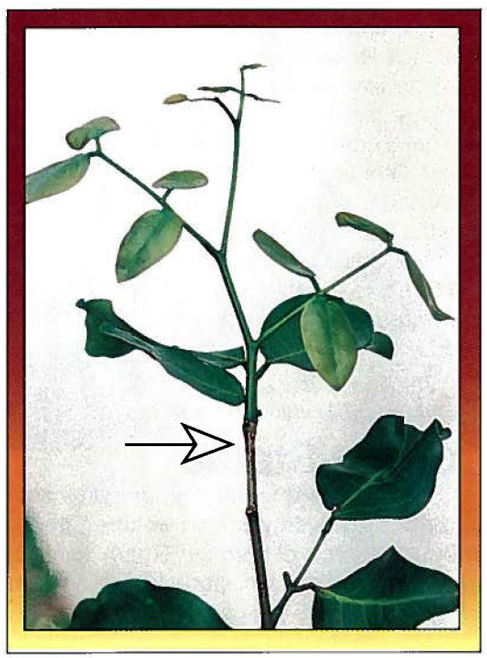
The reasons for poor tree health and lack of regeneration are probably a multitude of environmental and human factors. Particularly damaging to ifit tree health has been the frequent typhoons of early 1990s. Although the tree withstands being toppled by typhoons, the defoliation that usually accompanies a typhoon is stressful. Rebuilding the leaf canopy is a long and slow process for this species.

The harvesting, cutting down, or removal of any living or dead ifit tree from any Federal or Government of Guam land is strictly prohibited by law in the absence of a permit. Violators are subject to prosecution which may result in fines, imprisonment or both. Notwithstanding this law, numerous trees are cut down each year. It is therefore urgent that every effort be made to put a stop to this illegal activity.

The increased use of ifit trees in the urban landscape is one way of helping to rebuild the tree's population on Guam. Any existing ifit trees on property that is being cleared for construction may be marked for protection during the clearing and construction process. In addition, the commercial nursery industry could participate in protecting and preserving this valuable natural and cultural resource by propagating and distributing the ifit tree.



Ifit stem growth occurs in recurrent flushes. The arrow indicates the transition from one growth flush to the next.

Further Information

There are a number of sources of information on the ifit tree. For more information about the ifit consult these references:

Safford, W.E. 1905. Useful Plants of Guam. U.S. Natl. Herbarium, vol. 9, pp. 1-416.

Stone, B.F. 1970. Flora of Guam. Micronesica, vol. 6, pp. 1-659.

Raulerson, L. and A. Rinehart 1991. Trees and Shrubs of the Northern Mariana Islands. Coastal Resources Mgmt. pp. 1-120.

MacDicken, K.G. 1994. Selection and Management of Nitrogen Fixing Trees. Nitrogen Fixing Tree Assoc. pp. 1-272.

Legacy Program

In 1991, the U.S. Congress elevated the Stewardship of the Department of Defense's natural and cultural resources to a new level of priority by enacting a bill to establish and fund the Legacy Resource Management Program.

The purpose of the legacy program is to "promote, manage, research, conserve and restore the priceless biological, geophysical and historical resources which exist on public lands, facilities, or property held by the Department of Defense."

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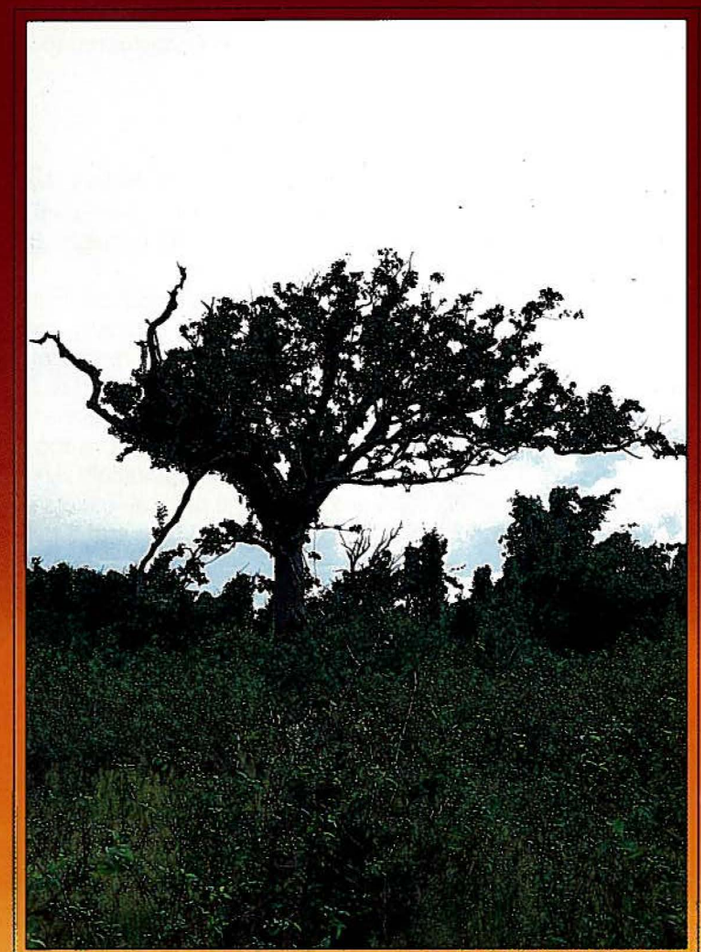
FRONT COVER PHOTOGRAPH. *Increasingly rare in northern Guam, this ifit tree (Intsia bijuga) is located on Andersen Air Force Base. This tree is one of the largest ifit trees in the area.*

Funding for this brochure was provided by the Guam Department of Agriculture, Forestry and Soil Resources Division, USDA Forest Service and the U.S. Department of Defense LEGACY RESOURCE MANAGEMENT PROGRAM (December 1994)

Ifit: *Intsia bijuga*



The Territorial Tree of Guam

AES #391

Introduction

Ifit is the Territorial tree of Guam (1GCA §10:26). The tree is also called ifil or ipil by various residents of Guam, and it has numerous other common names in other geographic areas. The botanical name for this tree is *Intsia bijuga.* Ifit is found throughout Southeast Asia and the Pacific. It is considered to be one of the premier timber species of this region.

