



## Honey chain traceability

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The project sought to maintain admissibility and extend international market access for Guatemalan honey and thus to improve living conditions for beekeepers and other actors in the country's honey chain. In particular, the project contributed to the implementation of an electronic records system designed to ensure product traceability through all stages of production, processing and distribution and helped to increase the application of good production and manufacturing practices.

### **STDF/PG/515**

#### **Status**

Completed

#### **Start Date**

15/12/2015

#### **End Date**

31/03/2018

#### **Project Value (US\$)**

\$105,244

#### **STDF Contribution (US\$)**

\$48,124

#### **Beneficiaries**

Guatemala

#### **Implementing Entities**

Food Safety Directorate of the Ministry of Agriculture, Livestock and Food (MAGA), Guatemala

#### **Partners**

Organismo Internacional Regional de Sanidad Agropecuaria (OIRSA)

#### **Background**

In Guatemala, beekeeping is generally practised as a secondary activity by small-scale farmers, and is a source of temporary employment, particularly during the harvesting season. The sector's main activities revolve around honey exports, with virtually no marketing of any other hive by-product, such as pollen, propolis, royal jelly or wax. There are an estimated 3,000 beekeepers and 150,000 beehives nationwide. There are 1,421 beekeepers, with 95,376 beehives, registered in the Guatemalan Beekeeping Register (REGAPI) database of the Ministry of Agriculture, Livestock and Food (MAGA). Another 31 establishments responsible for the collection, processing, packaging and export of natural honey, seven of which are cooperatives or associations of small-scale honey producers, are registered in the MAGA Food Safety Directorate's Safety System (SII).

Regarding safety, efforts have been made to increase the level of technology used in honey production and packaging, and yet practices that can result in the contamination of honey and its by-products, such as the use of chemicals that can leave behind residues and ultimately affect consumer health, continue to be used. Furthermore, different formats are used to record the various production, processing and distribution procedures, without any standardization, which makes it impossible to ensure proper product traceability. Guatemala now exports natural honey to the European Union, the United States and Central America, and this has encouraged many producers to improve their production processes, including by applying HACCP-equivalent systems. It is hoped that by establishing practices such as traceability records, it will be possible to retain these markets and also to increase export volumes.

There have been many cases of honey contamination in Guatemala, but it has been difficult to establish exact places of origin due to the lack of specific traceability records. Contaminated products have been destroyed to protect consumer health, in accordance with the protocols of destination markets, but it has not been possible to identify the specific beehives or beekeepers concerned so that any substandard honey-production practices may be rectified, or whether withdrawal periods are respected after a specific product has been applied.

Guatemala has introduced domestic legislation (Ministerial Decision No. 169-2012) to ensure that all beekeepers are registered for the purposes of traceability and the application of various types of sanitary measure, the aim being to improve the safety of honey produced in the country. The implementation of an electronic records system is important for ensuring compliance with this legislation.

## **Results**

### ***Development of an electronic traceability system***

A honey production traceability module has been designed and integrated into the National Agriculture Traceability Platform (the electronic records system in Guatemala). The module includes all records necessary to trace honey and track its movement through production, harvesting, receipt at plant and packaging into batches for export or marketing on the domestic market. It also covers aspects related to official safety monitoring, such as sample taking, the results of analyses and certification.

It is important to note that the honey production traceability module has also been integrated into the Regional System for Agricultural, Aquaculture and Fishery Traceability that OIRSA makes available to countries of the region, with the aim of extending the impact of the electronic system in the beekeeping sector and contributing to harmonization processes in the region. The same recording processes are already being adopted and implemented in other countries of the region, including in El Salvador and the Dominican Republic.

### ***Strengthening of beekeepers' capacities in the application of good production and manufacturing practices***

A training programme on good practices in honey production was carried out to support beekeepers in their capacity development. The areas covered, in addition to those related to good beekeeping practices, included the introduction and validation of the electronic traceability system in each locality. Various training materials were also developed, including: the beekeeper's handbook, designed to support the data capture and recording process; the handbook of good practices in honey production, which was distributed for immediate consultation among the target groups; and the beekeeper's calendar, which included technical details relevant to honey production.

## **Recommendations**

### ***Follow-up and continuous improvement plan***

To ensure ongoing monitoring of the actions and results achieved through the project, the MAGA Food Safety Directorate has followed up on recording processes and the adoption of the records system with beekeepers, collection centres and honey processing and packaging plants. It has received technical assistance in this process from OIRSA, which has integrated the electronic system into its Regional Traceability Platform and placed the system's development team at the disposal of other actors throughout the country and the region. To this end, the operational plan of the Regional Traceability Unit includes provision for ongoing technical support in the day-to-day use of the Platform to be offered to MAGA and users by remote electronic means, as well as for their participation in events and activities requiring a face-to-face presence, including activities involving beekeepers, cooperatives and plants, direct cooperation with MAGA, and training, assistance and follow-up in the implementation of the honey traceability system.

### ***Extended use of the system in the region***

It is entirely practicable for the system to be replicated since it was developed on the basis of the Regional Apicultural Traceability Standard agreed and harmonized by all countries of the region. As a result, replication and adoption processes have already begun in two countries of the region in which OIRSA operates – namely, El Salvador and the Dominican Republic. These two countries have completed installation of the Regional Platform and the honey production traceability module and are

beginning the beekeeper registration process. Nicaragua, meanwhile, is in the process of implementing the Platform. Once this process is complete, the specific honey production traceability module can be made available in the country.