



Bee Cozy

WINTER HIVE WRAPS



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HEALTHY BEES. HEALTHY PLANET.



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BEE COZY: WHAT ARE THEY?

The Bee Cozy winter hive wraps are made with recycled high density materials layered with R8 insulate protection to reduce heat loss from the hive. Easy to work with, the Bee Cozy slip-on-slip off process saves you valuable time getting ready for winter, and can simply be pulled over various hive styles and configurations.



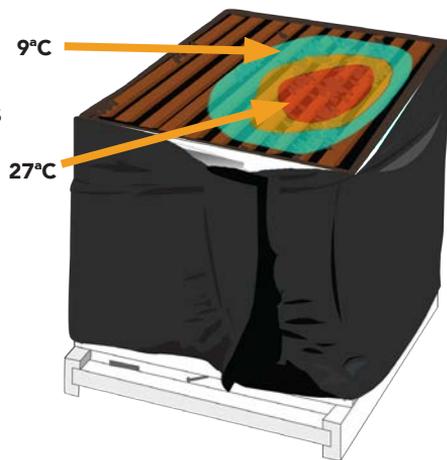
WHY WRAP?

In the last few years winter hive losses have surpassed the 50% range in many North American regions. The wraps have been used successfully during the long Canadian winters for over 25 years.

By preparing your bees for winter, the colony is more likely to have a productive season and consume less feed during the winter months. A properly managed overwintered colony can peak at the beginning of the main honey flow and is capable of maximum production. For this reason, overwintered colonies are preferred. In areas where a maximum crop from an overwintered colony is 250 lb (113.6 kg) in comparison, a package colony purchased in May, could produce only 80 to 100 lb (36 to 46 kg).¹

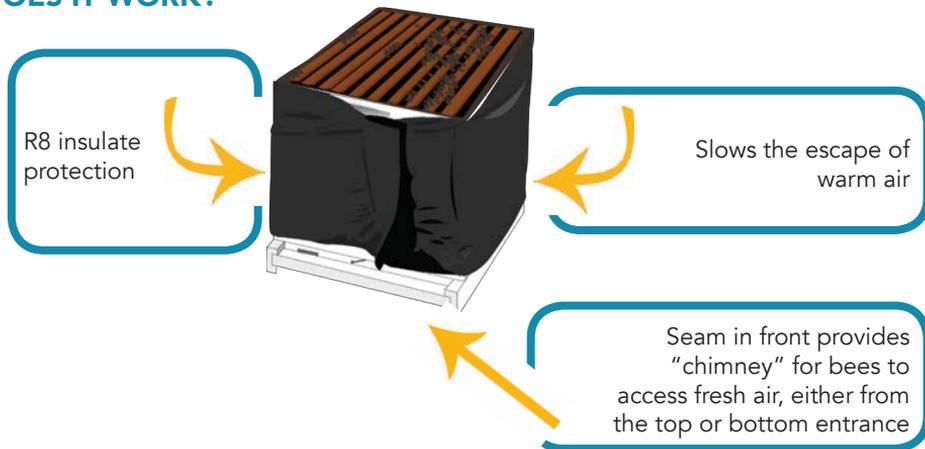
During winter, honey bees cluster together around the queen in the middle of the hive. Hive temperature drops to around 27°C (81°F) on the inside of the cluster to conserve energy. The temperature on the outer rim of the cluster is around 9°C (48°F). Throughout the cold season bees rotate from the centre of the cluster to the outer edge of the cluster, so that all the bees can keep warm enough to survive. During times when the hive needs to be kept warmer than the outside ambient temperatures, certain bees are given the duty of regulating the hive temperature. In order to support the “heater bees” at their job, other bees bring them food to them. They need energy to fuel their constant, vigorous use of their wing muscles or “vibrating” to generate heat. This is called thermogenesis. Once the queen starts laying again in the spring, the remaining winter bees must ensure the temperature of the brood rearing zone is back up to about 34°C (93°F).

Wrapping provides the insulating layer bees need to reduce the overall rate of heat loss from the hive while also supplying a wind-break for breezy locations.





HOW DOES IT WORK?



A standard Langstroth beehive is 0.23 square meters and the outside ambient temperature is -30°C (-22°F) while the cluster inside the hive is working to keep the temperature at a balmy 27°C (81°F). The outside vs. inside temperature difference is 57. A Bee Cozy Winter Hive Wrap contains R8 insulation. The equation looks like:
 $0.23 \times 57 / 8 = 1.64$ watts

If you multiply watts by 3.4 you get approximate BTUs and vice-versa.

In other words you would need a heater producing, or the bees will need to work to heat the hive, 5.6 BTU's to compensate for the heat loss through the walls.

Whereas if there is no insulation on the beehives, the bees will need to work to compensate for 13.11 BTU's.



BEST MANAGEMENT PRACTICES

FEED: Colonies should be fed thick syrup (either 2:1 sugar/water or 70 per cent sucrose). It is hard work for a Honey bee colony to concentrate the sugar feed so that they can store it for winter. Thick syrup requires less work (i.e. less time and energy) from the bees.² The honey frames should be on both sides of, and above, the cluster in a Langstroth or vertically comparable hive structure. The closer the feed, the more efficient the honeybees are at fueling their thermogenesis.

