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This Guide was prepared for use in Uganda, however it is relevant to other parts of Africa.

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INTRODUCTION

Honey has long been valued by the people of Uganda, and until recently, most honey was eaten at home or marketed informally. Since the 1990s there has been an increase in the volume of honey being packed in jars and marketed as table honey in shops and supermarkets. This trend is driven by the increasing urban demand for honey and for reliably clean food. In response, there has been a growth in the number of businesses engaging in honey packing and there are new ones starting up all the time. There is little easily accessible information to guide them, and many are operating without advice.

This Guide is for any person, company or beekeeping group currently packing honey for wholesale or retail sale, or interested in starting a honey packing business. The Guide does not contain all the information that such a business requires but it does introduce the important topics and explains where additional information can be found.
THE HONEY MARKET IN UGANDA

The local market

The Ugandan honey industry is fragmented and still developing. The local market for packed, table honey is growing due to an expanding population and growing wealth amongst some sections of society. Existing packers say they have no difficulty in selling honey and shopkeepers also report increased sales. Estimated annual sales of packed local honey are 500 tonnes.

Exports

Small volumes of honey are exported, but these rarely exceed 10 tonnes per year. Several honey packers have secured overseas interest in Ugandan honey but low volumes of supply hinder export.

High value markets require that the contents of honey jars are accurate and uniform
Imports

In their study of 2008, Uganda Export Promotion Board (UEPB) found seven brands of imported honey on the shelves in Kampala, from countries including India, Kenya and UK (UEPB 2008). The packaging of imported honey is usually of a higher quality than local brands and the retail price is higher. Shopkeepers explain that for some customers the quality of the package is used as an indicator of the quality of the honey inside the jar.

Uganda Bureau of Statistics (UBOS) report that imports of ready-packed honey reached about 20 tonnes in 2007. Unpacked honey also crosses the border into Uganda from DR Congo and Sudan, and total imports from neighbouring countries reached 70 tonnes in 2007 (UBOS 2008).

Challenges to the market

Challenges faced by honey packers include weak supply chains, lack of finance and poor availability of a good range of quality containers. There are fears that unless local businesses adequately and efficiently supply the Uganda market, honey imports could increase. It cannot be assumed that imported honey is of higher quality than local honey, and it is a challenge to local companies to prove that buying Ugandan, means buying quality! The aim should be to develop pride in Ugandan honey.

The challenge for local companies is to prove that buying Ugandan, means buying quality!

For some customers the quality of the package is an indicator of the quality of the honey inside the jar.
CONSTITUENTS OF HONEY

A natural product

Honey is a natural product composed of many compounds from plants, plus a few from bees, and consequently has a wide range of flavours, aromas and colours. The many traces of plant-derived substances in honey give it special characteristics, in terms of flavour and also medicinal and nutritional properties. Honey is highly valued the world over because of these special properties, and when handling honey it is important to avoid any processes which destroy them.

Composition of honey

Honey consists of a mixture of sugars, mostly glucose and fructose, and water (usually 17-23%). Honey also contains very small amounts of other substances, including minerals, vitamins, enzymes, other proteins and amino acids. Most honey contains pollen. Experts are able to determine the botanical and likely geographical origin of honey by the pollen it contains.

HMF

HMF is hydroxymethylfurfuraldehyde, a breakdown product of fructose (one of the main sugars in honey) that is formed slowly and naturally during the storage of honey, and much more quickly when honey is heated.

The amount of HMF present in honey is used as a reference to measure the amount of heating which has taken place: the higher the HMF value, the lower the quality is considered to be. Some countries set an HMF limit for honey. HMF is measured by laboratory tests.
Enzymes

The enzymes in honey (for example invertase, glucose oxidase, and amylase) come from the bees. They are present in very small quantities, and may have a nutritional importance. Enzymes are very sensitive to heating above 35°C and storage at too high a temperature.

Water

The water content of honey can naturally be as low as 13% or as high as 23% depending on the source of the nectar, climatic conditions and other factors. If the water content of honey is greater than 23% then the honey is likely to ferment. Low water content is therefore important. Water content is measured using a honey refractometer, a small instrument that measures the refraction of light as it passes through a glass prism on which a drop of honey has been smeared.

Fermentation

Fermentation of honey must be avoided. The main factors causing fermentation are:

- High moisture content (above 23%)
- High temperature
- A high yeast count (>10/gram)

Uneven granulation of honey within a container can lead to small pockets with high levels of water, and this may result in fermentation. Honey that has begun to ferment can be used for making into fermented products like beer, wine or vinegar. Fermentation will give a bad taint as well as a foaming top on containers of honey. Honey packers must be able to recognise this.

Hygroscopicity

Honey is hygroscopic i.e. it absorbs moisture from the air. If the container is not sealed, this may lead to an increase in water content and possible fermentation. For this reason it is important that honey is always stored in containers with tight fitting lids.
CATEGORIES OF HONEY

Granulated honey

Granulation or crystallisation is a natural process and there is no difference in nutritional value between solid and liquid honey. This process may be likened to ice and water — liquid honey and granulated honey are the same substance but in different forms. All honey will granulate if it is made cold enough. Crystallised honey is not inferior although customers in Uganda often prefer liquid honey.

