

Concept innovant Nestborn

Comment la maîtrise technique et l'approche économique de la naissance à la ferme peut s'inscrire comme une opportunité différenciante et une alternative durable ?

Thierry Bourcier – BD France

Erik Hoeven - Groupe Yellow Bird





Tous les avantages de l'éclosion à la ferme
À VOTRE PORTÉE

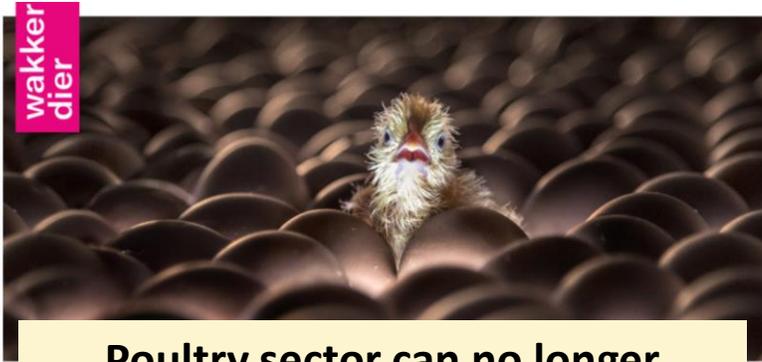


Alimentation précoce

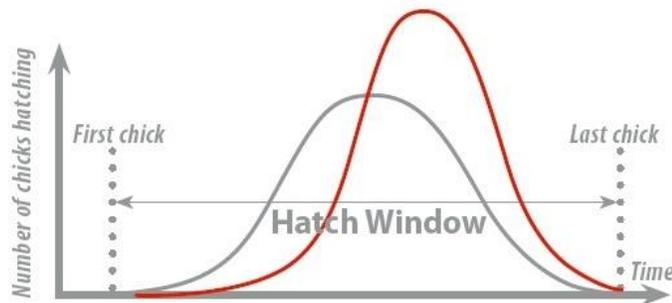


Éclosion à la ferme

Stress 1 : faim & soif



Poultry sector can no longer withhold feed from chicks



Synchronised Hatch



- ✓ Accès à l'aliment et à l'eau ININTERROMPU
- ✓ **Stress 2** : couvoir & manutentions (contamination croisée)
- ✓ **Stress 3** : transport poussins
- ✓ **Stress 4** : température
- ✓ Développement ciblé du **Système Immunitaire & Intégrité (maturation) Intestinale**
- ✓ **Eclosion 24/7** (chaque jour & moment de l'année))
- ✓ **Performance & résultats**



DIRECTIVE 2007/43/CE DU CONSEIL

du 28 juin 2007

fixant des règles minimales relatives à la protection des poulets destinés à la production de viande

Welfare of domestic birds and rabbits transported in containers

Welfare of broilers on farm

WELFARE OF NEWLY HATCHED BROILER CHICKS



Welfare consequence	Day-old chicks	
	HH	HF
Bone lesions		
Cold stress	X	
Inability to perform comfort behaviour		
Inability to perform exploratory or foraging behaviour		
Isolation stress		
Gastro-enteric disorders		
Prolonged thirst	X	
Heat stress		
Prolonged hunger	X	
Handling stress	X	
Locomotorily disorders		
Predation Stress		
Restriction of movement		
Resting problems	X	
Group stress		
Soft tissue and integument damage		
Umbilical disorders		X
Inability to avoid unwanted sexual behaviour		
Sensory under- and overstimulation	X	X
Total	6	2

Good animal welfare practices not only promote intrinsic animal wellbeing but also help to make animals healthier. This is a key element for the safety of the food chain considering the close links between animal welfare, animal health and food-borne diseases, in line with the One Health principle.

