Research Paper Zoology

Native Honey, Exotic Tropical Forest Produced by Mexican Indian

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ABSTRACT

This research rescues an ancient practice in the management of small insects of the tropical forest of Veracruz totonacas indigenous descendants of native inhabitants of Mexico. These farmers are able to tame these insects and benefit from their honey. This nectar has an untapped niche opportunity from the perspective of the new national and international markets. But its importance goes beyond market represents a cultural link between the peasant and his past, a possibility to exploit their advantages and deal with the threats of today and tomorrow, an alternative to generate income and jobs, preserve the culture and inherited traditions.

KEYWORDS Native honey, indigenous, exotic products, sustainability

INTRODUCTION

When Christopher Columbus reached the Americas lands populations that inhabited it had a sweetener derived from small insects in tropical forests, this honey was produced in large quantities and became of great importance in the economy of the colony.

However, the Spanish, always privilege the bee apismiellifera with which he was familiar, so one of the first imports in these lands were swarms of bees sting that at present all the world's known as main supplier of honey.

The Native American honey produced in tropical forest of the Totonac region of northern Veracruz state is obtained from an insect known as Taxkat (t'áxka·t) in Totonac or mountain bee. This bee is small in size ranging between 2 and 3 mm, dark, no stinger and their natural habitat are the hollow trunks of trees, or small holes in the rocks, this little bug is vital to preserve the health of the forest to which it belongs, it pollinates many endemic varieties.

It was found that there are different varieties of American insects produce honey and whose morphological characteristics are different, for example those located in the east south of the Mexican republic, named for the Maya Xuna'anKab (Melipona beecheii), which are larger, pale yellow like the European honeybee, but lacks a sting and structure of their hive is very similar to the Totonac melipona (González, 1999)

In the municipality of Cuetzalan Puebla has also retained the production of stingless bee honey, reaching levels very efficient organization through cooperative societies of production and marketing.

It is found that the Totonac northern Indian state of Veracruz, the CuetzalanNahuatl and Maya of Quintana Roo, recognize the benefits and product properties, immersed in his identity, much appreciated by the beneficial properties since their healers use alternative medicine since pre-Hispanic times.

Honey melipona bees or kiwitaxkat, for the totonac is known is amber in color, has a slightly sour taste that preserves wild and exotic flavour, compared to honey from European bees is more liquid it contains a level of higher humidity, crystallizes less and is low in sugars (Dardon, 2008)

It is noteworthy that these small insects honey provides quality free of contamination, since they are much more selective than European bees and nectar obtained only flowers that have not been contaminated with chemicals.

MATERIAL AND METHODS

Few are aware of this honey and its derivatives. This activity is characterized by being economically viable, simple and easy implementation and maintenance within peasant production systems, does not interfere with the activities of the field and has the advantage that brings great benefits to the ecosystem through pollination. Unfortunately young indigenous peasants not want to learn, because the management of these insects requires dedication, time and learning, only old people are reluctant to let die this knowledge.

It is necessary to consider that the habitat of these small insects are seriously threatened by changes in land use, degradation of forests and the oil industry.

There is great demand for native honey by traditional healers, they use it as a topical remedy, debugger circulatory energy system and to recover the figure after childbirth in the case of women.

The price of honey in the community is high; approximately $ 500.00 per litter, compared to the European honeybee is priced between $ 90 and 100 pesos. (Ortega and Ochoa, 2000)

The price depends on the need and scarcity; production is not enough to meet demand.

This problem leads to the research question: Why, if there is an unmet need for the product not to increase their efficiency? Is it possible to interest young people to participate?

Additionally it is known that the consumption of natural products has evolved significantly over the world, the natural is preferred to the artificial, in medicine, food and natural products that are aimed at improving health.

Hypothesis: The creation of new forms of organization for production facilitate learning practices ancestral indigenous production of rural families into new practices can be integrated collective work where young

Objective: To create companies with a focus on business competitiveness, sustained based on the synergy produced four pillars: Differentiation, Knowledge Management, Quality culture and ecological culture.

The scientific importance of the proposal is that it was not found in the literature without reference to native bee sting of the study area; or documentation relating to the specific techniques that totonac used for playback and management in clay pots.

