

# Infra-red Lamps for Brooding Chicks on Poultry Farms

INFRA-RED lamps to supply heat for brooding chicks have been available in New Zealand for about 2 years. This method of brooding has been studied carefully in the field by Poultry Instructors and at the same time has been used at the Department of Agriculture's Poultry Demonstration Plant at Upper Hutt. In this article F. C. Bobby, Superintendent, Poultry Industry, Wellington, reviews the findings of officers in the field and comments on the results at Upper Hutt.

BROODING methods in general have remained unaltered in New Zealand since the introduction of canopy brooders containing varying types of electric heating units, except that the chick battery brooder has found favour with a limited number of commercial poultry producers. Therefore the amount of interest shown almost immediately the infra-red lamps were introduced for brooding was surprising. Field officers have reported farmers of many years' experience changing to this method, including some whose brooding results in the past have been of a very high standard, and this change was made before any really exhaustive test had been made with the lamps in New Zealand.

Information from overseas about infra-red lamps is still coming to hand and has been distinctly baffling, as the results appear to have varied considerably, some being in favour of the lamps and others either non-committal or unimpressive.

For infra-red lamps to replace present brooding equipment they must satisfy one or more of the following requisites: They must produce better chicks, they must be cheaper to run, or they must be easier to run or call for less skilled attention.

When these lamps were first offered for sale the Department of Agriculture recognised that they might well have a marked value for chick rearing. It was felt that they might rear better chicks because birds brooded with infra-red lamps must have the benefit of better ventilation than is experienced by chicks under the type of canopy brooder in general use today, whether they are reared on litter or on wire frames. Observations have since shown that the absence of a chick canopy allows the rearer greater opportunity of observing the chicks during the early critical days of brooding. On the other hand, there is no

apparent saving in the expense of rearing when the cost of current and the lamps is included. Therefore the value of these lamps for brooding must be assessed on the basis of the quality of chick raised and, if the lamps are to replace present equipment, the chicks should be better on the average than those reared under canopy brooders.

To obtain reliable information about the value of infra-red lamps in order that Departmental officers could offer advice to poultry producers, two courses of action were taken: First, Poultry Instructors were asked to obtain information based on observations at farms where the lamps were in use by means of a questionnaire, and, second, the lamps were tried under normal commercial conditions at the Poultry Demonstration Plant, Upper Hutt.

Reports from Poultry Instructors at first were reasonably favourable, but it could not be deduced from them that better chicks were being reared. During the most recent rearing season a further careful study was made of results being obtained on farms, and most of the chicks observed were not satisfactory. Unevenness among the chicks and noticeably pale legs among

White Leghorns were recorded. In one brood reared under lamps 40 per cent. of the chicks had curled toes. Pale legs and curled toes are troubles reported from the United Kingdom, where no explanation for these undesirable characteristics has been found.

At the Poultry Demonstration Plant, Upper Hutt, three batches of chicks have been reared under lamps during the past two rearing seasons and in each case the chickens so reared were not considered equal in quality at the end of the brooding period to those reared at the same time under the canopy brooders used as standard equipment on the farm. The lamp chicks were less even in size and White Leghorn chicks exhibited a lack of leg colour.

In view of the reports from officers in the field and the differing reports from overseas regarding the efficiency of infra-red lamps for brooding on commercial poultry farms, it is intended to carry out a closely controlled experiment at the Poultry Demonstration Plant during next rearing season, using normal commercial size units of chicks. The results obtained from this experiment will be published in detail for the benefit of all interested in the use of these lamps.

## Lord Rutherford Memorial Appeal

TO honour the memory of one of the greatest experimental scientists of all time, Lord Rutherford of Nelson, the council of the Royal Society is appealing throughout the British Commonwealth for funds for the establishment of a Rutherford Memorial.

Born in 1871 in the Nelson Province, Ernest Rutherford was educated at Nelson College and Canterbury University College and studied at Cambridge University. He became a professor at Montreal, Manchester, and Cambridge. He died in 1937 and was buried in Westminster Abbey.

It is proposed that the memorial to Rutherford and his tremendous contributions to scientific knowledge should take two forms:—

1. Rutherford Scholarships, to be awarded to post-graduate students within the British Commonwealth for research in the natural sciences, and

2. A Rutherford Memorial Lecture, to be delivered at intervals at selected university centres in the British Commonwealth. At least one in three of these lectures is to be given in New Zealand, including the first of the series, this year, by Sir John Cockcroft.

Rutherford was the father of modern nuclear physics. His genius for experiment and the brilliant interpretation of his observations led to practically all that is known about the structure of atoms. He always worked on problems at the limits of human knowledge and developed new methods of experiment to extend these limits still further. His personal contribution to scientific knowledge was immeasurable. He will be remembered also for his capacity to inspire others to fruitful interest and participation in his work. His achievements, personality,

and forceful leadership attracted colleagues and students from all over the world and from his laboratories came many of the world's leaders of physical science today.

All countries have felt the effect of Rutherford's work through the influence of scientific men trained by him. All countries and all sciences have been helped in another manner by new facilities for investigation. Radio-active elements are a by-product of Rutherford's work. They give a new, more penetrating tool in studies in agriculture, industry, and human medicine.

His interest was not confined to purely academic science. As chairman of the Advisory Council of the Department of Scientific and Industrial Research of Britain he gave wise guidance to the British Government in the encouragement and extension of the use of the scientific method in industry. He was president of the council of the Royal Society from 1925 to 1930.

A sum of £100,000 has been suggested as the objective of the society's appeal. Of this £30,000 has been set as the target for New Zealand, and the appeal is being sponsored in the Dominion by Canterbury University College, which is receiving the support of provincial committees in Auckland, Wellington, Nelson, and Otago. Several thousands of pounds have already been subscribed by firms, local bodies, and private donors.

Donations to the Rutherford Memorial appeal should be sent to the Registrar, Canterbury University College, Christchurch, or to the Registrar of one of the other university colleges in Auckland, Wellington, or Dunedin.

## Y.F.C. Members' Subscriptions

Details of the new Young Farmers' Club concession rate for "Journal" subscriptions are published in the January issue of the "Supplement". Only by payment of "Journal" subscriptions by 1 March 1952 at the latest can members be assured of receiving the April issue and so maintaining continuity. Paper shortages preclude printing large numbers of spare April "Journals" for those who take out subscriptions after 1 March and then request back numbers.

Members should therefore pay their "Journal" subscriptions as soon as possible. If these are endorsed "to begin with the April issue", continuity will be certain.