

INTERNATIONAL

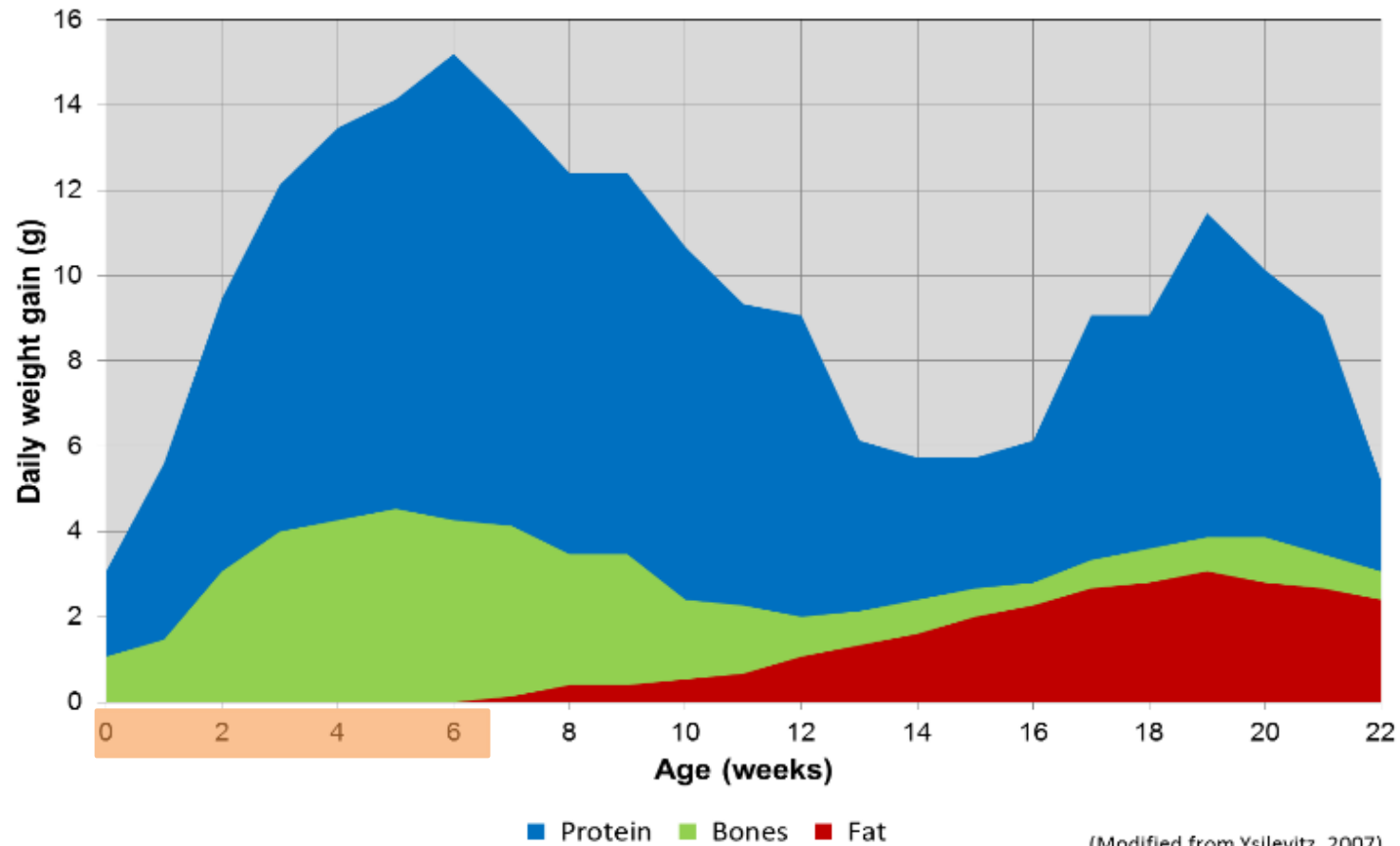
The key to your profit!