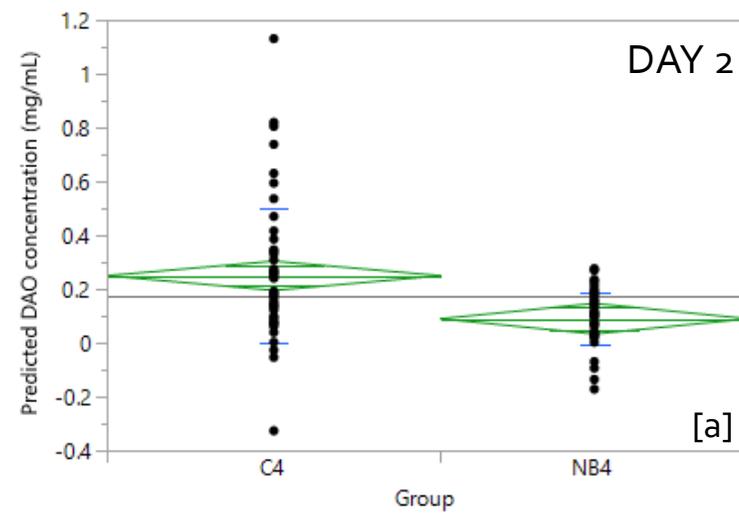
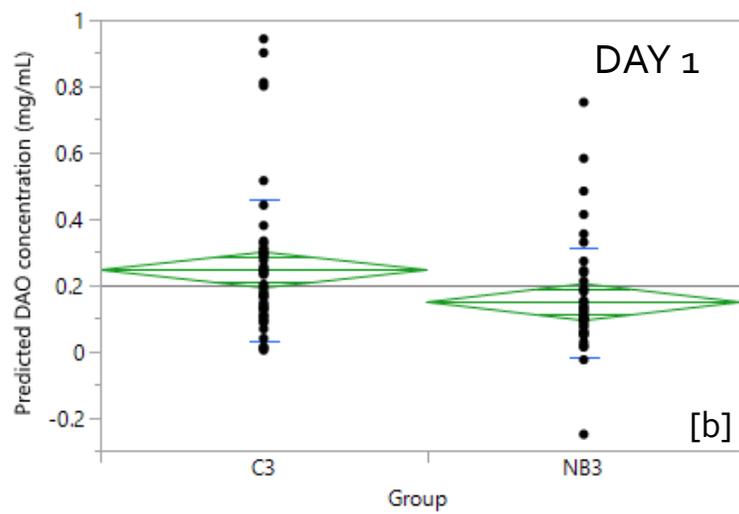
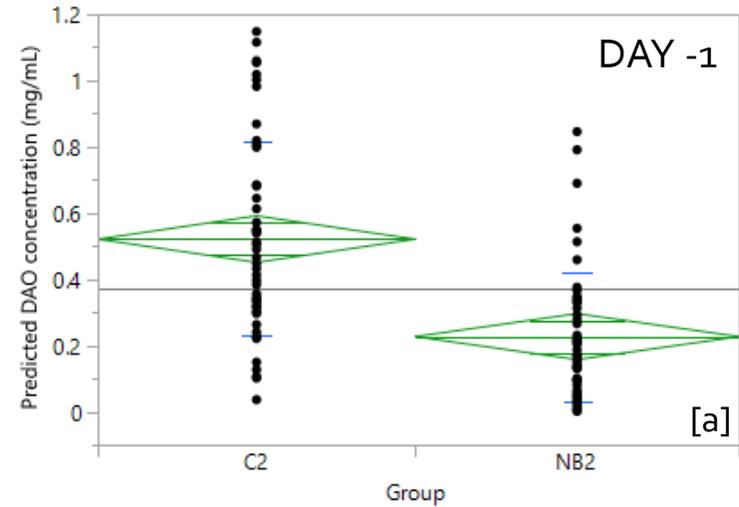
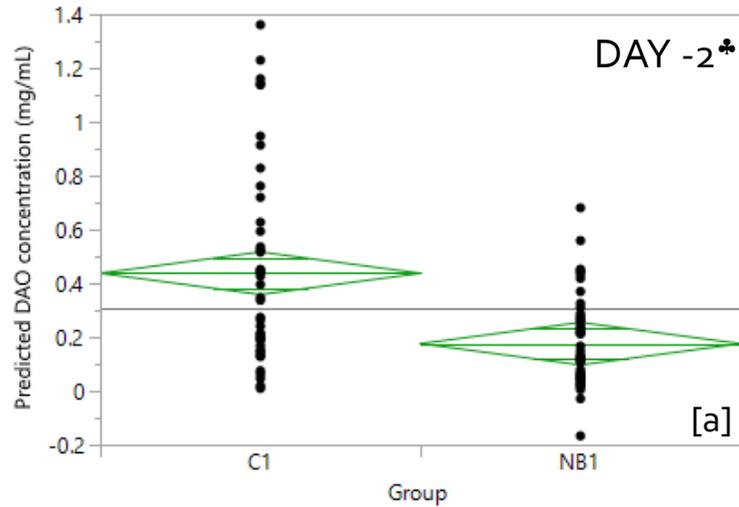


