SOME SUGGESTIONS FOR IMPROVING MANAGEMENT ON SMALL SEMI-COMMERCIAL BROILER PROJECTS

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INTRODUCTION

During the past 10 years the poultry meat industry in Papua New Guinea has seen many changes. Originally, young chickens were imported from Australia. Now, the industry imports grandparent stock and rears them locally. These birds produce the country's broiler breeders which are used to produce broilers (meat chickens). See HARVEST Volume 7, No. 4 for details.

The strain of chicken used since the broiler industry was set up is called TM-70. The strain was developed by A.A. Tegel, Australia. Over the years it has been improved and it is now capable of producing 1.8 kg at 7 weeks old, compared with 1.5 - 1.6 kg at 9 weeks old, 10 years ago.

Broiler production in Papua New Guinea can be divided into two sectors: the large commercial operations, and the small semi-commercial projects run by smallholders. In smallholder projects, poor management is usually the cause of problems such as high death rates and low rates of growth, and therefore low income for the smallholder. This article examines some common problems in managing broiler projects.

SOME PROBLEMS IN MANAGEMENT

1. What to do when chickens first arrive

Too often, the grower either collects his or her chickens without preparing for them, or does not know what to do with them. This can be very serious, especially if the chickens have been on a long plane flight, or have been delayed in transit.

The first thing the grower should do when his chickens arrive is to give them some water. After chickens hatch, they can go without water for 72 hours in mild temperatures. If the chickens have been transported without water for a long time, give the water slowly, in small amounts.

Chicken feed (starter mash) should be placed on a flat surface in small amounts to start with. Later the chickens will get used to getting their feed from feed troughs, such as cut-open bamboos.

2. Brooding

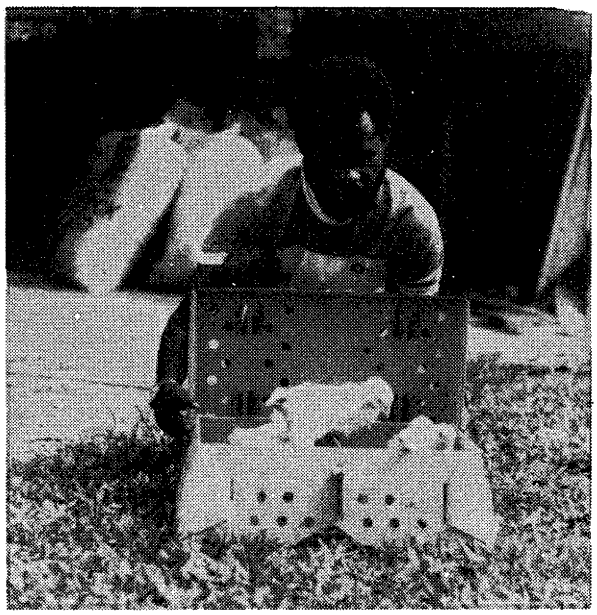
Brooding means keeping the young chickens warm. This is done by keeping them in a special enclosure, and using an artificial heat source, if necessary.

During the brooding period young chickens require special care, as they are very sensitive to any kind of stress. Normal chickens have a fairly high body temperature of about 42°C. It is important to give the young chickens extra heat until they are big enough to keep themselves warm.

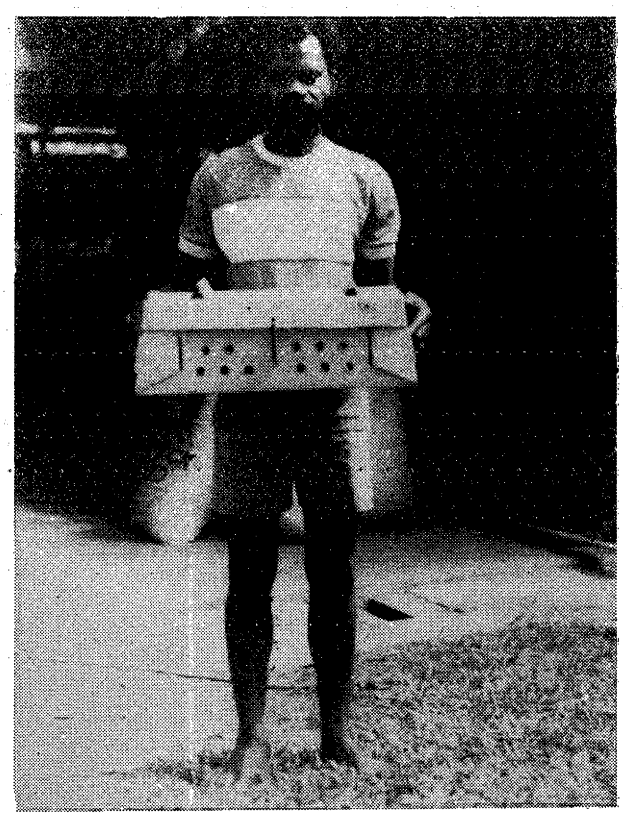
Several methods of brooding can be used. The method used depends on the number of chickens and on whether the project is in a cool or a warm area.