Egg shell nutrition with a target egg size

Xabier Arbe, Head of Business Unit

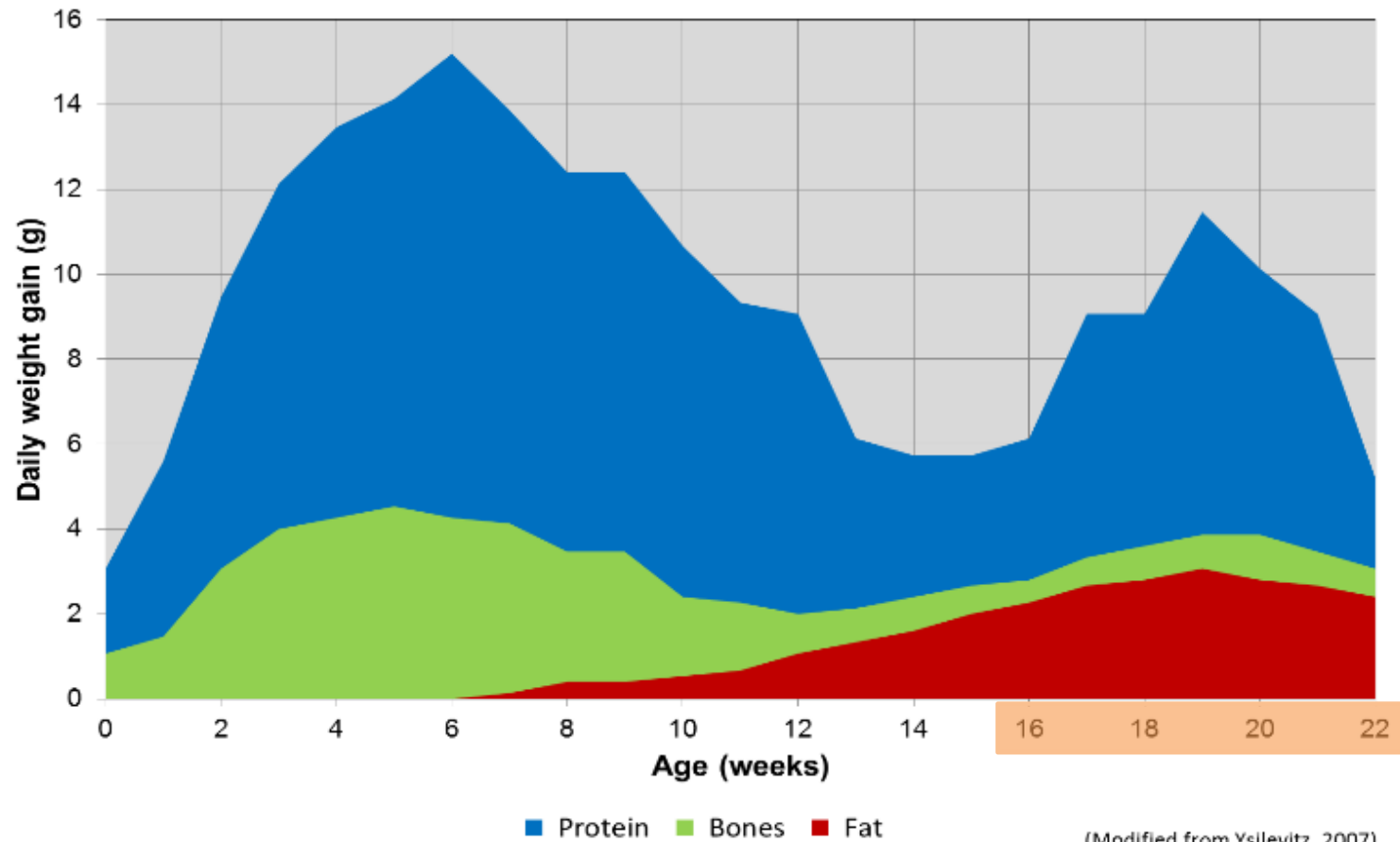
Egg size and egg shell depend on raring



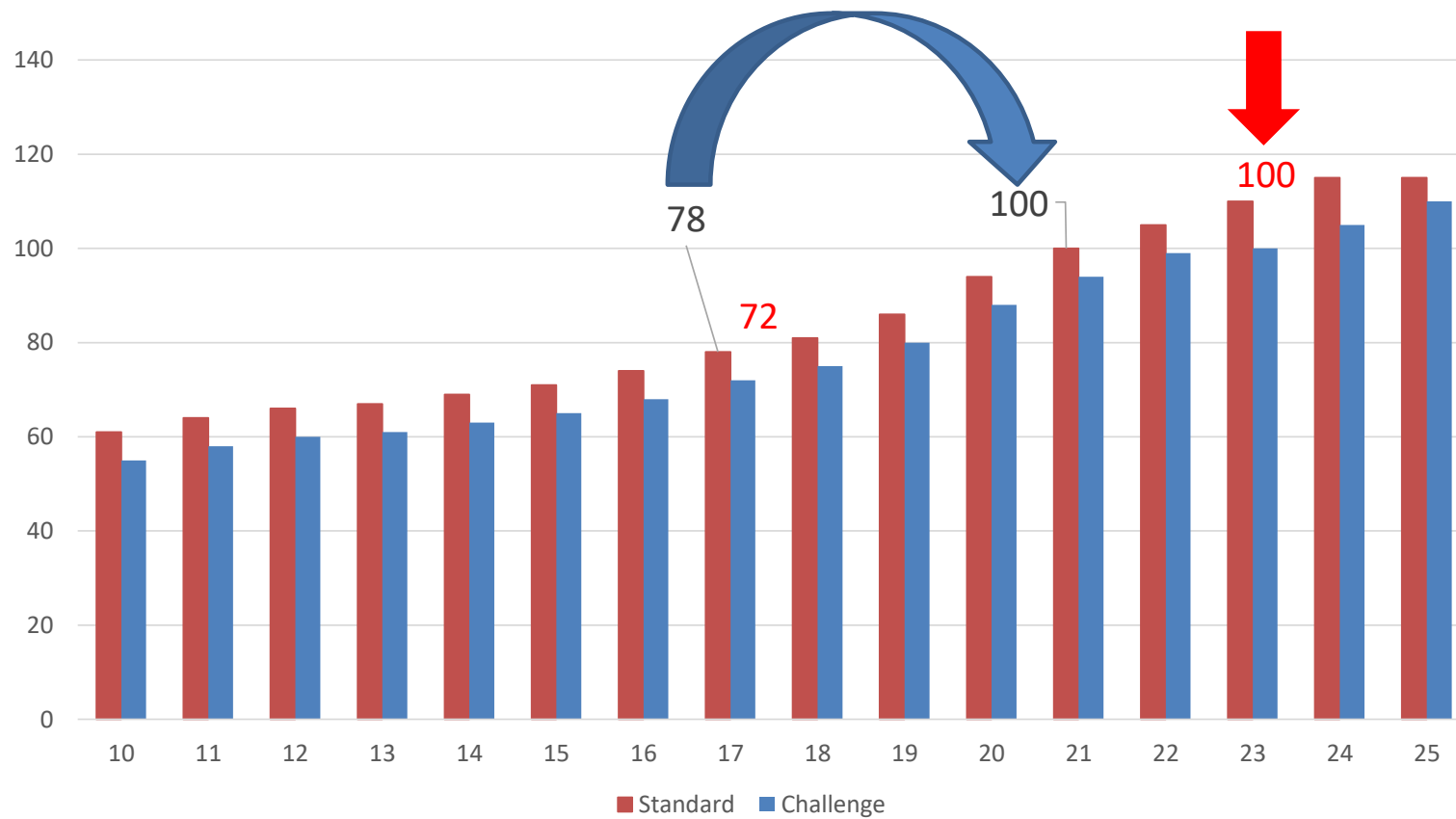
0 – 5 weeks nutrition

- Starter feed:
 - High energy and digestible raw materials
 - Salt
- Feeder space
 - 2.5 cm / bird until 3 weeks
 - 5 cm / bird after week 3 house

