

Nutritional requirements of laying hens

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H&N layers requirements

- Energy
- Amino acids
- Minerals (Ca/P)

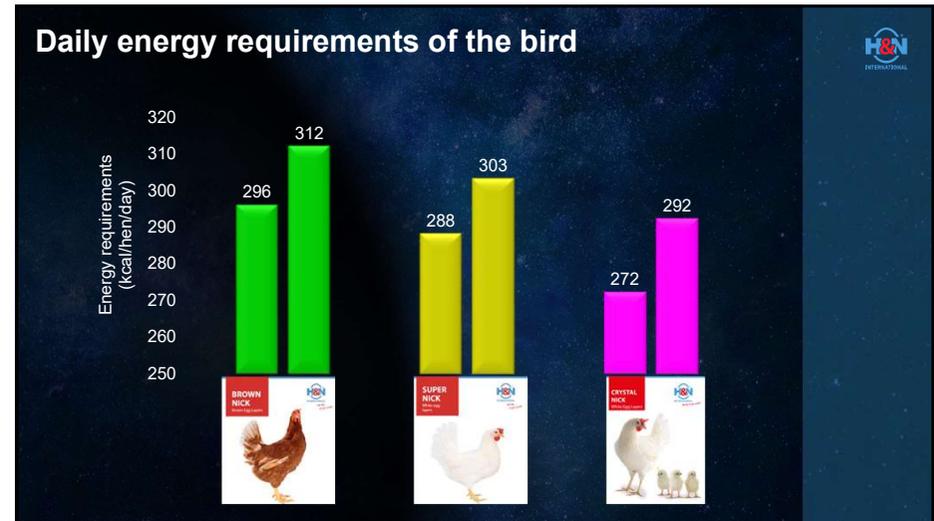
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Are the energy requirements between white and brown laying hens different?

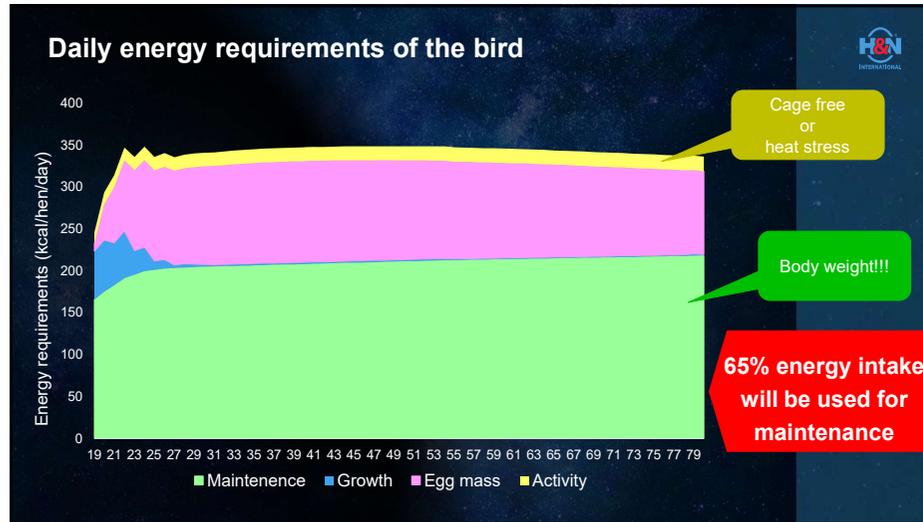
It depends

Why?

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Are the energy requirements between white and brown laying hens different?

It depends

Why?

The body weight of the bird drives the energy requirement

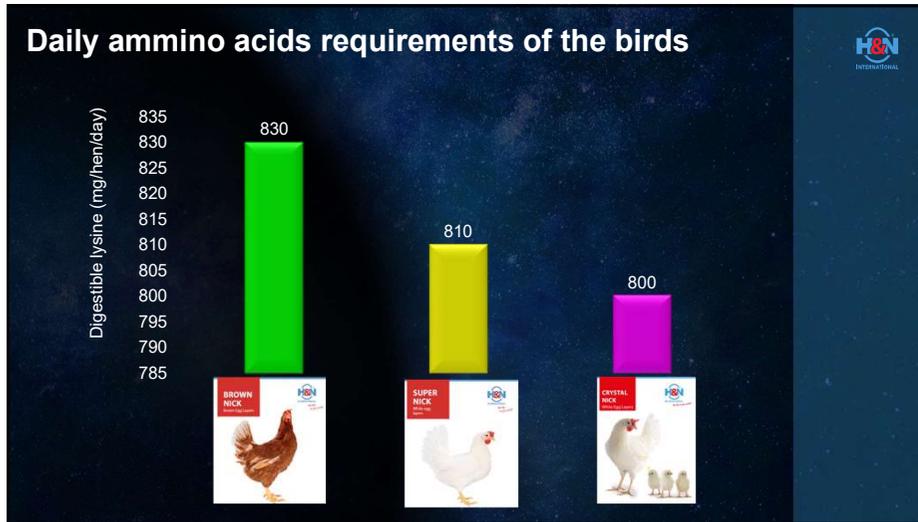
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Are the amino acids requirements between white and brown laying hens different?

