APIMONDIA SCANDINAVIA 2025
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PP-207 [Beekeeping Technology and Quality]

APIMONDIA SCANDINAVIA 2025
SWEDEN | DENMARK | NORWAY
23-27 SEPTEMBER
COPENHAGEN

STUDY OF GEOGRAPHICAL INDICATIONS OF ORIGIN FOR THE PRODUCTION OF HONEY FROM *Myracrodruon urundeuva*, CHACO REGION, CHUQUISAQUEÑO, BOLIVIA 2024

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INTRODUCTION

In 2021, the Bolivian state created a national program to strengthen and support beekeeping production based on climate change resilience criteria. The goal is to strengthen and consolidate the national beekeeping sector, emphasizing added value at source, diversification, and differentiation of honeys based on their geographic and botanical origin.

METHODOLOGY

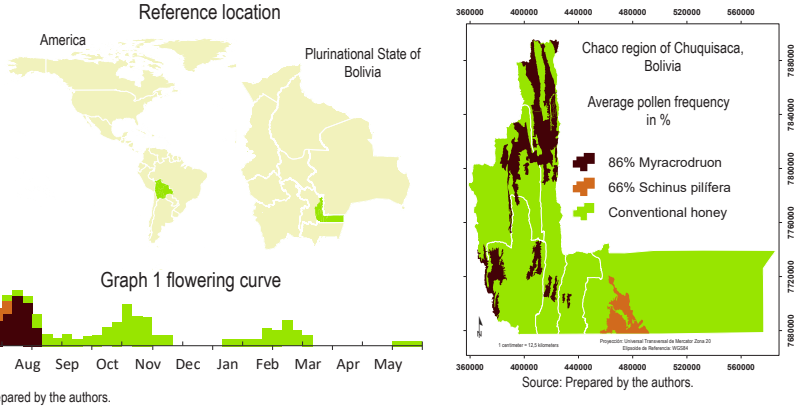
The study is based on the survey of beekeeping flora, on the spatial distribution of apiaries and its correlation with the altitudinal, bioclimatic, geomorphological and edaphic variables defined by (Navarro, G. and W. Ferreira. 2007). Throughout the territory, 28 apiaries with 340 monitoring hives were identified, with 56 permanent sampling plots PPMs, where all individuals were recorded from seedlings with (dbh<5 cm, h ≤ 1.30 m) to know the density of each species, observe the phenology and evaluate the natural regeneration per vegetation unit.

Floristic comparison for the location of sampling points within the 1 km libation area was performed by pixel-level mapping of chlorophyll content values and intervals of -1 and 1 from the NDVI=(Band5-Band4) / (Band5+Band4) analysis of the "LANDSAT_8" product SCENE_ID = LC08_L1TP_231074_20240818_20240823_02_T1. For the calculation of honey yields (kg/hive) data were collected from probability samples of hives during the season. For the estimation of pollen grain frequencies samples were sent for melissopalynological analysis according to Louveaux *et al*. (1978).

RESULTS

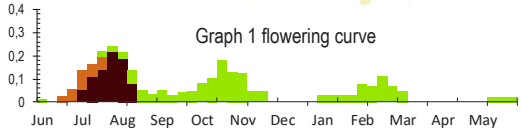
Figure 1 shows the reference geographic coverage with the highest density indices of Myracrodruon urundeuva of 80 trees/ha with an average dbh of 27.4 with 86% predominant pollen of the species, a yield of 8-16 kg of honey per hive, with an area of 2,500 km². The second vegetation unit of Schinus pilífera with an average density of 40 trees/ha with an average dbh of 32.1 and a honey yield of 9-14 kg/col with an area of 545 km².

Figure 1. Honey with geographical and botanical origin



Source: Prepared by the authors.

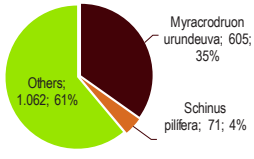
Graph 1 shows some predictive value for the timing of nectar and pollen flow of the species studied in the Chaco region.



Source: Prepared by the authors.

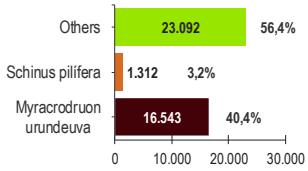
Graph 2 shows the percentage participation of producers by differentiated production zones, graph 3 describes the number of hives managed in the area and graph 4 refers to the production volume of monofloral honey from Myracrodruon urundeuva, which reaches 132 tons recorded in the season according to geographical area.

Graph 2. Number of Producers



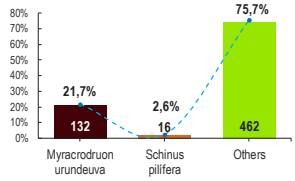
Source: Prepared by the authors.

Graph 3. Number of Beehives



Source: Prepared by the authors.

Graph 4. Differentiated honey in tons



Source: Prepared by the authors.

CONCLUSIONS

The geographic origin can be established by the presence of pollen characteristic of the recorded species, limited to the libation area for each apiary and vegetation unit. The botanical origin can be deduced from the predominant pollen frequencies, with more than 46% from one species (monofloral honey) of Myracrodruon urundeuva.

Keywords: Honey, geographical identity, botany Bolivia

Acknowledgments:

To the Bolivian Food and Derivatives Company (EBA) for allowing the development of research within the framework of the national beekeeping program, as well as the cooperation of the producers of the Regional Association of Beekeepers of the Chuquisaca Chaco (ARACH). Whatsapp +591 71163213

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STUDY OF GEOGRAPHICAL INDICATIONS OF ORIGIN FOR THE PRODUCTION OF HONEY OF Myracrodruon urundeuva CHACO CHUQUISAQUEÑO REGION BOLIVIA – 2024

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INTRODUCTION

The added value at the source, emphasizing the diversification and differentiation of honeys, due to their geographic and botanical origin in the Bolivian Chaco region.

METHODOLOGY

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The floristic comparison for the location of the sampling points in the 1 km libation area was carried out by mapping at pixel level of values and intervals of -1y1 of the chlorophyll content of the NDVI analysis = (Band5-Band4) / (Band5 + Band4) of the "LANDSAT_8" product SCENE_ID = LC08_L1TP_231074_20240818_20240823_02_T1. For the calculation of honey yields kg/hive, data were collected from probabilistic samples of hives during the season. For the estimation of pollen grain frequencies, samples were sent for melissopalynological analysis according to Louveaux et al. (1978).

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Figure 1 shows the reference geographic coverage with the highest density indices of Myracrodruon urundeuva of 80 trees/ha with an average dbh of 27.4 and a yield of 8-16kg/col with an area of 2,500km2

The second vegetation unit of Schinus pilífera with an average density of 40 trees/ha with an average dbh of 32.1 and a yield of 9-14kg/col with an area of 545km2

Graphs 1, 2 and 3 show the volumes of differentiated honey production during the productive season.

Figure 2 has a certain predictive value of the beginning of flowering as a result of monitoring the PPMs.

CONCLUSIONS

The geographic origin can be established by the presence of pollen characteristic of the recorded species, limited to the libation area for each apiary and vegetation unit. The botanical origin can be deduced from the frequencies of the predominant pollens with more than 45% from a single species (monofloral honey).