

Research and development into the viability of a one hundred percent organic ration for organic table birds within a silvo-poultry system

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Introduction

- **Organic poultry allowed, under derogation, to be fed a percentage of non-organic feed**
- **Due to industry concerns**
 - **A challenge to sustain amino acid levels**
 - **Increase the cost of production,**
 - **through increased feed cost and reduced performance**



Introduction

- **Prior to August 2005**
 - Derogation for 20 percent, set for removal 24th August 2005

- **August 2005**
 - Derogation NOT removed

 - Derogation reviewed and re-set,
 - Use of up to 15 percent non-organic component until 31st December 2007



Introduction

- **Beyond 2007, derogation will decrease periodically**
 - **15 percent from 25th August 2005 to 31st December 2007**
 - **10 percent from 1st January 2008 to 31st December 2009**
 - **5 percent from 1st January 2010 to 31st December 2011**



Objectives

- **To conduct a formal investigation with organic table birds to compare:**
 - **100 percent organic ration with a current, commercially used 80 and later 85 percent organic ration**

- **To establish the impact of the above on:**
 - **agronomic and economic factors in the system**
 - **live bird weight**
 - **dressed carcase weight**
 - **feed consumption and costing**
 - **potential carcase downgrading conditions**
 - **behavioural, health, and welfare factors**



Summer Trials

- **First set of trials March to May, then April to June 2004**
- **Production scale trials using 2000 birds**
- **Birds grown in mixed sex flocks to Soil Association standards**
- **Four flocks randomised between two houses**



Data Collected

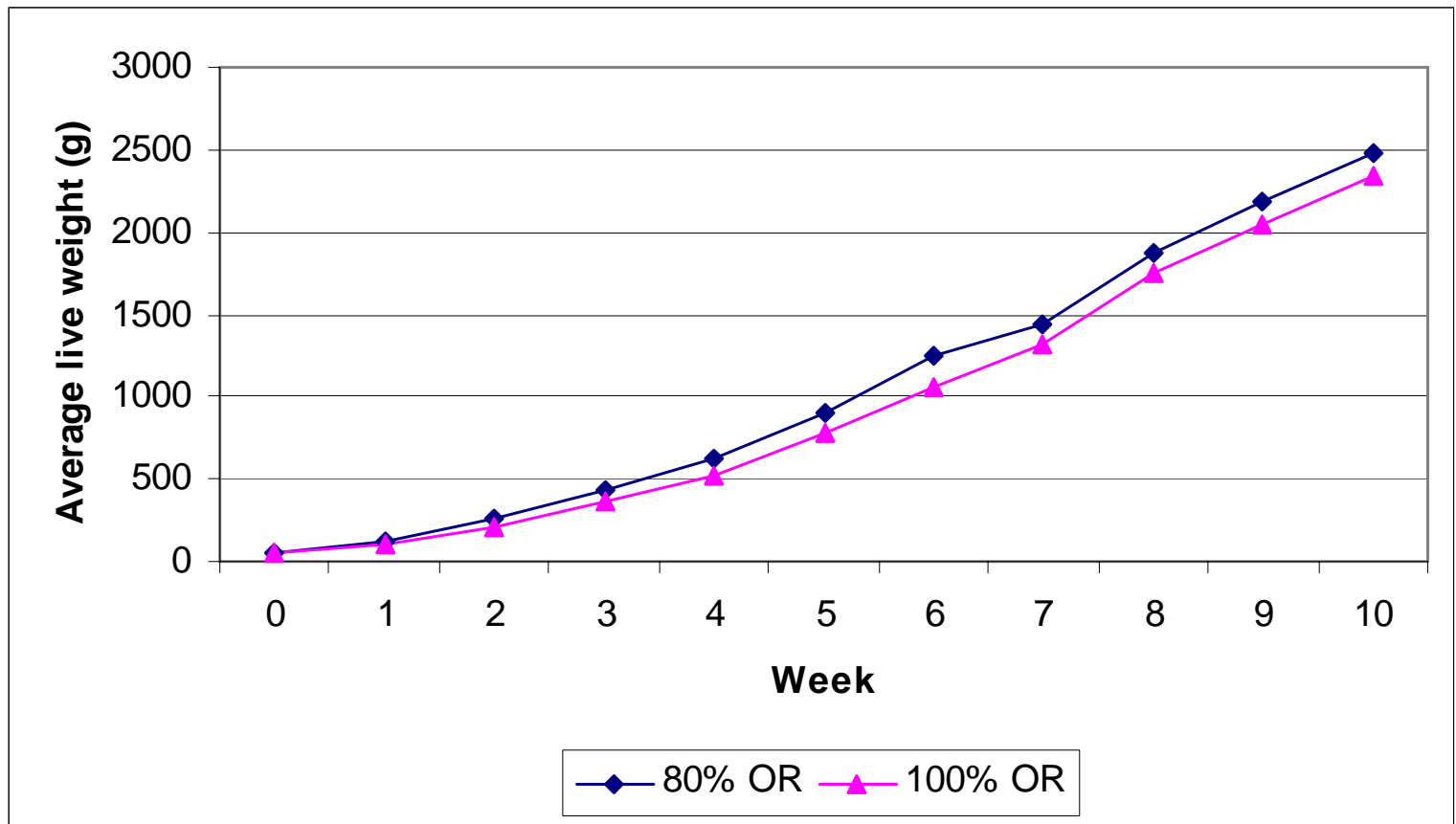
- **Weekly live weights**
- **Behavioural observations (week 6-10)**
- **Gait scoring (1 week prior to slaughter)**
- **At slaughter**
 - **Dressed carcasse weight**
 - **Flapping, feather damage and cleanliness**
 - **Contact dermatitis**
 - **Wing haemorrhages and red wing tips**
 - **Carcasse bruising and damage**
 - **Carcasse conformation**



