



COOPERATIVA MIELES DEL SUR

Cooperativa Agrícola de Apicultores del Sur

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THE EXPERIENCE OF ESTABLISHING A SMALL BEEKEEPERS' COOPERATIVE IN THE SOUTH OF CHILE

PAPER TO BE PRESENTED IN APIMONDIA 2009

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1. Objective:

To inform participants in APIMONDIA 2009 Congress of the situation of beekeeping in Chile, and describe the experience of a small beekeepers' Cooperative

2. Background information on beekeeping in Chile:

2.1 Origins and development

There are records and evidence of a large variety of non-meliferous, solitary wild bees in Chile prior to the introduction of domesticated bees by German settlers in 1844. Highlights in the history of beekeeping can be summarized as follows:

- 1860-1880: bees were introduced in the south of Chile.
- 1873: The first exports of bee products (honey and wax), to Italy
- 1922: The first Beekeeping Organization was founded in 1922, and the first Congress was held.
- 1960s: The first beekeeping development programmes began
- 1980s:
 - The first international technical exchanges took place with Canada.
 - Various technical studies were carried out in different regions.
 - Beekeepers started to form local associations.
- 1992: Varroa was introduced to Chile.
- 1999: the National Beekeepers Network was founded.
- 2002: the National Beekeeping Council was created
- 2003: the National Beekeepers Network became a member of APIMONDIA
- 2006: Constitution of the National Centre for Beekeeping Development
- 2008: Chile hosted the IX Iberolatinamerican Beekeeping Congress
- 2009: on 6 August, the National Honey Day was celebrated for the first time in Chile.



2.2 N° of beekeepers, their characteristics

The number of apiaries registered in the national agricultural census of 1997 was 14,762. This decreased to 10,523 in 2007. However, the number of hives increased from 337,457 in 1997 to 454,489 in 2007. It is interesting to note that in these 10 years the percentage of apiaries managed by women increased from 14% to 23%, and with an increase in hives from 14% in 1997 to 33% in 2007.

The majority of beekeepers live in rural areas and about 90% have less than 100 hives, which means that for this large group, beekeeping is a supplementary source of income for mainly traditional agricultural activities.

2.3 Production and Principle Markets

The total production of honey in Chile in 2008, was estimated in 11,000 tons, of which 80% (10,335 tons, about 1.5% of the world market) was exported, at an average price of US\$2.88/Kg FOB. Honey exports were handled by 23 companies, 4 of which handled 80% of the total value exported. 80% of honey exports go to Germany, in bulk. Other destinations include UK (10%) and France (5%).

The internal market consumes approximately 1,350 tons, of which 35% is sold through supermarkets, 30% goes to the food industry, 33% is sold directly by the producers on the informal market, and only 2% goes to gourmet stores, with convenient packaging and added value.

The consumption per capita in Chile is less than 100 grms/year, which represents a great opportunity for the beekeepers to participate in a campaign to increase consumption. This campaign began formally in August 2009, with the celebration of the National Honey Day under a Presidential Decree, and with the participation of the Ministries of Agriculture, Public Health and Education.

2.4 Structure of the activity, and dialogue between public and private sectors:

Of the 10,523 beekeepers registered in the census of 2007, approximately 2,000 small and medium size beekeepers, organized in local groups and regional associations, belong to the National Federation of Beekeepers' Networks (Red Apícola Nacional, Federación Gremial), founded in 1999. In 2001, this group of beekeepers approached the Ministry of Agriculture to request the establishment of a permanent dialogue between the public and private sectors, and as a result of this initiative the National Beekeeping Council (Mesa Apícola Nacional), was convened, under the coordination of the Agricultural Policies and Studies Bureau of the Ministry of Agriculture. Since then, several new specialized organizations have been founded, all of which participate in the Council, including:



- National Centre for Beekeeping Development
- Representatives of the beekeepers' Network
- Large commercial beekeepers
- Association of Honey Exporters
- Queen Breeding Cooperative
- Federation of Beekeeping Cooperatives
- Api-Cultural Movement
- Universities
- Research institutions
- Representatives of all the governmental institutions related to the activity (Agriculture, Public Health, Education, Forestry and Environment)

The National Centre for Beekeeping Development, established in 2004 as a private corporation, coordinated the elaboration of a national strategy for the development of beekeeping in Chile, period 2005-2020, and is now working on the implementation of this strategy, based on the following guide lines:

