

What do dual-purpose cockerels feed on in the range area?

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Research of dual-purpose breeds at TI

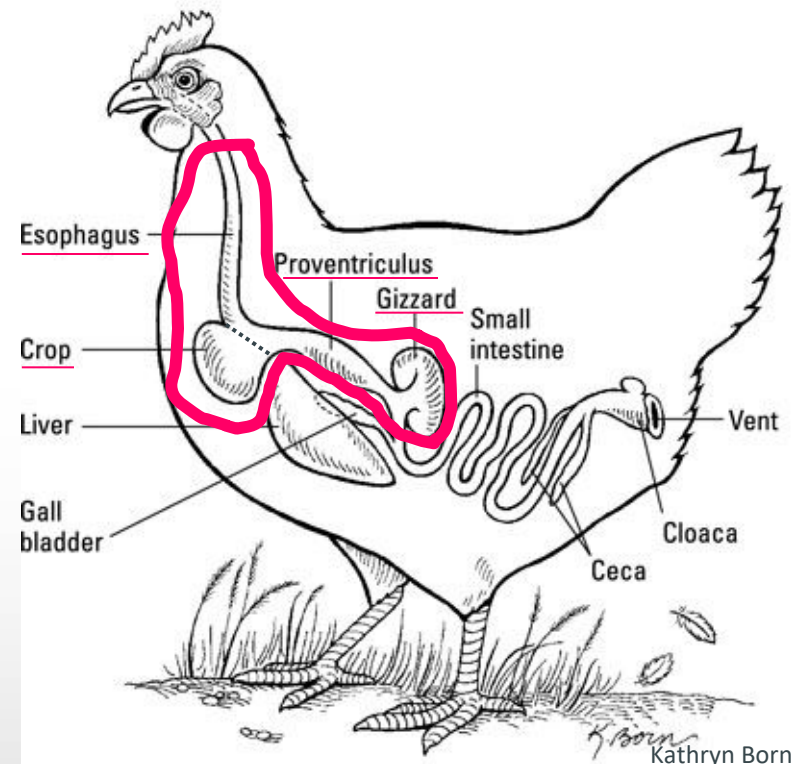


Institute of
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Anterior digestive tract

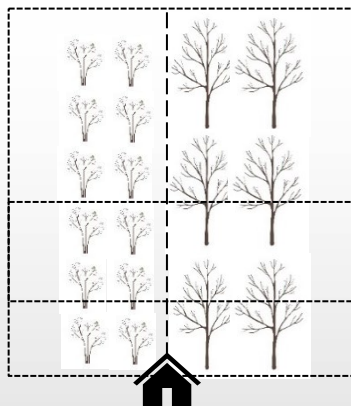
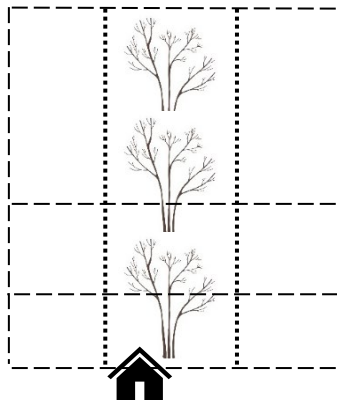
- **Peristalsis and anti-peristalsis**
 - Gizzard -> Proventriculus
 - Jejunum -> Duodenum (-> Gizzard)
 - Cloeca -> Ceca
- **Likely only particles < 0.1 mm from gizzard to small intestine**
- **Continuance in segments of digestion tract:**
 - 10 – 50 min in crop,
 - 30 – 90 min proventriculus/gizzard,
 - in total: 3 – 4 h (Ravindran, 2013)
 - Ad libitum fed broilers' crops: never full (Svihus, 2014)
 - Limited feeding regime: + 90 min in upper GIT



