

The Casuarinas

(With Reports on the Behavior of *C. cunninghamiana*.)

For a quarter of a century the Office of Foreign Seed and Plant Introduction has been bringing species of *Casuarina* into this country. It first seriously turned its attention to these plants in 1898, when W. T. Swingle returned from France with the seeds of four Australian species. While the Department of Agriculture cannot claim the credit of introducing the kinds most commonly grown in the United States, it has brought in many lots of seeds, including a number of rare species, some of which eventually may become widely popular in this country.

There is always a peculiar interest and romance centering about the Casuarinas. When we look upon their somber beauty, we are gazing -- if we may except the conifers and their allies -- on what are probably the oldest living flowering plants. There is something weird, and even suggestive of by-gone geologic ages in the appearance of these plants. They look like pines, yet they are not pines; they have what appear to be needles but are in reality branchlets functioning like leaves, while the true leaves are reduced to a sheath of joined teeth around each node. In the last-named characteristic, the Casuarinas resemble the *Equisetums* or horsetails.

For windbreaks the Casuarinas are powerful and have the advantage of being evergreen; they grow with great rapidity, live long, and in this country are almost wholly free from diseases and pests. For fuel they are often considered as good as, or better than, oak. Since the wood takes a fine polish, its uses in turnery and veneering are many. In contact with water it is very durable; it may be used for piles, posts, and especially for shingles.

More or less tannin is contained in the wood, bark, and branchlets, but until chemical determinations are correlated with careful identification of the samples, the statistics can mean little. One tanner in Miami, Fla., is now treating alligator hides with *Casuarina* extract.

The stringy branchlets, with their many close vascular bundles, contain fiber used in Australia for packing and even for printing paper and millboard.

The bark is medicinally employed as an astringent in cases of dysentery and similar ailments. The branches and flower spikes are eaten eagerly by Australian cattle, despite the tannic acid, and in that country *Casuarina* is looked upon as one of the chief winter forages of the arid ranches.

Still more interesting is the discovery, published in the *Indian Forester*, vol. 44, pp. 265-269, in 1918, by M. J. Narasimhan, that *Casuarina equisetifolia*, and presumably other species, bears on its roots nodules which are colonies of nitrofixing bacteria.