

## THE INFLUENCE OF FEED PROTEIN LEVEL ON PRODUCTIVE PERFORMANCES AT ROSS 308 HYBRID

### INFLUENȚA NIVELULUI PROTEIC AL RAȚIEI ASUPRA PERFORMANȚELOR PRODUCTIVE LA HIBRIDUL ROSS 308

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*Few years ago our country start breeding broiler hybrids due to the high growing performances. In our experiment the influence of protein ration level on growing performances and slaughter yield hybrid Ross 308, were performed. The two experimental lots were keeping in optimum microclimate condition in unprotected cage, on soil on permanent layer and having different protein level ration. For obtaining the information regarding the average gain the chicken were weighing weekly and the feed quantity ingested were periodical weighing. The L1 group received a high protein level ration content compared with L2 group. During the all experiment period the highest weighing gain on group L1, were observed. At the end of the experiment the average gain for the chicken from L1 group were 2555,2 g with a feed conversion of 1,96 kg feed / kg gain and for L2 group were 2099,6g with a feed conversion of 2,14 kg feed / kg gain. The highest slaughter yield values (69, 67 % at warm and 65,6 % after 24 h of refrigeration ) for the group L1, were observed.*

**Keywords:** feed conversion, average gain, slaughter yield

#### Introduction

Due to its high superior qualities, white meat comes into top position of global meat consumption and, also our country meat consumption.

Ross 308, poultry meat commercial hybrid, is a tetra linear hybrid produced by the British firm Ross Breeders. Since many years hybrids are imported in Romania and they succeeded to obtain breeders attention through its high performances in case of unsexed growing, reaching 2652g weight at 42 days old with a 1,75 forage/kg weight gain.

In the experiment on Ross 308 hybrid was studied the influence of ration protein level on growing performances and slaughter yield.

## Materials and Methods

Studied biological material was formed of 200 Ross 308 meat hybrids. The experiment was done on unsexed broilers, sex ratio being 1:1. Broilers were divided in two experimental lots (L1 and L2).

Breeding system for the two lots was intensive type on permanent layer, this way being assured microclimate optimal conditions recommended by Ross Breeders in Broiler Management Manual, 2007

Population was done with one day old broilers, and depopulation was done at the end of experiment (42 days) once with slaughtering.

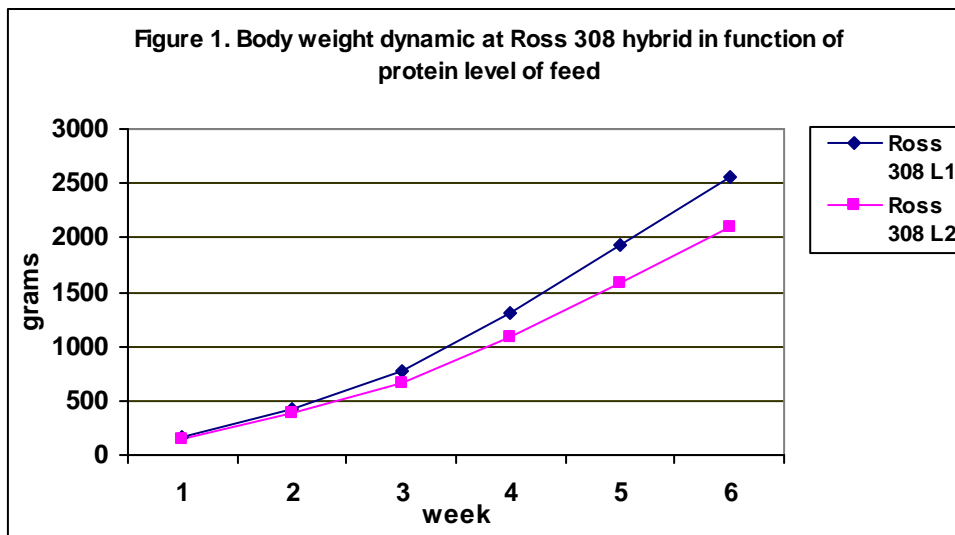
Feeding was done with dry concentrate fodder in type of flour and with different protein level in function with the growing period as follow:

|                |            |        |          |
|----------------|------------|--------|----------|
| L <sub>1</sub> | 1-14 days  | 24% PB | starter  |
|                | 15-35 days | 22% PB | grower   |
|                | 36-42 days | 21% PB | finisher |
| L <sub>2</sub> | 1-14 days  | 22% PB | starter  |
|                | 15-35 days | 21% PB | grower   |
|                | 36-42 days | 19% PB | finisher |

In order to determinate the weight gain, broilers was weekly weighed. Periodically, the fodder quantity was weighed. At the end of experiment (42 days) all individuals were slaughtered, and being determinate the slaughter yield in heat (after evisceration) and in cold (at 24 hours after refrigeration at 0... + 4°C)

## Results and Discussion

In figure 1 is presented in live body weight, and it reflects a spectaculars growing dynamic of broilers, with differences between lots, in favour of group 1, all along the growing period. By comparison, is ascertain that in the first two weeks, the differences between lots are lower, but starting with the third week, begin to increase, reaching over 450 g at the end of experimental period.