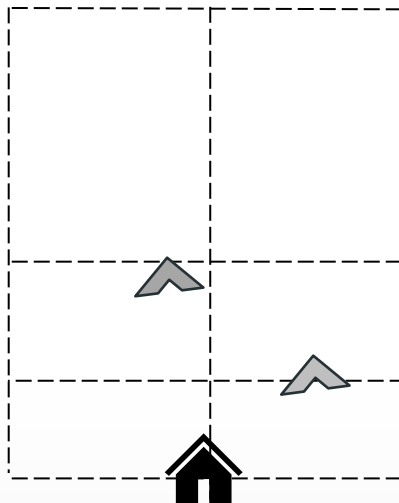
Aims

- **Proportion of material from the range in crop and gizzard**
 - Insects and other animals
 - Plant material
 - Grit
- Response to cow pats
- Range use and fearfulness (tonic immobility test)
- Welfare indicators, i.e. lesions, dermatitis, weight gain
- Losses due to predatory birds

Site: Hedgerow and SRC



Site: Control



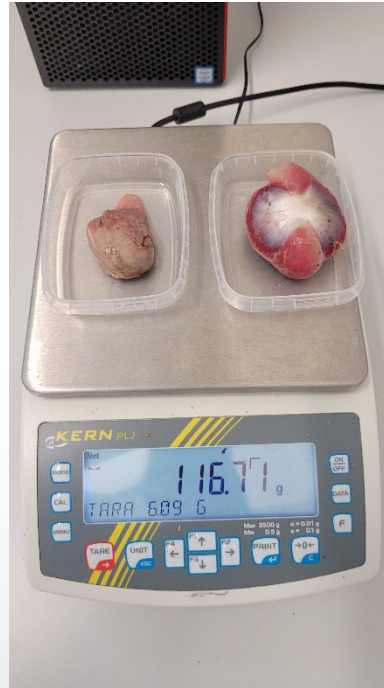
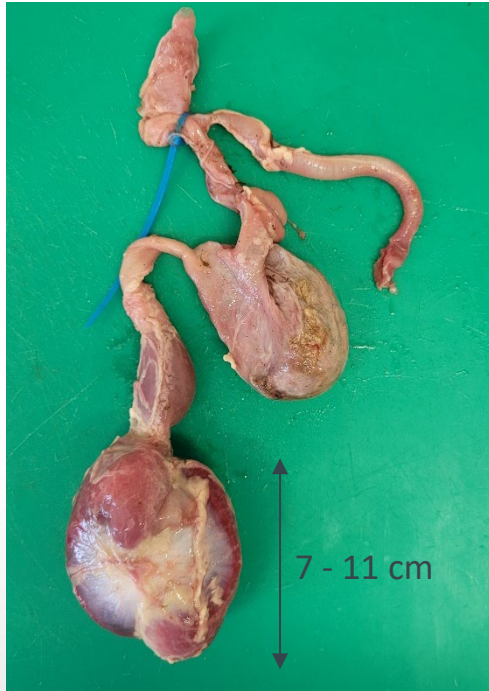
3 Experimental Runs