For lowland or coastal areas we recommend 'cold brooding', where no artificial heat source is used. A recommended method of cold brooding for 200-300 chickens is described in the article by R. Abdelsamie in HARVEST, Volume 10, No. 2.

For smallholders, in both the highlands and lowlands, we recommend a simple method of brooding using cardboard boxes. An empty tinfish (48 tins) or beer carton (24 bottles) can hold about 25 chickens. Give the young chickens food and water in an enclosure during the daytime. Put them into the boxes in the late afternoon and



Young chickens must be brooded (kept warm) for up to two weeks. A box like this is suitable. Note the airholes, so that the chickens can breathe.



The box of chickens should be taken indoors at night, especially in the cooler highlands.

close the boxes. Make a few air holes in the sides and top of the boxes so that the chickens can breathe. In highlands areas, the boxes will need to be carried into the house at night, so that on cold nights the fire will keep the chickens warm.

Another method is to use warm brooding using hurricane lamps. Two hurricane lamps are enough for about 50 chickens.

For full details about how to make warm brooders see Rural Development Series Handbook No. 4, 'Poultry', or Farming Note No. 29, 'Poultry - Australorp Chickens'.

Always check the behaviour of young chickens during brooding. If the birds crowd together, or crowd round the heat source, this indicates that it is a bit chilly in the brooder. If the chickens are scattered evenly then they are warm enough. If the chickens scatter away from the heat source, then it is too hot and the heat source should be decreased.

Wet deep litter in the brooder should be removed as soon as possible, as the smell from it will stop the chickens eating.

In the lowlands, 7 days of brooding should be enough before the chickens can be exposed to the outside environment. In the highlands, 10-14 days will be required.

3. After brooding

Straight after the brooding period, the chickens should weigh 100-120 g. From day-old to 23 days, the birds should be given broiler starter feed. After 23 days the birds should be given broiler finisher, which has a lower protein content.

The reason why two broiler feeds are used is that after the birds are about 3 weeks old, they do not need so much protein. However, for smaller projects, of less than 100 chickens, if may be economical to give broiler finisher throughout the rearing period. During the first 3 weeks it should be broken into small crumbs so that the young chickens can eat it.

4. Stocking rate

The chickens should be allowed at least 0.08

m^2 to 0.1 m^2 per bird in the chicken house (that is, 10 - 12 chickens for every square metre floor area).

5. Feeds

There are now 3 types of broiler finisher and 2 types of broiler starter made locally. They are:

Ordinary broiler starter -
20% crude protein

Ordinary broiler finisher -
18% crude protein

High density broiler starter -
22% crude protein

High density broiler finisher -
20% crude protein

High energy broiler finisher -
20% crude protein

Staff at the Poultry Research Centre have conducted trials on these feeds to find out what difference they make to the growth of broilers. It was found that high density broiler starter and high energy and high density broiler finisher gave a better result than ordinary broiler starter and finisher.

By 7 weeks, the growth of broiler chickens is complete. Any feed given after this is used in the energy requirement, or converted to body fat. If the chickens cannot be sold at one time and need to be kept longer than 7 weeks, the broiler finisher can be diluted with a high energy ingredient like corn or cassava.

Broilers should be given food and water at all times. If their needs, especially of water, are not met, this could affect their performance. Note that in the tropics chickens consume twice as much water as chickens in temperate climates. Lack of water for even a few hours will decrease growth rates. In hot weather poultry tend to spend most of their time around the water troughs and do not eat much.

Live chickens fetch very high prices when sold in local markets. The prices range from K3 in coastal areas to K5 - K10 in the highlands.

HOW CAN DIDIMEN AND DIDIMERIS HELP THE GROWER MAKE A 'PROFIT'?

There are three areas in which a didiman or didimeri could help smallholders manage their broiler projects:

1. The growers can be helped to obtain stocks of day old chicks, and feed. The didiman should also suggest how many chickens the grower should buy, keeping in mind the demand for live chickens in the area. We have seen growers make a good profit with a small project. However, when they suddenly increase the number of chickens, hoping to make even more profit, they find they cannot sell them quickly enough. So the chickens have to be kept longer than necessary, and money is wasted on feeding them.

2. It is important to keep simple farm records on stock and feed purchases. There is an article about keeping records and accounts in HARVEST Volume 10, No. 2. Records will help the grower to decide on a selling price for his birds. They also allow the didiman or didimeri to keep track of the progress of the project.

3. If the management systems recommended do not seem suitable for a particular area, or if people are using other feeds and systems didimen could advise staff at D.P.I. Labu, so that these other systems can be evaluated.

Co-ordinated extension support is essential to make sure that projects are run at a profit, and that there is always a good supply of live chickens for the local markets.

FURTHER READING

Abdelsamie, R. (1984). A chicken cold brooder suitable for the New Guinea lowlands. *Harvest* 10(2): 76-78.

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FURTHER INFORMATION

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