

On the Pejibaye Palm: A Presentation

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A series of papers will be presented on the research developments of the peji-baye palm (*Bactris (Guiljelma) gasipaes* Kunth) in successive numbers of *Principes*. They will be written by the people involved in the effort to develop the basic knowledge and technology necessary to transform this neglected palm into an important agricultural multiuse species for the humid tropics. The primary objectives of this research are to develop this species into two major crops, that of fruit and heart of palm. On the longer term basis, it may also prove to have value as an oil and wood producer as well as an ornamental plant. The topics will range widely in an attempt to relay an integral view of what is being done emphasizing its economic potential and describing some interesting pending problems to be solved. For example, peji-baye has a cespitose growth habit, as contrasted to such domesticated palms as oil, coconut, and date which are all single stem and therefore, provides an increased understanding of palm morphology and of its agronomic handling. The origins and domestication of this palm will emphasize differences with some concepts proposed for other neo-tropical crops. Other topics will cover historical aspects, flower biology, controlled pollination, diversity, phenology, breeding, tissue culture, human and animal nutrition, chemical composition, agronomic aspects, industry, and markets.

This palm seems to be the economically most promising of all American palms. During pre-Columbian times peji-baye was a crop of major importance to most Amerindian tribes that inhabited the humid tropical forests extending from approximately

the parallels 16°N to 17°S; that is from the northeastern corner of Honduras to the southern border of the Amazonian regions of Brazil and Bolivia. Archeological sites are starting to show that peji-baye may have been an important cultivated food source from more than 2,000 years ago (Corrales and Mora-Urpí 1991) when primitive corn was still a minor provoyor in the same regions. For many tribes it had become the main agricultural product by the time of European contact, a fact that is still true today for a few of them. Godinez Osorio wrote in 1575 that for the Talamanca Indians of Costa Rica, peji-baye was the most appreciated item after their wives and children (cited by Fernández 1881). And Barandiaran (1967) describes how dependent on peji-baye the Venezuelan tribe of the Sanema-Yanoama is still today, suggesting that they should be called "the peji-baye people," a name that has been proposed before for other tribes as well.

After Columbus, and especially during the present century, its cultivation declined due to a combination of circumstances. Some of the most obvious reasons are the reduction of the Indian population, loss of traditions, introduction of short cycle crops, extensive use of fire to clear land for grass and cattle production, neither of which peji-baye tolerates. These events brought extensive genetic erosion and in general, seriously menaced the rich diversity of its gene pool to the point of producing total extinction of this palm in areas where it once was abundant. This trend, we hope, can still be reversed.

The first scientific study on peji-baye was

published in 1903 by Barbosa-Rodríguez. His work was on pollination and was done in the Botanical Garden of Río de Janeiro. But it was the paper written on general aspects of this palm, published in the *Journal of Heredity* in 1921 by Popenoe and Jiménez, that has been taken as the presentation of pejibaye to the scientific world. Very few papers were produced between the first publication of Barbosa-Rodríguez and the 1960's. It was not until Johannessen y Camacho started their work during that decade and Patiño's historical review was published that enough interest was produced to continue studies on this

palm. At the beginning of the 70's the present author initiated in Costa Rica a research program aimed at the integral development of the scientific, technological, industrial, and commercial aspects of this species aided by a team of researchers who thought that pejibaye deserved to be developed into a major crop. Other similar programs were later initiated in Brazil, Colombia, and Perú and some work was recently started in Ecuador, Bolivia, Panamá, and Nicaragua. By publishing this information in English we hope to extend interest in this palm to a wider public.

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