A CHICKEN COLD BROODER SUITABLE FOR THE NEW GUINEA LOWLANDS

By R. Abdelsamie,* Formerly O.I.C., Poultry Research Centre, Lae

INTRODUCTION

Many young chickens have died on poultry projects in the Morobe province because of chilling (getting too cold). In the first 2 weeks after hatching, chickens need to be kept in temperatures of 30-32°C. Older chickens can survive in lower temperatures. In the New Guinea lowlands, especially at night, it can be much colder than this.

This article discribes a 'cold brooder' suitable for farmers who raise 200-250 broilers at a time. This brooder is designed to overcome the problem of chilling in very young chickens at night. Brooding means taking care of young birds.

MAKING THE BROODER

Materials

You will need:

1. Flat iron sheet 7 m long, 70 cm wide.
2. Bush timber:
   2 pieces 3 m long
   2 pieces 2 m long
3. Empty feed bags (jute sacks).
4. A piece of clear polythene sheet 2.5 x 1.5 m.

Method

In your chicken house make the iron sheet into a ring with the two ends overlapping by about 1.5 m. The chickens will be kept inside this ring. Place the bush timber on top of the ring as shown in the diagram.

Leave a space 1 m wide across the middle of the ring. Cut open the feed bags and cover the top of the ring, except for the 1 m strip across the centre. The plastic sheet is used to cover this strip.

HOW TO USE THE BROODER

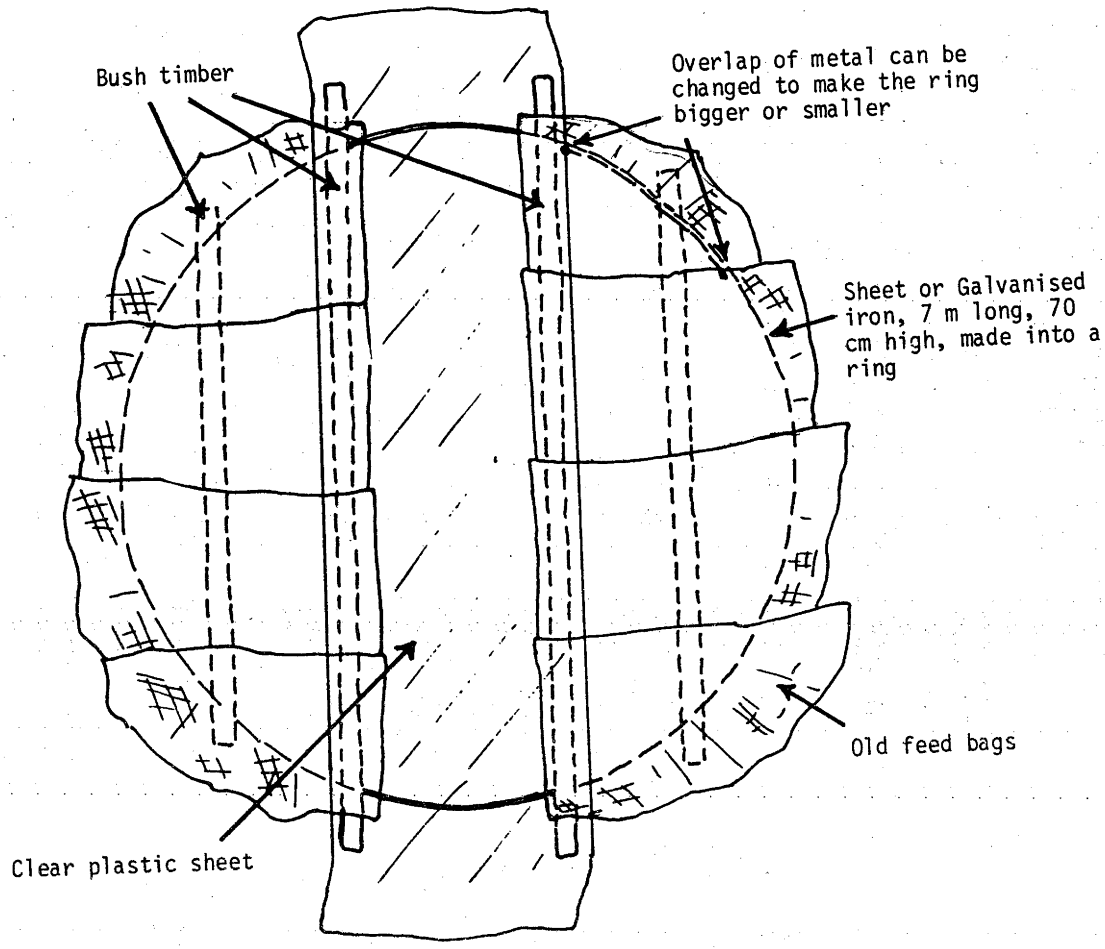
Put the day-old chickens into the brooder as soon as possible after delivery. Put in feed and water and cover the top of the brooder with the jute sacks and plastic sheet. The brooder should remain covered until the following morning. Take the plastic sheet off the brooder. Place food and water in the centre of the brooder.

