BROILER CHICKEN CASE STUDY
UK 3: SOIL ASSOCIATION CERTIFIED ORGANIC FARM

An account of a higher-welfare, organic system with slower-growing birds, access to range with reduced stocking density both indoors and outdoors.

COMPASSION in world farming

SOIL ASSOCIATION-CERTIFIED, ORGANIC SYSTEM, HENBERE FARM, DEVON, UNITED KINGDOM

This is a system with outdoor access designed to produce higher welfare chicken at a reasonable price for a niche market. To be sold as organic, the system has to meet EU organic standards[1]. Henbere Farm is certified by the Soil Association, a UK inspection and certification scheme which includes additional sustainability and welfare requirements beyond EU organic rules including welfare outcomes assessment and longer access to a larger range.

Welfare aspects of this organic system include:

- Use of a slower-growing breed with lower risk of welfare problems such as lameness and reduced need to feed restrict parent birds[i];
- Access to range for the last two-thirds of their 70-day lives;
- Small group sizes and moderate stocking densities;
- Rotational system with mobile housing which reduces risk of disease build-up.

Range

Ranging is good for welfare. Access to a varied outdoor environment allows birds to perform a range of natural behaviours including scratching for a variety of foods, exploring, dust-bathing and sunbathing. It also encourages exercise and gives birds more space in the house as fewer will be inside at any one time. Good ranging can also help to reduce the risk of feather pecking which can be a problem in such systems.

Shelter from wind.

Soil Association rules require all table poultry to be kept free-range with access to pasture for at least two-thirds of their lives[2]. In Europe, this is on top of the EU rule which requires poultry to have access to an open area, mainly covered by vegetation, for one-third of their life[3].

This system keeps chickens in relatively small groups of 600 birds. Keeping chickens in smaller groups is one way to help encourage ranging, because in small huts the birds are always close to a pophole they can get out more easily. Because the huts are mobile, they can be moved to new ground after each batch of chickens, so there will be fresh vegetation for them to forage. A downside of rotation is that it is harder to provide good cover from trees and bushes when hens are ranging on fields that will later be used for arable crops.

Good ranging is also encouraged by the choice of a breed which is active and suffers less from lameness and cardiovascular problems.

Rotation ensures that grass is always available fairly close to the sheds. This, together with small group housing and the provision of an outside shelter, all helps to encourage ranging.

i Parent birds of meat chickens are called broiler breeders.

Breed

Choice of breed is key to good welfare. Slower-growing birds are less prone to suffer from lameness, heart problems and fatigue. Parent birds of slower growing breeds are also less prone to suffer from hunger, since less feed restriction is needed to maintain health and production of fertile eggs. Fast- or medium-growing birds are less suitable for organic systems, as they have been bred to rely on a high-protein diet that includes synthetic amino acids to sustain their rapid weight gain. These breeds may show an increased risk of problems such as feather pecking and cannibalism when fed a more natural, organic diet.

EU organic regulations discourage the use of fast-growing breeds by insisting that such birds are reared for a minimum of 81 days before slaughter. Where the farm buys in day-old chicks from a non-organic source, the minimum is 70 days to allow a conversion period to organic, provided that slower-growing breeds are used. Whilst slower-growing birds from an organic source can be killed at any age, in practice, organic birds are nearly always raised for at least 70 days since slower growing birds are normally used. "Slow-growing" in this context is defined by Defra as a bird which doesn't grow more than 45g per day under organic management[4], though the Soil Association's rules are stricter.

The farm uses a cross between a JA57 female and a Colouryield male which produces a slower growing breed, that is commonly used in UK organic systems. This hybrid has a slightly lower growth potential than the JA757 crosses used in the free-range and higher welfare indoor systems (see separate case studies). The cross is highly active and is less likely to suffer from lameness than a fast-growing bird. The female parents (female broiler breeders) do not need to be feed restricted.

