BeeKeepClub

THE BEEKEEPING HONEY EXTRACTOR

ALL YOU NEED TO KNOW

1ST EDITION | 2020

Any comments relating to the material contained in this document may be sent to:

BeeKeepClub

contact@beekeepclub.com

BeeKeepClub

TABLE OF CONTENTS

A honey extractor is a mechanized device which is used for the extraction of honey from bee combs without damaging them. The device works by way of centrifugal force. The extractor contains a cylindrical drum that holds the frame basket, and by spinning it around is able to extract honey out of the combs. The advantage of this is that the wax and combs remain intact and can be returned to the bees for use. There are usually two types of honey extractors – tangential or radial. They are differentiated on how the frames are assembled in the basket.

Radial baskets – these have the top bar of the frame facing outwards.

Tangential baskets – tangential baskets have one side of the comb facing outwards.

Large companies that are involved in the honey extraction business usually prefer radial baskets as mostly they depend on the upward slope of bee comb cells. They depend on this slope because it makes it easy for honey extraction by use of centrifugal force applied towards the upper edge of the comb, which is opposite to the direction of gravity whilst in the hive. The smallest type of radial honey extractor holds two frames, while those used by large commercial companies can hold more than one hundred frames.

BeeKeepClub

WHAT GOES ON INSIDE THE HONEY EXTRACTOR

When the frames have been placed into the drum of the extractor and it starts spinning, honey is forced out of the wax cells that have got their caps removed by a hot knife, or a hot air gun. The honey will then hit the drum walls and then run down to the bottom of the drum.

At the bottom of the drum there is a tap that is fixed, which if opened, allows honey to flow out of the extractor. To ensure that the extractor works well, honey must be removed from the extractor in short time. When honey is left in the extractor longer than is necessary, what happens is that it impedes the extractor from spinning the way it should in order for it to extract more honey.

THE ELECTRIC HONEY EXTRACTOR

The electric honey extractor uses electricity to spin the frames that are attached on the central shaft located in the middle of the drum. It has an electric motor which is connected to your electric current supply so that it can turn the frames at a certain speed.

Speed is controlled because if the frames inside the drum are spun at very high speeds, then there is a possibility of damage to the honey combs.

The electric honey extractor is the best option for large scale commercial beekeepers because they are fast and don't need much energy to operate. Large commercial honey companies use electric extractors due the convenience that such extractors offer.

ADVANTAGES OF ELECTRIC HONEY EXTRACTORS

Below are some of the advantages of electric extractors over manual extractors:

- *Electric honey extractors can be used to extract large amounts in a much quicker time.*
- *They are easy to operate. Simply turn on the electric motor has been turned on the spinning starts automatically.*
- *They are faster compared to manual extractors.*
- *Can be used by large commercial honey extracting companies.*

THE MANUAL HONEY EXTRACTOR

The manual honey extractor is manually operated using your hands, and you can even make one yourself if you're so technically inclined. The absence of an electric motor is really the only difference, since it also has a drum that has a shaft where frames can be attached to for the spinning to be done. Most manual extractors can hold from two to about four frames.

ADVANTAGES OF MANUAL HONEY EXTRACTORS

The advantages of the manual honey extractor include the following:

- *Can be used to extract honey even where there is no source of electricity.*
- *It ensures that delicate wax combs are not damaged because the spinning speed can be controlled by the hands easily.*
- *Doesn't contribute to your electricity bill.*
- *Less expensive than the electric extractor.*

HOW TO LOAD A HONEY EXTRACTOR

To load a manual or electric honey extractor:

1. *Make sure to have uncapped the honey-bearing beehive frames you are extracting from. The number of frames you extract honey from at a time should be even in most cases. It allows you to balance the load in the extractor. You may uncap a frame and load it into the extractor before proceeding to uncap the next frame.*
2. *Place one beehive frame in each basket of the honey extractor. The baskets of honey extractors are made so they can easily take the different sizes of beehive frames used in popular types of beehives. The frame should fit well and be held in a position where it will not be flung out when the extractor is powered up.*

All honey extractors have the same basic design consisting of a hollow round drum with a rotating mechanism in the middle. Beehive frames are loaded onto the central rotating apparatus in the extractor.

Power is then applied to the honey extractor and extraction commences. A honey extractor may use electric power for rotation or be manually cranked. Beekeepers buying electric extractors should go for one that has a durable electric motor.

Manually cranked honey extractors have gearing mechanism that makes the extractor rotate fast with little use of energy by the beekeeper.