In the late afternoon place the plastic sheet over the opening so that the brooder is completely covered during the night.

As the chickens grow they will need extra space. You can provide more space by expanding the ring to its full size during the second week. Do this by making the two ends overlap by about 0.3 m only. From about 10 days after hatching the plastic sheet is no longer needed.

---

* *Present Address: CSIRO Project for Animal Research and Development, P.O. Box 123, Bogor, Indonesia.*



Construction of the cold brooder, suitable for 250 chickens

You can remove the brooder after 2 weeks.

HOW THE BROODER WORKS

This cold brooder keeps warm at night using heat from the chickens themselves.

During the day temperatures are usually warm enough for the young chickens. When they are not eating or drinking, the chickens can crowd together under the sacking.

During the night the brooder is completely closed in, so a lot of the heat produced by the chickens is trapped inside. The clear plastic sheet allows daylight in so the chickens will still eat and drink in the early morning and late afternoon when the sheet is in position.

TESTING THE BROODER

The cold brooder described in this article was tested over one year using 52 lots of 250 chickens. The number of deaths of chicks during their 2 weeks in the brooder was counted. On average only 3-4% died (that is 7-10 chicks per lot of 250). Temperature readings both inside and outside the brooder were taken for 6 days. The results were:

	Max. temp.	Min. temp.
Inside brooder :	34.2	30.2
Outside brooder:	34.8	23.2

These results show that the temperature inside the brooder stayed close to the ideal range of 30-32°C. Some water condensation formed on the inner surface of the metal ring and the plastic sheet, but, this did not cause any problems.

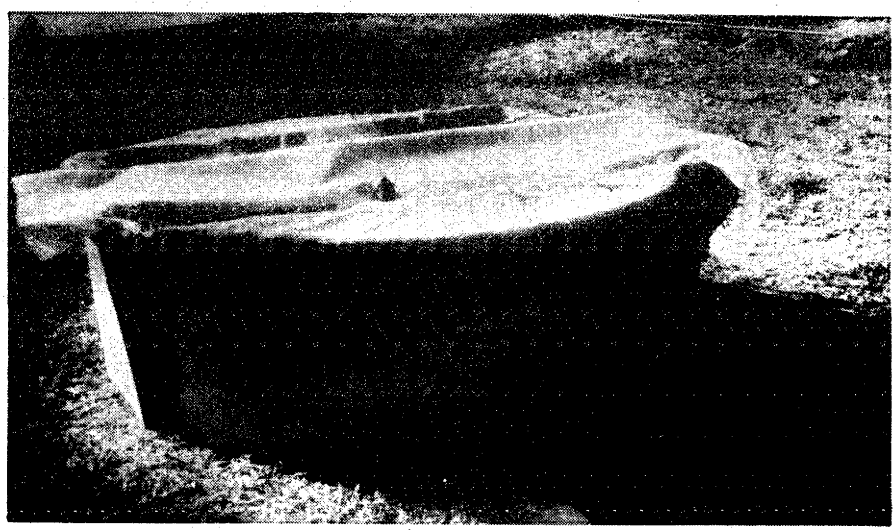
It is very important that the plastic sheet is removed during the day, otherwise overheating may occur. This is especially important during the second week of brooding as the chickens do best at about 30°C.

FURTHER INFORMATION

For further information and advice about this cold brooder, or about looking after chickens in general, contact your Provincial Livestock Officer, or write direct to:

The Officer-In-Charge
Poultry Research Centre
P.O. Box 73
LAE

Tel: 421022



The chicken cold brooder tested at the Poultry Research Centre, Lae. This is a simple and effective way of keeping young chickens warm enough both during the day and the night.