Annals of Applied Biology Explore this journal >

View issue TOC
Volume 164, Issue 2
March 2014
Pages 257–269

RESEARCH ARTICLE

Productivity and management of *Phytelephas aequatorialis* (*Arecaceae*) in Ecuador

G. Brokamp, H. Borgtoft Pedersen, R. Montúfar, J. Jácome, M. Weigend, H. Balslev

First published:
20 January 2014 Full publication history

DOI:
10.1111/aab.12098 View/save citation

Cited by:
0 articles Citation tools

Funding Information

Abstract

Phytelephas aequatorialis is endemic to western Ecuador. Vegetable ivory (*tagua*, the hard endosperm) and leaves for thatch (*cade*) are harvested from the palm and commercialised. Export of vegetable ivory from Ecuador reached a value of 14 million US$ in 2011, making it the second most important product from native palms in the country. Vegetable ivory and leaves are harvested mainly from the wild, although the palm is occasionally cultivated. Most seeds harvested for vegetable ivory are collected from the ground. In times of high demand, however, some harvesters collect immature infructescences; these young seeds are of inferior quality and unsuitable for the fabrication of *tagua* discs for export. Premature harvest reduces the amount of fully mature, high-quality seed leading to resource limitation for the processing industry that already is unable to satisfy international demand. Fruit production in lowland agroforestry systems strongly correlates to the level of exposure to light. The development of infructescences takes 3 years in the lowlands (≤93 m a.s.l.) and over 4 years on the Andean slopes at around 1400 m a.s.l. Data from 365 tagged individuals show that male palms produce

significantly more leaves than female palms and palms growing in the shade produce fewer, but longer and higher quality leaves for thatch. Leaf harvest has little impact on leaf production, but substantially reduces fruit production. Natural regeneration of *Phytelephas* populations in pastures is negatively affected, rendering the survival of these populations problematic. Sustainable use and commercialization of the two partially exclusive and locally competing products *tagua* (vegetable ivory) and *cade* (leaves for thatch) must be carefully designed. Application of unsustainable practices in the harvest of seeds and leaves, population decline in pastures, and resource limitation in the processing industry represent the main challenges in the sustainable use of this valuable palm species in the future.

Article Information

Supporting Information

Related content

Articles related to the one you are viewing

The articles below have been selected for you based on the article you are currently viewing.

Field ecology of sylvatic *Rhodnius* populations (Heteroptera, Triatominae): risk factors for palm tree infestation in western Ecuador

F. Abad-Franch, F. S. Palomeque, H. M. Aguilar V, M. A. Miles

1 December 2005

Consumers, the market and the socio-ecological background of *Euterpe oleracea* palm heart production in Colombia

Martha I. Vallejo, Gloria Galeano, Natalia Valderrama, Rodrigo Bernal

3 July 2016

NON-TIMBER FOREST PRODUCT EXTRACTION: EFFECTS OF HARVEST AND BROWSING ON AN UNDERSTORY PALM

Bryan A. Endress, David L. Gorchov, Robert B. Noble

1 August 2004

Harvest of the Palm *Chamaedorea radicalis*, Its Effects on Leaf Production, and Implications for Sustainable ManagementEfectos de la Cosecha de Hojas de