Intégrité (maturation) intestinale

- Laboratory of Host Pathogen Interaction in Livestock (I. Dieryck, Animal, 2022);
- Comparaison du développement intestinal poussins Conventionnels vs. NestBorn;
- **Hypothèse** : *“grâce à l'alimentation précoce et absence de stress lié au couvoir, le développement intestinal sera Meilleur pour les poussins NestBorn”*
- **Molécule indicatrice pour la maturation intestinale et perméabilité intestinale = diamine oxidase = DAO;**
- **DAO** = enzyme libérée dans le sang quand des cellules intestinales sont endommagés ou pas suffisamment développés. *Des valeurs basses en DAO dans le sang, indiquent un niveau de dégât intestinal faible;*



Intégrité (maturation) intestinale

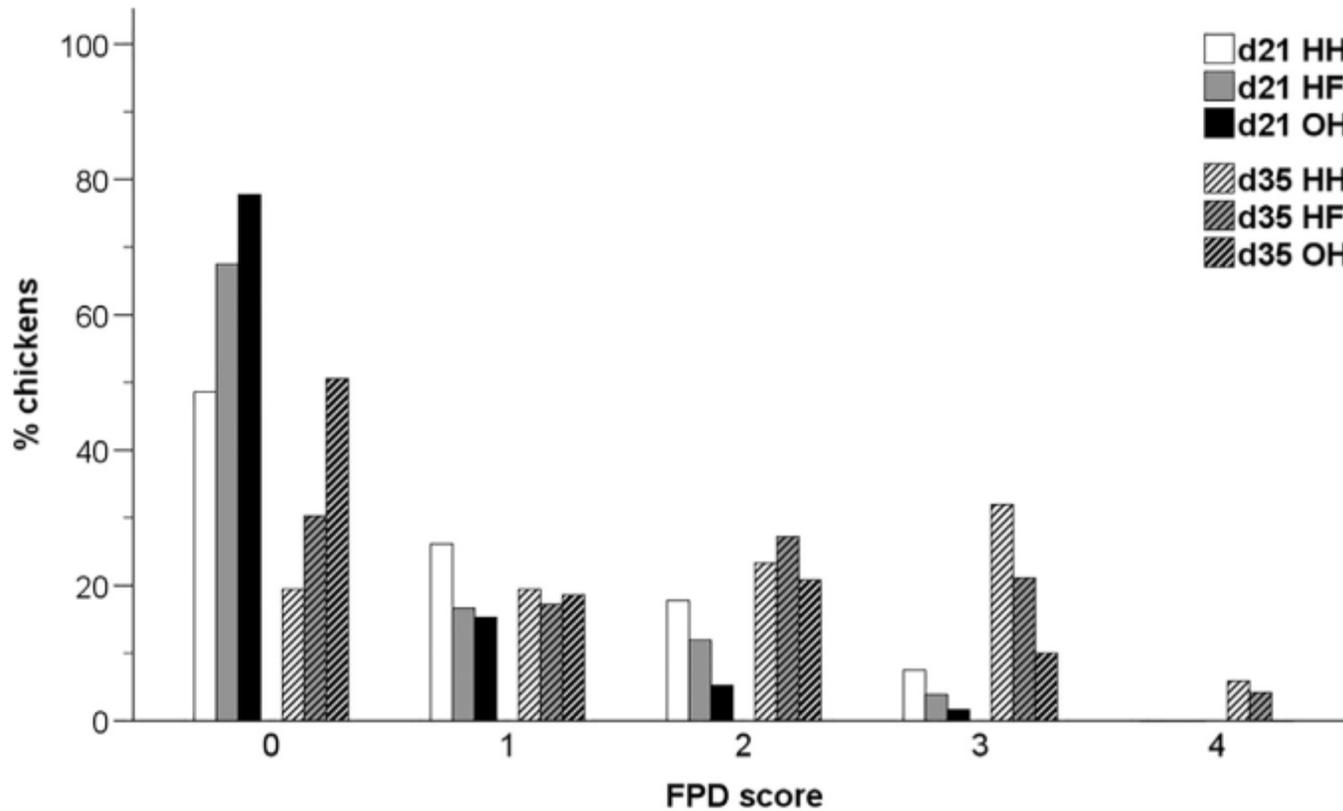


- Les 4 premiers jours: DAO significativement plus bas (=mieux) pour NestBorn