- Strengthening of beekeeping potential, through:
 - Professionalization of specialists, trainers and beekeepers (National system for training and certification of competence)
 - Organization of National Symposia
- Consolidation of quality guarantees and Clean Production Agreements
- Strengthening of cooperation and coordination between all actors in the activity
- Consolidation of new markets and new products
- Sustainable development and environmental conservation

2.5 Governmental support to the activity:

The main support to the beekeeping sector comes from the different branches of the Ministry of Agriculture:

- Agricultural Policies and Studies Bureau: coordination of Beekeeping Council.
- National Institute for Agro-livestock Development (INDAP): financial support and incentives for productive development for small producers; technical training and assistance.
- Agricultural and Livestock Service (SAG): bee diseases and pest control; certification of infrastructure and procedures for handling honey for export.
- National Forestry Commission (CONAF): incentives for planting meliferous trees; management and protection of forest resources.
- National Institute for Agricultural Research (INIA): investigation and research projects.



- Foundation for Agricultural Innovation (FIA): financial support for innovation projects.

Also, the national Corporation for the Promotion of Production (CORFO) supports the promotion and financing of industrial projects. Finally, ProChile is the agency for promotion of exports of the Ministry of Foreign Affairs.

3. Beekeeping in the south of Chile:

3.1 Characteristics of the Rivers and Lakes Regions:

These two regions of the south of Chile lie between the latitudes 40° and 44°, and enjoy a temperate and rainy climate. This favours a rich and varied vegetation, with the largest stands of native forest in Chile. As in the rest of the country, the Andes form a natural barrier and boundary with Argentina to the east, the central valley runs from north to south, and the coastal range of low mountains extend to the Pacific Ocean to the west. The territory is known as the *Gateway to Patagonia*, and just south of the capital of the Lakes Region, Puerto Montt, the central valley disappears, and the Andes fall straight into the sea. The Andes have an impressive array of active and dormant volcanoes, glaciers, rivers, lakes and the famous native forest, known as the "*Bosque Valdiviana*". The mountainous strip on both sides of the border with Argentina has been incorporated in the Network of Reserves of the Biosphere of UNESCO, called "*Temperate Rain Forests of the Southern Andes*". The main economic activities in these two regions are forestry, salmon farming, tourism and agriculture (main products: milk, meat, potatoes and soft fruits). The climatic and geographical conditions are excellent for apiculture, due to the tremendous variety of meliferous species, mainly in the native forest. As many of these flower later than the floral resources in the central region, many large commercial beekeepers travel south with their hives at the end of their season, to take advantage of the abundant flora in the south from December to April. The flowering of the native species is not constant from year to year, and in a good year the late crops of "ulmo" (*Eucryphia cordifolia*) honey are remarkable, whilst in a bad year, when there is no nectar due to droughts and other factors, the hives brought down from the central region return without a crop. This transient beekeeping sometimes is very prejudicial to the local beekeepers, as the main source of nectar (native forest) is concentrated in mountainous areas with few access roads, which means that these large apiaries are installed in the proximity of the local hives. The result is serious robbing, and the high risk of spreading diseases. One of the most important areas for producing "ulmo" honey was affected by 10 outbreaks of American foulbrood in 2005, brought in by transient beekeepers from the central region. This risk, together with long severe winters, and the need for beekeeping education and training amongst the small producers, results in a reduced number



of resident hives, high mortality in the winter months, and comparatively low production in the region. According to the census of 2007, in the combined regions of Rivers and Lakes, the number of beekeepers was calculated in 1,375.

3.2 Native flora and its special qualities

As mentioned above, the main potential for beekeeping in the south of Chile is the rich and varied meliferous flora, principally native species not found in any other parts of South America or the world (apart from a few genus that we share with New Zealand). The most common native species for monofloral honeys are "Ulmo" (*Eucryphia cordifolia*), "Tineo" (*Weinmannia trichosperma*), and "Tiaca" (*Caldcluvia paniculata*). The bees also like in particular an introduced wild flower called "Alfalfa chilota" or "Loterá" (*Lotus uliginosus*) which provides a delicious, smooth, light honey, especially when combined with the native species mentioned above.

The Catholic University of Chile in Santiago, under the direction of Professor Gloria Montenegro, has been investigating over the last 10 years the special qualities of the monofloral honeys originating from native species. Amongst the results obtained, important antibacterial and antioxidant properties have been confirmed, which have shown that these properties are present in important quantities in honeys originating from "Ulmo" (*Eucryphia cordifolia*), "maqui" (*Aristotelia chilensis*) and various members of the *Myrtaceae* family.

