

**The Effect of Removing Synthetic Amino Acids from the Poultry Ration on the Final Live and Dressed Weight of Birds from the Sheepdrove Organic Farm Organic Silvo-Poultry System.**

Vanessa Pegg & Bruce Pearce.

**Final Report  
January 2004.**

Sheepdrove



Organic Farm



## **Abstract.**

1. Organic standards and aspirations are moving towards the removal of synthetic amino acids from organic poultry rations. Sheepdrove Organic Farm has already removed synthetic amino acids from the rations fed to its chickens. Data was collected on live and dressed weight of processed birds, before, during and after the removal of synthetic amino acids from the ration. There does appear to be a detrimental effect on the final weight (both live and dressed) of birds raised without synthetic amino acids although this loss of weight has been overcome with the increase in production time from 10 to 11 weeks.

## **Objective.**

2. To establish whether the removal of synthetic amino acids from the poultry ration on Sheepdrove Organic Farm had an adverse affect on the final weight of the birds.

## **Background.**

3. Organic standards and aspirations are moving towards the removal of synthetic amino acids from organic poultry rations. However, there is concern that the removal of these nutrients would result in poor animal health and welfare as well as having an impact on the final weights (and so finances) of the system.
4. SOF with its aspirations to move towards best organic practice and principles removed synthetic amino acids from its poultry ration in late spring 2002. This study has been undertaken to establish whether there were any adverse affects on the final weight of the chickens from their system.
5. It is believed that the amino acids were removed from the SOF field ration around 15<sup>th</sup> April 2002. There would have then been a period of 7 weeks where birds were provided to processing having been fed on a decreasing amount of synthetic amino acids (15<sup>th</sup> April birds will have been fed 7 weeks, 22 April will have been fed 6 weeks of synthetic amino acids until 3 June birds will have received no synthetic amino acids).

## **Methods.**

6. Data was provided for final live and dressed weights of birds from the SOF poultry system between February and September 2002.
  - 6.1. Data for the study was collected from a range sources and therefore may not be completely consistent. Some dressed weight data was collected from the SOF processing unit, other data was estimated from final live weights. There are also some holes in data.
  - 6.2. The data was provided to the study as means of the individual days processing data. There was no measurement of variation around the mean provided.