Description

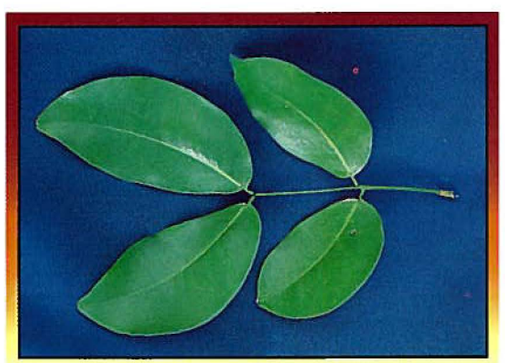
Ifit is a large evergreen tree that can reach 45 meters (148 ft.) in height and 2 meters (6.5 ft.) in trunk diameter. On Guam, however, the tree rarely exceeds 25 meters (82 ft.) in height and 50 to 60 cm (2 ft.) in trunk diameter.

Ifit stem growth occurs with brief periods of rapid extension, followed by longer periods of no apparent growth in length. This pattern of growth, called "recurrent" stem flushing, is common among tropical trees.

Ifit leaves are arranged along the stem in an alternate pattern. Each leaf has several "leaflets" that are located along a central axis in pairs. This type of leaf is called a "pinnately compound" leaf. With ifit, there are typically 2 pairs of leaflets per leaf. The leaflets are from 7 to 15 cm (3 to 6 in.) long and 5 to 8 cm (2 to 3 in.) wide.

The attractive flowers are borne in groups called "panicles." The entire panicle may be 6 to 10 cm (2.5 to 4 in.) in diameter. Each flower has a single white to pink petal.

The fruit or pods of the ifit may grow up to 30 cm (12 in.) in length, and become light to dark brown upon maturity. They contain up to 8 seeds. The flattened seeds vary in size and shape and average about 2.5 cm (1 in.) in diameter. Seeds may be round, slightly kidney-shaped, and sometimes square.



The leaf of the ifit is unique and interesting. The ifit leaf is an example of a pinnately compound leaf.

Propagation

Ifit is easily propagated from seed. A variety of treatments are available to pretreat the seed prior to sowing. Nicking or filing the outer seed coat, opposite the hilum (scar), then soaking for 12-24 hours is one effective pretreatment. Sow pretreated seed in a vertical orientation with the hilum down and at least 2.5 cm (1 in.) deep in a mixture of potting soil, sand or garden soil. Seeds should germinate in four to seven days.

Ifit produces small attractive white to pink flowers that are borne in groups called "panicles."

Pest Problems

Although several insects that are common on Guam cause damage to ifit trees, the psyllid is a particular problem. This small insect feeds on the young, expanding leaves and stem during the period of stem extension, and on small, developing flowers during panicle growth. Psyllid infestation of flowers probably inhibits further development of the pods.

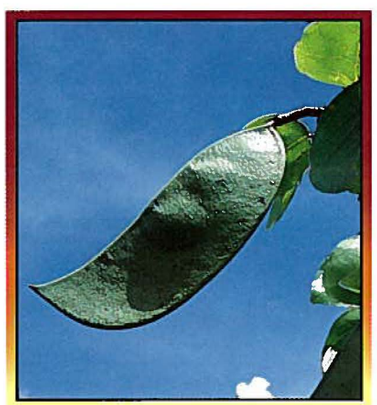
The normal response of an infested ifit is to drop all of the leaves on the expanding stem, leaving only the bare stem. Due to the complete dependence of ifit trees on their leaves for making food, this response causes long term inhibition of tree growth if the ifit tree is re-infested by psyllids during several recurrent flushes of growth.

Psyllids are the most common pest.

There is great variability in the size and shape of ifit seed produced. If a sufficient number of seeds are available, select for planting seeds that are round and full. A quarter is included for scale.

Importance of Ifit on Guam

The ifit tree is an important biological and cultural natural resource of Guam. Ifit wood is highly prized for a multitude of uses, due to its hardness, durability, resistance to damage by termites, and beauty in the finished state. In the past, ifit wood was used for construction of many houses on the island. Furniture made from ifit wood was quite common and highly prized. Due to the tree's rarity today, the use of the wood for construction is no longer possible. Small handicrafts and furniture are the common items currently made from ifit wood.



The fruit or pod of the ifit is distinct and easily recognized.

Current Status

Ifit trees were found throughout Guam in past years, but currently the majority of the remaining trees are located within limestone forests of northern Guam. Increasingly rare throughout remaining northern limestone forest, older trees on Guam are not being replaced by younger seedlings.

Most mature ifit trees are currently in a poor state of health. The mature tree depicted on the cover clearly shows the sparse canopy that is common among the remaining trees on Guam indicating the poor health of this tree.