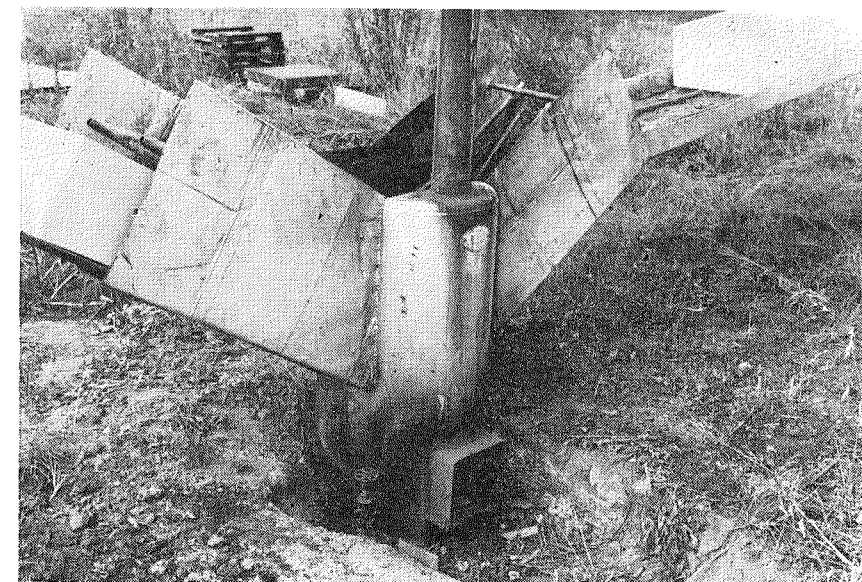


# Method of Preserving Hive Boxes with Paraffin Wax

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**A**LL beekeepers are faced with the cost of preserving their hive material from the effects of weather and rot. The commercial beekeeper finds the cost of conventional paints considerable, and the position is aggravated by the fact that timber treated with arsenic preservatives should on no account be used in hive construction, as the chemical could contaminate honey. The use of creosote or related oils is undesirable because of odours, so the beekeeper is limited in his choice.

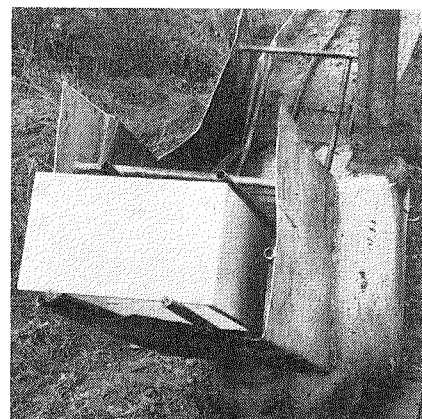
**A**N alternative is the use of paraffin wax heated to a high temperature; this has the added advantage that if hives become infected with a serious brood disease, the boxes can be re-dipped in the very hot wax to sterilise the timber. Paraffin wax is normally procurable from a petroleum company by the sackful and is considerably cheaper than paint. Sometimes cheese factories have wax to dispose of when its colour is below standard for dipping cheeses.



The waxing trough and boiler. A conventional boiler was cut down the side with an oxy-acetylene torch and heavy-gauge flat iron was welded to the cut-away boiler's surface. This forms a wax trough directly over the firebox. A tailrace or drip tray, where dipped hive boxes can drain, extends to the right. A hive box (left) is starting its downward movement into the wax and a finished box is on the drip tray. A support such as a strong stick holds up the far end of the drip tray.



The level of liquid wax within the trough. Wire mesh over the upper guide rods supports block wax while it melts. The trough holds about three bags of wax. The tubular steel guide rods not only give a firmness to the flat iron, but force the hive boxes under the liquid wax as they are pushed, one behind the other, from the near end over to the drip tray.



A hive box ready to be pushed, between the guide rods, downward through the hot wax and up the other side on to the drip tray. A drain cock at the bottom of the boiler enables the wax to be drained off; the boiler can then be moved to another site.

## Need to Stain Wood

It is not recommended that new hive boxes be dipped straight into this wax, as after an exposure of a year or so the timber takes on a depressing colour. It is very desirable first to paint a water stain on the wood and allow it to dry. An extremely cheap water stain can be made by placing

enough Condy's crystals (potassium permanganate) into a container of water to turn the solution a deep purple. This is washed on to the woodwork, where it dries to a pleasant brown.

Methods of heating paraffin wax vary. Some beekeepers use a 40-gallon drum cut down its length to

## WAXING WOODEN HIVE PARTS

form a semi-circular trough when laid on its side and supported by loose bricks over a fire; others have more efficient devices with built-in fire-places and less risk of heated wax catching fire.

The device illustrated, which was built by Mr Russell Berry, of Havelock North, is like a conventional sheep dip, where the sheep are pushed in the deep end and go up a slope to a drip-dry area beyond. This design, beside having the advantages of the built-in permanent firebox, is portable, thus saving truck loads of hive material or boxes having to be brought to the waxing trough. The device is made fairly rigid by burying the base about 18 in. into the ground and packing earth round to firm the whole body. The far end of the drip tray is supported by a standard or stick.

The passage of hive boxes down into the hot wax is controlled by guide rods of tubular steel. These form an arc which not only depresses the boxes below the surface of the liquid but makes a skidway along which the boxes can be pushed downward and up the other side along the drip tray.