The Soil Association has additional rules for breeding flocks insisting that they are kept free-range, are not feed restricted and that they produce hardy offspring of slow-growing types. The Soil Association defines slow-growing as meaning that a bird must not grow more than 35g per day on average according to published breed data, and never more than 60g in a day[5]. However, most organic farms, including this one, have a derogation to use birds of non-organic origin since there is very little supply of organic birds available. This is permitted under EU organic rules provided that the birds spend a minimum of 70 days growing on the organic farm.

Organic broiler breeders from a separate farm.

Stocking density and group size

Stocking density inside the mobile housing is kept lower by good ranging.

Food is provided in the shed.

Chickens need space to perform natural behaviours and organic rules generally restrict stocking densities in the house both to 10 birds and to 21kg per square metre. This means that organic birds generally have more space indoors than those kept in other systems.

However, where birds are kept in smaller groups in mobile housing, such as on this farm, higher indoor stocking densities of up to 16 birds and 30kg per square metre are permitted. This is because small huts offer easier outdoor access for the birds and can be rotated around the farm to provide each flock with fresh pasture. If each flock is reared on a different piece of ground than the previous one, it allows vegetation to recover and reduces the risk of diseases building up.

In this system the birds are kept in groups of 600 at a maximum stocking density of 27.5kg/m^2 which ensures that the system meets EU, free-range standards as well as organic. This means that, if the birds cannot readily be sold as organic, they can also be sold as free-range.

Organic birds get more outdoor space than those in other systems, and Soil Association rules require that the pasture size provides at least 10 square metres per bird. EU organic rules stipulate at least 4 square metres per bird (or 2.5 square metres in small groups with mobile huts), while free-range birds are allocated 2 square metres each.

Disease control with minimum use of antibiotics

In the UK, more than one third of antibiotics used on farm animals are used in poultry[6]. Organic standards are designed to maintain health with minimal use of antibiotics and none had been required by the current flock.

The key to improving health without the use of antibiotics is to use slower-growing breeds with natural disease resistance. Avoiding stressors such as high stocking densities also helps. As previously mentioned, rotation helps to reduce disease build-up in free-range systems.

No thinning

Thinning is a process by which part of a flock is caught at a lower weight (eg 1.7kg) while the rest of the birds are allowed to grow to around 2.2kg.

Organic birds are not usually subject to thinning. This is partly because of the small numbers involved, as many may not be slaughtered before 70 days and also because the organic rules say that they have to be caught at night when they are inside the shed for welfare reasons.

Avoiding thinning removes one source of stress for the birds. It also reduces the number of birds placed in the shed at the start, so stocking densities are lower from the start.

Welfare outcomes

Organic standards are designed so that the system has a high welfare potential. This is the purpose of rules requiring access to range, slower-growing breeds and moderate stocking densities.

However, welfare also depends on good management. To help to ensure that good welfare rules result in chickens with good welfare, the Soil Association has teamed up with RSPCA Freedom Food to measure welfare outcomes under the *AssureWel* scheme[7].

The scheme requires farmers to monitor a range of welfare outcome measures and set targets for them. These include lameness, back scratches and lesions such as hock burns, footpad burns and breast blisters. Hock and footpad burns are recorded at the slaughterhouse.

Environmental aspects

Fitting chickens into the general rotation of the farm ensures that nutrients from chicken dung will be used to help crops to grow in future years rather than presenting a waste problem for the farmer.

Nutritional advantages

Research suggests that meat from slower-growing breeds of chicken and from birds from free-range and organic systems generally contain lower levels of fat. In addition the fat composition itself can be healthier in organic birds with higher levels of long-chain omega-3 fatty-acids[8].

Economic outlook

The poor economic situation has resulted in a reduced demand for organic chicken, to the extent that the farm is reducing the number of flocks reared each year by around a third. Nevertheless, organic production still has a 2% share of the market[9] and it seems likely that in the long run this proportion will rise again as organic meat is valued for its quality, welfare, health and environmental benefits.

