

FREEBIRDS PROJECT WELFARE OF ORGANIC HENS

FREEBIRDS PROJECT



CORE organic Cofund

Partners: 9 universities/research institutes in Denmark, Sweden, Italy, The Netherlands, Poland, Belgium, Turkey.

Aim to develop successful husbandry practices in organic poultry production in order to make the chickens spend more time outdoors, in accordance with the intentions of the organic concept.

FREE RANGE USE

Positive effects

- Promotes species-specific behaviour
- Reduction in maladaptive behaviours (e.g. feather pecking and cannibalism)
- Reduction in keel bone fractures

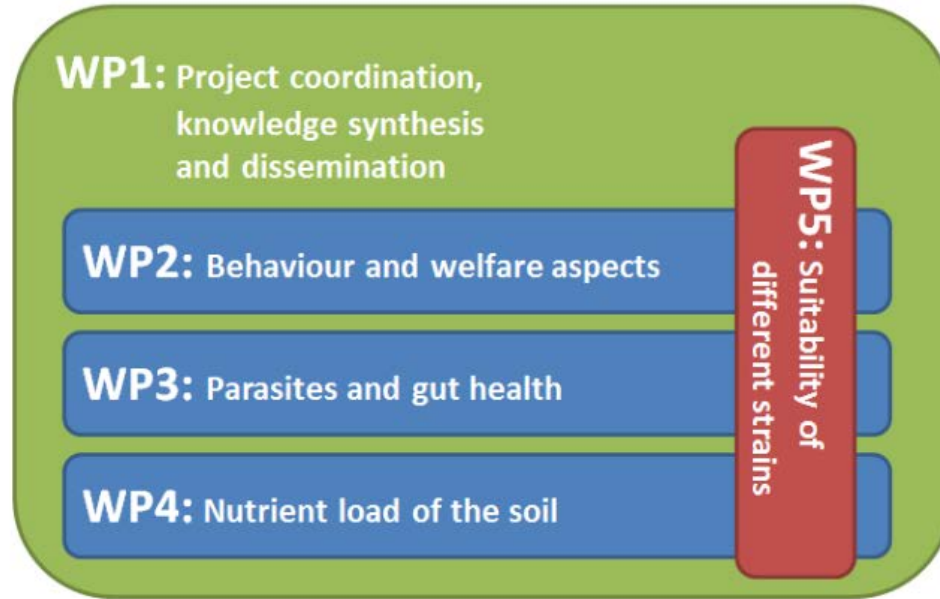


Photo: Faye Tahamtani

Negative effects

- Diseases carried by wildlife
- Parasitic infections
- Predation
- Manure on the soil

FREEBIRDS PROJECT



Danish study: WP5

- Assess the suitability of two established laying hen hybrids for the use in organic production.
- Compare the range use, welfare and performance

MATERIALS AND METHODS

- Dekalb White and Bovan's Brown (N= 1200)
- 12 groups of 100
- 17 to 38 weeks of age
- May to September 2018

Housed according to EU

requirements for organic production

Indoor pen: 4.5 x 4.5 m (5.1 hens/m²)



Photos: Faye Tahamtani

MATERIALS AND METHODS



- Outdoor range: 4.5 x 90 m (4 m²/hen)
- Grass
- No trees
- shelters
 - 4 tarps 10 m long
 - 10 m intervals
- Roughage
 - Maize silage/carrots
 - 3x per week
 - Under first shelter

Photo: Faye Tahamtani

MATERIALS AND METHODS



Photos: Faye Tahamtani

DATA COLLECTION

Range use

- Weekly live observations
- Number of hens outdoors
- Distance from the popholes



Photos: Faye Tahamtani

DATA COLLECTION

- Plumage condition
 - Bilcik and Keeling method
 - 17 and 38 weeks of age
- Keel bone (38 weeks)
 - External palpation
 - Breaks and deviations