4 Treatments, 2 replicates each

50 Cockerels per replicate

3 Dates of Slaughter

Method: Evacuation of crop and gizzard



suggested by Lorenz et al. 2013



Method: Evacuation of crop and gizzard

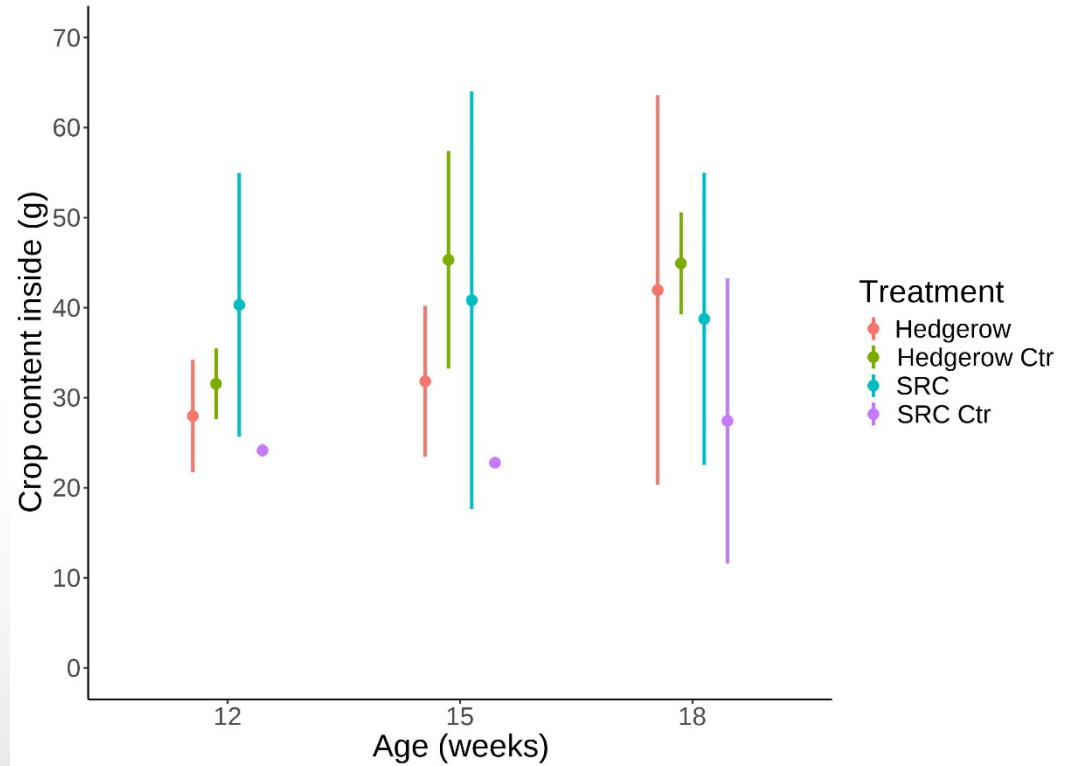


Crop and gizzard: Correction factor

Crop/gizzard	Content	Bound water	Correction factor
Crop	Plant material	8.3% ± 1.0%	0.917
Gizzard	Plant material	13.9% ± 4.7%	0.861
Crop	Insects	22.0% ± 17.1%	0.880
Gizzard	Grit	3.1% ± 0.5%	0.969

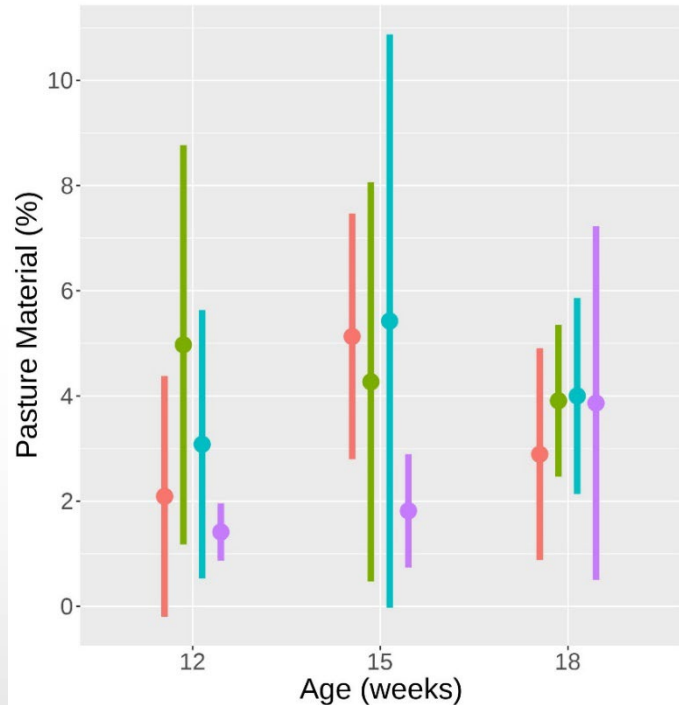
Results - crop

Total amount of crop content (n = 273)