Honey categories concerning origin

Monofloral honey is produced where the bees have been foraging predominantly on one type of plant, and is named according to that plant, for example sunflower honey, citrus honey. Monofloral honey is priced more highly than multifloral honey.

Multifloral honey (also known as polyfloral) has several botanical sources, for example: mixed blossom honey, forest honey.

Customers in Uganda often prefer liquid honey, although crystallised honey is of equal quality.

Crystallisation is a natural process and the quality and nutritional value of the honey does not change. However, uneven crystallisation, as shown here, looks unsightly.
Honey categories concerning processing

Comb honey is honeycomb, as produced by the bees, where the beekeeper has done no processing to separate the honey from the beeswax. Many packers prefer to buy comb honey as they can be sure that the honey has not been contaminated in any way.

Strained honey is obtained by straining honeycombs, to separate the honey from the beeswax.

Extracted honey is obtained by centrifuging honeycombs after they have been removed from frame hives.

Pressed honey is obtained by pressing honeycombs.

Crystallised or granulated honey is honey that has crystallised (see page 7).

Creamed honey is liquid honey that has been seeded to start crystallisation and then stirred to produce a honey of uniform, soft consistency.

Honey categories concerning intended use (trade categories)

The categories used to define honey according to its intended use are also known as trade categories.

Table honey means honey intended for retail sale to consumers, to eat directly or to use as a natural sweetener for drinks or in cooking.

Industrial or bakers' honey is honey that does not meet fully all the criteria for table honey. For example, the HMF content may be higher than 40 mg/kg. It is used in the food industry, for the manufacture of bakery goods, confectionery, breakfast cereals, sauces, tobacco, and products such as honey-roasted nuts and pharmaceutical products.
UNDERSTANDING HONEY QUALITY

What is meant by quality

The topic of honey quality is complex, and the term quality can mean many different things. It is useful to think about quality in the following ways:

- The principle of maintaining honey as the bees made it
- Quality according to defined standards and market criteria
- Quality according to the consumers' personal preferences
- Quality of a packed honey product.

Natural quality
Defined standards and market criteria
Honey quality
Consumers' personal preferences
Presentation to the consumer

Different factors contribute to honey quality
The principles of maintaining honey as the bees made it

The basic rule for honey quality which should be learned by all packers in this business:

**Ripe honey in honeycomb inside a bees’ nest is of perfect quality**

Bees always store clean and perfect honey, regardless of the type of hive in which they are nesting, and honey has a range of special properties which make it a unique, natural product. Careful handling is needed to avoid contamination or damage to these special properties.

The only exceptions to this rule are if bees pick up chemicals from a polluted environment, or if the beekeeper is using medicines for the bees, then chemical residues may become present in the honey. These are very serious problems in parts of the world where there is pollution or beekeepers administer medicines to bees.

No honey in Uganda has been found to be contaminated with chemical residues.

Compromising honey quality through poor handling

Honey quality can deteriorate if it is handled and stored badly:

- **Contamination during and after harvest.** Problems here are smoke taste from excessive use of smoke during harvest, use of dirty containers, containers with no lids or ill-fitting lids, honey processed in an unclean environment, transporting honey and exposing it to dust, exhaust fumes or water.

- **Overheating.** Problems here are caused by beekeepers using heat to separate honey from beeswax, leaving buckets of honey in the open sun, or storing honey at a high temperature. Honey should be heated as little as possible, and it is completely destroyed by boiling.

Avoidance of bad handling practices assures good quality honey.
Quality according to defined criteria

Honey can be of the highest quality even if it has not been tested or certified. A packer may be confident of the quality of their honey, yet customers need proof, and that calls for measurement. To prove that honey is of an adequate quality, a number of international and national market standards and criteria have been developed, against which honey can be tested. One is the Uganda Honey Standard. Among other things, this standard specifies that honey should not have a moisture content of more than 20%, and *honey shall not be heated or processed to such an extent that its essential composition is changed* (UNBS 2005). See page 18, *Introducing standards* for more details.

Quality according to the consumer

For the consumer, the important features of honey are its aroma, flavour, colour and consistency, which depend upon the species of plants being visited by the bees. For example, bees foraging on sunflower will produce a golden honey that granulates (crystallises) quite quickly, while bees foraging on avocado produce a dark honey that remains liquid over a long period. The factors of aroma and flavour of honey are subjective, and honey is often judged according to its colour. Usually dark-coloured honeys have a strong flavour while pale honeys have a more delicate flavour.

Particles of wax, parts of dead bees, and splinters of wood or dust must be removed from honey before being offered to the consumer. This can be achieved by filtration. The jar in which honey is packed must be clean, well sealed and attractive. Sometimes a very good quality honey may be packed in a low quality jar with a poorly fitting lid. Whilst the honey is still good, the overall product is poor.

