



Avoiding feather pecking and cannibalism in laying hens: the dual-purpose hen as a chance

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Why dual-purpose chickens?



Alternative to the killing of day-old male layer chickens

- Hens: lay a sufficient number of eggs
- Roosters: show an acceptable fattening performance
- Modern dual-purpose hybrids, traditional (local) breeds, or simple cross breeds





Why dual-purpose chickens?



Additional advantages of dual-purpose chickens?

- Lower tendency to develop behavioural disorders
- Less prone to feather pecking and/or cannibalism





Animals, materials & methods



Housing and management conditions

- Research farm “Ruthe” of the University of Veterinary Medicine, Hannover
- 3 consecutive batches of Lohmann Brown plus (**LB+**) and Lohmann Dual (**LD**) hens with intact beaks (Nov. 2015 – Sept. 2018)
- Conventional aviary system, 4 compartments (approx. 900 hens/compartment and batch)
- Standard management procedures
- Graduated emergency scheme at first signs of behavioural problems





Animals, materials & methods



Visual plumage and integument scoring (**VSc**) (Giersberg et al., 2017)

- Weekly (20th – 71st, 69th, 56th week of life)
- 200 hens scored per hybrid line and study day
- Same observer on all study days



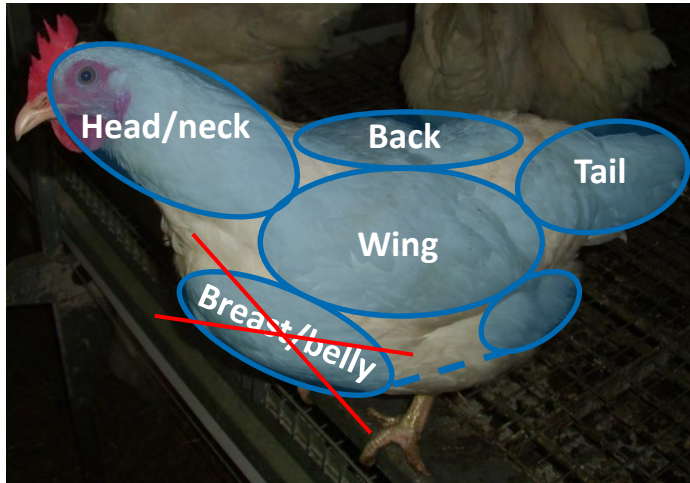


Animals, materials & methods



VSc

Feather loss and integument damage on five body parts



	Intact	Moderate loss		Severe loss	
Score/ Parameter	0	1	2	3	4
Feather loss	no feather loss	≤ 25% of feathers of body part missing	> 25% ≤ 50%	> 50% ≤ 75%	> 75%
Integument damage	no integument damage	single injuries < 0,5 cm (length/diameter)	multiple injuries < 0,5 cm or single injuries > 0,5 cm ≤ 1 cm	injuries > 1 cm	
	Intact		Damaged		



