Title: Improved Leucaena for fuel and forage use
Crop: Leucaena
Traits: Fuelwood production; forage quality
State: Hawaii
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Leucaena (“loo-cee-nah”) is a tropical woody legume known well in tropical countries but equally unknown to Americans. Breeding of improved varieties and hybrids in Hawaii has led to almost a million acres of production worldwide. This includes 250,000 acres of fuelwood and forage in Andhra Pradesh, India, and 400,000 acres of high-protein fodder in Queensland, Australia. Extensive plantings are underway in countries like Indonesia, Nigeria and Paraguay. Grants to U. Hawaii from USDA and DOE since 1965 supported five germplasm collections throughout Mesoamerica. Evaluations were made of 1100 accessions in Hawaii, Australia, and SE Asia. This led to the selection of outstanding lines and breeding of many improved hybrids. Included are 75 interspecific hybrids of particular present interest as biofuel and high-value hardwood. These trees are very rapidly growing (harvestable on 4-year cycles), nitrogen-fixing, seedless and benign environmentally. Among new hybrid types are also forage varieties resistant to an international psyllid pest, with outstanding digestibility and drought tolerance. Our limited US public resources have been supplemented recently by major grants to our collaborators in Australia from their Meat and Livestock Association and from Australian Centre for International Agricultural Research. Increased adoption in Hawaii and southern states can be expected of improved Hawaii-based varieties from our Aussie collaborators. Dramatic investments by Americans in crop improvement is called for if we are to reduce hunger (1 billion people) and malnutrition (2 billion) of peoples in the tropics. The leucaena improvements thus represent a little money wisely spent.