3.3 The network "Red APIX": Association of Beekeepers' Organizations:

The associative spirit has been strong in these southern regions since the 1980s, when APICOOP was founded. This is a Cooperative of small producers, which exports directly to the European Community under the Fair Trade seal. When the National Beekeepers Network was founded in 1999, the beekeepers in the area got together to organize the network in the Lakes and Rivers regions (at that time it was only one region, the 10th). The Association, "Red APIX" was formally constituted in 2001, and has approximately 400 members, the majority of which are small commercial and hobby beekeepers, living in isolated rural areas, with an average of 30 hives. The average annual production is Kg.22/hive, but in certain areas, experienced beekeepers are producing up to 60 Kgs, in a good year. This network represents the different groups of beekeepers in relations with public and private institutions, Universities etc.; formulates projects and strategies for a sustainable development of the activity; organizes training activities, technical assistance programmes and investment projects.

3.4 Governmental support:

This has come mainly from the specialized agencies of the Ministry of Agriculture in the region, "INDAP" and "FIA" and includes assistance for operating costs, specialized training, technical assistance, attendance at national beekeeping



events, credits and subsidies for investment projects in apiculture. FIA has funded a series of innovation projects, one of which gave birth to the commercial branch of the Network, the Cooperative "Mieles del Sur" (Southern Honeys) for the production and marketing of honeys with certification of botanical and geographical origin. Another was a feasibility study for the creation of a Quality Seal, based on the botanical origin of these honeys. In 2007 FIA co-financed a study tour to New Zealand to get to know this country's experience in the production, certification and marketing of honeys with added value and medicinal properties, and to attend APIMONDIA 2007 in Melbourne, Australia. Since October 2008, FIA is funding a "Territorial Innovation Programme", whose main objective is to work with 150 beekeepers of the two regions and double the number of hives, increase yield to an average of Kgs.30/hive, and reducing mortality to less than 10%, in 3 years. Another objective is to ensure suitable marketing of the excess honey produced, with added value.

4. The Cooperative "Mieles del Sur":

4.1 Genesis, Objectives and its role in local development

The majority of the beekeepers of the Regional Network, belong to the low income category, and live in isolated rural areas, dedicated to traditional agricultural activities. They have an average of 30 hives, and beekeeping represents an important way to increase the family income, without the need for more land. They have a tremendous potential for producing quality monofloral honeys from native species, due to the magnificent flora and pure uncontaminated surroundings of their apiaries, far from industrial activity and agriculture based on the use of chemical products. Traditionally, their honey is destined to family consumption, and sale to friends and neighbours on the informal market, with no added value or quality control. The first FIA Project executed by the "Red APIX", paved the way for bringing these small beekeepers together in a Cooperative, in order to introduce them to the formal markets, with a high quality product, with added value. The Cooperative was founded in June 2007, and began its commercial activities in July 2008. In addition to increasing the income of its members, it has an important role to play in integrating them into the beekeeping world and the formal markets, and catch added value with a high quality product. Also, the work of the Cooperative is an important local action in the implementation of the national strategies for sustainable development of beekeeping in Chile.

4.2 Members

The members of the Cooperative have to belong to the regional Network, and be residents in the Lakes and Rivers Regions. They can be individual beekeepers, or beekeepers' organizations. At present there are 9 organizations and 4 individual members, totalling 112 beekeepers. They are located, from north to south, and



from the Andes to the Pacific, in the districts of Panguipulli, Lanco, Mariquina, Futrono, La Union, Purranque, Frutillar, Fresia, Los Muermos, and Cochamó.

4.3 Organization and Administration

The Cooperative is directed by a Council of 5 members, elected for a period of 2 years, and is run by a Manager, who at present is the only paid full time staff member. The office is in the capital of the Rivers Region, Valdivia, in the north of the territory, and is provided by the regional network, Red APIX. The honey processing is carried out in a small plant belonging to one of the members of the Cooperative, which has all the required authorizations for food processing for the domestic market. We hire temporary staff, chosen from among our members, to work in the plant, as and when needed. It is hoped that we will be able to construct our own processing and packaging plant in the not-too-distant future. Processed honey is stored in the office in Valdivia (Rivers Region), in the home of the President (Lakes Region) and in a private residence in Santiago. The manager coordinates the commercial operations from the office in Valdivia, and some of the members of the Council help in local sales.

