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100% ORGANIC RATION WORKS FOR ORGANIC TABLE BIRDS

Poultry researcher Josie O'Brien and Lawrence Woodward present some results from a series of EFRC trials that are questioning the need for the conventional feed derogation in organic poultry production.

Currently the use of up to twenty percent of non-organic components is allowed in the feed ration of organically certified table birds. Although this derogation is supposed to be removed in August 2005, there is mounting pressure to allow it to continue in some form. The derogation was introduced due to concerns that without it the bird's nutritional needs could not be met by certified organic sources alone and therefore their health, welfare and growth would be compromised.

The primary concern relates to amino acid levels and in particular methionine. There was and still remains a perception that the ingredients generally used by the sector to supply methionine do not have a suitable organic substitute; or at least one that is easily accessible at a reasonable price.

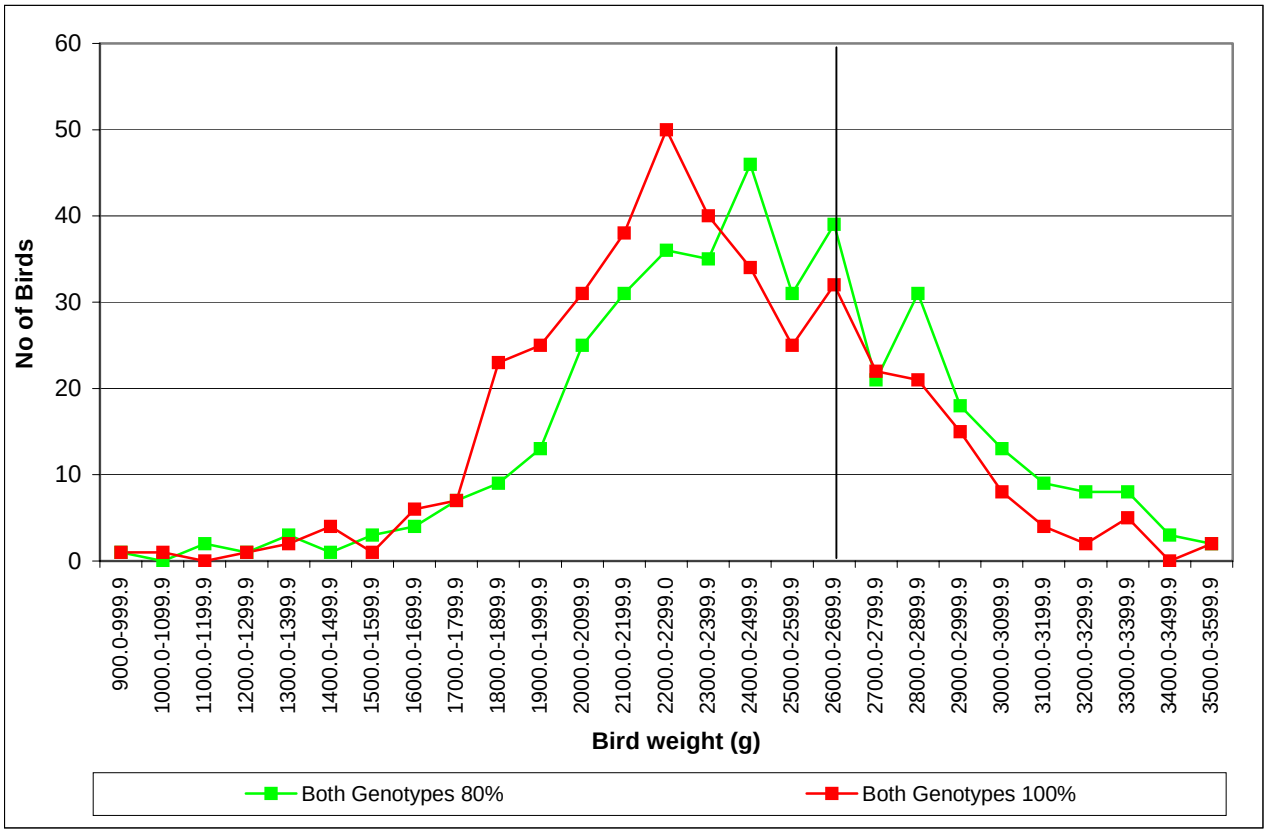
In fact none of these concerns had been adequately tested prior to the issuing of the derogation and even as we approach August 2005, the assumptions on which they are based have not been thoroughly scientifically examined. To address this EFRC has established a series of trials using a commercial organic table bird enterprise.

The trial reported here compared a one hundred percent organic ration with a commercially available ration using eighty percent organic ingredients and the twenty percent conventional allowance. Two strains of birds were used - ISA 257 and Colourpac – in a commercial operation supplying supermarkets. 2000 birds were used in the trial and we studied a range of agronomic and economic factors including bird weight, dressed weight, carcase downgrading conditions, feed consumption and costing, and the impact on the bird's health, welfare and behaviour. Data was collected on two batches of birds over the periods March to May and April to June 2004. The birds were housed in two identical brooder houses in batches of 500.

The bird's live weights can be seen in table 1 and the population distribution in Figure 1.

Table 1: Weekly average weights (g) of ISA 257 and Colourpac birds on 80 percent and 100 percent organic rations.