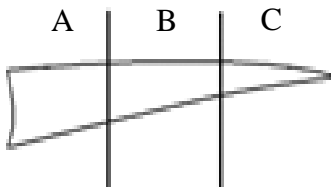
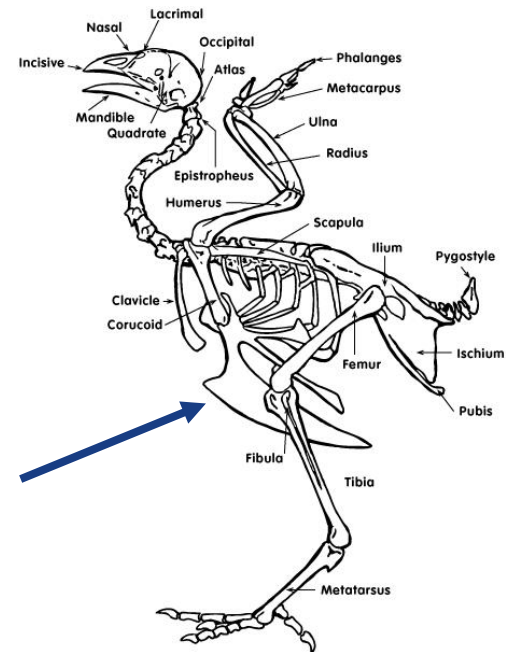
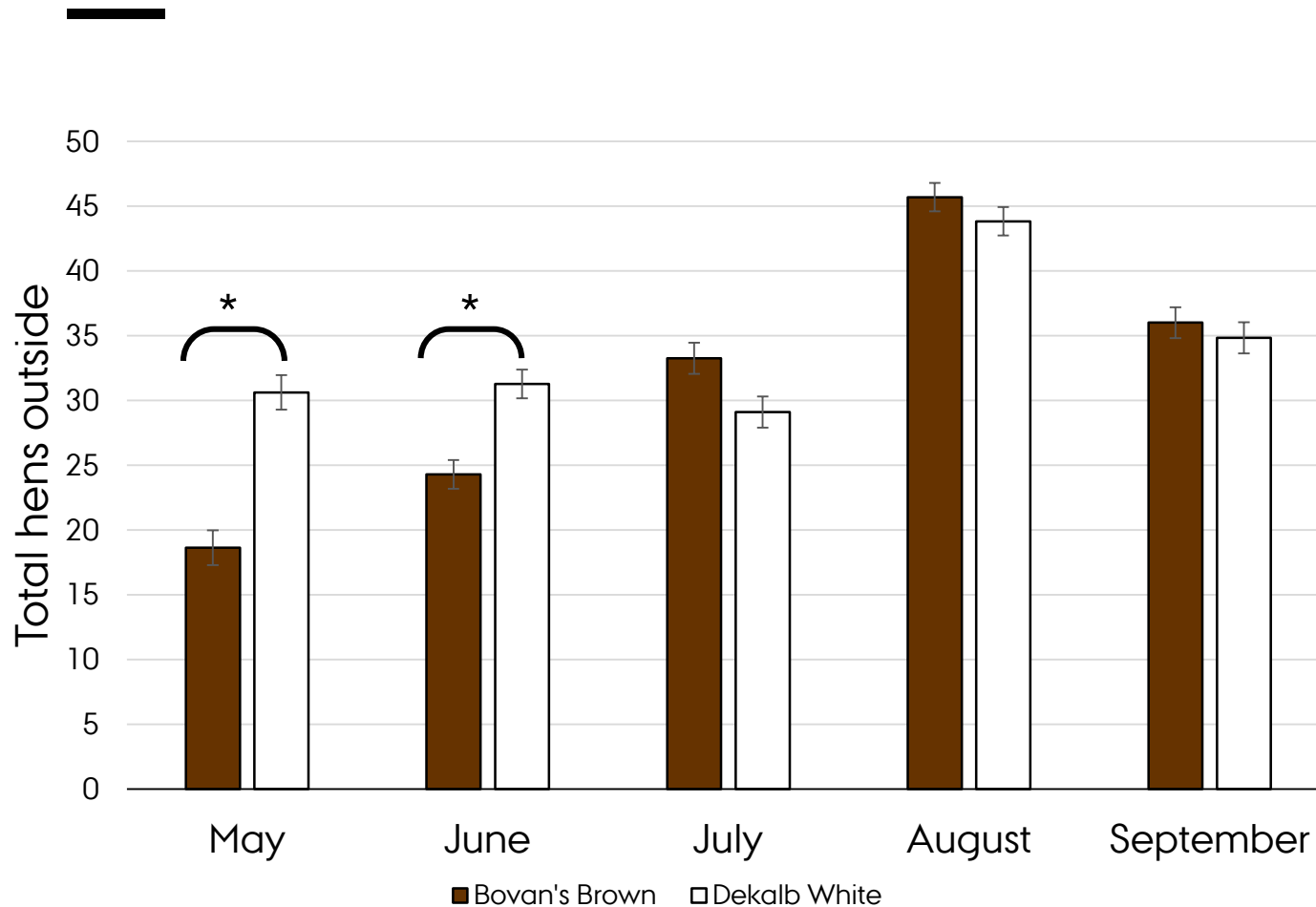