During the pre-Hispanic and colonial times every Indian family had hundreds of pots, jars and logs. The Totonac families used it as a medicine in multiple conditions; as drinks for postpartum to take the chill belly and give strength, eye treatment, including women. These properties made it essential within their indigenous pharmacopoeia.

The wax was highly prized for making candles, orange or lemon grafts and other necessary ornaments in religious activities and traditions of the region; ceremonial drinks are also prepared.

Ecological importance of stingless bees
For its biodiversity, abundance in the tropical forest and evolved with the local vegetation from the Cretaceous Period, stingless bees are essential for pollinating several tropical ecosystems.

Production system totonaca
The Totonac used as a technique for the production of honey pots clay closed (tlamank) with a mixture of ash and water placed in their traditional meliponaries located in houses and collect honey twice a year. The production is low given the small number of rusticity and domestic hives. In the jungle they're in the wild, but in places difficult to access.

The stingless bee colonies reproduce by splitting a hive mother, who is subdivided to start playing a new colony of bees in another pot, this activity is known as racking.

In the population located near the Totonac ceremonial city of Tajin, three producers together have an inventory of 200 pots in production, every pot an annual pints is obtained, and gathering honey once a year (Ávila 1987)

The Indians placed the pots with swarms under thatched roofs on bamboo jars, not usually provide food in seasons of drought and do not fight insect pests as the midge that can invade and destroy hives, only remove toads and lizards looking for bees as food.

The traditional economy of the Totonac families is based on the cultivation of corn, squash, beans and chilli; Have developed economic activities that appeal to young people, since wages are higher than obtained in the plots, and requires fewer hours of work, so masonry, processing and packaging of the corn husk bales for export to the United States, or work in PetróleosMexicanos, they have become the favorite pastimes of youth. The oil industry has flourished in recent days result of the shortage of crude oil, a situation that has pushed PEMEX to use reserves in wells that had detected in this area but did not explode. This has caused a strong cultural impact on communities, deterioration in their fields and the ecosystem in general as they are cutting down forests and nature reserves.

RESULTS AND DISCUSSION
Creating sustainable production units
Achieving a change in traditional forms of production in favor of sustainable organizations requires a strong commitment to the change agents involved in the project who must find ways to promote new ways of working and techniques, without violating family relationships, customs and traditions of the peasants (Kras, 1991).

The change to be effective requires participating subjects are convinced of its benefits and are themselves the promoters of the transition (Arce, 2008)

Para iniciar el cambio, se requiere implementar técnicas de capacitación. Esta es un proceso que debe estar inmerso en todas las etapas del proyecto. La capacitación es el instrumento a través del cual será posible el cambio organizacional. El aprendizaje debe ser uno de los motores de la nueva organización.

To initiate change, it is necessary to implement training techniques. This is a process that must be immersed at all stages of the project. Training is the instrument through which organizational change is possible. Learning should be one of the engines of the new organization.

The plan and training programs arising from the group's needs will be developed respecting the customs of the community.

Change agents in this process should be recognized experts totonacas and respected by the ancestral knowledge management practices of these insects, facilitators should be knowledgeable in the formation of human resources, to implement various strategies to ensure that indigenous appropriating of skills that enhance their traditional producers transit innovative entrepreneurs (Mendoza, 1998)

Organizational culture
The new organization must build its own organizational culture, establish forms of collective work, and determine its strategic planning, hierarchies, values and ways of communication. How will conduct research experts in management, knowledge appropriation will be determined by its members must decide your application (Arce, 2006)

New products and knowledge management in the new organization
The ability to create and offer new products represents an opportunity to leverage their unique experience through knowledge of this new organization for farmers. Critical stage of the project, as is implicit knowledge management and its subsequent transformation into the intellectual capital of the company: honey provides totonacas known since ancient times and Mayan unique properties, which combined with other natural components have served as traditional medicine.

Knowledge Management
The research proposal of the certainty of empirical knowledge that totonacaselderly and the need to collectivize the rest of the actors; when this knowledge becomes explicit and is available to all members of the company through its documentation and implementation are part of their intellectual capital.

It is the responsibility of the project experts ensure that this process is fulfilled. The documentation of the traditions and worldview of traditional culture will be conducted by experts in anthropology and complexity of learning, the compilation

will be contribution of this research (Merrill and Sedgwick, 2000)

Differentiation and generation of new products
The participation of all members through dynamic to facilitate the expression and communication of the holders of the experience and creativity of young people is the formula that promotes change (Bilancio, 2000).