	Weekly Average Weight (g)			
	80% ration		100% ration	
Age	ISA 257	Colourpac	ISA 257	Colourpac
Day Old	45.82	44.79	45.91	44.80
Wk 1	117.89	122.84	103.90	109.87
Wk 2	264.99	271.75	215.87	240.34
Wk 3	438.99	443.20	356.81	392.67
Wk 4	630.08	645.29	512.77	583.33
Wk 5	907.72	960.63	780.14	861.73
Wk 6	1240.31	1276.25	1064.22	1140.24
Wk 7	1431.49	1552.05	1314.42	1423.85
Wk 8	1872.39	1910.03	1758.76	1817.69
Wk 9	2186.24	2225.54	2048.13	2104.10
Wk 10	2483.66	2460.98	2339.91	2375.45



FiguFigure 1: Population distribution, day 69/70 and 72, both genotypes on 80 percent and 100 percent organic rations.

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A hierarchical model was used to test for significant differences in final live weights. There was no significant difference between the two genotypes. There was however, a statistically significant difference between the two ration types ($p<0.05$) with a significantly lower average weight for the birds on one hundred percent ration; with an average difference 114 grams.

However, in production terms this difference is very small. The similarities in the population distributions and ranges of weights for the two genotypes and two ration types (see figure 1) are more striking.

Turning to dressed carcase weights; there was a statistically significant difference between the two genotypes ($p<0.05$) with a significantly higher average weight for Colourpac birds, (an average difference of 37 grams). There was also a statistically significant difference between the two ration types ($p<0.05$) with a significantly lower average weight for the birds on one hundred percent ration (an average difference 65 grams). As with live weight, these differences are small and in the context of considering the validity of derogation the similarity of the performance of the ration types is more notable than the differences.

However, there was a difference in feed consumption, between the two rations with a clear trend for a lower consumption on the one hundred percent organic ration (see figure 2)

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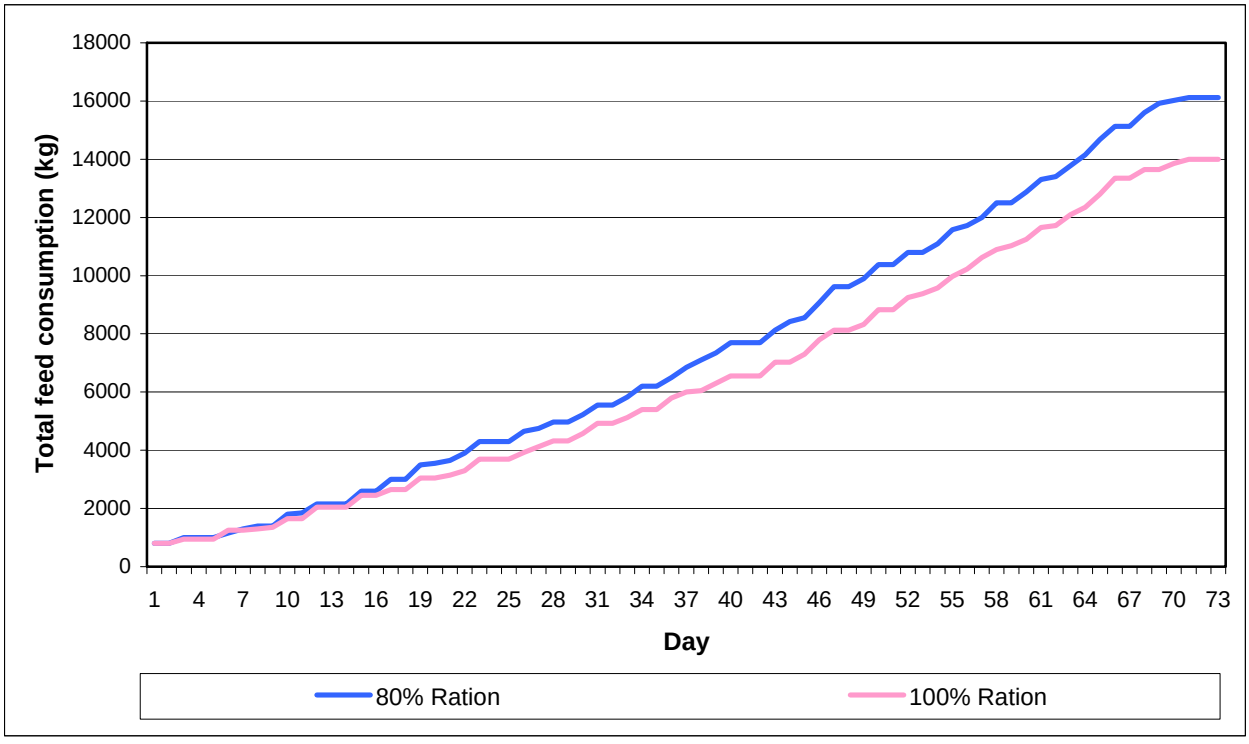

Figure 2: Comparisons of cumulative feed consumption (kg) for the trial birds on the 80 percent and 100 percent organic rations in the two sheds.

Tables 4 shows the cost (£/kg) of the trial rations and the estimated cost that would have been incurred if the feed had have been brought in 'bulk' production amounts.

Estimated cost £/kg dressed carcase wgt			
		Trial Costing	Bulk Costing
Trial 1a	80% Ration	0.90	0.84
	100% Ration	0.87	0.81
Trial 1b	80% Ration	1.04	0.97
	100% Ration	1.03	0.96

Taking all these factors into account it is clear that in terms of £/kg of dressed carcase weight the birds on the one hundred percent ration were actually cheaper to produce primarily due to the lower feed consumption.

This trial revealed no overall health or growth or welfare issues when comparing the two rations, contrary to suggestions that there might be due to the assumed nutritional inadequacy of the one hundred percent organic ration.

Since the end of this trial we have undertaken further work that is confirming these findings. That work will be reported in future Bulletins and scientific journals. We will also be completing a full report considering whether there is any justification in allowing an extension to the derogation in this area. At present it is hard to see more than the flimsiest.

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