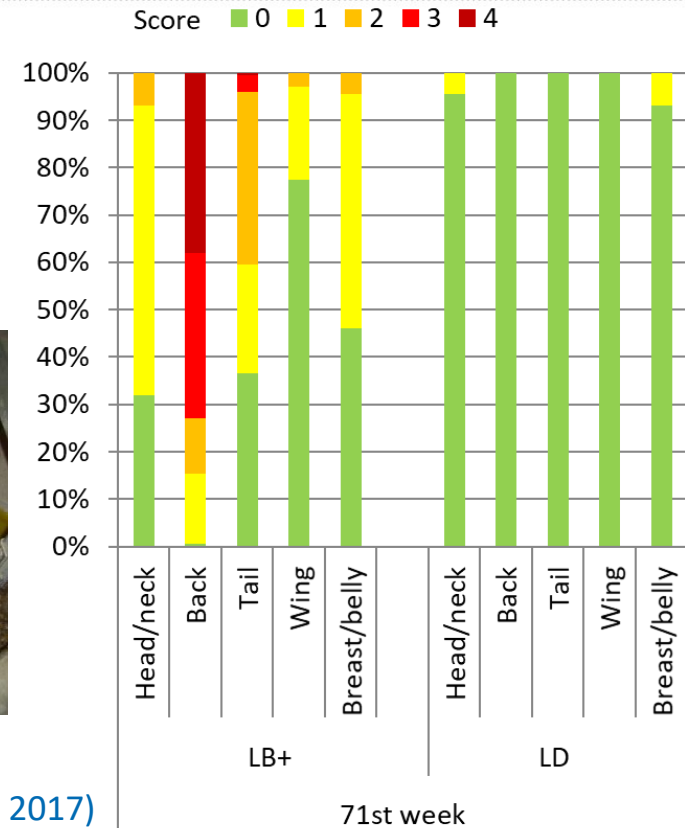
Results



What we do know:
Plumage condition in LB+ and LD hens, batch 1



(Giersberg et al., 2017)