Results regarding average gain and total gain for the two lots are shown in table 1.

Table 1.

**Average gain and total gain of Ross 308 hybrid in function with protein level of feed**

| Specification           |                      | Age (weeks) |        |        |        |        |        |
|-------------------------|----------------------|-------------|--------|--------|--------|--------|--------|
|                         |                      | 1           | 2      | 3      | 4      | 5      | 6      |
| Ross 308 L <sub>1</sub> | Total gain g / week. | 105         | 270,32 | 344,8  | 536,68 | 621,08 | 624,80 |
|                         | Average gain g / day | 17,6        | 38,62  | 56,43  | 80,71  | 88,73  | 89,26  |
| Ross 308 L <sub>2</sub> | Total gain g / week. | 100,08      | 237,08 | 265,12 | 434,32 | 498,72 | 512,88 |
|                         | Average gain g / day | 16,68       | 33,87  | 37,87  | 62,05  | 71,25  | 73,27  |

From table 1 can be seen a higher increase of average gain in the first four weeks after the growing rhythm is slowing down. Differences between lots are significant, and are maintaining all along experimental period.

In table 2 are presented total feed conversion and feed conversion, calculated at the end of each week for the entire experimental period.

All the experiment to L1 was administrated fodder with higher protein level compared to L2, so L1 had a lower feed conversion then L2. From table 1 can be

observed differences between lots, in favour of L1. At the end of experiment (42 days) in L1 average body weight was of 2555,2 g, total feed conversion of 5000 g and average gain of 1,96 g, and in L2 average body weight was of 2099,6 g, total feed conversion of 4500 g and average gain of 2,14 g.

Table 2.

**The influence of feed protein level on feed conversion AT Ross 308 hybrid**

| Specification              |                              | Age (week) |      |      |      |      |      |
|----------------------------|------------------------------|------------|------|------|------|------|------|
|                            |                              | 1          | 2    | 3    | 4    | 5    | 6    |
| Ross 308<br>L <sub>1</sub> | Total feed conversion (g)    | 142        | 560  | 1120 | 2200 | 3400 | 5000 |
|                            | Feed conversion (kg/kg gain) | 0,90       | 1,31 | 1,45 | 1,68 | 1,76 | 1,96 |
| Ross 308<br>L <sub>2</sub> | Total feed conversion (g)    | 144        | 550  | 1000 | 1950 | 3000 | 4500 |
|                            | Feed conversion (kg/kg gain) | 0,95       | 1,42 | 1,53 | 1,79 | 1,89 | 2,14 |

Slaughter yield was calculated for each lot right after evisceration and at 24 hours after refrigeration at 0... + 4°C

In table 3 are presented the average values of slaughter yield in warm and in cold. From table 3 data can be seen that slaughter yield at lot 1 is 3,15% higher compared to lot 2, differences that are also maintaining in case of refrigeration carcasses (L1 is 3,12% higher than L2). These differences are due to a higher weight at slaughtering of lot 1 than lot 2.

Table 3.

**Slaughter yield of Ross 308 hybrid in function with protein level of feed**

| Specification  | Slaughter yield % |        |
|----------------|-------------------|--------|
|                | warm %            | cold % |
| L <sub>1</sub> | 69,67             | 68,72  |
| L <sub>2</sub> | 66,52             | 65,60  |

## Conclusions

Administration of an fodder with higher protein level in case of lot 1 had determinate a higher average gain and a final weight higher with 455,6 g compared to lot 2

Fodder needed for one kg in weight (feed conversion or feed conversion indices) was lower at lot 1( 1,96 kg/kg gain ) compared to lot 2 (2,14 kg/kg gain )

In order to obtain a higher live body weight, at lot 1 compared to lot 2, was obtained after slaughtering a 3,15% higher performance for warm carcasses, respectively 3,12% for cold carcasses.

## References

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