Photo: Faye Tahamtani

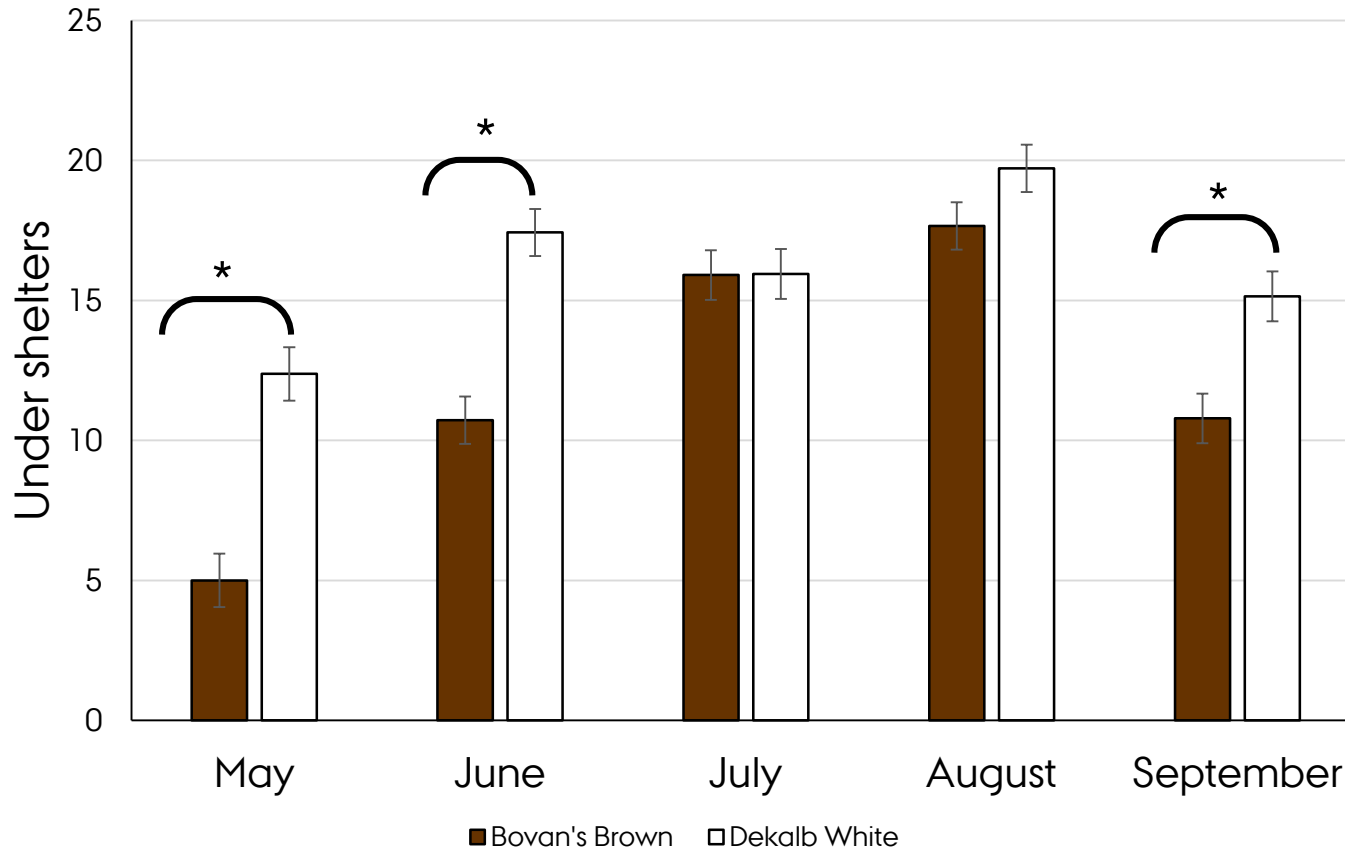


RESULTS – RANGE USE - TOTAL



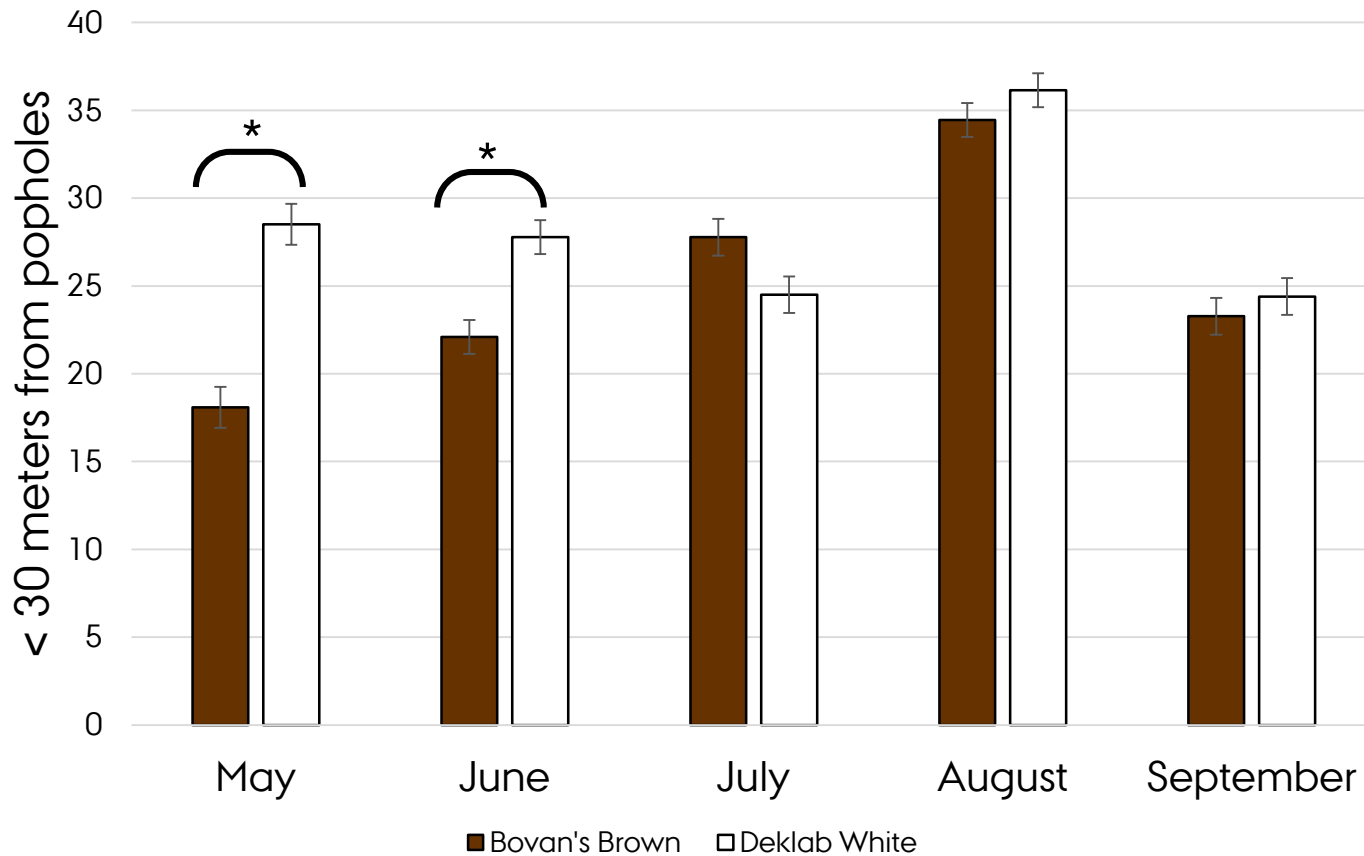
Total outside:
Hybrid*Month:
 $F_{4,1996} = 19.29$
 $p < 0.0001$

