What to do with Florida's undrained acres is a question that has greatly interested the writer since first coming to Lee County some thirty-seven years ago. It is probably no exaggeration to state that two-thirds of the area comprising South Florida is deficient in natural drainage, owing to the level character of the country which affords little run-off for the excessive rainfall during the summer season. Included in this classification are vast areas of pine flatwoods, prairie, ponds and cypress swamps. Similar conditions prevail in a lesser area throughout central and northern Florida as well.

In many instances drainage is possible, but few care to go to the expense of buying wet lands and ditching them when they can purchase acreage with natural drainage for practically the same price, and thus it is that our undrained areas lie unproductive year after year—too wet to grow merchantable pine timber and a burden to the taxpayer who eventually gives up in despair and allows the property to revert to the state. But why not solve the problem of Florida's wet lands by taking the course of least resistance? Why go to the expense of draining these vast areas when possibly we can utilize them as they are? Surely somewhere throughout the length and breadth of the tropics there must be something of economic value that will grow and thrive under Florida wet flatwoods conditions. Naturally, timber suggested itself as the logical answer, inasmuch as it is in universal demand and adapts itself better than most crops to wild and uncultivated environment.

Beginning about 1903 and continuing over a period of six or seven years, experiments were made by the Koreshan Unity at Estero with more than twenty varieties of Eucalyptus timber and several were found to be admirably adapted to the high hammock and pine lands of South Florida, though none gave promise of successful growth under wet flatwoods conditions. Numerous references to Eucalyptus at Estero will be found in Forest Service Bulletin No. 87, by Raphael Zon and John M. Briscoe, entitled, "Eucalyptus in Florida," published under date of 1911.

The utilization of Florida's undrained acres remaining still an unsolved problem, our attention was next turned to Australia, a land of wonderful timber resources with a climatic range very similar to that of Florida, though extending in its northern area even into the torrid zone. Through a fortunate circumstance in 1911 the writer came in touch with Mr. B. Harrison, a seedsman and farmer of Burringbar, New South Wales, and an extensive correspondence developed. Conditions prevailing in the Florida flatwoods during rainy season were described and the question asked as to whether there was any Australian timber of commercial value that would grow and thrive in wet land. Under date of June 5th, 1911, Mr. Harrison sent a description of the Cajeput Tree (Melaleuca leucadendron) which he recommended highly for trial in Florida.

Seed was shipped us by Law, Somner & Co. of Melbourne under date of Jan. 25th, 1912, and ere long a quantity of fine young trees were growing in the nursery at Estero. Several people owning flatwoods homesteads near Estero were struck with the beauty of these Cajeput Trees and obtained a number which were set as ornamentals along their fence lines. Time went on; the homesteaders abandoned their wet farms; grass and weeds took possession; the houses eventually burned, but the Cajeput Trees grew and prospered as in their native element, making rapid and substantial growth in land too wet and poor to produce merchantable pine timber.

It was discovered some years later that the Cajeput Trees were seeding themselves over a wide area of wet flatwoods, and even on down into the cypress swamps where they are disputing possession of the ground with the native timber. Not until then were realized the tremendous
possibilities of this tree for reforesting wet cut-over lands, and also as a cover crop for large undrained areas that were hitherto practically treeless. On high, dry land the Cajeput grows almost equally well, but observation over a period of years reveals the fact that it will not seed itself under such circumstances, hence is unlikely to become a pest to the farm and grove owner.

The Cajeput is a tall growing myrtaceous tree with glossy, evergreen foliage, contrasting strongly with the creamy white color of trunk and branches, and being highly prized for ornamental planting. It blooms several times a year, the white flowers being borne in clusters, resembling in form the flowers of the Bottlebrush, to which it is related. The seed is borne in warty looking capsules which adhere tightly in clusters to the smaller branches. When dry, the seed-capsules open, sifting out their contents which is exceedingly fine and much resembles tobacco dust. The seed is carried by wind and water—and probably by birds—and when finding lodgment in soil of sufficient moisture, germinates readily. Isolated specimens of this tree have already been found in the forest some miles remote from the original planting, and as they bloom and seed at an early age, indications are that within but a few years they will become a familiar sight throughout the South Florida wilds.

The bark of the Cajeput is spongy and cork-like in texture, but differs from cork in that it is laminated like thousands of sheets of tissue paper tightly compressed. It suggests possibilities for high grade paper making and in Australia is commonly known as the "Paper Bark Tree." This bark is not fireproof, as is sometimes stated. Like wallboard, it will burn readily when shredded, but in its tightly compressed form is highly fire resistant. It thus has undoubted value as insulating material against both heat and cold. Fruit packed in the shredded bark is said to keep well for months at a time. As the tree develops the outer layers gradually loosen and may be readily stripped from the tree, leaving a moist inner bark of ample thickness to provide protection. It is not uncommon with the larger trees to find outer layers of loose bark an inch or more in thickness.