Honey presented to a consumer should be uniform in appearance. Honey may begin to crystallise in an inconsistent way after being bottled and this looks unattractive. The product looks poor although there is nothing wrong with the honey.
SOURCING YOUR SUPPLY

The importance of bulking

Beekeepers harvest honey and supply it to the market. In Uganda, beekeepers typically harvest small volumes (less than 100kg) per year, and therefore to source an adequate supply of honey it is necessary to buy from many beekeepers. This will always be difficult, which is why it is important for honey to be bulked before sale to an onward buyer.

There are different ways to achieve this:

- Beekeepers form a group and bulk their honey for a buyer
- A trader buys from many individual beekeepers and then offers a bulk of honey to the market
- An agent may be employed or contracted by a buyer to buy honey from many individual beekeepers and bulk it
- A collection centre — this may be established by beekeepers, or the buyer, or both
- Organised collection by the buyer who communicates the date, time, area of collection and a transport route for collection

You may find yourself buying honey according to any of these supply arrangements — but you should avoid dealing in honey if you do not know where it has come from, or how it has been handled since it left the hive.

What you are looking for

- Sufficient volumes of honey to cover costs and make a profit
- Reliable supplies so that you can plan for your business
- Honey which has been handled and stored in an approved way, to maintain quality (never buy honey that has been boiled)
- Honey that meets certain criteria
- A supply chain that you can trace back to the hive
DEVELOPING A GOOD RELATIONSHIP WITH SUPPLIERS

Developing a good relationship with your supplier is an important part of overcoming supply chain problems. If beekeepers can be sure that you will buy their honey, they will be motivated to increase production. It is also important that you can be sure they will supply honey to you and not to anyone else. This is why the relationship must work both ways and mutual trust needs to be achieved. Forming the relationship will take time and money (for communication and travel). Think of it as an investment.

<table>
<thead>
<tr>
<th>Do</th>
<th>Do not</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicate – meet your suppliers regularly and explain what you are looking for</td>
<td>Assume that suppliers know your needs</td>
</tr>
<tr>
<td>Plan and agree on a realistic target and way forward</td>
<td>Abandon your suppliers at the first hurdle</td>
</tr>
<tr>
<td>Budget some money and time for building relationships. This will be a good investment</td>
<td>Try to buy honey from too many people and too many places</td>
</tr>
<tr>
<td>Be prepared to listen to the situation and problems of your suppliers</td>
<td>Spend too much money on helping your suppliers so that you do not have enough money for your business</td>
</tr>
<tr>
<td>Provided your suppliers are committed and genuine – do not give up at the first difficulties</td>
<td>Let people think you will solve all their problems</td>
</tr>
<tr>
<td>Be prepared to negotiate about price: explain your quality requirements and offer a higher price for better quality honey</td>
<td>Make unrealistic assumptions</td>
</tr>
<tr>
<td>If you want more honey, tell your suppliers that you will buy more if they supply it</td>
<td>Break your promise</td>
</tr>
</tbody>
</table>
What this means in practice

If beekeepers believe that you are a reliable and steady buyer, this gives them confidence to increase the volumes they produce. One practical way of doing this is to establish a collection centre. You may come up with an arrangement whereby a collection centre is partly managed by you and partly managed by the beekeeping group. Meet and decide who will do what. Be very specific about the responsibilities of each party. Make a clear arrangement about buckets, whether they will be returned or exchanged. Discuss and decide how and when payments are made and be prepared to negotiate. Beekeepers usually want cash on delivery. However, for you it may be easier to pay by cheque into the bank account of the group. These things need to be discussed, and are easier when people trust one another. Regular communication will help establish that trust.

*It is important for packers to talk regularly with their suppliers*
EQUIPMENT

Once harvested, honey does not require sophisticated processing. On a small scale, simple equipment as used in other forms of food preparation is adequate: plastic buckets, bowls, plastic or stainless steel sieves, straining cloths and airtight containers. Honey is a stable commodity with a long shelf life: if harvested carefully and stored in containers with tight-fitting lids, it will remain wholesome for several years. Honey is a food and it must therefore be handled hygienically, and all equipment must be perfectly clean. Water used for washing equipment should not be contaminated; if in any doubt it should be boiled or filtered. Air drying should be done where there is no risk of dust, and drying cloths must not leave bits of fluff.

A useful piece of equipment for honey packers is a refractometer, an instrument for measuring the water content of honey. If not available, a packer can gauge water content by observing the viscosity of honey falling from a spoon.

Honey filtering through a sieve to separate the liquid honey from wax and impurities
PROCURING AND PROCESSING HONEY

Honey should be purchased in airtight buckets. Some honey businesses will own their own buckets, deliver them to beekeepers and collect them after harvest. Others do not like to do this because the buckets can go missing, and some beekeepers might sell their honey elsewhere. If you do not supply the buckets, then you need to tell your suppliers your requirements and that you will buy honey only when it is provided in containers that are acceptable to you. The buckets should never be used for any purpose or product other than honey. This is an important part of the relationship with your suppliers.

