

# ABOUT OUR COVER

## TEA IN SOUTH CAROLINA<sup>1</sup>

The French botanist Andre Micheaux, who set out tea plants circa 1800 at Middleton Barony on the Ashley River a few miles from Charleston, S. C., is the first person known to have grown tea in the United States. Dr. Henry Perrine, of plant introduction fame, and Dr. Junius Smith were among the earliest men to campaign for tea production in the United States.

Smith studied diligently to learn the requirements for growing and processing tea. He concluded that the crop would grow throughout the South but he chose the Piedmont area of South Carolina as best suited climatically. Smith bought a farm near Greenville in 1848 to conduct experiments with tea cultivation and imported 7-year-old plants from India. Smith's death in 1853 brought this experiment to a close but not before he had brewed and enjoyed tea from his own plants.

The U. S. Patent Office and later the Department of Agriculture imported and distributed tea seeds and plants raised from them throughout the South for trial during the years after 1853. The U. S. government sent Robert Fortune, Britain's primary authority on the tea industry in China, to collect tea seeds in the Orient. A commercial industry did not develop, but many people grew yard plants from which they prepared tea for personal use. Congress appropriated money in 1880 for an experimental tea farm, which was established near Summerville, S. C., but the experiments were discontinued after a less enthusiastic commissioner of agriculture assumed office.

In the meantime, Dr. Charles U. Shepard had started the Pinehurst Experimental Tea Garden near Summerville where he was testing cultivars from Japan, China, Formosa, and India. The Department of Agriculture resumed its experiments in cooperation with Dr. Shepard. Dr. Shepard's tea garden developed into Pinehurst Tea Plantation with about 40 hectares of tea. Pinehurst tea was marketed in New York and elsewhere by the turn of the century, and in 1905 Pinehurst oolong won first prize at the Louisiana Purchase Exposition (World's Fair) in St. Louis, Missouri. That was quite a feat, because South Carolina tea was judged along with the Orient's finest blends, which had centuries of effort in their development.

Dr. Shepard found selections from

moderate climates were as productive in South Carolina as in their original countries. Pinehurst early-season tea was similar in cup qualities to that imported from cooler climates. Pinehurst autumn teas were stronger in color and taste and resembled teas imported from more southern regions. Shepard's teas lacked the astringent quality of the Indian and Ceylon (Sri Lanka) teas; they were decidedly fragrant and delicate in taste, comparing favorably with imports from high elevations in hot climates. Pinehurst teas had a suitable amount of caffeine, and they were lower in tannin than were some imported teas. Comparisons of South Carolina-grown tea with high grades of imported teas showed that the domestic tea was fully equal in cup qualities.

Assam-Chinese hybrids made excellent black teas at Pinehurst and yielded about 500 kg/ha. Chinese types produced very fragrant and delicate tea, preferably green, and yielded about 250 kg/ha. Chinese tea was fairly hardy at Summerville; Darjeeling cultivars yielded intermediate between Chinese types and Assam-Chinese types. The cup qualities of black and green teas were delightful, but these Darjeeling types were rather susceptible to cold. Poor results were obtained also with Ceylonese seed from less than 2,700 m elevation above sea level, and with indigenous Assam types.

Fine plucking, careful and detailed processing, and judicious boxing were practiced at Pinehurst. Dr. Shepard marketed a black tea whose liquor was deep cherry red. It was agreeably fragrant and non-pungent. A green tea with high cup qualities and low astringency was marketed also. The black and green teas were well suited for iced tea. An American breakfast tea that was delicate and high in caffeine was another Pinehurst product. Compressed tea tablets, said to be useful for travelers, sportsmen, etc., were a Pinehurst adaptation of the ancient Asian brick tea.

George F. Mitchell of the U. S. Department of Agriculture, who researched cooperatively with Dr. Shepard at Pinehurst from 1903-1909, con-

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South Carolina is the only location in North America, north of the Tropic of Cancer, that has had a commercial tea growing and manufacturing enterprise. Pinehurst Tea Plantation at Summerville, S.C. began growing tea circa 1885-1890 and manufactured black, oolong, and green tea. Oolong tea from Pinehurst won first place at the 1905 World's Fair in competition with oriental teas that had centuries of development behind them. The Clemson University Truck Experiment Station at Charleston, S.C. initiated tea investigations in the 1950's.

cluded that tea production could well be undertaken profitably in the U. S. His data indicated that the minimum planting should be 80 ha and that profit could be greater from a larger planting, such as 160 ha. Dr. Shepard had pointed out, however, that labor costs were lower in the Orient than in the U. S. He suggested that there would either have to be an import tax on tea, or the U. S. product would have to sell at a higher price than imported tea for a U. S. tea industry to be successful economically. Shepard's writings indicate that he thought the U. S. product was worth a higher price.

Pinehurst tea was produced until 1915, when Dr. Shepard died. Many of the plants still exist in Summerville's Tea Farm Subdivision.

The Clemson University Truck Experiment Station initiated research with tea in the 1950's. Plants have thrived and this research has confirmed that tea is a relatively easy plant to culture in coastal South Carolina.

Absence of economic levels of disease damage on S.C. tea is an interesting observation. Clemson's tea plants have never been bothered by *Exobasidium vexans* Masee — blister blight, for instance, although *Camellia japonica* L., present in abundance in this area, is attacked severely. Neither have our plants suffered from nematodes. *Pestalotia* is the only potential disease organism that has been isolated from Clemson's tea plants. Clemson has noted also the absence of diseases on tea plants at the Pinehurst location in Summerville, where *Camelia sinensis* (L.) Kuntze plants have grown for many decades.

Clemson has never applied fungicides to its tea plants, and the only insecticide that has been applied is oil emulsion, which is effective against tea scale, *Fiorinia theae* Green. Tea scale is very destructive on *Camellia japonica* locally but has not proliferated on Clemson's tea plants that receive one application of oil emulsion spray per year.

Clemson expanded its research in the 1970's to experiment stations at Blackville and Florence, S. C. to ascertain the adaptability of tea to inland areas of South Carolina, with attention to propagation, stand establishment, cultural practices and pest occurrence.

A versatile plant, tea is grown from 27°S in Argentina to 43°N in the USSR; from sea level to 3,000 m; and on many soil types. Cup quality may be due more to genotype than to location. Tea has a good probability of economic success as an American agricultural crop now that manufacture, production and harvest can be mechanized.

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