RESULTS – RANGE USE - SHELTERS



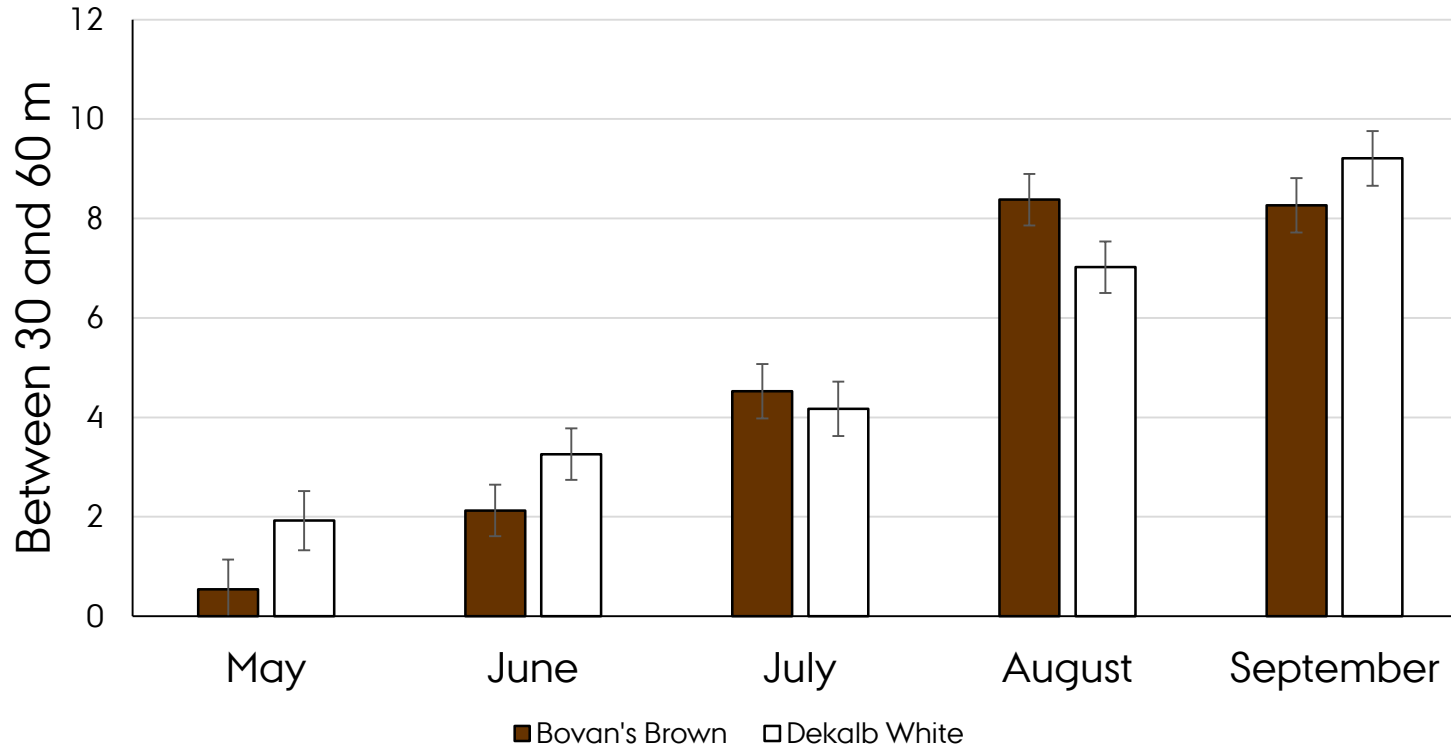
Total under shelters:
Hybrid*Month:
 $F_{4,1996} = 12.49$
 $p < 0.0001$