Separating honey from honeycomb can be achieved through simple filtration or pressing. To separate honey from comb, cut or break ripe honeycombs and place them on a cloth, mesh or net placed over a clean bucket and leave overnight.

With a press, a higher honey recovery rate will be achieved but honey separated using this method may also contain a higher proportion of pollen. This may cause the honey to look cloudy and lead to crystallisation.

Processed and filtered honey should be stored in clean, airtight containers and only bottled when needed. Honey should not be stored in jars for a long time before retail sale as bottled honey can slightly change in appearance over time, and yet consumers want to see products that are identical.

There are several steps involved in processing honey, as shown opposite.
# Stages in honey processing

<table>
<thead>
<tr>
<th>Obtaining supplies</th>
<th>Honey must be supplied in airtight buckets from a known source. Supply must be of good quality and adequate quantity. Check moisture content with a refractometer before buying.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery to the factory</td>
<td>Maintain traceability, mark origin of honey. Maintain clean, dry and cool environment.</td>
</tr>
<tr>
<td>Separating honey from wax</td>
<td>Separate from wax as soon as possible to avoid wax moth and crystallisation. Allow honey to filter from crushed comb through a cloth or sieve, or use a press, or a centrifuge for combs that are in frames.</td>
</tr>
<tr>
<td>Filtering</td>
<td>Secondary filtering is usually necessary after the first, coarse separation stage. Purchased liquid honey should also be filtered to remove any impurities e.g. dead bees.</td>
</tr>
<tr>
<td>Settling</td>
<td>Liquid honey should be left to settle for 2 to 3 days: tiny particles and foam will float to the surface. These should be removed. Use a settling tank made of stainless steel or high quality plastic.</td>
</tr>
<tr>
<td>Storage</td>
<td>Store honey in a cool, dry place in airtight drums. Bottle honey only as it is needed: do not store honey in jars.</td>
</tr>
<tr>
<td>Bottling</td>
<td>Use high quality plastic or glass jars, check the lids do not leak. Fill each jar to a constant distance from the brim. Weigh the full jar to make sure it contains the correct weight.</td>
</tr>
<tr>
<td>Labelling</td>
<td>Familiarise yourself with the UNBS Standard concerning labelling. The label must be accurate, informative and attractive. The label is an important opportunity for distinguishing your honey from other products.</td>
</tr>
</tbody>
</table>
INTRODUCING STANDARDS

The Uganda National Bureau of Standards (UNBS) is a parastatal under the Ministry of Tourism, Trade and Industry. Concerning food, their task is to prepare standards to ensure that food is safe to eat, and that consumers have accurate information about what they are buying. Of course, customers will reject food that appears to be dirty or inedible, but standards provide extra protection for consumers, particularly in cases where contamination is not visible. However, standards are only useful if enforced and the final product carries the mark of certification.

Within the honey industry, standards are important and useful. Unlike some food, honey is naturally resilient to the activity of microorganisms and even badly-handled honey is unlikely to be dangerous to human health. However, this is not a reason to disregard issues concerning hygiene.

Honey packers need to be familiar with the four UNBS Standards introduced and described opposite.

All of the Standards are published in booklet form and can be bought from UNBS.

Tiled walls and overalls for workers are some of the requirements of UNBS
### Uganda Standards for the honey industry

<table>
<thead>
<tr>
<th>Name</th>
<th>What it is about</th>
<th>Implications for a honey packer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>US 7 General standards for labelling and packaging</strong></td>
<td>This Standard concerns the label on the jar (correct and full information about the product) and the jar itself (suitable for food).</td>
<td>This is an easy Standard to meet. Just follow the guidance in the Standard.</td>
</tr>
<tr>
<td><strong>US 18 Honey specification</strong></td>
<td>This Standard describes what honey is. If you sell a product that is a mixture of honey and sugar then your product does not meet this Standard, is not honey and must not be named as such.</td>
<td>If you are dealing with ripe honey and do not overheat it, then your honey should meet this Standard.</td>
</tr>
<tr>
<td><strong>US 28 Code of practice for hygiene in food and drinks</strong></td>
<td>This Standard concerns the way all food and drinks are handled and processed and refers to the maintenance of proper hygiene and cleanliness. This code is applicable to all food and drink manufacturing industries irrespective of their size and volume of production.</td>
<td>You should become familiar with this Standard. It is not complicated but there are many different points to consider such as the need for washing facilities, protective clothing and headwear, washable surfaces and window screens.</td>
</tr>
<tr>
<td><strong>US 641 Code of practice for apiary management, handling and processing bee products</strong></td>
<td>This Standard is specific for the honey industry.</td>
<td>You should become familiar with this Standard. If you buy honey from beekeepers then you need to make sure that they also have information about this Standard.</td>
</tr>
</tbody>
</table>


OBTAINING A Q MARK

The Q-mark is the certification mark administered by UNBS. The Q-mark is the proof that you show to the customer that your product has been checked by the experts and is safe to eat and of good quality. If you do not have a Q-mark then a customer may not trust your product and may choose instead a product with the Q-mark.

