



## **Preparation of Liquid Honey**

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***A NATIONAL HONEY SHOW PUBLICATION (No1)***

## **INTRODUCTORY NOTE**

Apart from wishing to provide interest and pleasure for Beekeepers, the National Honey Show has the serious aim of raising the standards of production of honey and all other bee-produce.

With this objective in view, leading authorities have been invited to write for our Schedules on a number of subjects and their work is here available for more general distribution. We wish to thank all our contributors, they are leading exponents of their skills, we have, however, to make it clear that the advice which they give is their own individual method, we feel sure that they would be the first to encourage new alternative ways of preparation with a view to continual advancement and progress within the Craft.

Hon. General Secretary

## **NATIONAL HONEY SHOW**

## *Preparation of Liquid Honey*

By CECIL C. TONSLEY, F.R.E.S.

Editor of the British Bee Journal

It has been suggested by a few and repeated by others that honey produced in Britain requires little by way of preparation once it has been extracted, and as soon as it gets into a bottle it has a ready-made sale, the public demand for the home product being so great-and to a very great extent this has been true. Now, however, there is a genuine rising competition from imported varieties of honey which, although they may be lacking in the underlying subtle bouquets of those honeys produced in this country, are still very good and, compared to the prices asked for our own honeys, good value. And a great deal of the good value lies in the careful preparation and presentation the packers have given to these foreign products, packers, by the way, who have very often been associated with, or are still in some way actively engaged with bee-keeping themselves.

Recently, it has been stated some foreign honeys have caused shopkeepers, etc., to show some resistance to honeys produced in Britain on the grounds that the latter are becoming too high in price.

The beekeeper of this country however, has little to fear from competition from abroad if he is prepared to use his resourcefulness and make the best of the limited amount of honey he can produce. His can be truly a connoisseur's trade if he is prepared to follow those tenets that belong to the world of the connoisseur, i.e., a high standard of quality both in the preparation of the product and its presentation. Honey shows generally, but the National Honey Show in particular, are seeking to set this example all the time for the beekeeper to follow.

How does one become, as it were, a top flight honey producer? The rules are simple when followed carefully.

Firstly, the average British beekeeper is in a unique position in that he can, if he wishes grade his product to colour and taste and it only need take a very little more extra time. In fact, when the harvest has been brought in, grading combs is important if you are to capture the patronage of the better quality shop or store.

As soon as supers are received for extracting scrape all top bars and surrounding woodwork free of propolis and excessive brace comb with the combs in situ. Here the conventional pattern hive tool really comes into its own. For the small operator it is also important to remember that the task of extracting honey becomes easier when it is taken from the hive and extracted without delay. Then there is still a certain amount of hive warmth in the honey and it centrifuges more easily from the comb.

Now comes the next task, that of loosening the combs from the supers and rapidly examining them for the colour of the honey. Here a little tip might not come amiss for those who have trouble in getting combs out of the supers. Fix an inch thick square of chipboard to the workbench; about half an inch smaller all round than the inside measurements of the super. If you put your full supers over this and give them a **sharp press down, it should** bring those combs up.

For actual examination of the combs a good light is required, daylight for preference; and a couple of empty supers.

As each comb is carefully but quickly handled appraise it as follows:

Scan it for sealed and open cells. If the comb presents an open cell surface of more than 12 per cent of the total comb area, or if roughly more than one eighth of each side has open cells, then put it straightaway in the extractor, remembering of course to remove any metal ends, if they should be used, and any excessive burr comb, etc.

Meanwhile, naturally, any fully sealed, or combs with the minimum of open cells can be examined for colour. Light honey can be put into one of the empty supers, medium or a mixed comb of light and medium put into the other. Dark honey can be retained in the super being sorted. Any partially drawn or

empty combs should be set aside to give working room to the whole operation. (A factor to remember here is that honey collected by the bees in comb that has been used for brood rearing rarely, if ever, extracts light, the pigmentation in the larval skins imparts a darkening effect to the honey.)

As soon as the extractor is loaded with the combs containing open or partially open cells give it a careful whirl to remove the 'below-topgrade' honey which should be set aside for feeding back to the bees or used up by the beekeeper.

Each super can be dealt with quite rapidly and methodically if handled as shown above until the crop has been fully assessed.

The next step is to uncap full and partially full combs according to colour, i.e., light, medium, and dark, in that order, otherwise a small amount of medium, for example, could spoil a good sample of light honey.

It is beyond the scope of this article to comment on the various types of equipment available for uncapping and handling honey, except to say that it is essential that the beekeeper obtains an effective uncapping tool, be it a cold steel knife or a hot blade, and a tray-like the pratley-or a deep wire basket to handle cappings and the honey they carry with them. The question of whether it is better to uncap deeply, i.e. close to the wood of the frame, or take away only a very thin slice of wax capping, is really a matter of preference, although those without adequate facilities for handling a large amount of cappings and efficient handling of the honey from them should practice the latter type of uncapping until better equipped.

By the way, for the novice DIY type an efficient but simple piece of uncapping equipment can be made out of a used but clean brood chamber with wire gauze tacked to the bottom (do not use perforated zinc), an inch square length of hard wood fastened across the top with a stout nail driven through the centre-point upwards-to act as comb rest and pivot, and this assembly set astride a deep, well tinned meat dish.