4.4 Commercial policy

The Cooperative's policy is to sell two lines of honeys, initially on the domestic market only. The very low consumption per capita of honey in Chile is considered an opportunity and a challenge. To stimulate an increase in honey consumption, the first line is a polifloral honey, in a simple pot that can be recycled in the home, and sold at an affordable price for most families. The relatively small volumes of honey produced by the members of the Cooperative, but which are nearly always monofloral from the native species give rise to the second line, which is a Premium Honey, with certification of the botanical origin, information on the beekeeper, the location of his apiary, a description of the environment, and of the sensorial characteristics of this particular honey. Each one of these Premium Honeys is the product of one member, and is never mixed with other honeys, so that it retains its specific local characteristics, essence and traceability. This honey is packaged in glass, or a high quality plastic, and has improved labelling. The product is destined for specialized shops and gourmet markets, and is sold at a higher price. All honey processed and bottled by the Cooperative has a traceability label, which identifies the producer, the apiary, the month/year of harvest, the batch of the Cooperative and date of bottling.

4.5 Quality Control

- Internal Quality Control System:

The Cooperative has internal Regulations for delivery of honey for processing. The beekeeper has to be registered with the national Agricultural and Livestock Service (SAG), and in the Honey Export Beekeepers Register (RAMEX, which implies that



no unauthorized products have been used in the hives). The water content in the honey cannot exceed 18%, and there must be no visible signs of sensorial or physical deterioration, or presence of foreign bodies. Once the commercial operations cover the cost, it is intended to apply aleatory tests to detect presence of bacteria and/or chemical residues.

- **Cooperative's Quality Seal:**

This year we are initiating the implementation of the Quality Seal of the Cooperative, based on Good Manufacturing Practices, leading on to HACCP, and botanical origin (monofloral honeys with presence of more than 60% of one species). The botanical origin is not a problem, what is a greater challenge is to implement infrastructure for extraction and manufacturing processes that comply with the standards of the European Community, which will entail a lot of training, and investments that our small beekeepers will have difficulty in financing.

- **Participation in other quality certification programmes:**

The Cooperative is participating in the Food Quality Guarantee programme for small farmers' enterprises of INDAP (Institute for Agricultural and Livestock Development) which entails inspection of the processing and packing facilities, and advice on how to implement the upgrading needed to comply with the requirements of the programme, and training of staff in Hygiene and Food Processing. Once the Enterprise has complied with all requirements, the products can be sold with a quality seal "Especialidad Campesina".

- **Implementation of Clean Production Agreement:**

The Cooperative is committed to implement a Clean Production Agreement for the processing, packing and distribution of its products. This can only be certified once we have our own infrastructure, but we are already working to comply with requirements for the handling of the honey, from reception to distribution.

4.6 Marketing:

- **Promotion:**

Thanks to financial support from the Foundation for Agricultural Innovation (FIA), we have created a corporate image which tries to reflect our main characteristics, as a group of small producers of the south of Chile. This includes the rural environment, the characteristics of our landscapes, the diversity of our honeys, the cooperative essence of our production methods and beekeepers. This has been translated into our mark, promotional leaflet, banner, web site, and labelling.

Our promotion activities include the uses of honey in gastronomy, and we have been able to participate in various Workshops, organized by the Association of Chefs, professors and students of International Cookery of the Technological



University of Chile (INACAP), to demonstrate the multiple uses of honey in gastronomy.

In August 2009 we participated actively in the celebration, of the National Honey Day, with stands in Santiago, Valdivia and Puerto Montt.

With a member of the Chefs Association, we are working on an Agreement introduce honey in national gastronomical events and shows.

- Main markets and opportunities

As mentioned above, during the first few years of activity the volumes of production will be limited, and therefore we will concentrate on the domestic market, both for classic honey and Premium Honey. For our mark to be recognized, the first priority is to participate in as many Fairs, Shows and Exhibitions as possible, both in the south of Chile, and in Santiago and other regions. During our first year of activity (July 2008 to date) we have had a stand in a total of 12 such events, in Santiago, Concepcion, Valdivia, Puerto Montt, Puerto Varas, Llanquihue, Frutillar and Rengo.

The web site (www.mieldelsur.cl) has proved to be important for comercial contacts, and generates orders from other parts of the country, that are despached from Valdivia. Small amounts of classic honey are sold through personal contacts locally and regionally. The Premium Honey is sold mainly to gourmet boutiques and specialized shops.

In order to capture niches for larger quantities, we are negotiating with retailers, distributors, and large supermarket chains.

Although our projections do not include foreign markets during the first few years, we are aware that if we have success in doubling the number of hives and yields of 150 beekeepers of the Network during the next 2 years, we will have to deal with larger volumes of honey. This will inevitably lead to exporting, as there is a limit to what the domestic market can absorb, even if the campaign to increase consumption is successful. After the launching of our comercial activity in July 2008 we were invited by the national agency for promotion of exports (PROCHILE) to participate in their programme for promotion of exports of small farmers' products. This has enabled us to start preparing ourselves for export. Our Manager has participated in trading workshops with foreign importers and a specialized coaching, and we are receiving training in export procedures. This programme will also enable us to participate in market prospection trips.