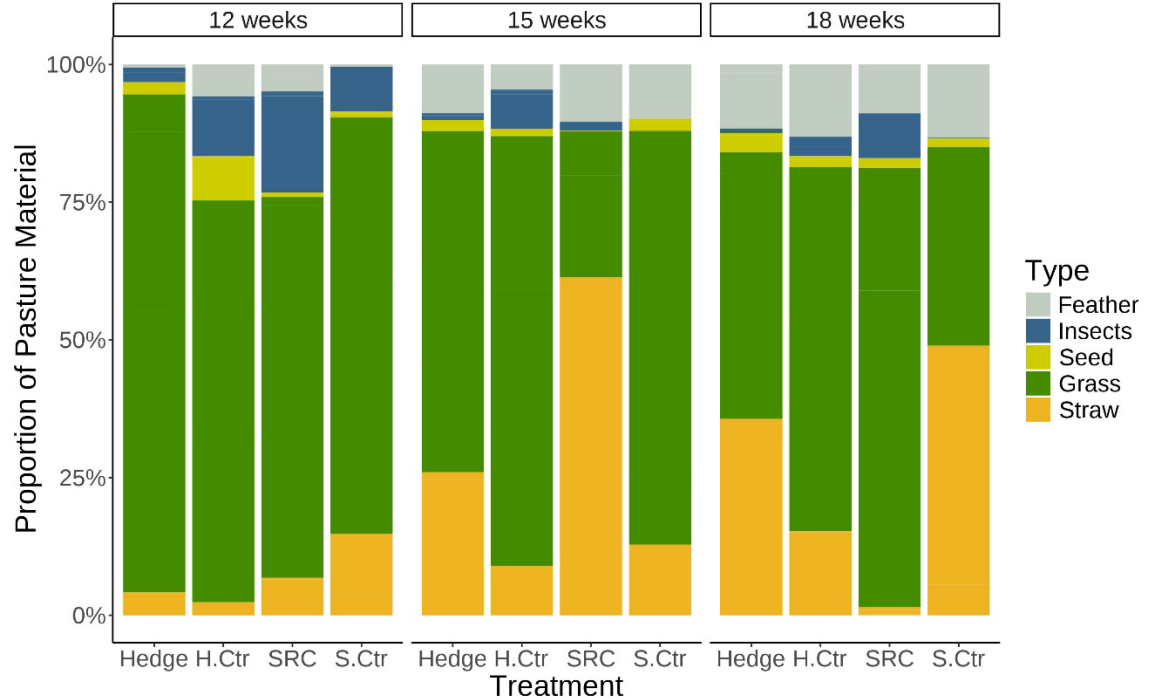


Results - crop

Material from the range area

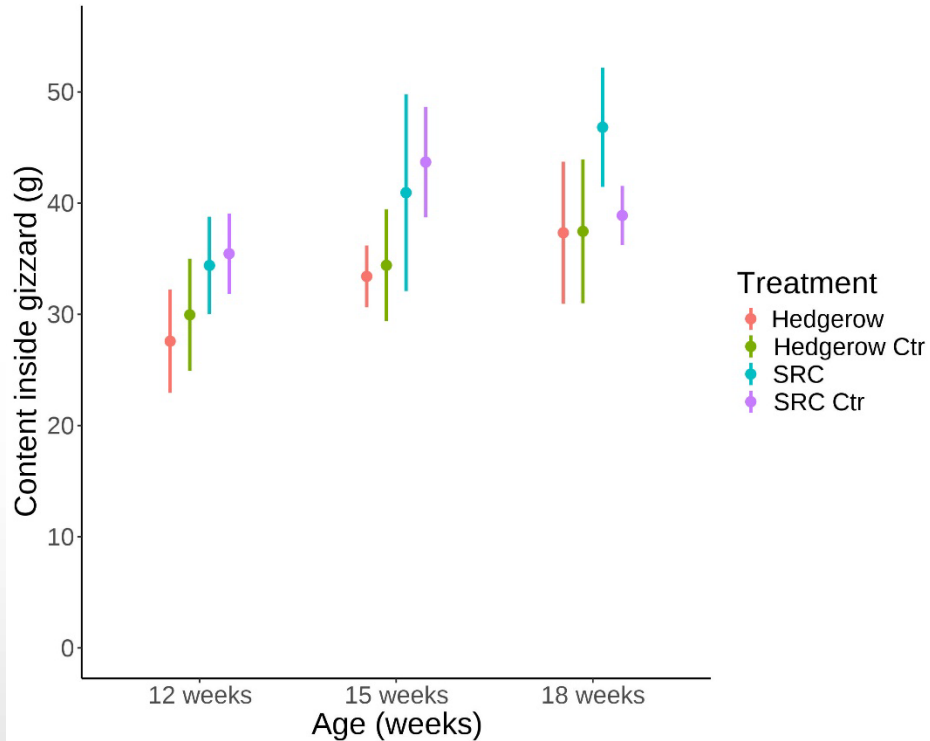


Proportions



Results - gizzard

Total amount of gizzard content (n = 305)