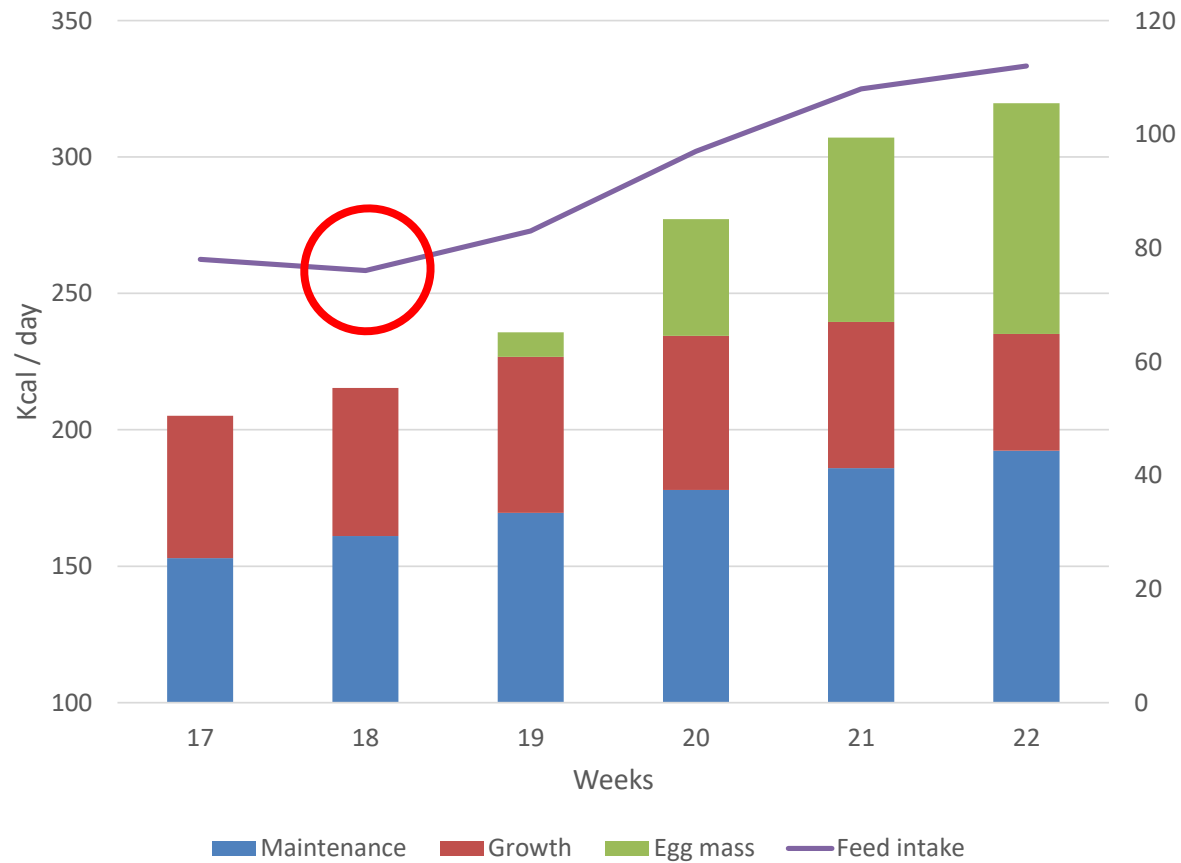
Egg size and egg shell depend on raring



Feed intake evolution



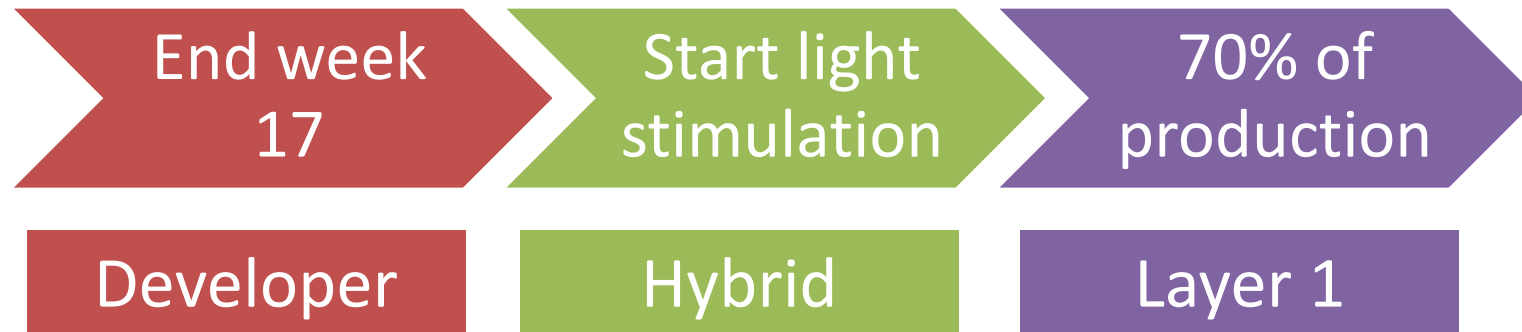
Super starter layer – 2850 kcal



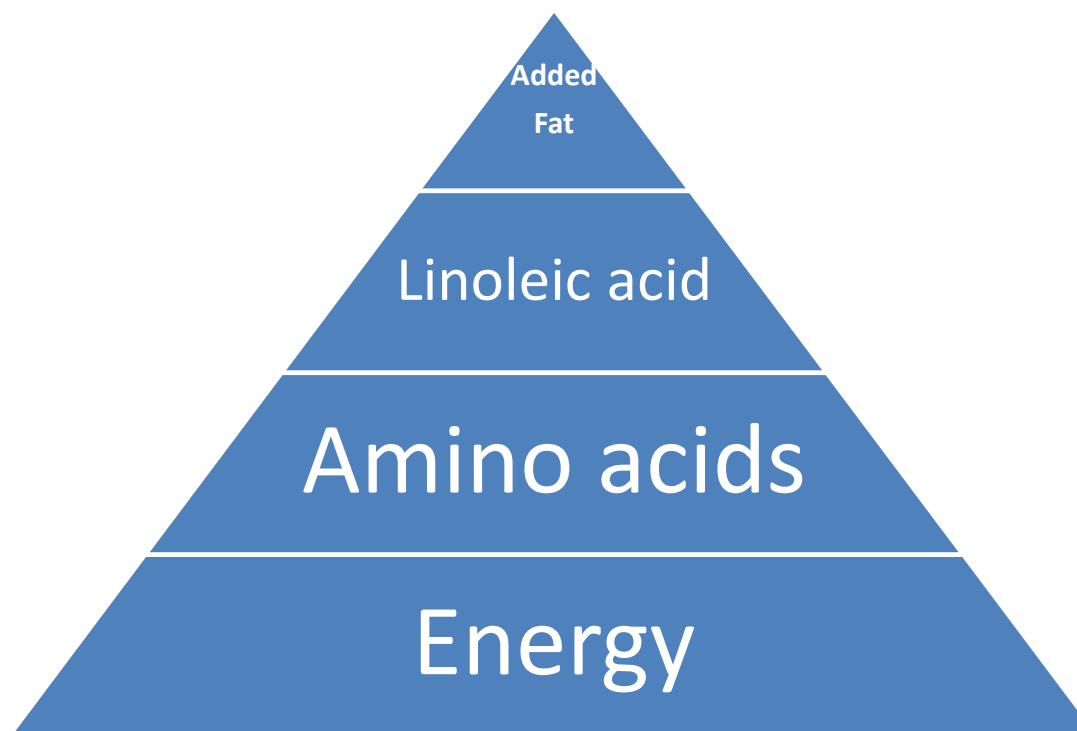
Hybrid feed - Concept

Nutrient			
ME	Kcal / kg	2700	→ Low energy
Dig Lys	%	0.8	} High amino acid
Dig Met	%	0.4	
Dig M+C	%	0.72	
Dig Thr	%	0.56	
Dig Trp	%	0.176	
Ca	%	3.8	} Enough to lay one egg and 60% coarse particle in particle form
Av P	%	0.44	
CF	%	4	→ Keep the feed intake development
Salt	%	0.28	→ Stimulate feed intake