SUMMARY

This system has benefits for chickens, the environment, consumers and producers:

1. **For consumers, it provides a higher-welfare bird produced in a system designed to be better for the environment.**
2. **For the birds it means a longer life in a higher-welfare system with a healthier breed kept in smaller groups with access to the outdoors.**
3. **Organic systems can benefit the environment through the use of natural rotations and minimising or avoiding the use of chemicals such as pesticides and artificial fertilisers.**
4. **The considerable, added value in the product helps to support the rural economy, encouraging mixed organic farming systems.**
5. **Keeping slower-growing birds with access to the outdoors can produce a healthier bird with less but better fat, likely to be healthier to eat. Rules preventing routine antibiotic use have wider benefits in helping to reduce the development of antibiotic resistance.**

TABLES

BROILER – DESCRIPTION OF SYSTEM	
Date/Time of visit	**29th November 2011** **3.30pm**
Farm	Henbere Farm
Farm type	Organic
Certification scheme	Soil Association
Total flock size	5,000
Number placed (house size)	600 per mobile ark
Breed	JA57 x Colouryield male
Age of flock on visit	63 days
Feed	Pan feeders with pellets Bell drinkers
FCR (average for all farms in this group of organic farms in this area)	2.72
Maximum stocking density	27.5kg/m^2 inside
Age and weight at thinning	No thinning
Age and weight at slaughter (average GR)	70 days at 2.3kg (32.9g/d)
Mortality and cull rates	Average 5% (NB It should be noted that this is over a longer life-span than in most other systems)
Natural behaviours observed	High ranging post visit
Level of activity	High activity, inquisitive
Antibiotic use, risk assessment systems	None with this flock
Other health problems	Mareks disease
Welfare problems	Footpad dermatitis (FPD) biggest problem
Lighting	Natural light
Ventilation	Natural – side inlet, roof outlet
Litter	Long and chopped straw base plus woodshavings

Indoor environmental enrichment	None (but small group size encourages outside ranging)
Outdoor enrichment	Open pasture range (mobile housing) Sloping fields help drain land Land in good condition – no tracks from vehicles, etc.
Levels of ranging and distribution of ranging	At the time of the visit, the weather was poor for ranging. Once we left, the sun came out and large groups ranged outside!
Biosecurity measures	Disinfected boots and overalls
Number of stockpersons	1
Frequency of checking birds and any rules about thoroughness	Soil Association rules require that birds are checked at least 3 times a day
Transport to slaughter (distance + time)	5 miles
% Dead on arrivals	Usually none
Slaughter	Electric stunning. It is planned to change to biphasic gas stunning.
General notes	Now only restocking after 11 weeks rather than 4 weeks due to market downturn. (The group has reduced from 80,000 organic chickens per week to 20,000). A year after the visit, the market had recovered slightly to allow restocking after 8 weeks following an increase to 30,000 chickens per week. Raises brooders on site. Farmer's view: 'Good chick, good bird'.

REFERENCES

1 European Commission,2007. **COMMISSION REGULATION (EC) No 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:250:0001:0084:EN:PDF** accessed 21/05/12.

2 Defra, 2010. Guidance document on European Union organic standards http://archive.defra.gov.uk/foodfarm/growing/organic/standards/pdf/guidance-document-jan2010.pdfaccessed 18/03/2013

3 **Soil Association organic standards - farming and growing (Revision 16.6 April 2012)** http://www.soilassociation.org/LinkClick.aspx?fileticket=l-LqUg6iIlo%3d&tabid=353 **accessed 21/05/12**

4 European Commission, 2007, op cit.

5 Soil Association organic standards op cit.

6 At least 34% of total in 2009, excluding antibiotics used for multi-species categories, calculated from VMD, 2010, "Sales of antimicrobial products authorised for use as veterinary medicines, antiprotozoals, antifungals and coccidiostats, in the UK in 2009" downloaded at http://www.vmd.defra.gov.uk/pdf/salesanti09.pdf 02/08/2012.

7 http://www.assurewel.org/

8 Compassion in World Farming, 2012. Nutritional Benefits of Higher Welfare Products. http://www.ciwf.org.uk/nutrition

9 Jackie Linden, 2012, citing figures from the British Poultry Council in "One in Four UK Broilers from Alternative Systems" at http://www.themeatsite.com/meatnews/17194/one-in-four-uk-broilers-from-alternative-systems accessed 23/05/12

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