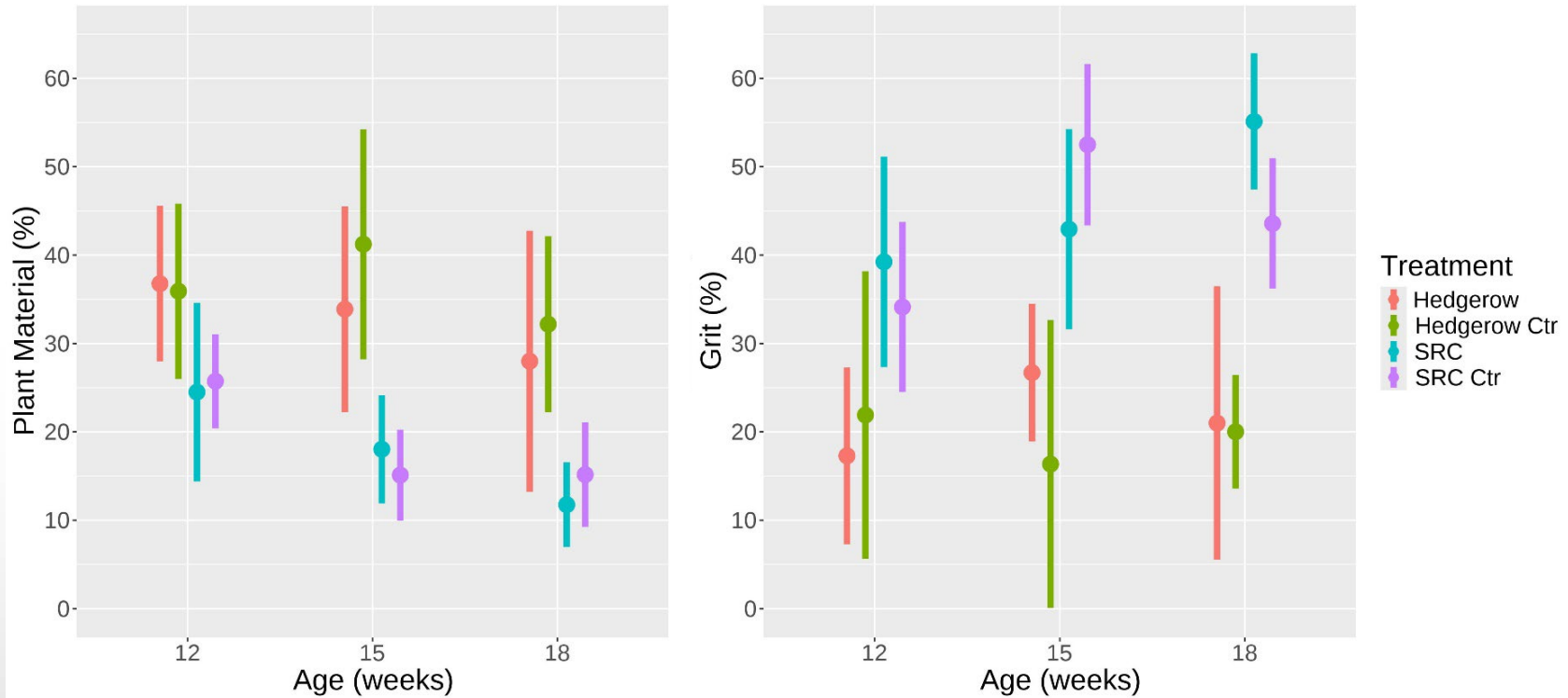
Results - gizzard



Fibre knots in 97 gizzards
(of 305 in total)



Results - gizzard



Prospect

- Missing knowledge about passage rate
- High variability
- Experiments on-station
 - Could grazing animals on the (neighbouring) pasture lead to relevant amounts of insects in daily ratios?
 - What do good range areas look like?
- Breeding for „grazing chickens“



