move specialty tea from exotic to essential. Other difficulties include the cost of obtaining appropriate land, the steep learning curve for processing tea, volatile world tea prices and climatic conditions, and the high labor cost for hand-picking and processing, which account for 60% of the cost of the product.[15] Opportunities for the American tea industry include

mechanical harvesting, which saves labor cost at the expense of tea quality, but is the best opportunity to combat imports. Mechanization promotes worker safety and lessens reliance on gender exploitative field work, several points of ethical concern to the target American market. Downgraded quality results from a variety of factors such as mechanical injury to leaves and non-selective plucking that harvests an unpredictable amount of material rather than the desirable "bud plus two" top leaves. Negative effects, however, were found to decline overtime in fields that were continuously sheared due to the increased evenness of the top level.[24] Sharing information shortens the learning curve. Hawaii has a "satellite program" to provide clonal material as well as distributing costs and profits among producers.[23] Skagit Valley, Washington entrepreneur Sakuma also provides several of these inducements to encourage other local farmers to join him and potentially profit from local economies of scale, as does a Hawai'i-based tea association.

Market price variation for land can cause conversion to cropland to occur as certain crops become more feasible to grow (e.g., woodland to vineyards). Impacts of crop conversion could be particularly important in the West, which has less marginal land under cultivation than does the heavily irrigated Midwest.[25] Information is needed concerning potential producers and consumers; cost of production; export barriers and logistics; sharing of production information and related goods and services information for value-added enhancement of economic feasibility.[26] As one aspiring tea-producing entrepreneur declared, "The main thing is we establish a new industry, and there's more things to grow ..,".[12] Tea appears to fit the transition model of a crop that is poised for an economic emergence, capitalizing on a new set of production practices in response to a new market focused not just on food but also on quality that promotes healthy individuals and a healthy environment.

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