

HWIS: A brighter future for broilers?

Why Higher Welfare Indoor Systems offer benefits both for birds and for farmers

Hock burn, pododermatitis, leg culling and mortality are just a few of the issues impacting on animal welfare, and potentially profits, within present day broiler production. Higher Welfare Indoor Systems (HWIS), which can take a variety of forms, are increasingly being used to address such problems. But are they delivering?

In order to assess the efficacy of the HWIS approach, the Food Animal Initiative (FAI) compared the commercial and welfare parameters of a conventional

system – in this case Assured Chicken Production (ACP) – with a HWIS system managed to RSPCA Freedom Foods standards (www.rspca.org.uk/freedomfood). Both systems were located on the same commercial farm, Devonshire Poultry Limited, under the same management. One typical ACP flock and one typical HWIS flock were assessed using data from the on-farm, slaughterhouse and chicken production company records.

For more details on how the systems compare, please see *Table 1* below.



Features	ACP system	HWIS system managed to RSPCA Freedom Foods standards	Benefits of HWIS system
Bird produced	Growth rate circa 55g/day.	Growth rate maximum 45g/day.	Slower growing birds are less susceptible to cardiovascular, musculature and bone problems.
	Stocked up to 38kg/sqm.	Stocked at 30kg/sqm.	Birds are provided with sufficient space to allow activity.
	More than one thinning* allowed.	One thinning allowed.	Reduces stress, potential injury and risk of disease.
	Slaughtered at 36–42 days.	Slaughtered at 46–52 days.	
Enrichment	Enrichment not required.	1.5 bale/1000 birds from chicken-free (biosecure) area.	Encourages perching and investigative behaviour.
		Perches (wood between two chains) provided over and above RSPCA Freedom Foods specification**.	Perching is an important and fundamental behaviour. Perches also benefit foot and leg health.
		Maize cobs.	The maize cobs require beak usage to obtain a feed reward, closely mimicking natural foraging behaviour. They are also cheap, biodegradable and available year-round.
		Natural light provided via UPVC glass windows at bird height covering 3% of total floor area.	Natural light helps stimulate natural behaviours; birds are generally active in light areas and rest in the dimly lit areas. It also enables birds to forage and to recognise each other, and reduces electrical light and thus fossil fuel usage.

Table 1: Comparison of HWIS and ACP systems, Devonshire Poultry Limited, 2009.

*Thinning: removal of a proportion of the birds from the shed rather than complete clearance in one go; this allows more chicks to be added at stocking.

**Freedom Foods standards require a minimum of 2m of perch space per 1000 birds.

The results

At the end of the comparison exercise, results revealed lower mortalities and leg culls within the HWIS flocks, plus less hock burn and pododermatitis (see *Table 2*).

The welfare benefits observed during the FAI comparison were consistent with a study conducted by the RSPCA (Cooper *et al.*, 2008). For this study, data

was collected over a one-year period with a total of 128 ACP flocks and 68 HWIS flocks assessed. With the ACP flocks, on-farm mortality was 2.0–8.8% and for the HWIS flocks 0.4–3.0%. The percentage of ACP birds with hock burn was 4.0–42.0% while the figure for HWIS was 0.1–10%. For more details please see the [RSPCA report](#).

	Hock marks	Pad marks	Rejects	Mortality	Leg culls
HWIS	1.5%	4.4%	0.6%	2.3%	0.4–1.5%
Standard (ACP)	19%	19%	1.5%	4.5%	0.8–1.0%

Table 2: Average output results of HWIS and standard ACP broiler production, Devonshire Poultry Limited, 2009.



HWIS viability: conclusion

HWIS systems have been shown to have benefits both for the birds and for farmers. They may well be preferable from a stock person's perspective as birds are more active, using the perches and bales and exhibiting normal behaviours such as dust bathing and foraging. Antibiotics use is less frequent with HWIS, and mortality and leg culling rates are also lower. Farmers may also feel able to provide greater individual care to the birds due to lower stocking densities and associated flock sizes.

HWIS birds do cost more to rear as the feed conversion ratio is lower and building and labour costs are higher. However, at the

time of the FAI comparison exercise, the margin on HWIS broilers was equivalent to that of standard broilers, as the farmers were paid according to the floor space they have available to grow chickens – therefore getting the same income regardless of the system used. Also, the payback on a new build house is 10–15 years regardless of the system.

Robert Lanning of Devonshire Poultry Limited has certainly been impressed. "I like this system," he says. "It's good for me, it's good for the workers – the environment is more pleasant for them to work in – and it's good for the birds."

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Further information

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