- Développement intestinal pas seulement plus rapide, mais aussi durable



Effects of hatching system on the welfare of broiler chickens in early and later life

Mona F. Giersberg,^{*,†,1} Roos Molenaar,^{*} Ingrid C. de Jong,[‡] Carol Souza da Silva,[‡] Henry van den Brand,^{*} Bas Kemp,^{*} and T. Bas Rodenburg^{*,†}



Figuur 2. Voetzoollaesiescores van 0 tot 4 volgens een vijf klassen systeem. Bron: Welfare QualityAssessment protocol for poultry

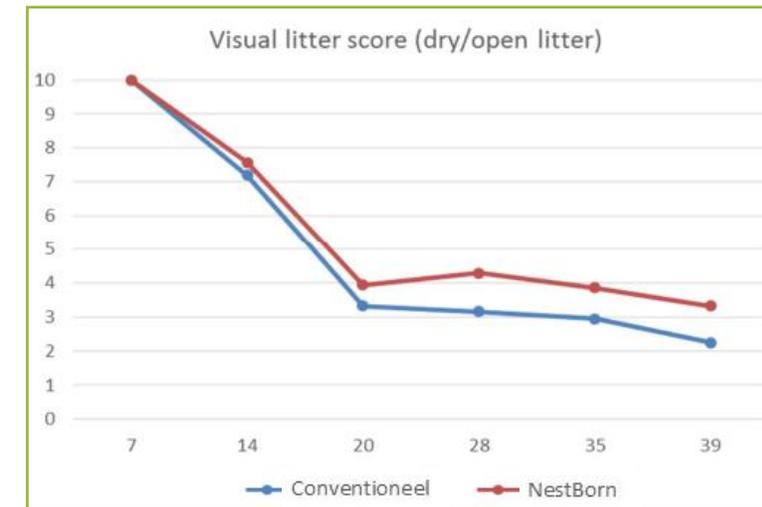
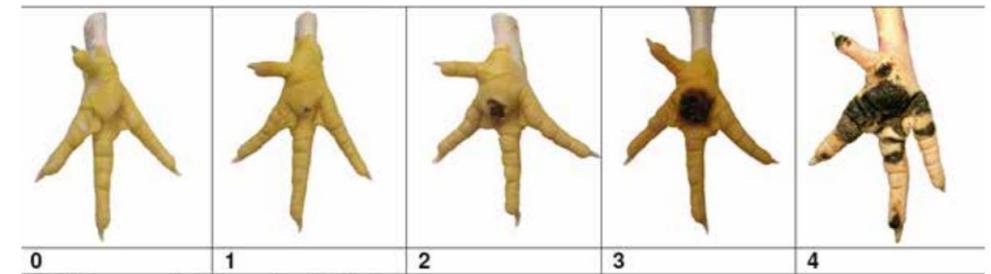


Figure 2. Distribution of FPD scores for conventionally HH, HF, and OH broiler chickens at day 21 and 35 of age. A higher score indicates more severe lesions. FPD scores were significantly affected by the hatching system ($P < 0.05$) and age ($P < 0.001$). Abbreviations: FPD, footpad dermatitis; HF, hatchery-fed; HH, hatchery-hatched; OH, on-farm hatched.