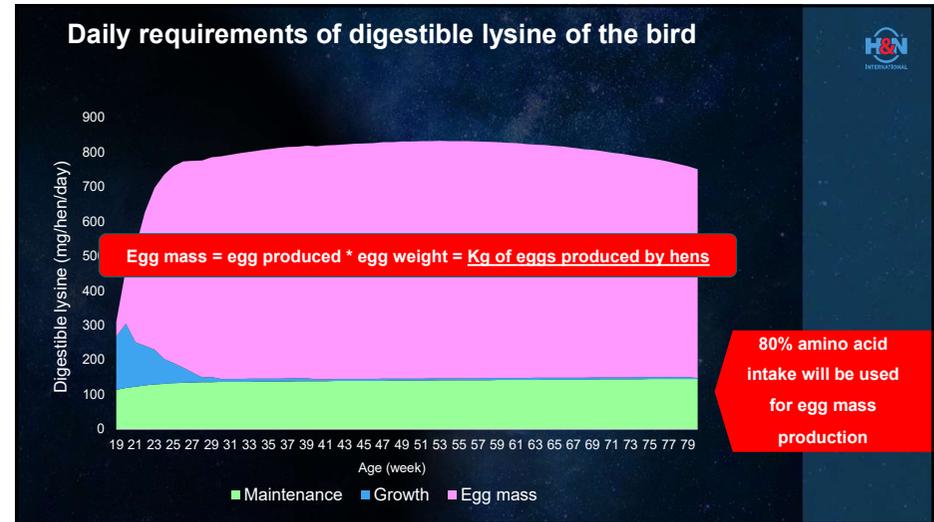
It depends

Why?

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An example...performance goals at 45 weeks of age

	Brown Nick	Super Nick	Crystal Nick
Rate of lay (%)	93,9	94,6	96,9
Egg weight (g)	64,2	63,3	60,2
Egg mass ¹	60,3 (9,95)	59,9 (9,67)	58,3 (9,20)

¹Egg mass per day (kg/eggs/day) and egg mass cumulatively (kg of eggs produced until 45 weeks of age)

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Are the amino acids requirements between white and brown laying hens different?

It depends

Why?

The egg mass produced from the bird drives the AA requirement

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Are the minerals requirements between white and brown laying hens different?

It depends

Why?

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Daily minerals requirements of the birds

Table 20: Ca and P needs during laying period

	Before peak	Peak to 45 weeks	45 – 70 weeks	> 70 weeks
Ca (g/bird/day)	3.80	4.00	4.30	4.50
Phosphorus* (mg/bird/day)	600	540	480	430
Av. Phosphorus (mg/bird/day)	420	380	340	300
Dig. Phosphorus (mg/bird/day)	360	325	290	255





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An example...at 45 weeks of age

Feed used 2850 kcal/kg			
Feed intake (g)	110	106	102
Calcium requirements (g/bird/d)	4,00		
Av. Phosphorus (mg/bird/d)	380		
Calcium (%)	3,6%	3,7%	3,9%
Av. Phosphorus (%)	0,34%	0,36%	0,37%

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Are the minerals requirements between white and brown laying hens different?

It depends

Why?

The feed intake target of the bird drives the minerals requirement to use in the formulate

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Management of the feed formulate

Example n1:
 2 flocks (SN and BN)
 1 formulate for all flocks (BN)

Objective feed intake **Brown Nick: 110 g**

formula	
AMEn	2.850 kcal/kg
Dlys	0,755%
Ca	3,6%
Av. P	0,344%

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Management of the feed formulate

Example n1:
 2 flocks (SN and BN)
 1 formulate for all flocks (BN)

Objective feed intake **Brown Nick: 110 g**

formula	Results			
	Brown Nick		Super Nick	
Parameter	Intake	Requirement	Intake	Requirement
AMEn	2.850 kcal/kg			
Dlys	0,755%			
Ca	3,6%			
Av. P	0,344%			

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Management of the feed formulate

Example n2:
 2 flocks (SN and BN)
 1 formulate for all flocks (SN)

Objective feed intake **Super Nick: 105 g**

formula	
AMEn	2.810 kcal/kg
Dlys	0,771%
Ca	3,8%
Av. P	0,36%

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Management of the feed formulate

Example n2:
 2 flocks (SN and BN)
 1 formulate for all flocks (SN)

Objective feed intake **Super Nick: 105 g**

formula	Results			
	Brown Nick		Super Nick	
Parameter	Intake	Requirement	Intake	Requirement
AMEn	2.810 kcal/kg			
Dlys	0,771%			
Ca	3,8%			
Av. P	0,36%			

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Management of the feed formulate

Example n3:
 2 flocks (SN and BN)
 1 formulate for each flock (SN and BN)

Objective feed intake: 110 g

formula			Results				
	BN	SN	Parameter	Brown Nick		Super Nick	
				Intake	Requirement	Intake	Requirement
AMEn (kca/kg)	2.850	2.680	Feed Intake	110 g		110 g	
Dlys	0,755%	0,736%	Dlys Intake	830 mg	830 ✓	810 mg	810 mg ✓
Ca	3,6%	3,6%	Ca	4,0 g	4,0 g ✓	4,0 g	4,0 g ✓
Av. P	0,35%	0,35%	Av. P	380 mg	380 mg ✓	380 mg	380 mg ✓

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Conclusions

Life depends on how you look at it



Nutritional requirements of laying hens depends on:

- Body weight (energy requirements)
- Egg mass produced (AA requirements)
- Target feed intake (minerals)

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