British Poultry Science

Publication details, including instructions for authors and subscription information:
<http://www.tandfonline.com/loi/cbps20>

The effect of a diet containing grasshoppers and access to free-range on carcass and meat physicochemical and sensory characteristics in broilers

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The End



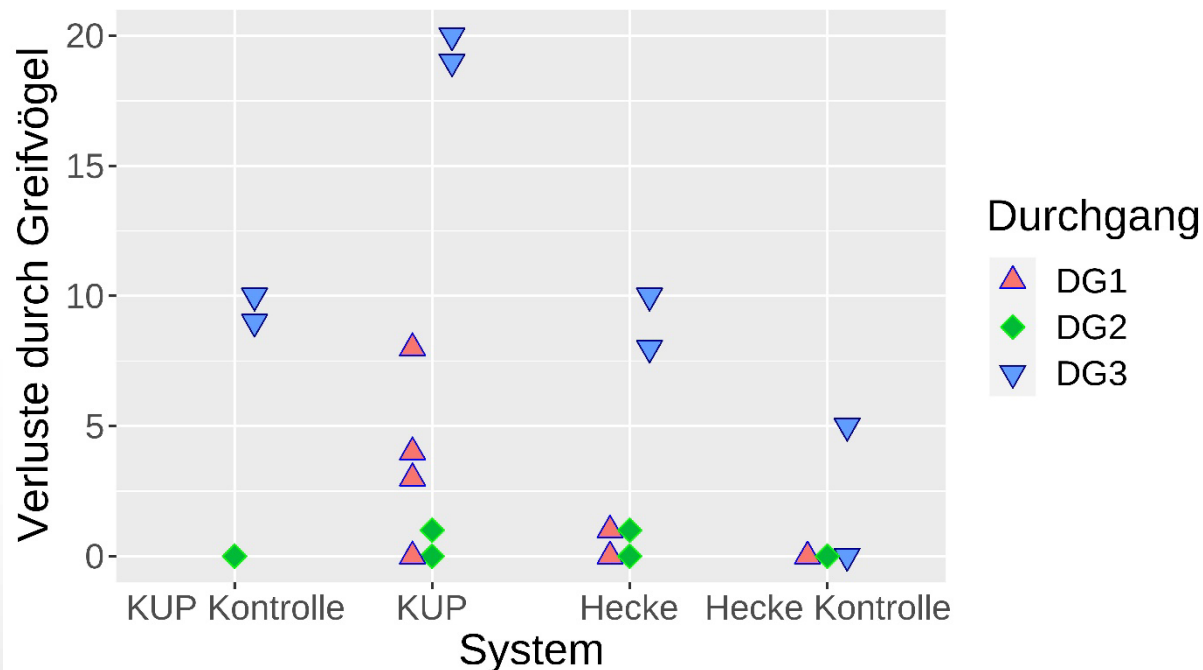
Questions?



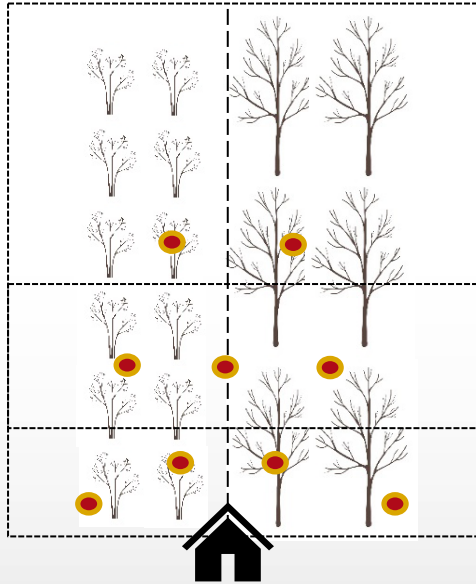
Goshawks – signs of predation



Losses due to predatory birds (mostly goshawks)



Curiosity: Cow Pats



A CHICK GROWTH FACTOR IN COW MANURE
I. ITS NON-IDENTITY WITH CHICK GROWTH FACTORS
PREVIOUSLY DESCRIBED
By MAX RUBIN and H. R. BIRD
(From the Bureau of Animal Industry, Agricultural Research Center, Beltsville,
Maryland)