animals

Antibiotic use in on-farm hatching systems vs. conventional hatching systems: a case study

Word count: 8.205

Julia Gabrielle Jerab

Student number: 01510143

Supervisor: Prof. dr. Jeroen Dewulf

Supervisor: Dr. Ilias Chantziaras

A dissertation submitted to Ghent University in partial fulfilment of the requirements for the degree of Master of Veterinary Medicine

Academic year: 2021 – 2022

In this study, information on antimicrobial use (AMU) was collected from 211 Belgian conventional broiler farms, including data from 2242 traditionally hatched flocks and 226 on-farm (NestBorn) hatched flocks. On-farm hatched flocks had significantly ($p < 0.001$) more antimicrobial free flocks ($n = 109$, 48.23%) compared to traditional flocks ($n = 271$, 12.08%) and a 44% lower ($p < 0.01$) treatment incidence at flock level (TI 8.40 vs. TI 15.13). Overall, the farms using traditional hatching had 5.6 times (95% CI 3.6-8.7) higher odds to use antimicrobials than the farms using on-farm hatching. Treated on-farm hatched flocks received three times less lincomycin-spectinomycin and less (routine) treatments at the start of the production round.

These results show that on-farm hatching can contribute to the reduction in antimicrobial use in conventional broiler production.



Day-old chicken quality and performance of broiler chickens from 3 different hatching systems

Carol Souza da Silva,^{*} Roos Molenaar,[†] Mona F. Giersberg,^{†,‡} T. Bas Rodenburg,^{†,‡} Johan W. van Riel,^{*} Kris De Baere,[§] Iris Van Dosselaer,[§] Bas Kemp,[†] Henry van den Brand,[†] and Ingrid C. de Jong ^{*,1}

Body weight (g) ¹	Hatching system		
	HH	HF	OH
Day 0	36.9 ± 0.5 ^c	43.4 ± 0.5 ^b	46.6 ± 1.4 ^a
Day 7	167.0 ± 6.7 ^c	182.3 ± 6.2 ^b	188.4 ± 3.2 ^a
Day 14	481 ± 18 ^c	510 ± 18 ^b	530 ± 14 ^a
Day 21	971 ± 31 ^b	1,026 ± 37 ^a	1,045 ± 37 ^a
Day 32	1,944 ± 81 ^c	2,025 ± 84 ^b	2,082 ± 45 ^a
Day 39	2,634 ± 88 ^b	2,718 ± 78 ^a	2,750 ± 75 ^a

Carcass yield ¹	Hatching system			
	HH	HF	OH	SEM
Live weight (g)	2,689 ^c	2,772 ^b	2,854 ^a	18.0
Carcass weight (g)	1,844 ^c	1,902 ^b	1,963 ^a	15.0
Carcass (% of live weight)	68.8	68.6	69.1	0.3
Front half (% of carcass weight) ²	56.9	57.1	57.4	0.2
Breast (% of carcass weight)	41.6	42.1	43.0	0.5
Wings (% of carcass weight)	11.0 ^a	10.8 ^b	10.8 ^b	0.07
Skin (% of carcass weight)	4.6	4.4	4.6	0.1
Back half (% of carcass weight) ³	42.9	42.6	42.6	0.3

First wk mortality (%)	1.83	2.43	1.59
Total mortality (%) ²	3.27	4.39	3.20
Total found dead (%) ²	1.88	2.09	1.62
Total culled (%) ²	1.39 ^b	2.30 ^a	1.57 ^b
Variation coefficient of body weight at D39 (%)	12.7 ^a	13.1 ^a	11.6 ^b
EPEF ⁴	426.9	434.8	442.0

Testes FR : + 1 € / m²
(= 5 cents par poulet)