TREAT: Monitor Varroa Mite levels throughout the beekeeping season and treat when local economic thresholds are met. MAQS[®] Beehive Strips, a Formic Acid polysaccharide gel strip which, when placed in the brood chamber of a Honey bee hive, is an organic miticide that kills the Varroa mite where it reproduces, under the brood cap. MAQS technology eliminates residue risk so beekeepers can use it safely during the honey flow. Varroa levels going into winter should be at their lowest; 3% is the Ontario, Canada suggestion. MAQS provides the highest efficacy of Varroa mite kill.

VENTILATE: During winter, moisture can build up inside a hive that is not properly ventilated. Honeybees can help to moderate the cold, but they won't be able to properly keep house if it is wet and cold. The Bee Cozy winter hive wrap allows sufficient ventilation for your hives: air moves up through the vent at the bottom, and out through the top.

INSULATE: Place an Inner Cover Pad between the inner and outer covers; deep inner covers work best. Having an Inner Cover Pad + Bee Cozy winter hive wrap will provide the extra insulating layer to support the bees in retaining heat.

REMEMBER: FEED, TREAT, VENTILATE AND INSULATE!





“This method of wintering hives uses one insulated black wrap that goes over each hive individually. This has got to be the easiest way to winter hives in that, it is very little work. In 4 easy steps the hive is ready for winter.”

- Lance, Manitoba, Canada

BEE COZY WINTER WRAPS HAVE BEEN USED SUCCESSFULLY DURING THE LONG CANADIAN WINTERS FOR OVER 25 YEARS

“The Bee Cozies are reusable year after year, so when you calculate it out, they are not be prohibitively expensive, especially if it saves you from having to order more bees. I've gotten five years out of mine so far, and I don't see an issue going forward!”

- Dan, Pottstown, Pennsylvania USA



ADVANTAGES

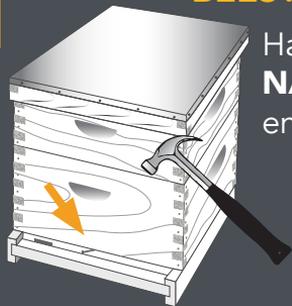
1. The plastic and fiberglass wraps are easy to work with in cold weather.
2. Wrapping and unwrapping is very fast, easily done by a single person.
3. The wraps are light and not awkward to work with or store.
4. No unwrapping is required to check the hives.
5. Unwrapping can be done in stages to maximize benefit to developing hives in the spring.
6. Equal to or less expensive than other winter protection on the market.
7. Wraps have a 5+ year average life expectancy, cost about a \$4.50 per hive/yr.

Tip! Store your Bee Cozy in a tightly sealed bin to help keep furry friends from making homes in them!



LOOKING FOR AN EASY WAY TO PROTECT YOUR WINTER BEES?

1

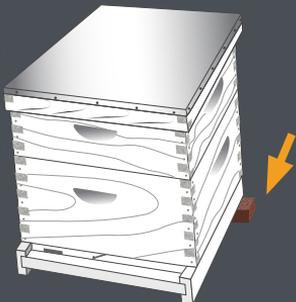


Hammer a 2 inch **NAIL** just above entrance reducer.

2

TIP HIVES & OPEN TOP ENTRANCE

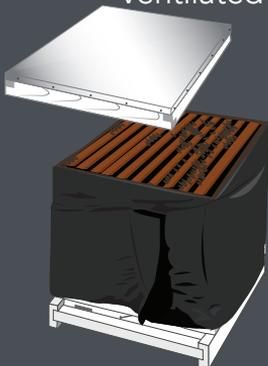
so moisture drains away from the entrance and colony is well ventilated



3

WRAP! PLACE BEE COZY

over your hive with seam at front. Place an Inner Cover Pad in a deep inner cover and leave the top entrance open.



HOW TO PLACE BEE COZY INNER COVER PAD

INNER COVER PAD WORKS BEST WITH A DEEP INNER COVER OR EMPTY SHALLOW SUPER.

Place Inner Cover Pad in the deep inner cover tucking in plastic. Place outer top cover and weigh down if necessary. Make sure bees can access upper entrance.



MAKE SURE THERE ARE BOTH UPPER AND LOWER ENTRANCES ACCESSIBLE TO THE BEES.



Bee Cozy
WINTER HIVE WRAPS

WANT TO PURCHASE AND DISTRIBUTE?



**THE BEE COZY WINTER WRAPS ARE MANUFACTURED IN ONTARIO, CANADA.
FROM THE MANUFACTURES THAT BROUGHT YOU THE MAQS® BEEHIVE STRIPS**

Double (Two Deep Brood Chamber) Winter Wraps

Single (One Deep Brood Chamber) Winter Wraps

Dadant • National • Zander • Langstroth

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Sources

¹ Eischen, F. (1978). Overwintering Performance Of Honey Bee Colonies Heavily Infested With Acarapis Woodi (Rennie). Apidologie, 293-304.

² Kozac, P. (2014, September 1). Best Management Practices (BMP) for Ontario Beekeepers' in Advance of Winter. Retrieved June 29, 2015, from <http://www.omafra.gov.on.ca/english/food/inspection/bees/bmpwinter.pdf>