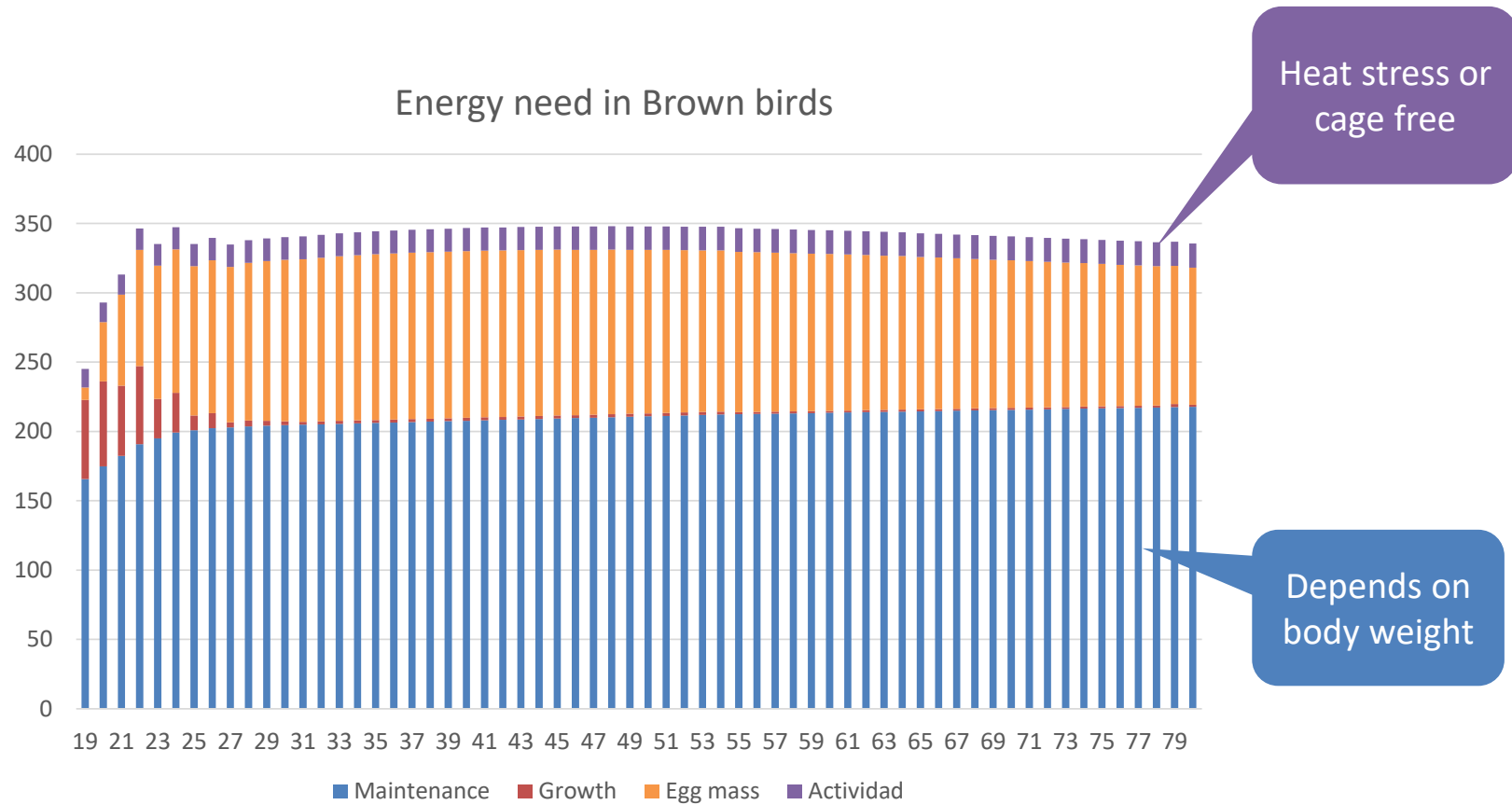
How to use the Hybrid



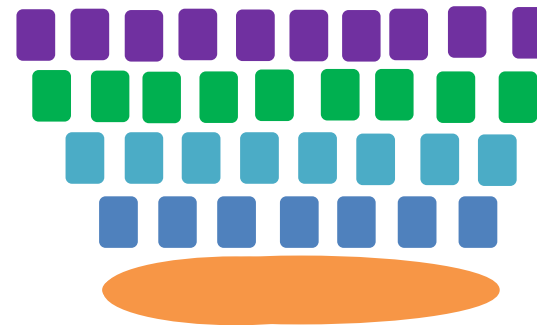
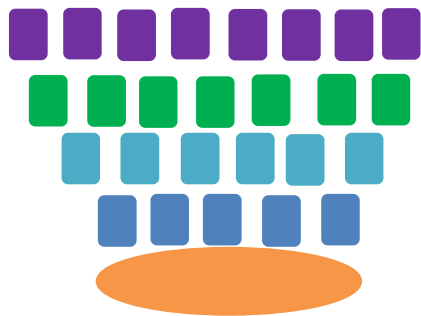
Nutrition for egg size in production



Energy needs



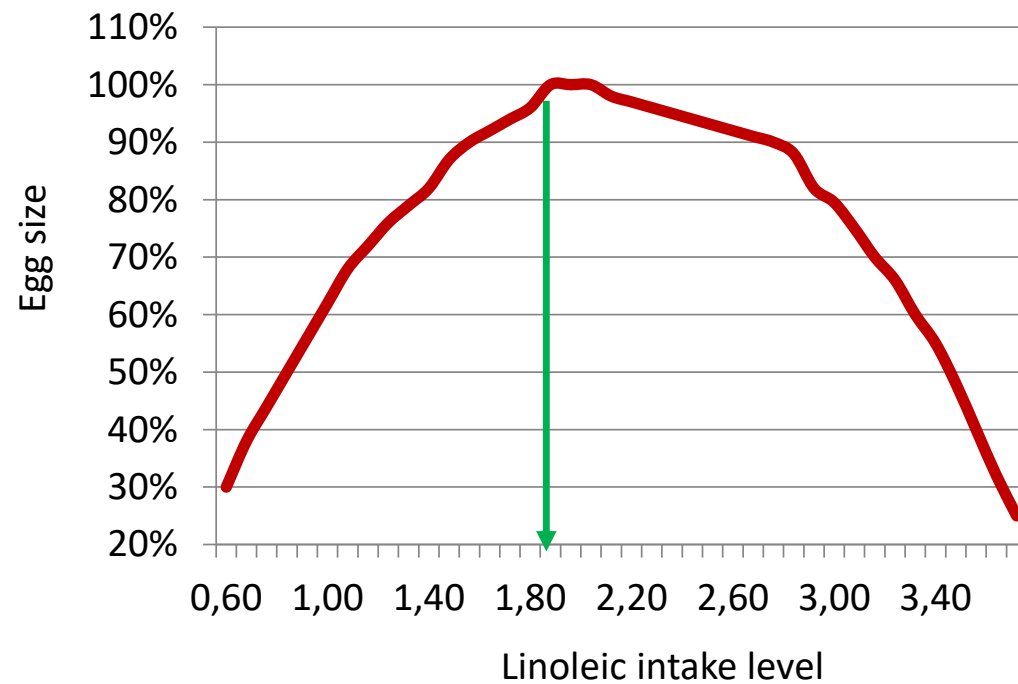
Amino acids



- The amino acids limit the egg size
- If one amino acid is missing, the egg size will be limited

Linoleic acid

- Linoleic acid limits the yolk size.
- We need a minimum amount.
- It is about balance.