- Competition:

Our classic honeys are of the same quality as most of the honey sold in shops ad supermarkets all over the country. The main differential factor is the traceability information, that we have not seen in any other honeys on the domestic market.



There is only one other large commercial beekeeper who is selling a selection of certified monofloral honeys on the domestic market.

4.7 Support from Government agencies:

- Corporative symbol and promotional material: assistance provided by the Foundation for Agrarian Innovation (FIA).
- Participation in events: facilitated by INDAP.
- Commercial operations: the Programme for Territorial Innovation, executed by the regional Network Red APIX, with support from FIA, is contributing to the commercial operations with a small revolving fund for purchase of honey, and commercial negotiations, with a view to securing markets for the increase in honey production foreseen in this programme. This support also covers office space and basic services for the Cooperative in the offices of the Network.

4.8 Results to date:

The trial run: good and bad experiences:

- Product development: very successful.
- Perception of consumers: very good.
- Buying honey: very difficult, due to lack of capital (the first honeys provided by the members were paid after approximately 10 months), and to the tremendous distances between producers' apiaries and bottling plant (up to 280 Kms.).
- Volumes of production: very limited (a total of 5 tons purchased during the last 12 months, of which approximately 3 tons has been sold to date). If we had access to working capital, we would be able to purchase much more.
- Commercial decisions: difficult to decide how much honey to process as "classic", and how much as "Premium", as the original quality is the same, and nearly all qualify as monofloral. The Premium leaves a better profit margin, but is more difficult to sell. The classic sells more, but with very little margin.
- Finance: the main limitation. Being a cooperative with no capital, whose members are mainly small (many subsistence) farmers, and community organizations that tend to lose their legal status rather easily, it is not considered by financial services (government or banking) as a "safe" investment, as is the case in many other agricultural activities in Chile. This means that we have not been able to obtain credit or loans for operational capital or capital investment. This means that our situation is precarious, as we will continue having difficulty in purchasing the members' honey, not to mention the problem of building our own processing and bottling plant. Also, due to the relatively low turnover of honey in this first year, we are having considerable difficulty in financing our main expense: the manager's salary. But without a paid manager, we are unable to function.



4.9 Projections and challenges

- Infrastructure: Further growth depends on a new processing and packing plant, which can also offer extraction services which comply with the standards required by the domestic and international markets, and the protocol of the 3 Quality Seals that we are working on.
- Marketing: obtain sustainable markets sufficient to cover the operational and administrative costs of the Cooperative, and pay the members for their honey at a fair price and without undue delay.
- Product development: continue incorporating new monofloral honeys into the offer, and find innovative presentations and products.
- Quality certification: achieve the quality seals that we are implementing.
- Increase in consumption campaign: sell more honey on the domestic market, with added value, to reduce the need to sell bulk honey to exporters as a commodity, with no added value.
- Find small niches in the external gourmet market for typical monofloral honeys, of top quality, produced by small beekeepers from the south of Chile.
- Create a programme of "Api-Tourism", in the Lakes and Rivers Regions, with visits to beekeeping activities and institutions, national parks, native flora, with accommodation and gastronomical treats in the homes of the local people.

4.10 Main Conclusions

- The Cooperative is a pioneer project, that is demonstrating that it is feasible to change the perception of Chilean honeys. It has shown that it is possible to produce honeys for the domestic market that have the quality, traceability and presentation required by the most demanding external markets.
- It is trying to interrupt the vicious circle of low internal consumption which leads to export in bulk as the only alternative for the national honey production.
- The Cooperative is not only emphasizing the quality of the honey itself, and adding value through improved packaging and labelling. The honey transmits a picture of a unique environment, of the endemic flowers of southern Chile, and of a way of life in isolated rural areas.
- Although the main lines of action described in the national strategy include differentiation and added value, as 80% of the honey produced in Chile is exported in bulk, the priorities of the Government are to support this line of activity.



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- This is a gamble, that comes up against the main obstacle: how to set the wheels rolling, and obtain the capital required for operating costs and investment in the initial stages. Traditional financing of commercial operations is not available to small enterprises with no backing to guarantee loans. However, if we can overcome this obstacle, we are sure that the initiative will lead to sustainable development and an important improvement in the standards of living of the small beekeepers participating in the Cooperative.