To qualify for the Q-mark, you must demonstrate compliance with the standards shown in the previous section.

In most cases, an officer from UNBS will visit your premises and point out any changes you need to make to comply. A fee is payable each year.

The Q mark

Honeys are highly variable in terms of taste, colour and aroma. The Q-mark does not describe any of these factors. Honey with a strong flavour is just as safe to eat as honey with a mild flavour and dark honey is as safe to eat as light honey. If you buy honey certified with a Q-mark then you can be sure that it has been handled properly, in a hygienic way, it is true honey and not any other substance, and it is not contaminated with foreign substances.

The Q-mark is governed by Certification regulations of 1995 and to obtain it, applicants must complete forms available from UNBS.
MARKETING

Your aim in marketing is to create life-long customers, not one-off sales. First time buyers buy with their eyes, and if the quality and value are good, they become loyal customers. The challenge is how to make your jar of honey look better and more attractive than other honeys on the same shelf.

The part of the label seen immediately by a customer is the viewable front panel so this has to have impact over other brands, have good print size, brand or trade name, type or origin of honey. Print colour should be strong and contrasting with background. This front panel should aim to impress, whilst detailed information can be put on the side and back.

The tamper label is another opportunity to make an impact but if jars are stacked on top of the others, only the tag part will be seen. Always remember that shoppers have limited time to read and choose.

Customers will often assume that if the packaging looks attractive then the honey must be of high quality.
If you have a unique container and label, you have a unique brand

A Q-mark can make your product stand out from others. As customers become more concerned about food quality, they will begin to make choices based on the presence of the Q-mark. The package must not leak, and must never be sticky. Where possible, use a jar or bottle that is sealed, or use your own tamper proof seal.

Attention must be devoted at all times to maintaining standards. Mistakes, including inadequate attention to quality, missing, damaged or delayed shipments, lack of regular communication, difficulties in collecting payments, late delivery, and late or inadequate responses to orders, can all contribute to loss of customers. Reliability is a very important factor in marketing.

Marketing also depends on your relationship with the retailer. The retailer is your connection with the final consumers with whom you may rarely interact. The retailer can tell you about market trends and the requirements and interests of the final purchasers. This is one good way of making sure you are offering what people want.

Achieving shelf space is a task in itself. Creating product diversity by using two sizes of containers may give you more shelf space over your competitor, and further expose your brand. Customers with limited spending power will buy a small size. Types of containers that are different from your competitors may prove more expensive, but if you have a unique container and label, you have a unique brand.

Honey is placed with other spreads such as jam and peanut butter, and these are also competition...
BUSINESS ENVIRONMENT IN UGANDA

Honey is available during two main harvest seasons in Uganda and during this time packers will aim to buy large volumes of honey, thus generating cash flow challenges.

There are very few financial institutions that offer agro-related finance and even those which do, limit it to 15% of their total portfolio: a small fraction. The few institutions that provide financial services to honey businesses charge high rates, for example, interest rates that range from 30% to 60%. The inflation rate which had stabilised at between 5-6% for over the last 10 years, has started rising and currently stands at 12.4% (June, 2008). This situation is continuing to affect honey businesses and prices.

The Uganda National Apiculture Development Organisation (TUNADO) is a membership organisation representing the honey industry in Uganda. TUNADO is also a member of The Private Sector Foundation Uganda (PSFU), and this membership is automatically conferred on all individual members of TUNADO. PSFU offers a range of membership services and access to an advocacy platform.

High interest rates in Uganda make it difficult for honey buyers to borrow money to cover cash flow demands during the honey harvest period.

Discussing terms of payment with suppliers is one way to tackle this challenge.
EXPORTING HONEY

Why export?

There are three main reasons to export:

- If the domestic market is saturated, and you have surplus
- If the export market is more profitable
- To earn foreign exchange

Currently the Ugandan market is undersupplied but some honey packers are still eager to pursue export markets. To do so they need to understand the market.

Overseas buyers and market trends

The global honey market is well established and highly competitive. To better understand the scale of the market, it is worth noting that the total EU consumption of honey is about 270,000 tonnes per year, over half of which is imported. Argentina produced 65,000 tonnes in 2008 and this was reported as a low yield (CPNA 2008). Most of this will be exported. China exports about 100,000 tonnes per year to the EU.