Fat addition

- Indirect effect of the fat, it leaves more amino acids available for egg mass production.
- Nutritionist trickery: increasing linoleic acid, increases fat in the diet.
 - How to test this, use wheat and palm oil or lard diets

Brown birds 22-54 weeks of age

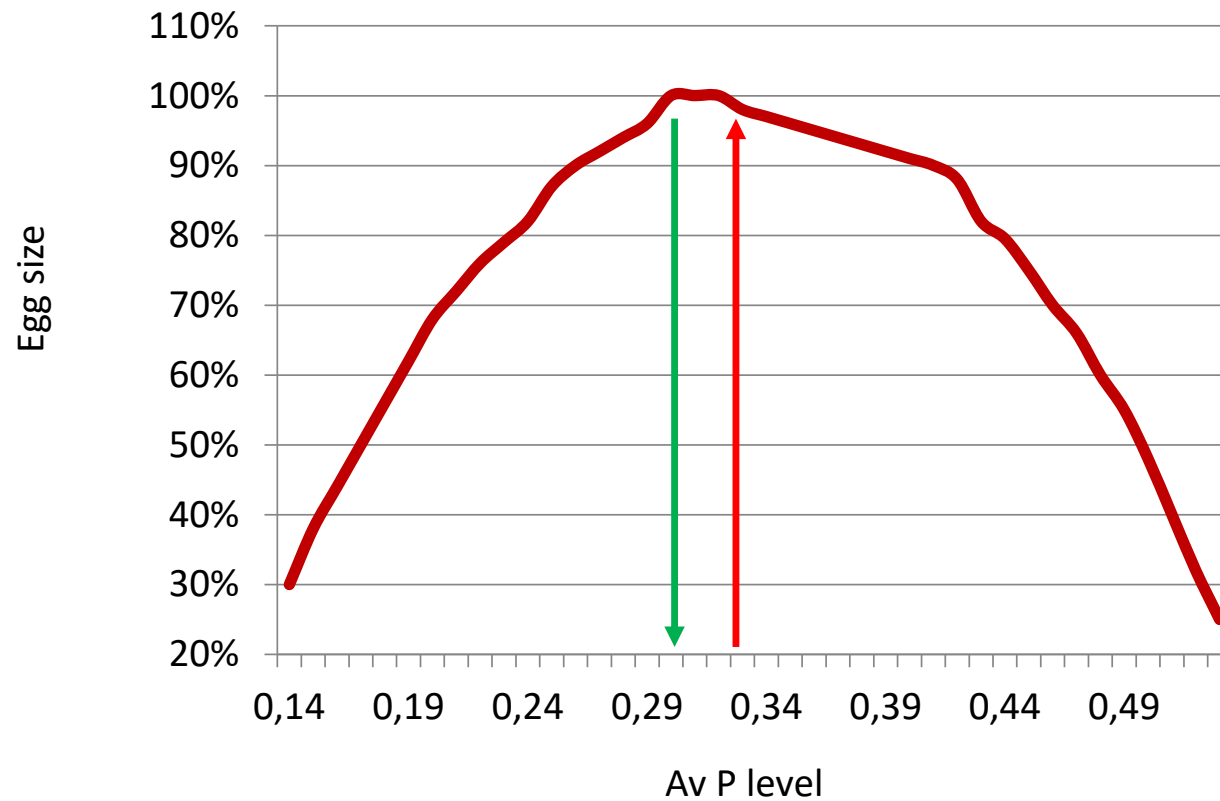
	Soya oil	Veg. olein	Lard
Linoleic in RM	55%	25%	8%
Added fat	4%	4%	4%
Linoleic in diet (%)	2.2-2.6	1.7-2	1-1.4
Feed intake	115.6	115.8	116.6
% lay	91.7	92.6	92.2
Egg size	64.3	64.5	63.5

Pere Bonilla 2011a

Phosphorus addition

- The phosphorus needs are high until peak of production.
- The needs will decline after peak of production.
- Phosphorus deficiency difficult to see, it is more common the opposite.

Performance vs nutrients



Calcium presentation and quality

- Coarse particle is needed in the long term.
- Fine particle, not so fine.
- Solubility a topic to discuss.

Take away messages

- Raring controls the egg size and eggshell.
- Nutrition controls egg size through:
 - Energy
 - Amino acid nutrition
 - Fat and linoleic acid.
- Egg shell is about source of the nutrients and the balance among them.

Egg size vs eggshell

- Time for some debate
 - Compare your egg size vs the standard.
 - Going beyond the standard has consequences in eggshell quality.
 - Good ones
 - Bad ones

Thank you for your attention!