(Received for publication, February 2, 1916)

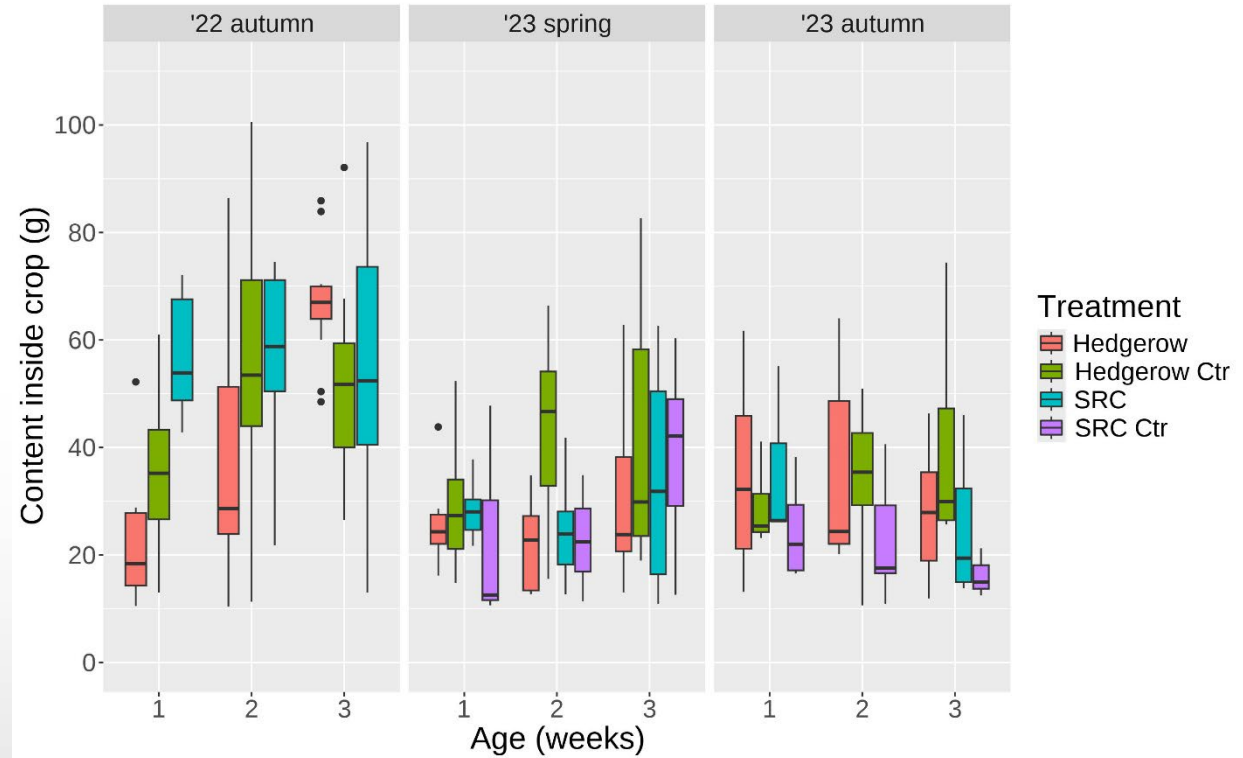
Feed

Components
Wheat
Corn
Triticale
Barley
Oat
Pea
Fava bean
Rapeseedcake
Soybeencake
Sunflowercake
Natriumchloride
Calcium phosphate
Calcium carbonate
Mineral mix

	Phase 2 (5-11)	Phase 3 (12-18)
Energy (AMEn)	11,3 MJ	11,5 MJ
CA	5,96%	5,98%
CP	18,54%	17,95%
CF	5,13%	4,64%
CF	7,07%	6,45%
Methionine	0,25%	0,24%
Met+Cys	0,57%	0,53%
Lysine	1,03%	1,00%
Thr	0,71%	0,67%
Try	0,20%	0,19%

Results - crop

Total amount of crop
content (n = 273)



Results - gizzard

Total amount of gizzard content (n = 305)