Nest born

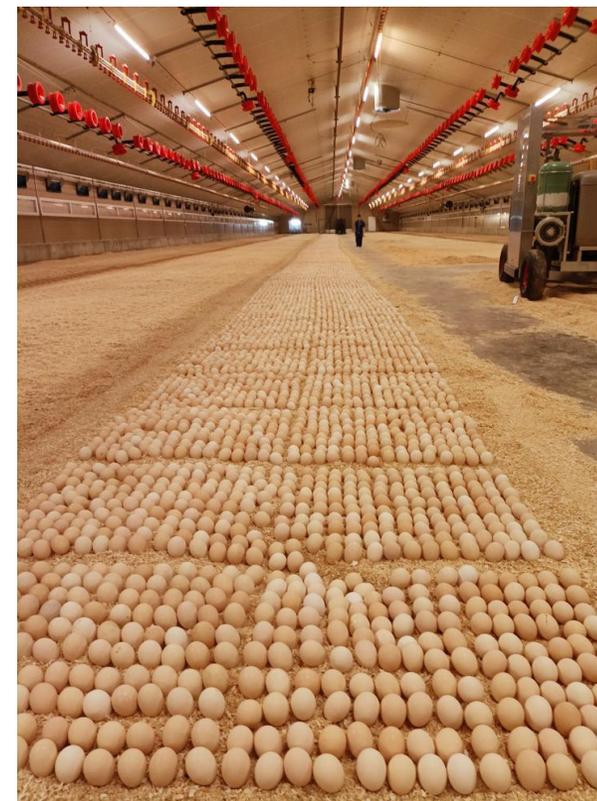
Voir éclore et grandir ses poussins

A Mansigné, Nicolas Verdier a choisi la technique du nest born pour élever ses poulets avec Huttepain. Il reçoit ses poussins quelques jours avant l'éclosion, ce qui lui apporte un avantage sur la croissance et la santé des volailles, et correspond à son idée du bien-être animal.

Publié le 1 mars 2024 - Par Fanny Collard



L'éclosion dure 24 à 48 heures, tout au plus : Nicolas Verdier surveille attentivement cette phase depuis le bureau de ses poulaillers. L'éleveur, installé en 2019 à Mansigné, a fait le choix avec Huttepain Aliment d'élever des poulets selon la technique du nest born, qui consiste à accueillir les œufs dans ses bâtiments, et d'inclure ainsi la naissance dans le cycle de production.



ANIMAL WELL-BEING AND BEHAVIOR

Effects of hatching on-farm on performance and welfare of organic broilers

Camilla T. Jessen,^{*} Leslie Foldager ,^{*,†} and Anja B. Riber ,^{*,1}

Table 3. Hatchability (%), number of unhatched eggs (rate per replication), and number of second grade chicks (rate among hatched eggs per replication) for chickens hatched on-farm (OF) and in a hatchery (HC).

Parameter ¹	OF		HC	Ratio	Statistics
Hatchability (%)	95.3 ± 0.44	+ 0,50 %	94.8 ± 0.49	0.90 (0.82–0.97)	$\chi^2_1 = 6.69, P = 0.0097$
Unhatched eggs (‰)	35.7 ± 3.93		36.6 ± 4.03	1.03 (0.93–1.13)	$\chi^2_1 = 0.30, P = 0.59$
Second grade chicks (‰)	11.6 ± 0.93	- 0,45 %	16.1 ± 1.17	1.38 (1.18–1.63)	$\chi^2_1 = 15.9, P < 0.0001$

first week mortality (OF: 0.41%, HC: 0.99%;
 $P < 0.0001$) or total mortality (OF: 1.51%, HC: 2.20%;
 $P < 0.0001$).

- 0,58 %

- 0,69 %



Eclosion à la ferme & Vaccination

- ✓ IN-OVO : utiliser le potentiel (ND, coccidiose, Marek, Gumboro)
- ✓ Spray-vaccination poussins (poulailler) : IB, (ND, coccidiose)



Protection against infectious bronchitis virus (IBV) in on farm hatched broilers (Nestborn®) compared to in hatchery hatched broilers.

Oosterbosch Evelyne¹, Van Erum Johan², Ronsmans Stefan², Van Den Bunder Peter², Roovers Geert², Flament Aline², Braeckmans Debby²

Choanal clefts were taken in 10 farms, 5 farms with chicks born in the hatchery and 5 farms with Nestborn chicks; and send for qPCR testing. This allows to detect and quantify the presence of vaccine or field virus genomic material.

