



Pili Nut

Economic Fact Sheet #17
June 1992

Department of Agricultural and Resource Economics
College of Tropical Agriculture and Human Resources
University of Hawaii

By
Kulavit Wanitprapha, Stuart T. Nakamoto,
C. L. Chia, and Catherine G. Cavaletto

CROP PROFILE

SPECIES

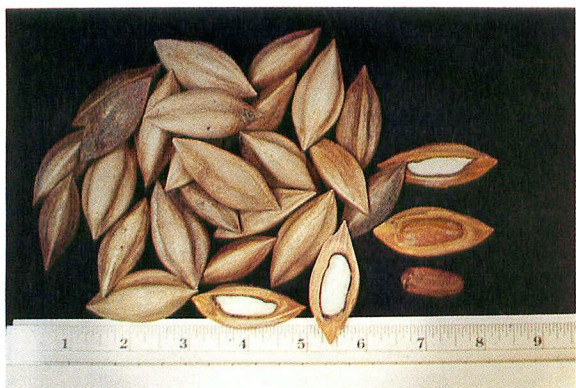
- The pili nut, *Canarium ovatum* Engl, belongs to the Burseraceae family. It is native to the Philippines. Most of the trees are wild and found in forests.
- A number of other *Canarium* species bear nuts sometimes called pili nuts. Some species, such as *C. album* in Indochina, are eaten like an olive.
- No extensive research is known on any aspect of culture and use. Further research is needed on taxonomy, cultivar selection and breeding, culture, propagation, harvesting, processing, and use to develop pili nuts as a potential orchard crop.
- According to research conducted at the Institute of Plant Breeding, University of the Philippines at Los Baños, the criteria for evaluation and selection of outstanding pili seedlings include:

fruits should be large, round, have a thin pulp and shell and a large, round kernel; kernels should have high protein and oil contents, be almost white with little or no discoloration and odor, and have a tender and crisp texture and mild nutty flavor.

- Pili nuts were first introduced to Hawaii about 1922 from the Philippines.

PRODUCTIVITY

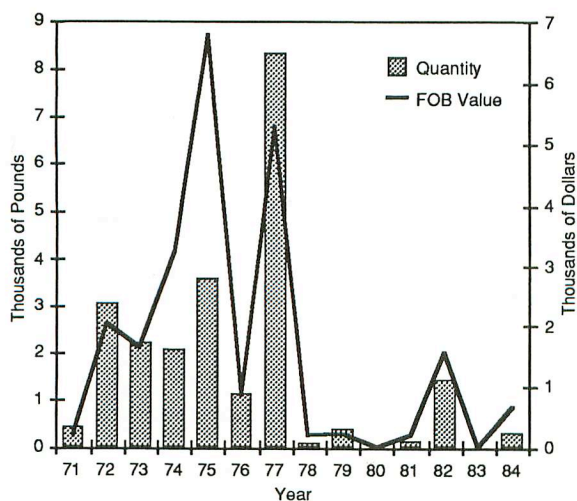
- Pili nut trees can be propagated by seed, marcotting, budding, and grafting. There is a significant interval before trees have sufficient yields for commercial operations. Trees start to bear fruit in the fifth or sixth year when grown from seedling, with economic yields in the 10th year. For marcotted and grafted trees, production starts in the second or third year, while an economic yield may be expected during the fifth or sixth year. With the long time span before production, intercropping with quicker-bearing crops is desirable.



- Fresh nuts can be stored for a few weeks before they become rancid, while roasted nuts can be stored for several months.
- A resin, Manila elemi, can be tapped from the pili trunk. Several other *Canarium* species also produce elemi. This resin is used as an ingredient of plasters and ointments. It is also used in adhesives, plastic, printing inks, paints, varnishes, and fireproofing and waterproofing compositions.

WORLD SUPPLY AND DEMAND

- The Philippines is the only known commercial producer and processor of pili nuts in significant quantity. There has been no large-scale commercial planting. Production comes mainly from wild trees and scattered plantings that are often interplanted with coconut and hemp.
- In 1958, more than 19,700 acres of pili nuts were planted in the Philippines. However, the planted acreage declined to about 7000 acres in 1978 due to indiscriminate cutting of productive trees. Over 76% of the planted acreage was in the Bicol region. The average annual production between 1974 and 1978 was 10.2 million lb.
- In 1913, the Philippines exported over 2.6 million lb of pili nuts to countries such as the United States, France, the United Kingdom, and Japan. Exports have declined since then because of limited local supply, poor method of removing the pulp, lack of an effective cracking device, and sales of rotten nuts.



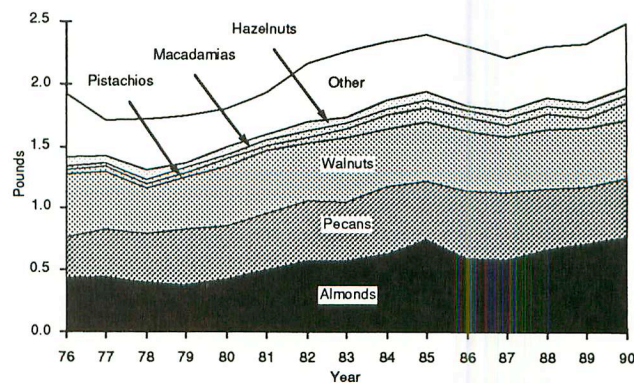
Philippines' exports of pili nuts, 1971-84

- In 1984, the Philippines exported 332 lb of pili nuts, at an F.O.B. value of \$664. Eighty-three percent went to Sweden, while the remainder was shipped to Guam.
- The 1990 retail price of in-shell pili nuts in Metro Manila was about \$0.67 per lb. A 1.8-oz package of sugar-coated pili nuts sold for \$0.27.

SELECTED NUT MARKETS

THE UNITED STATES

- U.S. per capita consumption of tree nuts (shelled basis) was estimated at 2.47 lb in 1990, an increase of 28.7% from 1976. Almonds (0.77 lb/capita), pecans (0.48 lb/capita), and walnuts (0.48 lb/capita) were the leading tree nuts consumed.
- In 1991, the United States imported more than \$373 million (C.I.F. value) of tree nuts. Cashews were the largest volume imported (\$253.7 million), followed by pecans (\$53.7 million), Brazil nuts (\$15.8 million), pignolia (\$13.9 million), chestnuts (\$12.3 million), and macadamias (\$11.9 million).
- The major suppliers of imported tree nuts were India for cashews, Mexico for pecans, Australia for macadamias, Brazil for Brazil nuts, Turkey for hazelnuts, Italy for chestnuts, Portugal for pignolias, Hong Kong for pistachios, India for walnuts, and China for almonds.
- The 1991 average U.S. import prices (C.I.F.) of shelled nuts were \$6.10/lb for pignolias, \$3.71/lb for macadamias, \$2.86/lb for pistachios, \$2.33/lb for cashews (in shell and shelled), \$2.22/lb for pecan, \$1.80/lb for almonds, \$1.38/lb for chestnuts (in shell and shelled), \$1.34/lb for hazelnuts.



U.S. per capita consumption of tree nuts, 1976-90