HOW TO USE A RADIAL HONEY EXTRACTOR

Radial honey extractors have their basket designed so that beehive frames sit with the top bar facing outwards. They apply centrifugal force to the beehive frames in the opposite direction of gravity acting on the frames in the beehive. Radial honey extractors do not need you to turn the frame during honey extraction. To use a radial honey extractor, follow the steps below:

1. *Uncap your beehive frames bearing honey on both sides. Beekeepers are increasingly using **electric uncapping knives** that heat up evenly and make honeycomb uncapping easy.*
2. *Load the uncapped frames into your radial honey extractor with the top bar of the frame facing outwards. Balance the frames so that the extractor may run smoothly.*
3. *Check that the honey gate of the extractor is closed.*
4. *Close the extractor and power it. If it is a manual honey extractor, rotate the cranking mechanism to remove honey from the honey bearing beehive frames.*
5. *Once all the honey has been extracted from the honeycomb, open the extractor and remove the frames.*
6. *Open the honey gate and let the honey flow out of the extractor. Accumulation of honey in the extractor is not encouraged.*
7. *Clean the extractor well and use clean fresh oil to lubricate moving parts that need lubrication before storage.*

Radial honey extractors may appear wider and taking up more space than tangential extractors. They are the **best honey extractors** for use in both small scale and large scale beekeeping. Radial honey extractors take less time for complete extraction of honey. An electric radial extractor allows the beekeeper to extract honey from many beehive frames in a short period of time. There are both small and large radial honey extractors. They take anywhere between 4 frames to more than 100 frames at a time. The larger radial honey extractors are great for industrial beekeepers.

HOW TO USE A TANGENTIAL HONEY EXTRACTOR

Tangential honey extractors have the frames held in the basket with the honeycomb facing outwards. It allows for complete removal of honey from one side of the frame at a time. Tangential honey extractors can be found in use by many beekeepers. To use a tangential honey extractor, follow these steps:

1. *Uncap your beehive frames with honey and load them onto the extractor. Use a hot or serrated knife to uncap honeycomb.*
2. *Load all baskets of the extractor. If beehive frames are not enough to fill all baskets of the extractor, you may balance out the frames. A 6-frame honey extractor can be loaded with 3 frames and be balanced. Optionally, use frames from which you have extracted honey to balance the extractor.*
3. *Cover the top of the extractor. Clear covers that you can see through are used on most honey extractors. They allow the beekeeper to see what is happen inside the extractor without risking injury from any flying objects that may leave the extractor.*
4. *Check that the honey outlet at the bottom of the extractor is closed.*
5. *Rotate the crank of the honey extractor if it is a manually cranked tangential honey extractor. If it is electric, power on the extractor.*
6. *The best method of extracting honey using a tangential honey extractor is the 50-100-50 method. In it, the beekeeper extracts 50% of the honey in one side of the honey comb. They then switch the frame to extract all the honey from the second side of the honeycomb. The frame is then switched to extract the 50% honey that remained in the first side of the honeycomb. This prevents damage to honeycomb due to the weight of honey on one side.*
7. *Remove the frames from which you have extracted honey from the extractor.*
8. *Drain honey from the extractor frequently so that it does not accumulate and cause slowed rotation of the extractor.*
9. *After every use, clean the extractor well before storing it.*

BeeKeepClub

HOW TO HARVEST AND EXTRACT HONEY

Honey extraction is much easier to do when the honey is still in its warm state from the beehive because it flows more freely. The following procedure makes it easy for you extract honey from the combs when using the honey extractor:

1. *You will remove each frame of the capped honey one by one from the super.*
2. *Use a bee brush to gently remove any bee might be on the frame. Be careful not to harm them or accidentally step on them.*
3. *Use a hot knife, or a hot air gun remove the caps of the wax cells.*
4. *You will then place the frames vertically into the drum of the extractor, inside the metal holdings.*
5. *Once the frames are in their right positions inside the extractor, you can then turn on the device if it's an electric extractor, or start spinning it with your hands if it's a manual one. As the frames are spun observe that the speed is good because extreme centrifugal force usually spoils the delicate wax comb. You can spin the frames in one direction for about five to six minutes, then reserve the direction of spinning. In another five to six minutes the combs should be empty and the frames returned to the shallow super.*
6. *As the process continues the drum of the extractor will get filled with honey so it will be better to open the gate valve at the bottom part to release the honey. When the drum is filled with honey it makes spinning of the frames cumbersome.*
7. *You can use a bucket to tap the honey from the honey extractor drum. You can then fill any jars that you may have prepared to keep your harvested honey in.*

HOW TO FIND A HONEY EXTRACTOR THAT SUITS YOU

While choosing you honey extractor, consider the following:

FOR THE HOBBYISTS WITH A MAXIMUM OF 10 COLONIES

A good extractor would be one that can fit 3 frames at a time.