The leaves of the Cajeput possess a high content of a pungent medicinal oil of agreeable odor and analyzing practically the same as Eucalyptus oil which is highly efficacious as an inhalent for coughs, colds, asthma, bronchitis and other affections of the respiratory system. Cajeput oil is imported regularly from the Orient and is used effectively for external application in rheumatic ailments. It is sometimes taken internally for intestinal troubles. When the new flush of growth is on, the air for some distance is perfumed with the fragrant odor.

Cajeput wood is hard and of very beautiful tint, shading from gray-brown to rose tint in the heart wood, and should prove valuable for fine furniture and interior woodwork. It is said to be highly resistant to the attack of termites and other destructive insects and almost indestructible underground, being highly valued for railroad ties, piling and fence posts. There is a slight odor to the wood and it is said to have been used successfully as a substitute for cedar in the lining of moth-proof closets.

The greatest hazard in forestry work is woods fires. Herein the Cajeput possesses a distinct advantage in that it grows its own fire protection and when once established is practically immune from damage from this source. It has no known insect enemies and cattle are not known to eat the foliage. Equally at home on high or low land, in rich or poor soil, in fresh or brackish water, it is said by Baron Von Mueller to attain a height of eighty feet and a diameter of four feet on tidal flats in Australia. In its native country it is said to thrive down to thirty-four degrees South Latitude, but its climatic range is as yet undetermined in Florida. We would estimate roughly that it will grow as far north as most varieties of Eucalyptus, to which it is related.

Like any other tree, the Cajeput appreciates fertile soil and good treatment, though it will grow under most discouraging conditions. We have trees in Estero which have grown up to eighteen inches diameter in eighteen years in poor flatwoods land and under crowded conditions. A year ago we learned of some large trees at Davie, some nine miles west of Fort Lauderdale, and made a special trip to see them. We found
there a row of apparently some fifty trees ranging up to two feet or more in diameter. These trees, we were informed by Dr. Fairchild, were planted in 1914, and hence were sixteen years of age at the time of our visit. They are growing in a conglomerate of rock and muck. Not a bad showing for hard wood trees in sixteen years! Mr. Blakely of the Kelsey City Nurseries told us that he had moved some of these big trees and reset them successfully on several Palm Beach Estates.

As an ornamental the Cajeput is growing in popularity. We have seen them in street plantings in Sarasota and St. Petersburg. In Tampa many have been planted in the park strip along the Bayshore Boulevard. On April 4th of this year, under the auspices of the Tamiami Trail Blazers, some 200 of these trees were planted along the Tamiami Trail at the north and south approaches to Estero, one of these trees being set by Mrs. Edison with appropriate ceremonies. The Spur Magazine for February featured views of the Harold Vanderbilt Estate at Lantana, Florida, in which the Cajeput plays a conspicuous part in the landscaping. Both sides of N. W. 36th Street in Miami, opposite the Air Field, are planted with young Cajeput Trees and a number of them may also be seen at Hialeah.

Great as are the merits of this tree as an ornamental, its real ultimate value to Florida lies in its commercial possibilities. Summing up the case, let us note that wood is the universal building and manufacturing material; that it is in tremendous and continual demand and that the supply is growing less from year to year. Also note that in Florida there are vast areas of undrained lands that are idle and unproductive year after year and reverting to the state for delinquent taxes. A tree has been found which thrives in these wet lands, produces a valuable hard wood, seeds itself over large areas, has no insect enemies, is not eaten by cattle, is fire resistant, sprouts from the stump when cut, and whose bark, bloom and foliage are commercially valuable.

Industries and year-round payrolls are what Florida sorely needs, and industries cannot thrive without the raw material to keep them going. In view of our presentation of the case in the foregoing argument we would ask the members of the Horticultural Society as the jury to decide the question as to whether or not the Cajeput Tree is worthy of extensive planting throughout Florida's vast area of undrained and unproductive acres.

Acting independently of government aid, and with no knowledge of experiments being conducted by the Subtropical Experiment Station at Miami, the writer was at first inclined to the belief that his introduction of the Cajeput Tree in 1912 was the first in Florida. A subsequent talk with Dr. Fairchild has convinced me that Dr. John Gifford's experiments with the Cajeput antedated my introduction by several years. However, it was the Lee County planting that demonstrated the tendency to seed itself in wet flatwoods soil and it is through the columns of The American Eagle of Estero that it is being advertised and promoted as a merchantable timber tree for putting to profitable production large areas of Florida's undrained and idle acres.

L. B. Skinner: Is it evergreen or deciduous?
A. H. Andrews: The tree is evergreen. I call your attention to the bark. Notice the thickness. I believe it has wonderful paper making possibilities.

THE BAMBOO
A Much Needed Source of Raw Material for American Industry and a Scenic Asset

James Prentice, Col. U. S. Army, Retired, Coconut Grove, Fla.

When the Florida Horticultural Society asked me to deliver a short address on the subject of bamboos at their Miami, Florida, meeting I accepted with some misgivings as to my ability to do the subject justice, for, as you perhaps know, I am really an amateur in things horticultural.