Results and Discussion

Agronomic and Economic Factors

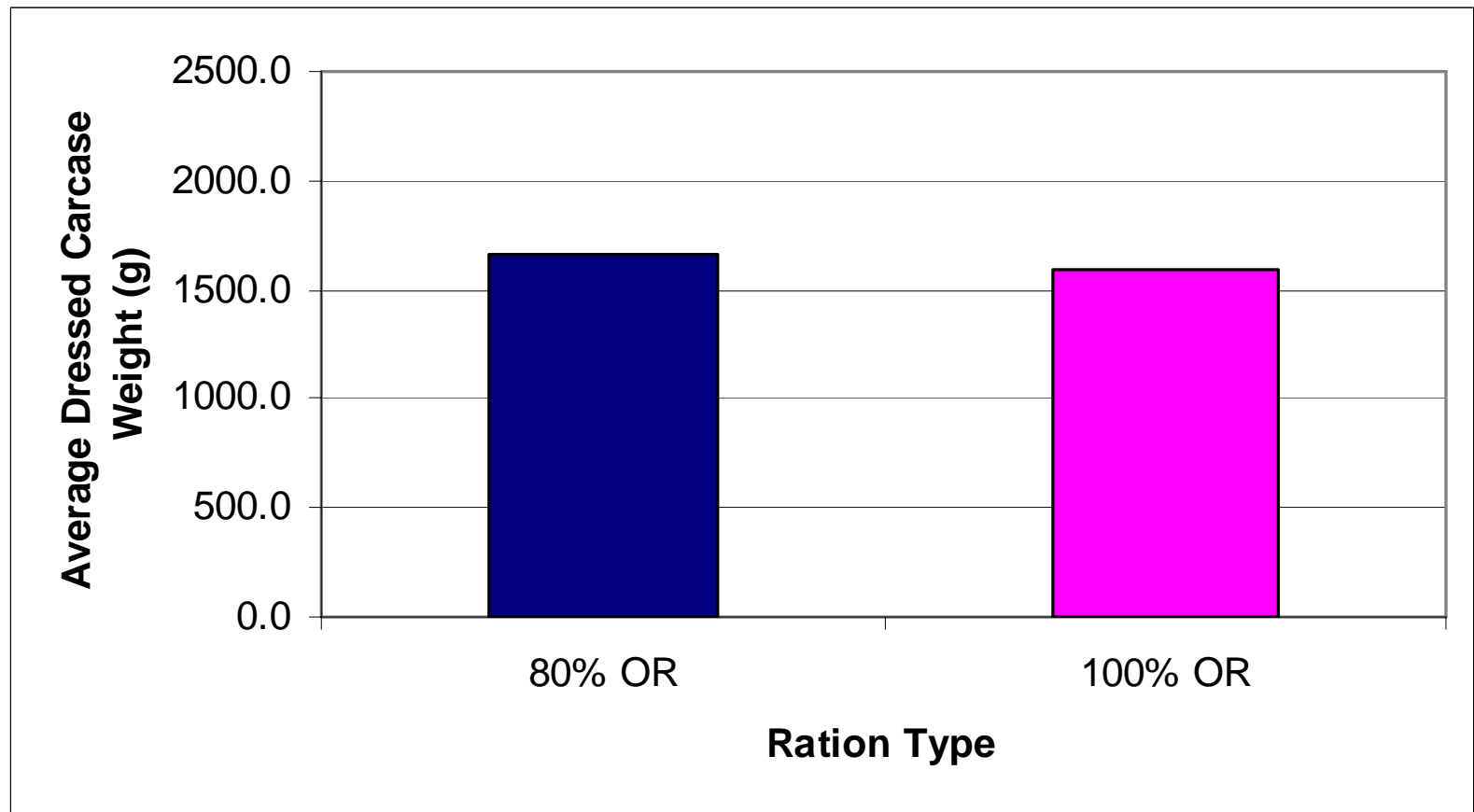
- Growth curve, average live weight



Results and Discussion

Agronomic and Economic Factors

- Average dressed carcass weight

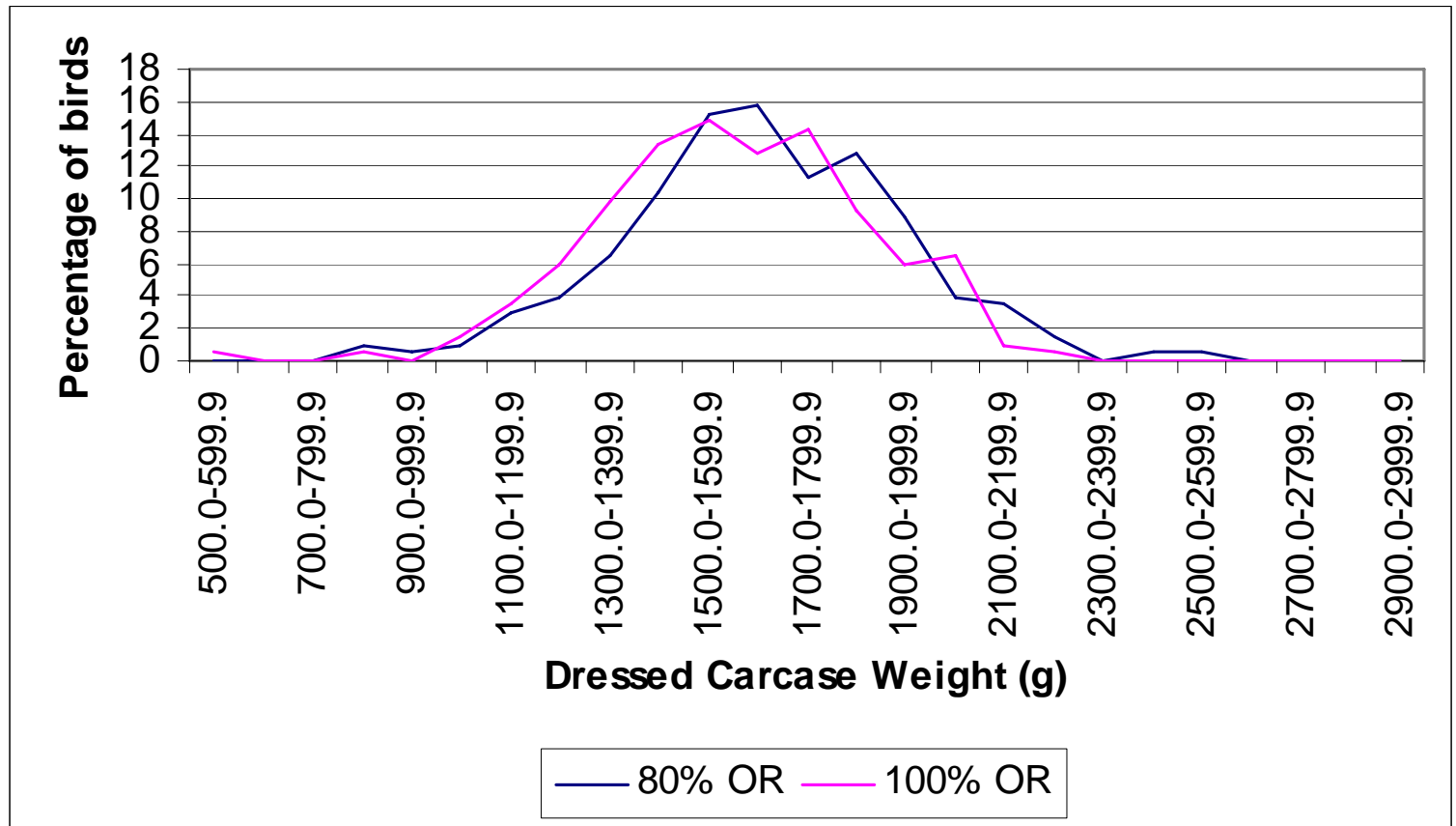




Results and Discussion

Agronomic and Economic Factors

➤ Population Distribution Dressed Carcase Weight





Results and Discussion

Agronomic and Economic Factors

➤ Feed Consumption

Ratio of average dressed carcass weight (kg) to Feed consumption (kg)