As each kind of honey is extracted run it off to your honey tank (ripeners to some) Much should be fitted with a coarse metal strainer in the upper part, to which should be fixed a long sleeve of regulation filter cloth or nylon to form a bag reaching almost to the bottom of the tank. (Some beekeepers have found nylon stockings useful in this respect but a properly constructed bag is better). The cloth should be 100 meshes to the linear inch as recommended by the Ministry of Agriculture.

Before continuing it might be useful here to say that a warm room and even gentle heat under the extractor and honey tank are essential for the greatest efficiency in extracting providing that any heat applied to vessels is carefully controlled to a point where it only has a warming effect.

Run all honey at this point of the operation to 28 lb. or similar type of honey containers after allowing the honey to stand in a warm atmosphere for 24 hours or so to allow air and air scum etc. to rise to the surface. A neat label defining the honey can be fixed to each tin and the extracting operation is thus rounded off.

Your crop is secure. What is the next step?

Depending a good deal on the dextrose/laevulose composition of the honey so it will either granulate rapidly, finely or coarsely. If the laevulose sugar is above normal it may stay liquid for a longish time. As a rule, if it stays liquid for some time over the normal granulating period for honeys, when it does crystallize it may well have a very coarse grain, whereas high dextrose honeys crystallize rapidly with a smooth fine grain. They come from such sources as mustard, rape, charlock and the brassica family and they are useful honeys for giving a fine grain to the coarser honeys, i.e., 'seeding' other honeys.

Our concern firstly, is for a liquid or clear honey, as it is known in the trade, which may be required for sale or for exhibition on the show bench.

To keep the majority of honeys in a liquid state is one of the most difficult of all problems associated with this whole sticky business but there are ways and means to prolong the liquid state of honey.

Firstly, honey is rendered liquid from the 'set' or crystallized form by heat. At a temperature of 120°F-130°F honey will liquify readily without any great deterioration so long as the treatment is not prolonged

much beyond the point of liquification. (A 28 lb. tin of honey will take about 24-30 hours to liquify in a thermostatically controlled warm box at 120°F.) However treated in this way the honey will not stay clear for very long but will first take on a 'haze' of incipient granulation and then finally reset again, although perhaps not so well, in a week or ten days, depending upon the surrounding temperature. In order to obtain long periods of clarity honey is usually given the above mentioned heat treatment but for a final period of four hours, or a little more, the temperature is increased to 140°F or more. Although a certain amount of deterioration takes place this can be minimised by making sure the honey is well sealed in its container and it is cooled as rapidly as possible once it is removed from the heat. Temperatures exceeding 140°F are definitely detrimental and even dangerous.

A way of preserving honey in a liquid state is to store it at a temperature of 70°F or slightly higher, making sure it contains little air. Unfortunately in extracting honey air is introduced and this is a contributory factor in bringing about crystallisation.

It may not be well known but many a good sample of liquid honey on the show bench never sees the inside of an extractor. One good exhibitor used to select a couple oil newly drawn, well filled capped combs from his supers and scrape all the honey from each side down to the midrib. This honey and wax particles were allowed to run into a large open bowl which was then covered with a clean cloth and put into a hot airing cupboard for three days. At the end of that time the debris was skimmed from the surface and the remaining clear honey carefully decanted through a fine filter cloth to bottles. In this way the full aroma of the honey was preserved, very little or no air introduced and excessive heating, so often required for liquid samples of honey, avoided. (The fact that a silver spoon was used for the operation may have had some significance).

### **So far so good, but that hot tin of honey-or more-is required to be bottled. How best is this achieved?**

With honey that is relatively warm it is much better for handling and streams, rather than lumps, from the honey gate of the honey tank in a manageable manner which it would not do if cold. Therefore the top of the honey should be carefully skimmed and as carefully poured into the honey tank. This can be best achieved by pouring it against the side of the tank or preferably down a slope towards the side of the tank. Honey being a very viscous substance, if it is poured straightway from the honey tin over the side of the tank it will take up air as it goes. The same can be said of taking honey from the honey tap to the bottle. Always work close to the tap and fill on to the side of the bottle, from the bottom to the top.

To make a good quality job of bottling see that all bottles are clean and free from cardboard dust.

Some glass manufacturers pack their bottles direct from the moulds to cartons and the bottles do not require washing. This may be so but it is always advisable to examine all glass before using it. If bottles do require washing use a warm soapy water (detergent), rinse well in cold water and then stand bottles upside down to drain. Do not wipe dry.

Fill the first twelve bottles to the pound indication mark on the neck, weigh them to see that the weight is correct and thereafter weigh one out of every twelve filled. Ultimately fit a cap making quite sure that each cap is clean. ('The latex lined cap is better in several respects to the one fitted with a card wad).

Another innovation during the past two years has been plastic bottles. Their main virtue lies in their lightness and they travel quite **well under** normal conditions.

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The National Honey Show presents annually a three day show of the best of the products of the honeybee, with additional classes for kindred interests and skills, including school bee-keeping, a lecture programme and a display of the latest and finest bee-keeping equipment on the market today.

It attracts entries and beekeepers from all over these Isles, and a number of leading organisations hold meetings during the Show.

It is run on an entirely voluntary basis for the benefit and enjoyment of the bee-keeping community by an independent group which invites all beekeepers and their friends, individuals and associations to give further support by becoming Members of the National Honey Show.