Information about overseas buyers and market trends can be obtained from: the Uganda Export Promotion Board (UEPB), Netherlands Development Organisation (SNV), and The Uganda National Apiculture Development Organisation (TUNADO). UEPB is associated with the information portal www.eacexport.com where packers can find market related information including buyers' requirements.
African honey needs to be targeted at the speciality market

What overseas markets want

The international honey market buys different categories of honey. These range from cheap, industrial honey to expensive, speciality honey. To compete in the industrial honey market you need to offer consistent supplies of large volumes of cheap honey. This is not feasible for African producers. African honey needs to be targeted at the speciality market. In this case buyers are looking for honey of known origin and with unique characteristics. It is important that you communicate what makes your honey superior to others in the market, and thus why the buyer should buy yours! There are opportunities to supply niche markets such as fair trade and organic, where there are premiums of 10–30% above the conventional honey price.

You have to be aware that the buyer is doing business: they are looking for a supplier able to provide consistent supply in terms of both volume and quality.

Some importers request samples and certificates of analysis of the product. It is advisable for an exporter to analyse their honey in an accredited laboratory such as Chemiphar or UNBS laboratories.

High profit margins are not guaranteed as the costs of export are high. International honey prices vary: some Chinese honey sells in Europe for as little as US$1.5 per kg.

Required documentation

Non-EU countries that intend to export honey for sale in the EU must comply with EU requirements.

When your honey is ready for export, obtain a Euro 1 certificate from the UEPB at a fee of about US$3 (UShs 5,000) per consignment. Declare your consignment by submitting the form to the Customs Department of Uganda Revenue Authority at the point of exit.

You also need a Health Certificate to accompany the consignment. This Certificate is obtained from the Ministry of Agriculture Animal Industry and Fisheries, Livestock Health and Entomology Department for a fee of US$18 (UShs 25,000) per consignment. You will also need to register with UEPB for other administrative issues.

If you are exporting to non-EU countries (e.g. Australia, Canada, Japan, Switzerland, USA), you will need a Generalised System of Preference (GSP) certificate from UEPB instead of Euro 1; the other documentation is the same. Export certificates for other countries can be obtained also from UEPB.
## ANNEX 1 USEFUL ADDRESSES

<table>
<thead>
<tr>
<th>Name</th>
<th>Type of organisation and services offered</th>
<th>Contact address</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service Organisations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ApiTrade Africa</td>
<td>Regional membership organisation, working to develop honey trade in Africa.</td>
<td>ApiTrade Africa Secretariat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plot 2117, Ntinda Town</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2nd Floor, Velocity Mansions, PO Box 23441</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kampala, Uganda</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.apitradeafrica.org">www.apitradeafrica.org</a></td>
</tr>
<tr>
<td>Bees <em>for</em> Development</td>
<td>UK based NGO providing information to apiculture industries in developing countries.</td>
<td>Bees <em>for</em> Development, PO Box 105</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monmouth, NP25 9AA, UK</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tel: +44-1600-713648</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:info@beesfordevelopment.org">info@beesfordevelopment.org</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.beesfordevelopment.org">www.beesfordevelopment.org</a></td>
</tr>
<tr>
<td>Chemiphar (Uganda) Ltd</td>
<td>Private laboratory. Testing and quality assurance of honey and other products.</td>
<td>Acacia Road, Kansanga</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PO Box 25525, Kampala, Uganda</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tel: +256-412-688 32</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:chemiphar.uganda@chemiphar.com">chemiphar.uganda@chemiphar.com</a></td>
</tr>
<tr>
<td>Enterprise Uganda</td>
<td>Business support service. Services include entrepreneurship training; business advisory and counselling services; information and planning.</td>
<td>Enterprise Uganda</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plot 38 Lumumba Avenue, Nakasero</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PO Box 24581, Kampala, Uganda</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tel: +256-414-251810</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:info@enterprise.co.ug">info@enterprise.co.ug</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.enterprise.co.ug">www.enterprise.co.ug</a></td>
</tr>
<tr>
<td>Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)</td>
<td>Government department responsible for policy development, regulation and information.</td>
<td>Alice Kangave</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chief Apiculture Officer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ministry of Agriculture, Animal Industry and Fisheries</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PO Box 102, Entebbe, Uganda</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tel: +256-77-2273059</td>
</tr>
</tbody>
</table>
Information for honey packers

**NAADS (National Agricultural Advisory Services)**
NAADS facilitates the provision of extension services to farmers through District Coordinators.
NAADS, PO Box 25235 Kampala, Uganda
Tel: +256-41-345440
info@naads.or.ug
www.naads.or.ug

**PSFU (Private Sector Foundation Uganda)**
Uganda’s apex body for the private sector. PSFU runs programmes to support business growth. The BUDS programme offers cost-sharing grants for businesses.
PSFU, Plot 43 Nakasero Hill Road PO Box 7683 Kampala, Uganda
Tel: +256-312-263850/263849
psfu@psfuganda.org.ug
www.psfuganda.org.ug
BUDS Programme
www.buds-grants.info
Tel: +256-312-263850
Tel: +256-414-342163

**SNV (The Netherlands Development Organisation)**
SNV facilitates business development in the agricultural sector by sharing expertise.
SNV, Lithuli Rise
Bugolobi, Kampala, Uganda
Tel: +256-414-563200/563250