Trial A: 80% Organic Ration 1 : 3.4

Trial A: 100% Organic Ration 1 : 3.2

Trial B: 80% Organic Ration 1 : 3.9

Trial B: 100% Organic Ration 1 : 3.8

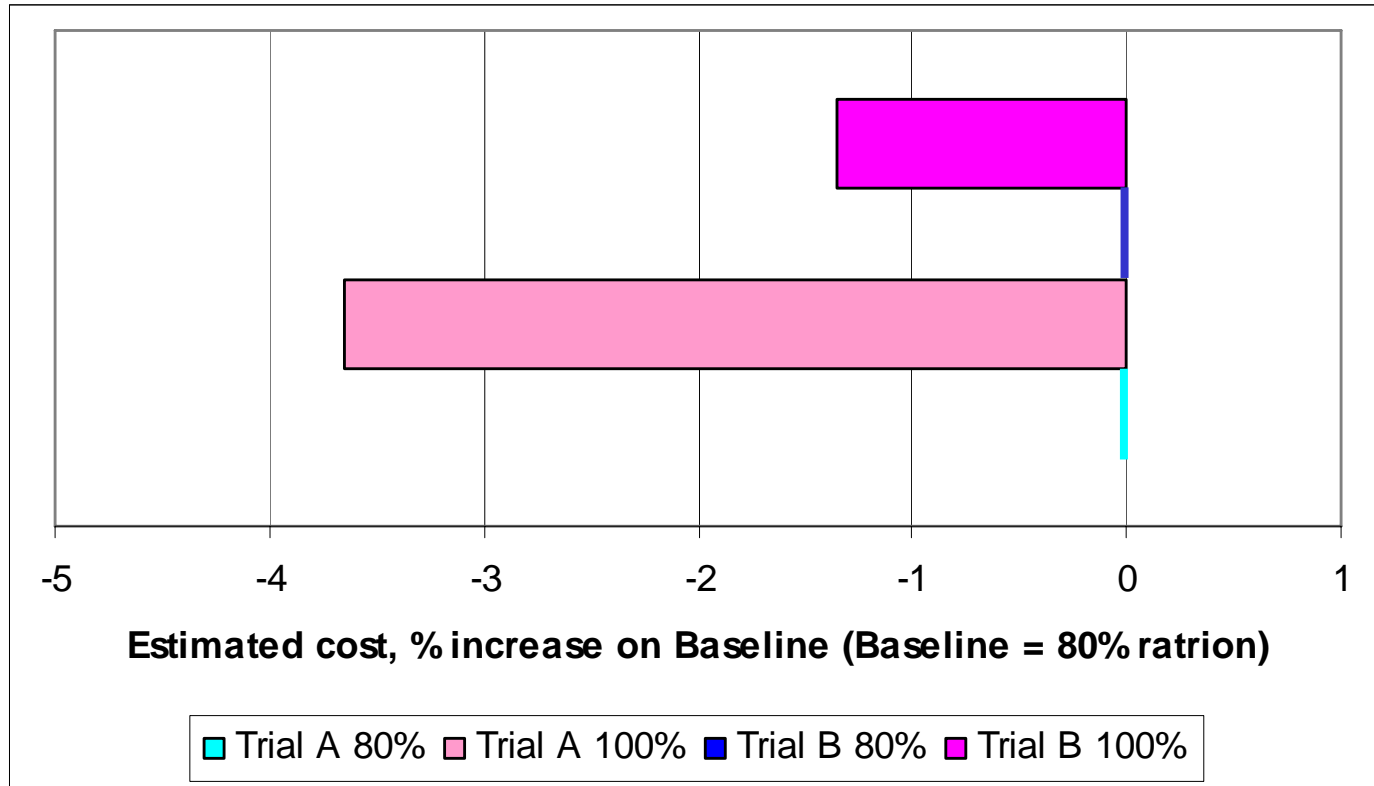


Results and Discussion

Agronomic and Economic Factors

➤ Feed Costing

£/kg of dressed carcasse weight



Results and Discussion

- **A small statistical difference in the live and dressed carcass weights of the birds on the two rations**
 - Lower average weights on 100 percent organic ration
 - In terms of production, this is minimal
- **No increase in injurious behaviour or gait scores on 100% organic ration**
- **Contrary to suggestions**
 - No increase in production costs
 - No health, growth or welfare issues
 - No behavioural impacts