Comparing chickens vaccinated at the hatchery or at the farm, results are very similar. The overall mean of both tables is very close together (31.329 vs 31.378) which reveals both types of vaccination are as efficient. The coefficient of variation (CV), expressed here in percentage, also shows closed results (8.327 vs 8.297), meaning there is little difference of vaccine efficiency between farms, for both types of vaccination.

Both vaccinations give reliable results, therefore farmers choosing one or the other hatching system can be confident that the chickens will be protected against the strains they were vaccinated for. One should keep in mind that vaccination doesn't protect against all field IBV, as many mutations of the virus occur. Biosecurity measures should also remain of utmost importance, even when vaccinated.



Couvoir

- Egger model : œufs «in» – œufs «out » (compact & propre); **éclosion 24/7**
- Empreinte bâtiment réduite & moins d'investissements en machines/matériel
(17 – 19 jours incubation / mirage / IN-OVO)
- 40% moins d'**énergie** use (compensation poulailler); 65% moins de **mains-d'œuvre**
- 60% moins d'**eau** (nettoyage) – pas de nettoyage additionnel en poulailler
(pas d'éclosoirs, pas d'automatisation poussins ni stockage poussins, pas de paniers d'éclosion ou de bacs de transport de poussins)
- Camion : plus d'œufs que de poussins



Grandes surfaces : choix éclosion à la ferme (bien-être “plus”)

colruyt
laagste prijzen
meilleurs prix



Trager
groeïend ras,
meer ruimte, ...
Naar een beter
dierenwelzijn,
stap voor stap.

Race à
croissance plus
lente, plus
d'espace... Vers
plus de bien-être
animal, **pas à pas.**



Kuikens laten uitkomen in de stal: een primeur in België



NestBorn en One2Born: de broederij brengt voorgebroede eieren naar de stal waar ze zullen uitkomen. Investerings of aanpassingen in de stal zijn dus niet nodig.



Grandes surfaces : choix éclosion à la ferme (bien-être “plus”)



Measures we're adopting that go beyond the Better Chicken Commitment

Hatching: Barn Born and Raised

We believe that in any livestock farming system the biggest influence on animal welfare is the stockperson in whose overall care the livestock are in. So, good welfare can be achieved in all well-managed approved systems.

NEW: we are the first retailer in the UK to have 50% of its chicken come from birds hatched straight into the houses in which they are reared.

- 'In-house hatching' allows the birds immediate access to feed and water which is not the case in traditional hatcheries, where birds utilise the yolk to provide nutrition and hydration.
- The barn born system also means that the birds hatch in the building that they continue to be raised in, so there is no handling and transport of chicks.
- **NEW stretch standard for Morrisons:** by 2026, we intend 100% of our fresh chicken to come from birds raised to this in-house hatching standard

Souche standard

Enrichissement

Lumière naturelle

Max 38 KG/M² (30)

ECC : optionnel



Éclosion à la ferme: conclusions

- ✓ **Bien-être poussins est supérieur:** alimentation précoce et plus
- ✓ **Santé intestinale & bien-être du lot:** litière et **pododermatites**
- ✓ Pas de **contamination-croisée** & opportunités pour **zéro-antibiotiques** : (avantages pour consommateur & société)
- ✓ Performance techniques et gains économiques pour **éleveur**
- ✓ **Éclosion 24/7** au service de l'abattoir
- ✓ “Lean, green & clean” eggery : **le futur c'est maintenant !**
- ✓ Stratégies de **marketing & communication** : système visuel



Informations ou questions ?



Erik Hoeven

Tel : +32-496-56.35.27

www.nestborn.eu

info@nestborn.eu



Thierry Bourcier

thierry.bourcier@josset-avl.fr

Tel : 06 89 90.38.63

Nicolas Lecuit

nicolas.lecuit@bd-france.fr

Tel : 06 87 89 08 56

<https://bd-france.fr/>