**TUNADO (The Uganda National Apiculture Development Organisation)**
Membership organisation representing the apiculture sector in Uganda. A source of advice and information.
TUNADO Executive Director
PO Box 5318, Kampala, Uganda
Tel: +256-701417452
tunadobee@yahoo.co.uk

**UEPB (Uganda Export Promotion Board)**
Public body promoting growth through export. Services include export services, market research and trade promotion.
UEPB, Conrad Plaza, 5th Floor
Plot 22 Entebbe Road
Kampala, Uganda
Tel: +256-31-262591
www.ugandaexportsonline.com

**UNBS (Uganda National Bureau of Standards)**
UNBS is a statutory organisation which develops national standards for industry regulation.
UNBS, Plot M217 Nakawa Industrial Area PO Box 6329 Kampala, Uganda
Tel: +256-41-222367, 222369
unbs@starcom.co.ug
Training Organisations

**ADIOF**
- Bee equipment supplier
- Arthur Katungwensi
- Mbarara Town, Western Uganda

**Apiequip & Consult**
- Imports honey processing equipment such as: extractors; honey settling tanks; bee suits and airtight buckets.
- Solomon Onyango
- Kitintale, Kampala, Uganda
- Tel: +256-777062455
- Tel: +256-782957738

**Bulindi Agriculture Training Institute**
- Offers training in beekeeping
- Mugisa Daudi
- Hoima, Uganda
- Tel: +256-772670257

**East Africa Beekeepers Ltd.**
- Bee equipment supplier
- Joseph Mayanja
- Kabalagala, Kampala, Uganda
- Tel: +256-77501485

**John Kaddu**
- Bee equipment supplier
- John Kaddu, Kwempe, PO Box 2061
- Kampala, Uganda
- Tel: +256-71567395

**Kabarole Beekeepers Association**
- District beekeeping association
-Offers training in beekeeping
- Adolf Bagonza
- Fort Portal, Western Uganda
- Tel: +256-772373716

**Moyo Beekeepers Association**
- District beekeeping association
-Offers training in beekeeping
- John Kefa
- Moyo, Uganda
- Tel: +265-774144146

**Nakasongola Beekeeping Training Centre**
- Beekeeping training courses
- Sells beekeeping equipment.
- Ramsey Owot
- Nakasongola, Uganda
- Tel: +256-772-495672

**Nyabubaale Foundation for Rural Development**
- Bee equipment supplier
- Offers training in beekeeping
- Enos Mujuni
- Fort Portal, Western Uganda
ANNEX 2 RESOURCES FOR PROCESSING AND PACKING HONEY

<table>
<thead>
<tr>
<th>Item</th>
<th>Essential/optional</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premises</td>
<td>Essential</td>
<td>The room must be:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cool and easy to clean</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Protected so that bees cannot enter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• With lighting, ventilation and washing facilities</td>
</tr>
<tr>
<td>Strainers</td>
<td>Essential</td>
<td>Choose a type suitable for your operation such as: clean cotton or nylon filtering material held tightly across a bucket, baskets, stainless steel or plastic sieves of appropriate sizes. It can be useful to have filters of different mesh sizes so that increasingly fine filtration can be achieved.</td>
</tr>
<tr>
<td>Buckets with tight fitting lids</td>
<td>Essential</td>
<td>Buckets must be clean</td>
</tr>
<tr>
<td>Jars with lids</td>
<td>Essential</td>
<td>Jars must be clean</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lids must close securely without leaking</td>
</tr>
<tr>
<td>Tanks/drums with tight fitting lids, for storage</td>
<td>Essential</td>
<td>Honey should be stored in an airtight container so that it does not absorb moisture</td>
</tr>
<tr>
<td>Refractometer</td>
<td>Essential</td>
<td>To measure the water content of honey</td>
</tr>
<tr>
<td>Weighing scales</td>
<td>Essential</td>
<td></td>
</tr>
<tr>
<td>Press</td>
<td>Optional</td>
<td>Useful for extracting honey and beeswax from broken honeycomb (alternative to straining)</td>
</tr>
<tr>
<td>Settling tank</td>
<td>Optional</td>
<td>After filtration or extraction, honey should be allowed to stand so that bubbles and any tiny impurities rise to the surface</td>
</tr>
<tr>
<td>Tank with tap or gate for bottling</td>
<td>Optional</td>
<td>Makes bottling easy</td>
</tr>
<tr>
<td>Warming tank</td>
<td>Optional</td>
<td>This is useful if the honey has a tendency to crystallise</td>
</tr>
</tbody>
</table>
ANNEX 3  EXAMPLE PROFIT AND LOSS ACCOUNT

This is an example and should be used only as a guide. The profit and loss account is for one year of operation for a honey packer based on supply of 15 tonnes of comb honey