As this proposal identifies the uses and mixtures, which give, rise to new and innovative products. Learning to learn is the premise for the success of both indigenous and researchers: the knowledge of the Totonac herbal and discovered and implemented by native healers properties offer a very promising combination, will be documented by providing a product of this research.

The culture of quality
It is contemplated in all processes of production, processing, preparation and presentation of products, so that at each stage its guidelines must be established.

The new organization must acquire the skills necessary for its entry and permanence in the markets, be able to determine quality suppliers and certify their processes driving this paragraph shall be conducted by experts as researchers gradually train farmers in the appropriation of this practice.

Current infrastructure possessed by producers is very rustic, no extraction rooms and workshops; entire process is performed on the ground. Harvesting is done manually and although producers are careful to extract honey in the process killed many bees and colony damage affecting future production, observe that the extraction and collateral damage caused is given by the structure of the clay pot that does not allow other way of obtaining the product.

Proposal for technological innovation
Observed the previous operation, this project offers the following technological improvements in production

- Improve conditions for obtaining honey, building an extraction room, protected from invaders by mosquito netting and stainless steel tables, you can perform the tasks of collection unhurried and used syringes instead of breaking the pots; Likewise, you can keep track and control of the volumes obtained by hive, identify the source of honey for its flowering and supplemented bees to feed, while combating pests that threaten the hives.
- Change the clay pots wooden boxes, which have the advantage of being lightweight, its design allows to extract honey more efficiently.
- Place overlapping boxes mimicking natural conditions in a hollow tree, which will allow swarms, grow up. This will reduce human intervention, favouring the growth of the colony and increase honey production. Designing the boxes to facilitate the use of traps for invading insects
- Supplementary feeding on flowering times of scarcity by drought and winter; With these innovations in management and production is expected to double annual production swarm managing to obtain at least three gallons

The project proposal is to establish over the next 36 months, a minimum of 10 meliponaries each of 50 boxes and document all the above processes. Is expected to improve the quality of honey when debugging handling and increase production, these measures will start towards the adoption of quality culture.

Marketing of production
The marketing of honeybees Melipona not been extensively developed for representing a niche opportunity. The honey of these small insects offers free qualities of contamination, as being more selective than European bees, get only nectar of flowers that have not been poisoned with chemicals. This still commercially unknown product has great potential to position itself in the preferences of consumers able to assess the originality, quality and ecologically organic origin sustainable (Arce, Calves, 2008)

New consumption patterns and habits of life consumers have aroused interest in medicinal plants and natural products as building blocks for good health.

The European honey bee, has high commercial and nutritional value, it is appreciated in domestic and international markets, and melipones equal or greater value range so it has great future in the markets is expected.

In this paper we propose to conduct a market study based on the experience of honey producers, following the opinion of consumers of the product and in general of all participants in the marketing system actors. With this, determine the current uses of honey and its potential to generate added value and a diversification process that enables creating new products that meet the needs, tastes and preferences of potential consumers.

Market research and customer relationships will be the responsibility of the experts of the project activity being still unknown by new producers required in the early stages of the assistance of specialists.

Contribution to biodiversity conservation
Is expected to contribute to the conservation of biodiversity through a study of medicinal plants in the Totonacas communities, honey planting species near meliponaries on deforested land whose care must be provided by the Indians, and try to understand the interrelationship with the environment are indigenous communities, rescuing the wisdom of the elders.

Finally, the incorporation of women will be very important now possible if extremely heavy clay pots are changed by small wooden boxes weighing up to five kilograms

CONCLUSIONS
This research project has facilitated the understanding of the worldview that keeps the Totonac people respect honeybees, customs and forms of organization for work and rescue information and ancestral practices related melipona honeybee.

It also is useful to propose a new form of organization that promotes increased production of honeybee melipona promoting the creation of new knowledge and professionalizing meliponaries rescued to socialize.

The make a diagnosis and identify the training needs of the group have enabled a general plan for training and developing the knowledge management process led to innovation

Remains as future recommendations to develop marketing strategies to position products of the company into new markets and promote cultural activities that allow linking the company with related communities and educational institutions related.

The conviction must be awakening the interest in native honey contribute to the conservation of tropical forest by planting species honey and establishing a Community program guardians of the forest composed of indigenous themselves responsible for their preservation.

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