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A Review of Home Garden Plants in the Tropical Regions of Mexico

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Abstract

Tropical home gardens are one of the richest small-scale land use systems in terms of number of useful plants per area. In Mexico, home gardens still contribute considerably to the food security of the rural population. To highlight the importance of tropical home gardens in Mexico for *in situ* conservation of cultivated plants, we reviewed 31 selected home gardens studies from 12 different Mexican states.

Data were used to create a complete floristic check list. In a further step, taxonomic and additional information about plant use and origin was analyzed. Complementary data were taken to describe influencing factors of agrobiodiversity in home gardens. In total 1350 specific and infraspecific taxa were registered, that correspond to 149 plant families and 732 different genera. The analysis of data revealed that the portion of native plants is high, 65 %. The most characteristic home garden plants are fruit trees and the most frequent species include *Musa accuminata* × *Musa balbisiana* (29 records) followed by *Carica papaya* (28 records) and *Psidium guajava* (27 records). Most plants are used for food production (25 %), aesthetic function (22 %) and medicinal use (21 %) with an average of 3.3 different use types.

Useful information for conservation aspects is that 78 % of the plants were documented only 1–3 times and 22 species are protected nationally and internationally. Collected inventory data also include neglected and underutilised food plants. We registered 1921 different vernacular names and 368 give reference to specific traits of 220 plant records.

The reviewed data showed that tropical home gardens in Mexico are important research objects for plant genetic resources, especially for native species and landraces. Further investigations should focus on intraspecific diversity combining ethnobotanical, taxonomic and molecular genetic research methods.

Keywords: Conservation, species richness, tropical home gardens