Winter Trials

- **Between January and April 2004 and 2005**
 - **Are the results the same in harsher weather?**

- **Due to change in derogation**
 - **Trial 1: 80% vs 100% organic ration**
 - **Trial 2: 85% vs 100% organic ration**

- **Trials on a small scale**

- **Birds grown in mixed sex flocks to Soil Association Standard**



Data Collected

- **Weekly live weights**

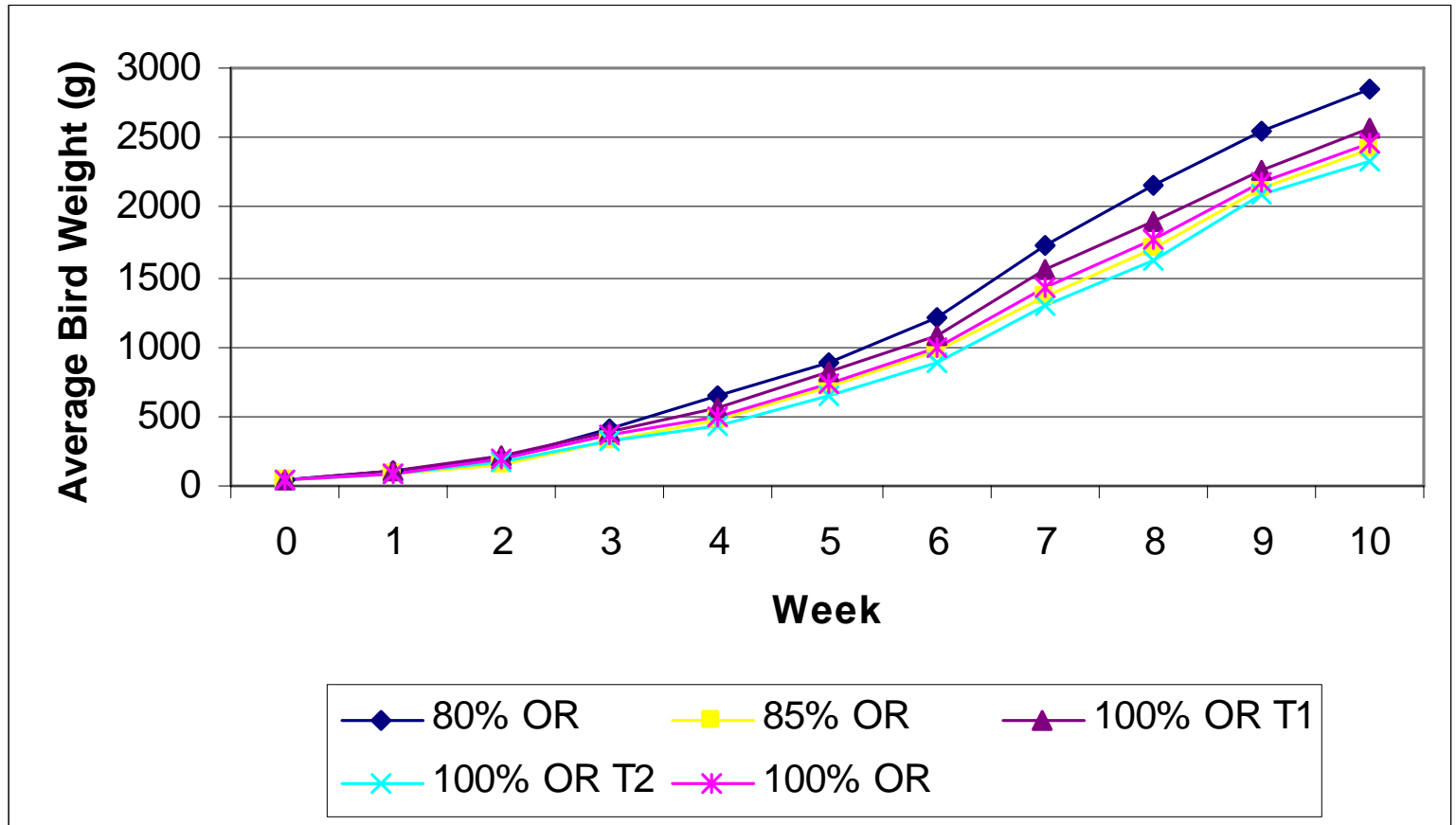
- **Gait scoring (1 week prior to slaughter)**