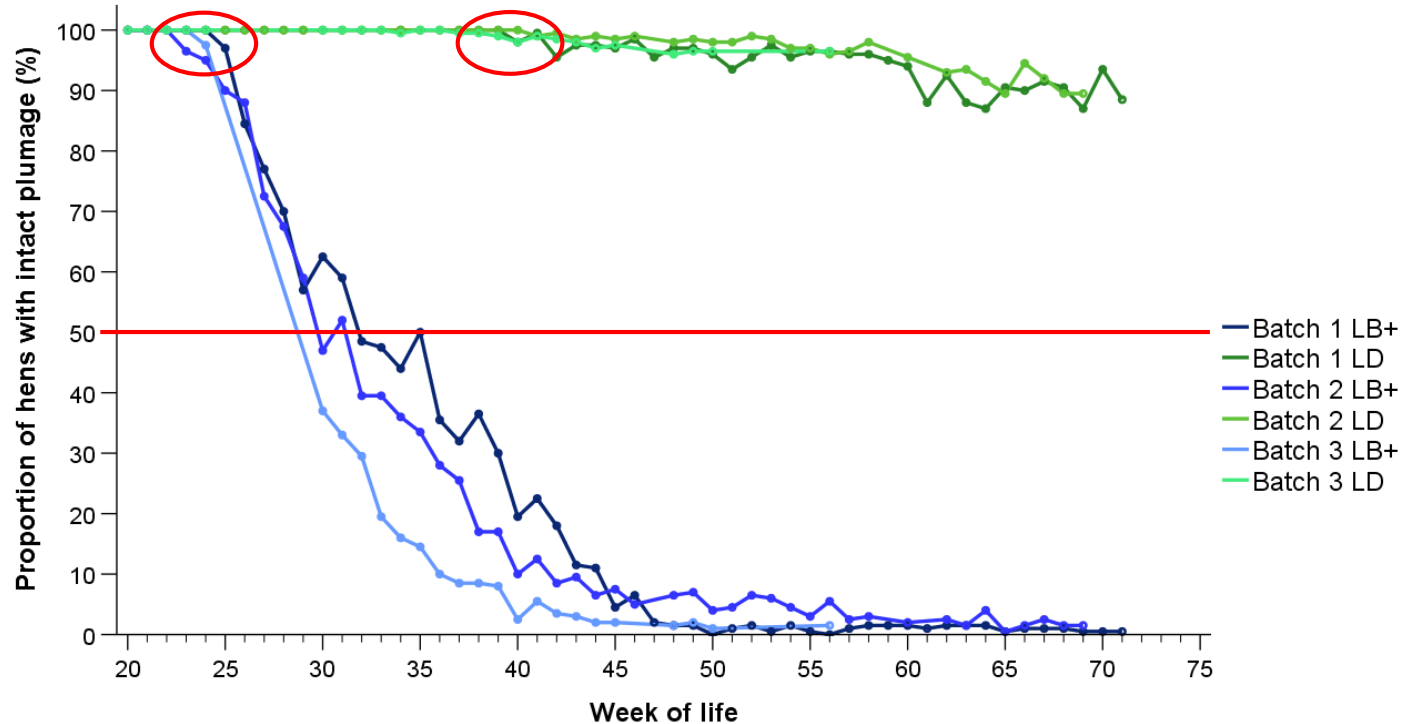




Results



What is new: Time course of plumage damage in LB+ and LD hens, batch 1-3

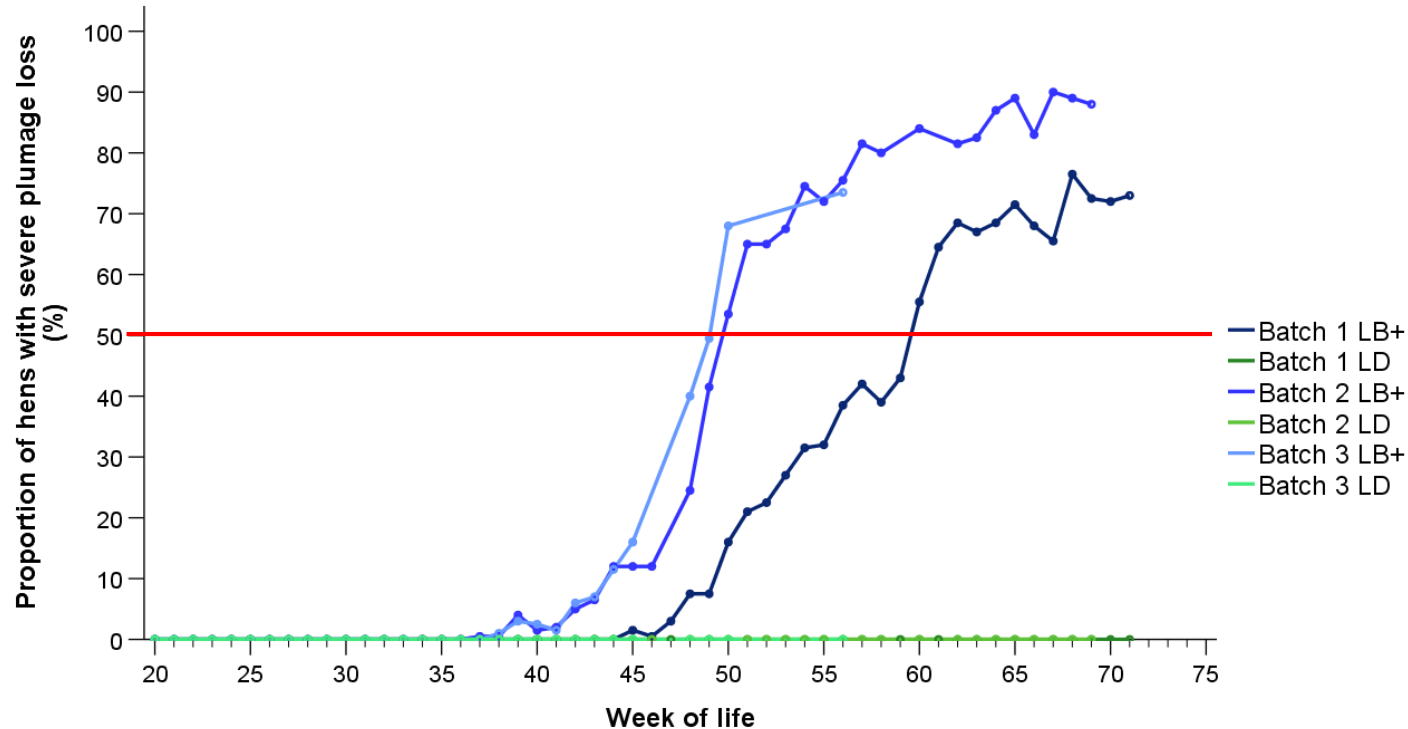




Results



Time course of severe (score 3, 4) plumage damage in LB+ and LD hens, batch 1-3

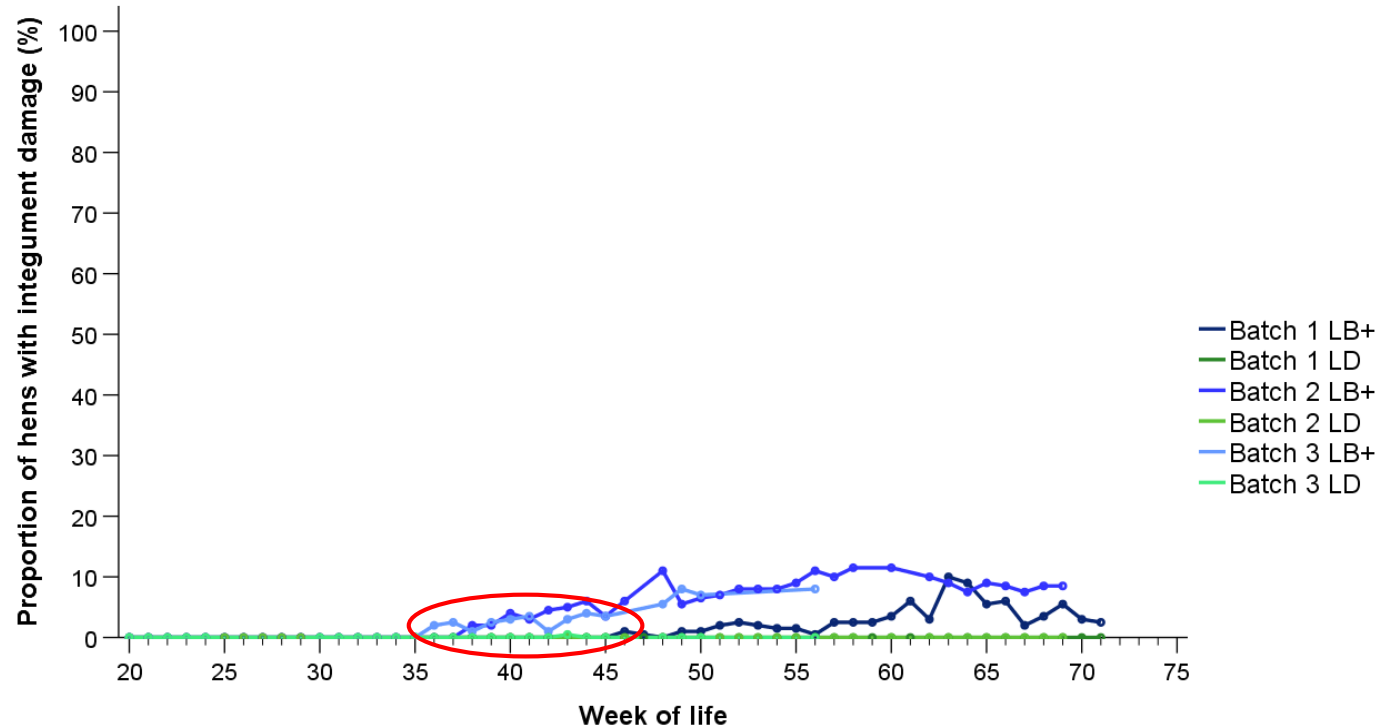




Results



Time course of integument damage in LB+ and LD hens, batch 1-3





Conclusions



- **LB+:** severe feather loss and integument damage indicated the occurrence of feather pecking and cannibalism in all 3 batches
 - Patterns of plumage damage: similar (starting ≤ 25 weeks), differing only slightly in progression and severity
 - Injuries appeared with a delay of several weeks: feather pecking \rightarrow tissue pecking
 - Measures according to graduated emergency scheme: not fully sufficient to eradicate feather pecking; probably alleviation of tissue pecking
- **LD:** no signs of feather pecking or cannibalism in any batch



Conclusions



- Present findings confirm the results of our former study ([Giersberg et al., 2017](#))
- Almost identical housing and management conditions for both hybrids
- Genetic effects
- Keeping LD hens with untrimmed beaks in conventional loose housing systems is largely unproblematic regarding behavioural disorders





Conclusions



Keeping dual-purpose hens should be considered as an alternative approach to avoid injurious pecking in modern laying hen husbandry!



Thank you!



Want to read more about the behaviour of LB+ and LD hens?



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