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Field day: poultry research: a progress report: Poultry Research Station, Wembley

Department of Agriculture, Western Australia

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At the fourth field day held at the Department of Agriculture's Poultry Research Station at Wembley recently, about 150 visitors, most of them commercial poultry farmers, inspected the station and saw the progress of the comprehensive research programme being carried out by officers of the Department's Poultry Branch.

The following summaries of talks given at the field day give a brief roundup of indications from research now in progress. The experiments outlined will be reported fully in future issues of the Journal, as results become available.

**BROILER EXPERIMENTS**

(P. Smetana.)

**Better Meat and Fishmeal**

Meatmeal and fishmeal, processed locally by a new chemical method instead of by the usual heat and pressure, were tested against local meatmeal and whalemeal. It was found that the chemically extracted products gave a higher body weight and better conversion than the mixture of animal proteins normally used in most broiler rations.

A local firm intends to produce commercial quantities of these products in the future.

**Debeaking**

Debeaking cockerels at day old, severe enough to prevent later regrowth of the beak, was found to depress growth when compared with birds fed on an identical ration. At 12 weeks the debeaked group weighed 2 lb. 12.6 ozs. per bird compared with 3 lb. 1.3 ozs. for the control group. This represented a decrease of about 10 per cent.

**Fat in Ration**

The addition of 5 per cent. fat to the control ration in the debeaking experiment had no effect on body weight at 12 weeks but there was a slightly better conversion rate. Both groups averaged 3 lb. 1.3 ozs. per bird at 12 weeks. The conversion ratio for the control birds was 3.60 and for the fat group 3.50.

The substitution of imported South African fishmeal for meatmeal and whalemeal gave a 16 per cent. better weight at 12 weeks of age. The average weight of the fishmeal birds was 3 lb. 9.1 ozs. per bird at this age. Conversion for the fishmeal group was 3.27 as against 3.60 for the control flock. This fishmeal proved to be superior as a source of animal protein for broilers when compared with a local brand of meatmeal and whalemeal which are the standard ingredients used in this State.
The effect of fishmeal in the broiler ration. The cockerel on the left, from the fishmeal group, compares favourably with a bird from the control group. Both are 13 weeks old.

Methionine

The purpose of this trial was to repeat the fishmeal treatment and to determine whether there was any response from the addition of the amino acid methionine. The addition of 1 oz. methionine per 100 lb. of feed resulted in an average weight of 2 lb. 12.1 ozs. at 12 weeks compared with 2 lb. 8.8 ozs. for the control group. The methionine group had a conversion ratio of 3.8 as against 4.2 for the control birds. Once again the substitution of fishmeal for meatmeal and whalemeal resulted in a marked response. The fishmeal group weighed 3 lb. 4.4 ozs. at 12 weeks while the control group only weighed 2 lb. 8.8 ozs. Therefore, the fishmeal group were 28.4 per cent. heavier than the control bird. The conversion ratio for fishmeal was 3.5 and for the control group it was 4.2. Once again the fishmeal group were clearly superior.

The figures for these three experiments are still to be analysed statistically and results calculated in terms of profit before any definite conclusions can be drawn.

FOWL POX EXPERIMENTS
(P. Smetana.)

A new special day old fowl pox vaccine was tested at the Research Station. There are several advantages associated with vaccination at day old rather than the more usual practice of vaccinating at 12 weeks.

Records kept for mortality and body weight over a six week period showed that there was no detrimental effect after day old vaccination. Examination of vaccinated birds revealed 100 per cent "takes". Immunity from fowl pox after day old vaccination is claimed to be life long and vaccinated birds challenged with the disease at 15 weeks showed that the vaccine was effective.

It is important that a special day old fowl pox vaccine is used, otherwise heavy losses can be experienced.

LAYING EXPERIMENTS 1961
(P. Smetana.)

A number of rations were compared with the control ration such as is commonly used in the industry at the moment.

The treatments consisted of a control ration; control + greenfeed; control + 10 per cent. wheat germ; control + 4.6 per cent. livermeal; control + vitamin supplement; control + 4 per cent. craymeal; and two high energy diets, one with greenfeed and the other with an added vitamin supplement.

These rations were tested both in cages and in floor units. Progressive figures over a six month period allow a number of conclusions to be drawn.

- Craymeal is satisfactory to include in laying rations at up to 5 per cent.
- Wheat germ does not seem to be of any particular advantage in laying rations.
Greenfeed added to a ration of the type used as a control diet in this experiment gives better results under cage conditions than on floor units.

There is an indication that under the conditions of this experiment high energy diets may be more efficient than medium energy rations.

**BETTER LAYING RATIONS**

*(D. Hessells)*

Five commonly used poultry feedstuffs were tested for egg production at the Research Station. They were added to a standard basal laying ration.

The feedstuffs tested were:

1. Fresh Kikuyu lawn clippings at the rate of 1½ oz. per bird per day.
2. 4 per cent. dried buttermilk powder.
3. 1½ mg. of Vitamin B₂ (riboflavin) per lb. of mash.
4. 4 per cent. dried brewers' yeast.
5. 1½ ozs. greenfeed + 4 per cent. dried buttermilk + 1 mg. of Vitamin B₂ + 4 per cent. dried brewers' yeast.

The profit per bird of rations 1, 2, 3 and 5 were well above the profit of the birds on the basal ration while the high cost of the dried brewers' yeast made that ration an uneconomic proposition.

**Protein Supplements**

Supplies of protein supplements are often inadequate during the winter months and farmers are forced to use whatever they can obtain.

A test with an inferior quality whalemeal is now in progress and has shown that egg production is drastically reduced by the use of this whalemeal. Production from birds under test has fallen considerably. The average percentage lay after 12 weeks was only 37.3 per cent. compared with 51.4 per cent. for the birds on the control ration containing North-West whalemeal and Midland meatmeal.

The drop in production is thought to be due to a toxic substance or a microorganism present in the inferior whalemeal. It is planned to further investigate this fall.

**Rock Phosphate**

The use of rock phosphate in poultry laying rations was investigated. Experiments and calculations have established that a saving of nearly 1s. per bird per year could be made by using rock phosphate as against the more expensive bonemeal.

Further details on any of the work reported above can be obtained from officers of the Poultry Branch of the Department of Agriculture, Jarrah Road, South Perth.

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A new feature at this year's field day was a trade display, which gave poultry farmers a chance to inspect the current range of products offered by manufacturers.
DEFICIENCIES IN THE COMPOSITION OF MILK CAN BE COSTLY

OVERCOME THEM BY ATTENTION TO THESE POINTS

• AGE:— Composition tends to decline with increasing years. Keep up the proportion of young cows.

• BREEDING:— The Channel Island Breeds (Guernsey and Jersey) normally yield milk higher in fat and solids. Select and breed to a high producing strain. Grade Herd Recording and A.B. will help you do this.

• FEEDING:— The composition of the ration can affect the composition of the milk. The ration must be balanced.

• SEASON:— Related to the natural feed available. Spring green feed keeps the solids up. Summer dry feed high in fibre helps the fats. If natural grazing is inadequate it must be supplemented to give a balanced ration.

• DISEASE:— Mastitis reduces solids-not-fat. Free the herd of this disease.