- **At slaughter**
 - **Dressed carcass weight**
 - **Flapping, feather damage and cleanliness**
 - **Contact dermatitis**
 - **Wing haemorrhages and red wing tips**
 - **Carcass bruising, and damage**
 - **Carcass conformation**

Results and Discussion

Agronomic and Economic Factors

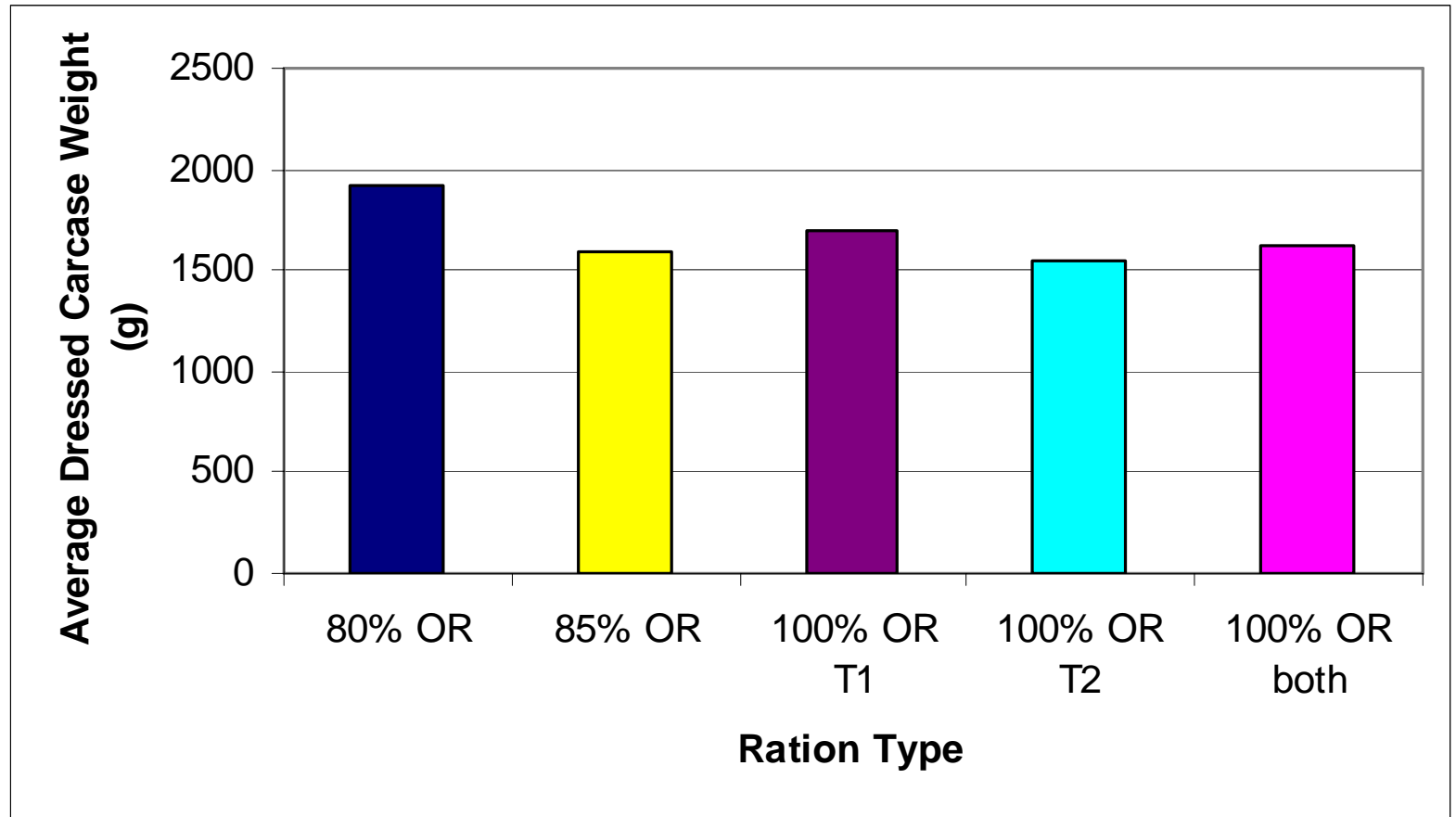
- Growth curve, average live weight