THE SMALL BEEKEEPER WITH 10 TO 50 COLONIES

This type of beekeeper is more demanding when compared to the hobbyist. An ideal extractor would be one that is motorized. An efficient self-turning extractor which is reliable and fast is a must. It must also be able to hold at least 4 deep frames or 8 shallow frames at time.

COMMERCIAL BEEKEEPER WITH UP TO 200 COLONIES

Once your bee farm has up to 200 colonies, you would prefer big radial extractors with a capacity of 36 to 60 frames. Alternatively, a self-turning extractor that has 12 to 16 frames will be fine. Most beekeepers in this category in utilize a self-turning extractor. This may be attributed to the fact that they have bigger frame sizes and the honey viscosity is higher. As for the radial extractors, they work best on shallow frames.

THE INDUSTRIAL BEEKEEPING ENTITY WITH MORE THAN 200 COLONIES

At this level, the work peaks are extremely demanding and thus several people work during the season. Semi or fully automatic uncapping machines are used in these apiaries. They also use complete honey extracting lines. These lines are designed with an automatic, efficient uncapping machine in addition to a semiautomatic conveyor that lead to a horizontal extractor with a capacity of a minimum of 60 frames. This type of machine saves time and substantially minimizes human labor.

HOW TO CLEAN AND MAINTAIN

A HONEY EXTRACTOR

Honey extractors can be quite an expensive piece beekeeping equipment. Every beekeeper understands that proper cleaning and maintenance of any beekeeping equipment helps guarantee a good service and extends its useful life. The extractor is particularly delicate since that is the last place the honey leaves before being bottled for consumption. It therefore has to be meticulously clean and free from any contaminators or dirt. Some advise that this delicate equipment be left out after use so that the bees can indulge in what is left, but this is bad advice. Doing so increases the possibility of spreading bee diseases. The safest way of handling the extractor after use is proper cleaning and storage.

WAYS OF CLEANING THE HONEY EXTRACTOR

1. *Before cleaning, ensure the honey gate or valve is securely closed. Tilt the extractor at a steep angle such that the remaining honey flows towards the gate. Increase the room temperature and leave the extractor overnight.*
2. *The next day you will find substantial amount of honey collected at the bottom of the extractor. Open the valve and collect this in a bottle or any other ideal container. This is for your home consumption.*
3. *Wax and propolis will remain inside the extractor and this has to be cleaned. Following the same procedure, tilt the extractor such that what is collected is directed to the honey gate. Close the valve and fill the extractor with cold or cool water then leave it overnight.*
4. *Empty the extractor the following day and rinse it using cool or cold water. Take a clean kitchen towel and mop up the dregs.*
5. *Keep the extractor bearings away from water when cleaning if the lower bearings are not covered by extractor basket. Use plastic wrap as cover so as to prevent the bearings from getting exposed to rusting.*
6. *Store the extractor in a clean dry area after cleaning.*

MAINTENANCE OF THE HONEY EXTRACTOR

1. *The extractor is designed to last for many years and this will be achieved if the unit is well maintained. Clean the extractor before and after each use. Use a dry cloth to wipe it after cleaning and always protect the bearings and gearbox from coming into contact with water.*
2. *The gearbox shaft or gearbox does not require additional lubrication. Therefore, do not oil or grease these components of the honey extractor.*
3. *As for extractor bearings, those with a capacity of 8 frames and above are normally sealed and therefore need no maintenance. Of course, this depends on the manufacturer and in case you suspect they are not working as usual, never hesitate in contacting your manufacturer.*
4. *Smaller extractors, that is, those between 2 and 4 frames, generally do not require maintenance on the bearings. However, in case of problems contact the manufacturer.*
5. *Always ensure the honey gate is kept in excellent condition. Clean it thoroughly after every use and make the necessary to the pivot screw so that the valve moves as required and seals properly when fully closed. Remember also that the honey gate does not require lubrication. However, if desired use a food-safe lubricant.*

Proper cleaning and maintenance of the honey extractor will guarantee long-lasting service. It also helps ensure the honey extracted is free from dirt and contamination.

A FINAL WORD

The most interesting and rewarding part of the beekeeping activity is of course the harvesting of honey. The honey extractor remains a very important tool used for extracting honey without damaging the combs. Whether commercial or hobbyist, electric or manual, be sure to get the extractor that is right for you.

RECOMMENDED HONEY EXTRACTORS

It’s important to invest in a good honey extractor – one that’ll last you a good while and allow you to reap as much honey as possible. View our rankings of the **best honey extractors**.