RESULTS – RANGE USE - <30M



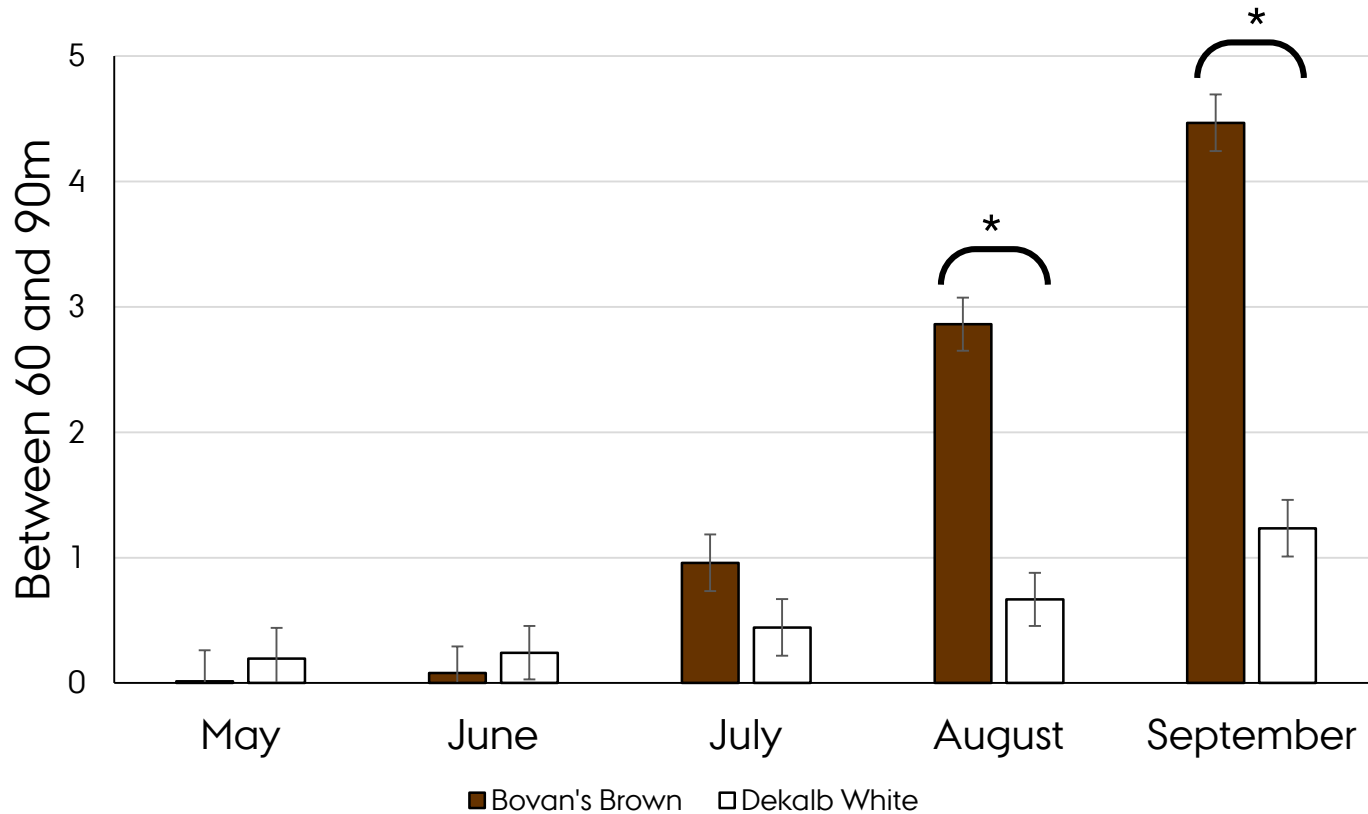
Total up to 30 meters:
Hybrid*Month:
 $F_{4,1996} = 14.97$
 $p < 0.0001$

RESULTS – RANGE USE - 30<X<60M