Results and Discussion

Agronomic and Economic Factors

- Average dressed carcass weight

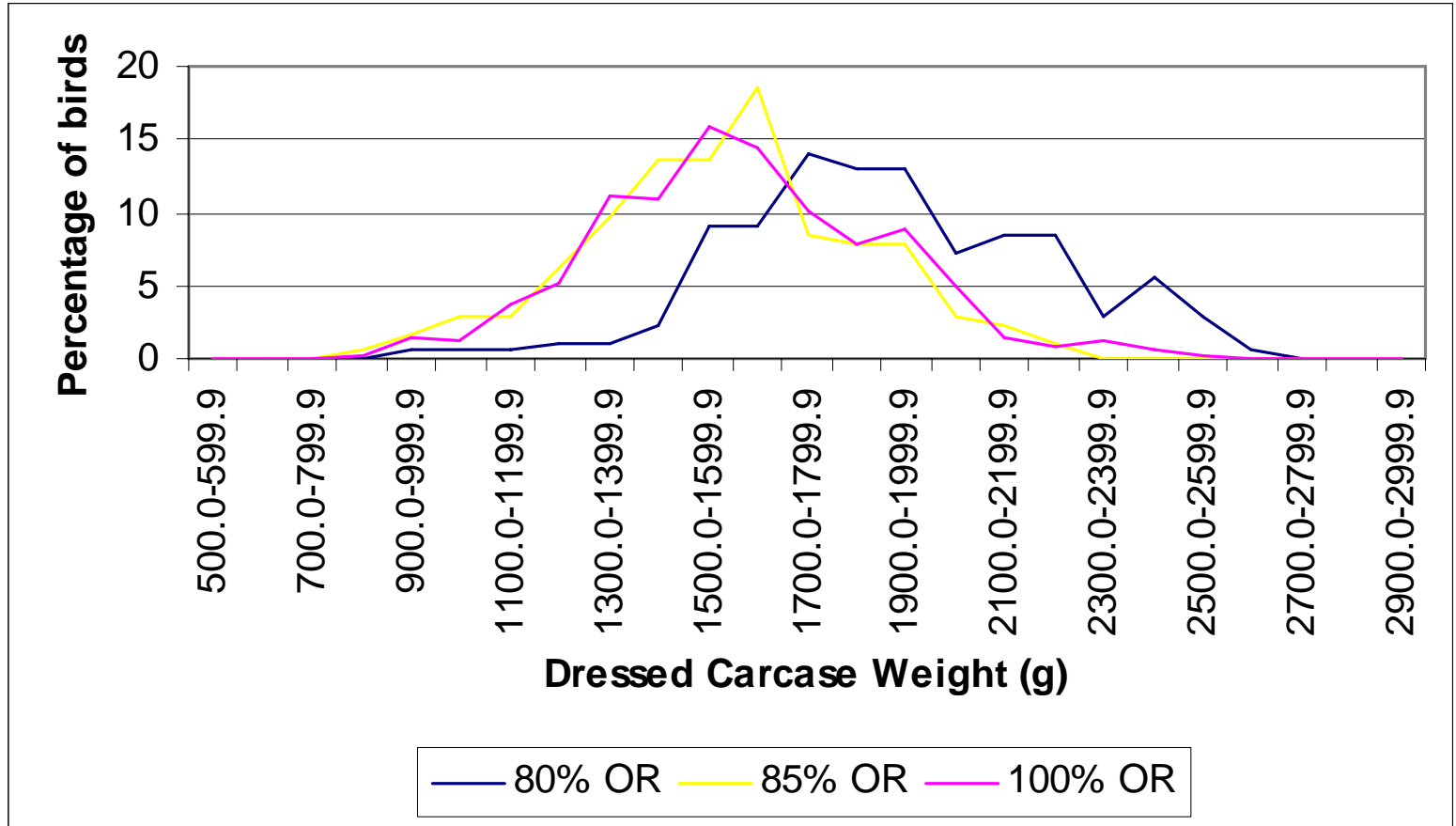




Results and Discussion

Agronomic and Economic Factors

➤ Population Distribution Dressed Carcase Weight



Results and Discussion

Agronomic and Economic Factors

➤ Feed Consumption

Ratio of average dressed carcass weight (kg) to Feed consumption (kg)