Variables*

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>buckets of honey purchased in a year</td>
<td>500</td>
</tr>
<tr>
<td>kg per bucket</td>
<td>30 kg</td>
</tr>
<tr>
<td>kg purchased per year</td>
<td>15,000 kg</td>
</tr>
<tr>
<td>honey yield per bucket after processing</td>
<td>25 kg</td>
</tr>
<tr>
<td>wax yield per bucket after processing</td>
<td>2 kg</td>
</tr>
<tr>
<td>wastage per bucket</td>
<td>3 kg</td>
</tr>
<tr>
<td>jars of honey which can be obtained from one bucket</td>
<td>50</td>
</tr>
<tr>
<td>kg per jar</td>
<td>0.5 kg</td>
</tr>
<tr>
<td>cost of one bucket of comb honey</td>
<td>UShs 75,000</td>
</tr>
<tr>
<td>sale price of 0.5 kg jar of honey (wholesale)</td>
<td>UShs 2,700</td>
</tr>
<tr>
<td>sale price of 1kg wax (wholesale)</td>
<td>UShs 10,000</td>
</tr>
<tr>
<td>kg of processed honey sold per year</td>
<td>12,500 kg</td>
</tr>
</tbody>
</table>

* These are examples only: check the current figures in your area
Profit and loss account

<table>
<thead>
<tr>
<th>COSTS</th>
<th>cost in UShs</th>
<th>No. in a year</th>
<th>total in UShs</th>
</tr>
</thead>
<tbody>
<tr>
<td>bucket of honey</td>
<td>75,000</td>
<td>500</td>
<td>37,500,000</td>
</tr>
<tr>
<td>jar</td>
<td>320</td>
<td>25,000</td>
<td>8,000,000</td>
</tr>
<tr>
<td>label</td>
<td>140</td>
<td>25,000</td>
<td>3,500,000</td>
</tr>
<tr>
<td>labour, per person part-time</td>
<td>1,000,000</td>
<td>2</td>
<td>2,000,000</td>
</tr>
<tr>
<td>fixed costs (see note)</td>
<td>10,000,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>61,000,000</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INCOME</th>
<th>price in UShs</th>
<th>No. in a year</th>
<th>total in UShs</th>
</tr>
</thead>
<tbody>
<tr>
<td>packed honey (500g jars)</td>
<td>2,700</td>
<td>25,000</td>
<td>67,500,000</td>
</tr>
<tr>
<td>wax, kg</td>
<td>10,000</td>
<td>1,000</td>
<td>10,000,000</td>
</tr>
<tr>
<td><strong>Total income</strong></td>
<td></td>
<td></td>
<td><strong>77,500,000</strong></td>
</tr>
<tr>
<td><strong>TOTAL PROFIT</strong></td>
<td></td>
<td></td>
<td><strong>16,500,000</strong></td>
</tr>
</tbody>
</table>

Profit margin per bucket purchased: 33,000

Fixed costs

Fixed costs are those incurred, regardless of the total honey turnover and include:

1. Equipment, replacing, fixing
2. Rent, security, cleaning
3. Transport
4. Management, such as manager’s salary
5. Loan repayment
6. Bank charges
7. Communications
8. Promotions and advertising
9. Meetings with suppliers

For the purposes of this example it is assumed that the total fixed costs for one year are UShs 10,000,000.
## ANNEX 4 QUALITY CONTROL CHART FOR UGANDA

**Quality control points for honey handling in Uganda, to meet HACCP requirements**

<table>
<thead>
<tr>
<th>Steps</th>
<th>Hazard (or risk)</th>
<th>Action</th>
</tr>
</thead>
</table>
| Honey harvest from all types of hives | Taints – too much smoke  
Unclean equipment, tools, containers  
Poor personal hygiene  
Foreign material (ash, brood) | Good beekeeping knowledge  
Proper hygiene of personnel  
Proper hygiene of equipment |
| Moving honey                   | Damage and taints during transportation  
Wrong type of containers | Appropriate and clean vehicles  
Careful movement in clean and sealed airtight plastic buckets |
| Extracting honey               | Contamination while crushing the combs  
Poor conditions for extracting  
Attracting moisture | Use clean, unpolluted containers in moisture free climate |
| Honey storage                  | Poor conditions for storage: humidity, wind, dust, heat  
Storage duration  
Pest and predators  
Taints | Cool, clean, hygienic conditions for storage  
Regular stock management  
Pest control methods  
Avoid taints |
| Filtering Preparation          | Poor filtration  
Contamination of equipment | Good filtering  
Use of clean equipment |
| Bottling                       | Poor personal hygiene  
Lack of staff training | Awareness training and washing facilities for staff  
Facilities for cleaning equipment |
| Labelling                      | Poor handling in transportation and delivery  
Damage to stock | Proper packaging  
Careful, safe delivery |
| Distribution                   |                                                                                  |                                                                                                  |
HACCP stands for Hazard Analysis Critical Control Point. It is an internationally recognised and recommended system of food safety management. It focuses on identifying the critical points in a process where food safety problems (or 'hazards') could arise and putting steps in place to prevent things from going wrong. This is sometimes referred to as controlling hazards. Keeping records is an important part of HACCP systems.

References


Further reading


Images

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