Total 30<x<60
meters:
Hybrid*Month:
 $F_{4,1996} = 4.61$;
 $p=0.001$

RESULTS – RANGE USE - 60M>X>90M



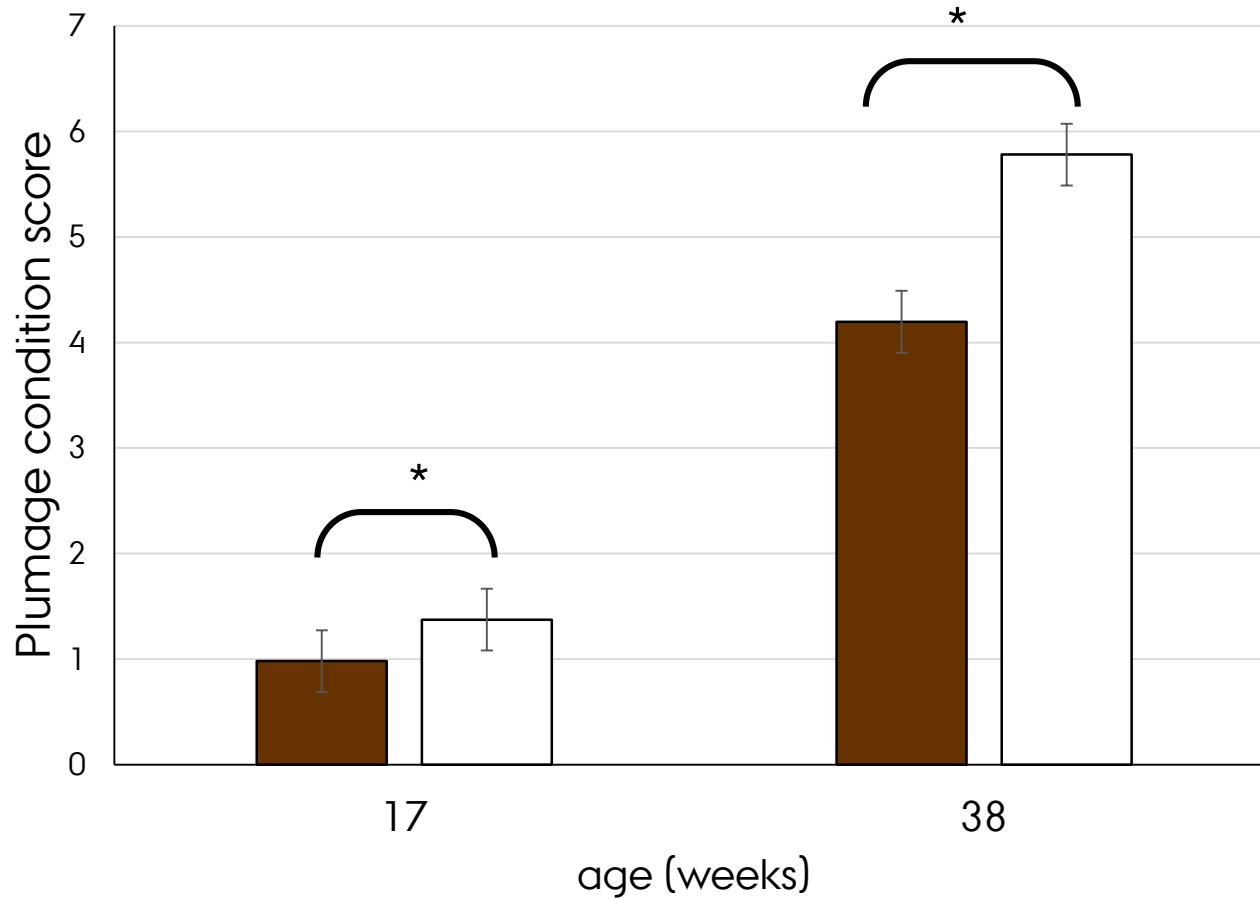
Total 60<x<90
meters:

Hybrid*Month:

$F_{4,1996} = 40.87$

$p < 0.0001$

RESULTS - PLUMAGE CONDITION



Interaction effect
Hybrid*Age
($F_{1,2246}=88.53$,
 $p<0.0001$).

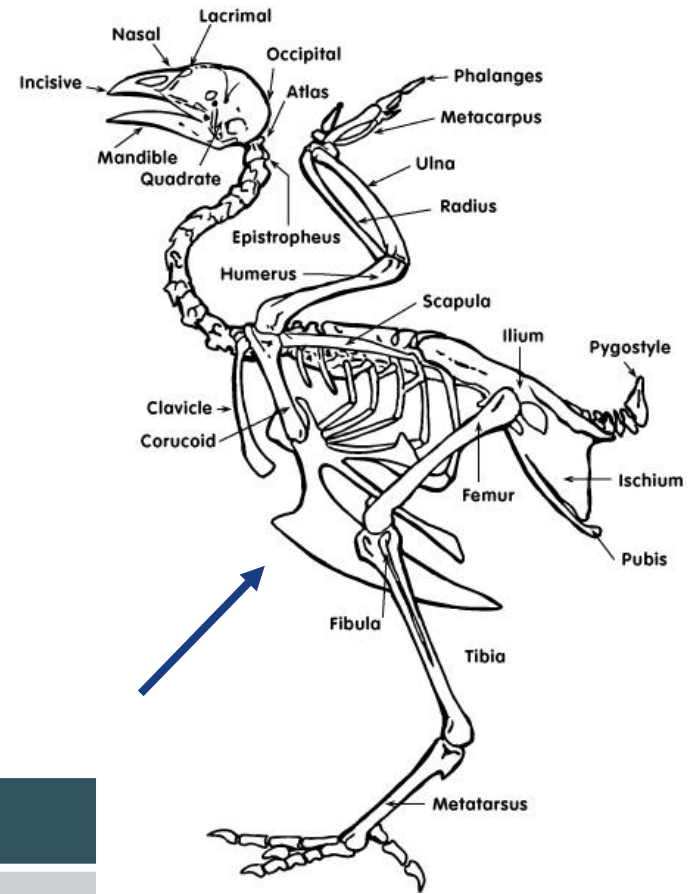
■ Bovan's Brown
□ Dekalb White

RESULTS – KEEL BONE

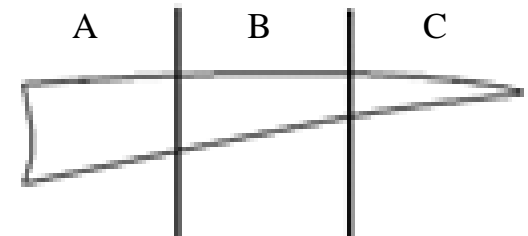
(38 weeks of age)