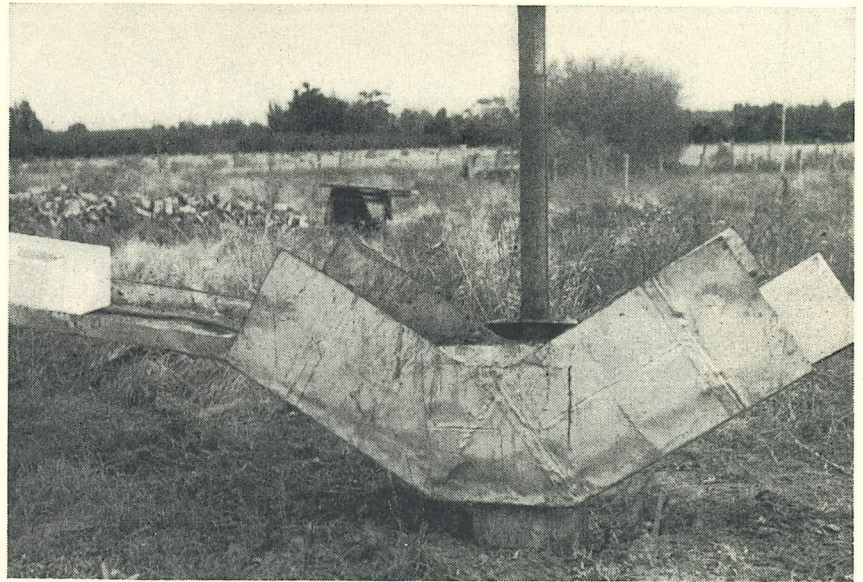
A good working temperature with the wax is between 300 and 400 degrees F, at which heat there is usually a slight suggestion of smoke vapour coming off the surface. A warm, still day is desirable, so that boxes will drain clean of surplus wax.

### Handles 100 Supers an Hour

At a point about 4 ft along the drip tray the boxes are completely dry or free of surface wax and can be removed for stacking. With everything functioning properly, and wood handy for stoking, 100 supers can be passed through per hour. The lower-left illustration on page 329 shows a wire screen resting in the curve of the upper skidway. This is for holding blocks of wax to melt gradually when the level of the fluid becomes low. This does not interfere with the forward movement of boxes.

Mr Berry used an oxy-acetylene torch to cut down the side of a second-hand boiler so that a trough made of strong flat iron could be spot welded on to the cut-away surface. The wax is in direct contact with the outer surface of the firebox (where the water previously was) and the flat iron is made rigid, partly by the cross rods which support the upper part of the skidway. A cock or tap is provided low down so that wax can be drained off if the boiler is to be transported.

The length of the trough (not counting the drip tray) is 6 ft 9 in. and the length at the liquid surface is about 5 ft. The depth of the flat iron (22 gauge) at the centre of the valley is about 2 ft, but the skidway should be constructed first and the iron made to fit the curves of the rods.



The back of the paraffin wax melting device, showing the sheet iron welded on to the boiler in sections and following the curve of the guide rods within. The boiler is sunk in the ground about 1 ft 6 in. at the back and sides to steady the device. The chimney is 10 to 12 ft high.

Where the skidway makes its downward plunge, the rods of tubular steel are 12 in. apart, but to allow boxes to pass round the curve the distance between them needs to be increased about 3 in. The drip tray is 8 ft long and is welded to the body of the trough.

Hive boxes that have been hurriedly made and given a primary coat of

creosote or old oil can have the odour of these sealed off by being passed through paraffin wax.

Boxes from diseased hives which have been passed through this hot treatment will be completely satisfactory. Any old paint on timber is likely to blister, but this treatment will last a lifetime.

## Dairy Produce Graded for Export

THE following figures showing quantities of dairy produce graded for export during July 1964 and for the 12 months ended 31 July 1964 with comparative figures for the same month and 12 months of 1963 have been compiled by the Dairy Division of the Department of Agriculture from figures supplied by divisional officers at the various grading ports:

BUTTER				
Period	Creamery (tons)	Whey (tons)	Total (tons)	Percentage increase
July 1964	3,874	11	3,885	—
July 1963	3,246	9	3,255	—
Increase	+628	+2	+630	+19.355
12 months ended 31/7/64	181,586	2,784	184,370	—
12 months ended 31/7/63	166,658	2,978	169,636	—
Increase or decrease	+14,928	-194	+14,734	+8.686

Butter in store at 31 July 1964 was 17,288 tons

CHEESE				
Period	White (tons)	Coloured (tons)	Total (tons)	Percentage inc. or dec.
July 1964	131	—	131	—
July 1963	100	4	104	—
Increase or decrease	+31	-4	+27	+25.962
12 months ended 31/7/64	72,256	14,057	86,313	—
12 months ended 31/7/63	77,281	12,976	90,257	—
Increase or decrease	-5,025	+1,081	-3,944	-4.370

Cheese in store at 31 July 1964 was 10,307 tons

If these figures are converted into butterfat equivalent, there is an increase of 6.161 per cent in butterfat graded for the 12 months as compared with the preceding season. The above figures refer only to butter and cheese graded for export and do not include butter and cheese used on the local market and other products such as anhydrous milk fat, whole milk powder, and other whole milk products, and are not necessarily a true indication of production trends.