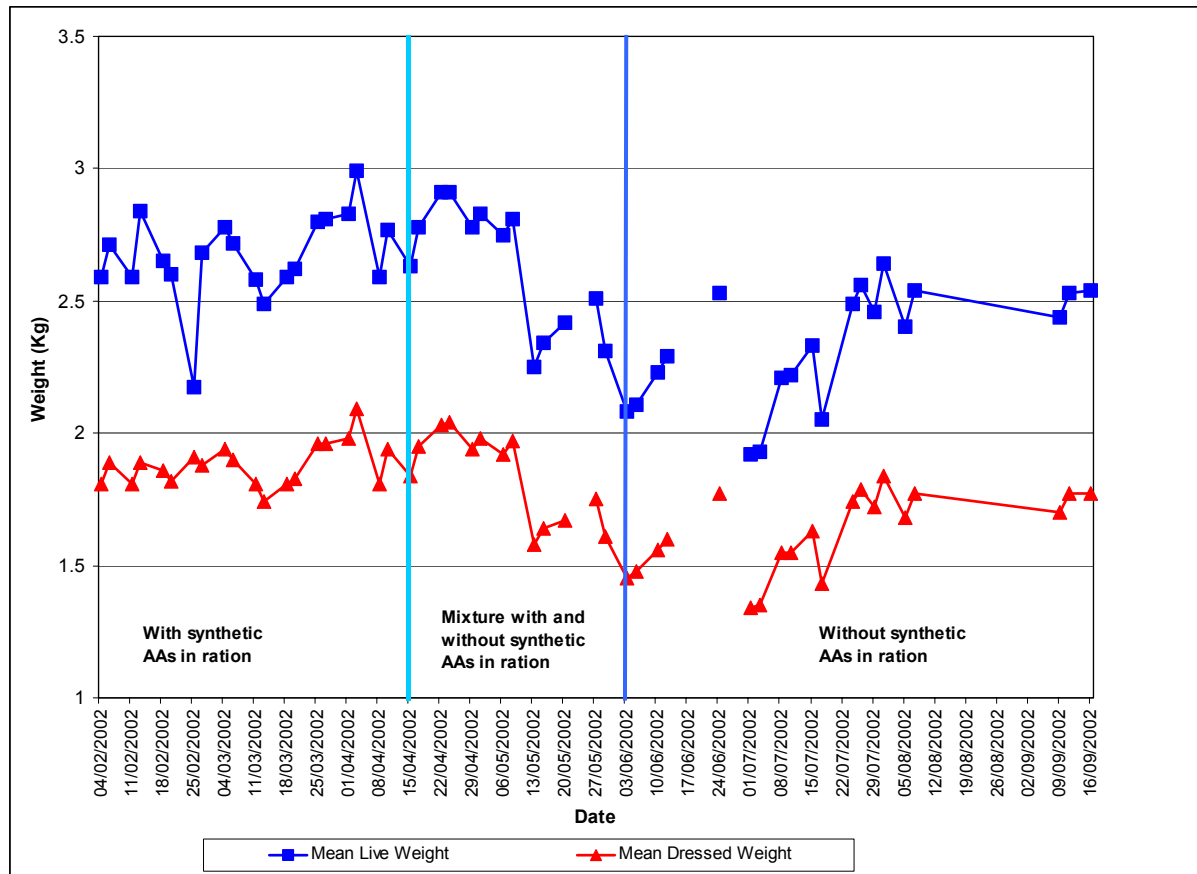
## **Results.**

7. Weights were collated and analysed.
  - 7.1. Figure 1 shows the mean live and dressed weights of the birds.

7.2. Annex 1 is the complete data set.

7.3. The data shows that there does appear to be a decrease in average live and dressed weights of birds once synthetic amino acids were removed from the ration.

Figure 1: Mean Live and Dressed weights of chickens at processing (10 weeks) from the SOF silvo-poultry system with and without synthetic amino acids.



7.4. Due to the way in which the data was presented to the study it is not possible to produce an average weight for the weeks before or after synthetic amino acids were removed from the ration (it is not possible to produce an average from a series of averages). However, an estimated dressed weight with synthetic amino acids is 1.9 kg while without it was 1.6 kg.

## Discussion.

- The information provided does show that there has been decrease in both live and dressed weight of the birds once the synthetic amino acids were completely removed from the system. Between 15<sup>th</sup> April and 3<sup>rd</sup> June 2002 (where there were decreasing amounts of synthetic amino acids in the live time ration) there could also be seen a slow decrease in final weights.
- The final weight observed once the amino acids were removed from the system is also consistent with other studies by EFRC on the SOF system (dressed weight of about 1.7 kg). However, other EFRC studies suggested that an additional week in the field would redress this shortfall.

10. This finding does need to be taken with some level of caution as there is no way of establishing how the changed in ration effected the variation within the data and therefore the effect on the economic return of the system.

### **Conclusions.**

11. With some amount of caution it is possible to say that the removal of synthetic amino acids has had an impact on the final weight of the SOF poultry. However, as indicated in other EFRC studies and confirmed through the change in the SOF poultry system the addition of one more week to the production period has resolved this issue.

f:\work\sheepdrove\poultry\aminoacids\amino acids final report.doc  
07/01/04 12:34

## Annex 1. Raw Data.

Date	No Processed	Mean Live Weight	Mean Dressed Weight
04-Feb-02	1090	2.59	1.81
06-Feb-02	1150	2.71	1.89
11-Feb-02	1100	2.59	1.81
13-Feb-02	1111	2.84	1.89
18-Feb-02	1150	2.65	1.86
20-Feb-02	1350	2.6	1.82
25-Feb-02	884	2.17	1.91
27-Feb-02	1173	2.68	1.88
04-Mar-02	1136	2.78	1.94
06-Mar-02	1191	2.72	1.9
11-Mar-02	1099	2.58	1.81
13-Mar-02	1028	2.49	1.74
18-Mar-02	1080	2.59	1.81
20-Mar-02	1250	2.62	1.83
25-Mar-02	1150	2.8	1.96
27-Mar-02	1102	2.81	1.96
01-Apr-02	1105	2.83	1.98
03-Apr-02	1026	2.99	2.09
08-Apr-02	1116	2.59	1.81
10-Apr-02	936	2.77	1.94
15-Apr-02	1080	2.63	1.84
17-Apr-02	1149	2.78	1.95
22-Apr-02	1100	2.91	2.03
24-Apr-02	1057	2.91	2.04
29-Apr-02	1065	2.78	1.94
01-May-02	1218	2.83	1.98
06-May-02	1126	2.75	1.92
08-May-02	1067	2.81	1.97
13-May-02	1115	2.25	1.58
15-May-02	999	2.34	1.64
20-May-02	993	2.42	1.67
22-May-02			
27-May-02	1000	2.51	1.75
29-May-02	1022	2.31	1.61
03-Jun-02	1076	2.08	1.45
05-Jun-02	1033	2.11	1.48
10-Jun-02	1100	2.23	1.56
12-Jun-02	1059	2.29	1.6
17-Jun-02	1100		
19-Jun-02	1118		
24-Jun-02	1113	2.53	1.77
26-Jun-02	1318		
01-Jul-02	1146	1.92	1.34
03-Jul-02	1249	1.93	1.35
08-Jul-02	1100	2.21	1.55
10-Jul-02	1079	2.22	1.55
15-Jul-02	1090	2.33	1.63
17-Jul-02	1019	2.05	1.43
24-Jul-02	1100	2.49	1.74

With synthetic AAs

Mixture with and without synthetic AAs

Without synthetic AAs

<b>Date</b>	<b>No Processed</b>	<b>Mean Live Weight</b>	<b>Mean Dressed Weight</b>
26-Jul-02	1325	2.56	1.79
29-Jul-02	1103	2.46	1.72
31-Jul-02	1040	2.64	1.84
05-Aug-02	1152	2.4	1.68
07-Aug-02	1088	2.54	1.77
09-Sep-02	1203	2.44	1.7
11-Sep-02	1264	2.53	1.77
16-Sep-02	1134	2.54	1.77