No hybrid effects on

- Any breaks
- Any deviations
- Any deformity (breaks or deviations)



	Bovan's Brown	Dekalb White	Stats
Break A	6.45%	19.19%	P<0.0001
Break C	20.47%	11.13%	P<0.0001



DISCUSSION

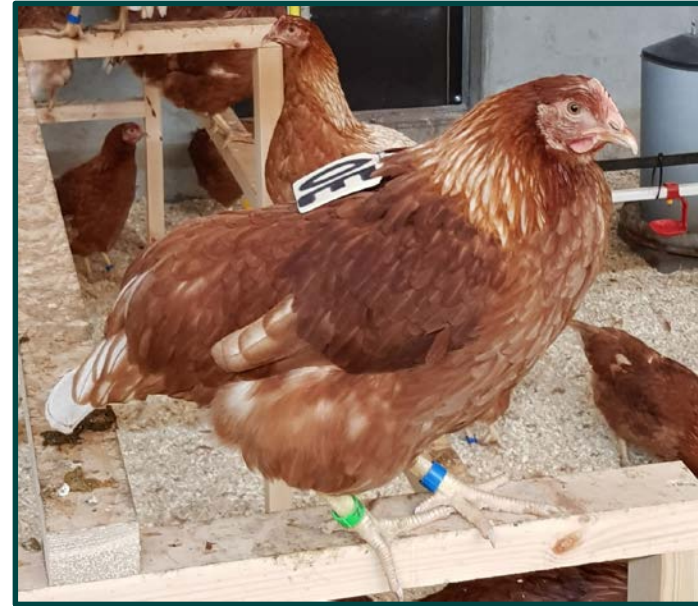
	Bovan's Brown	Dekalb White
Total outside	-	+
Use of shelters	-	+
Distance from house	+	-
Trauma to keel bone	-	+
Plumage damage	-	+

DISCUSSION



CONCLUSION

- Total number of hens outside
- Use of shelters
- Distance from popholes
- Damage to keel bones
- Damage to plumage



➤ Bovan's brown: more robust to the environment of organic production

- BUT: many other parameters to analyse
 - Production parameters
 - Vegetation cover
 - Gut health
 - Individual range use

MORE FROM FREEBIRDS

Monique Bestman: Role of range use in infections with parasites in laying hens. Poster A49.

<https://projects.au.dk/coreorganiccofund/research-projects/freebirds/>



Photo: Thijs Decroos

Coordinator

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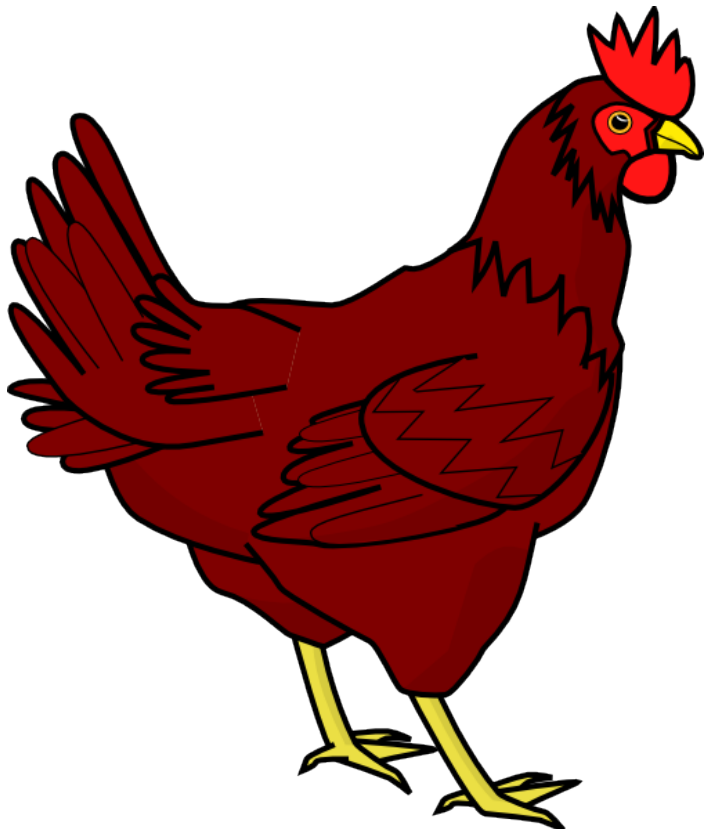
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QUESTIONS ARE WELCOME





AARHUS
UNIVERSITY