Trial 2005: 80% Organic Ration 1 : 4.6

Trial 2005: 100% Organic Ration 1 : 5.7

Trial 2006: 85% Organic Ration 1 : 5.2

Trial 2006: 100% Organic Ration 1 : 6.7

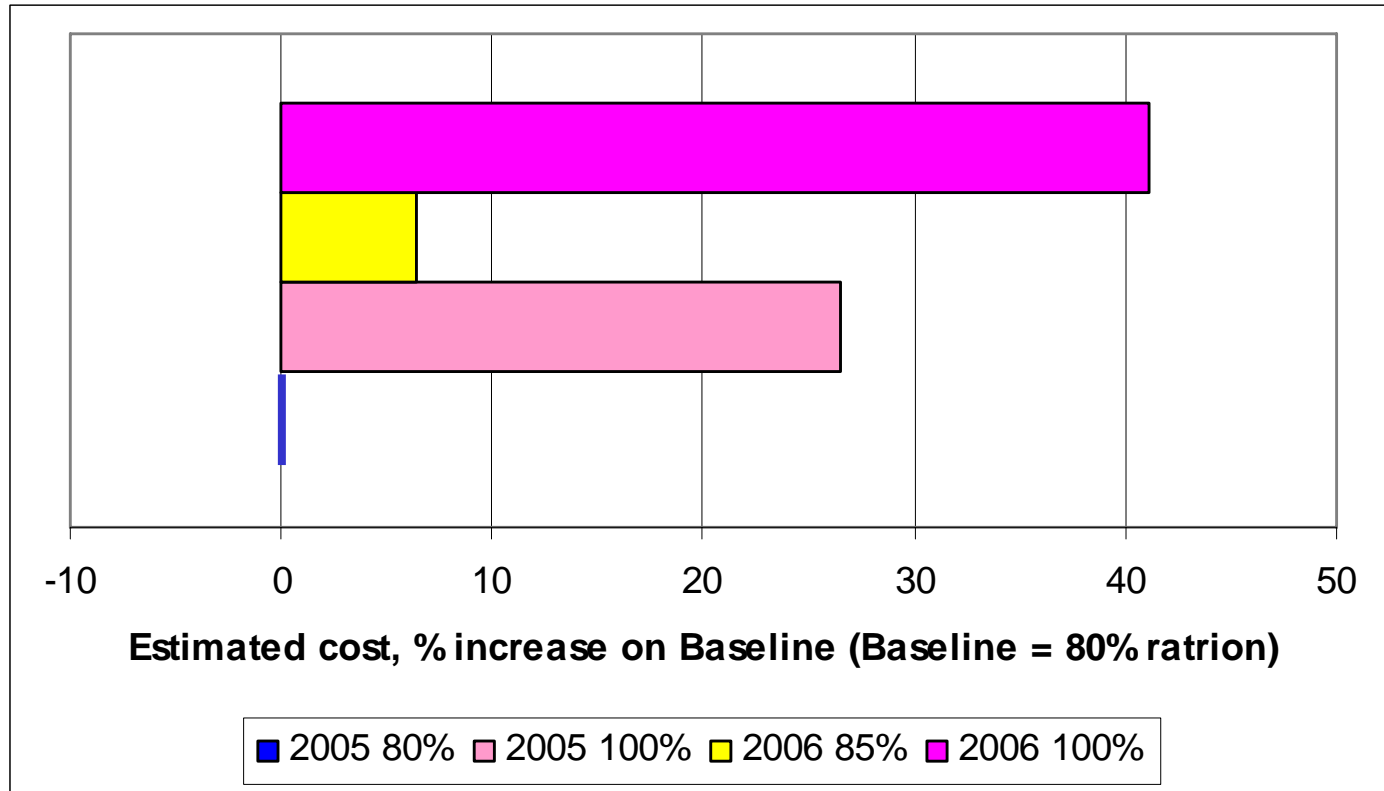


Results and Discussion

Agronomic and Economic Factors

➤ Feed Costing

£/kg of dressed carcasse weight



Results and Discussion

- **A small statistical difference in the live and dressed carcass weights of the birds on the three rations**
 - **lower average weights of birds on 85 and 100 percent organic rations**
 - **similar population distributions for 85 and 100 percent rations**

- **However**
 - **An increase in feed consumption**
 - **An increase in production costs**

- **But**
 - **No health, growth or welfare issues**



Conclusions

- **Weight differences are minimal in terms of production**
- **Population distributions similar in winter and summer**
- **Very different levels of consumption/cost in different seasons**
 - **Temperature drop in winter increase energy/feed need**
 - **Provision on the range in summer; less need for concentrate on 100 percent ration**
 - **Taste of feed**



Conclusions

- **80 and 100 percent organic ration base costs not always connected**
 - Price fluctuations depend on ingredients
- **100 percent rations are workable and should be used in line with organic principles**
 - Issues with ingredients sourcing
- **Further work with larger winter flocks**
- **Energy levels and feed consumption**
- **Provision on range and feed consumption**



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