

Partial or complete replacement of soybean meal with local protein sources in the diet of slow-growing broilers

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- Study design
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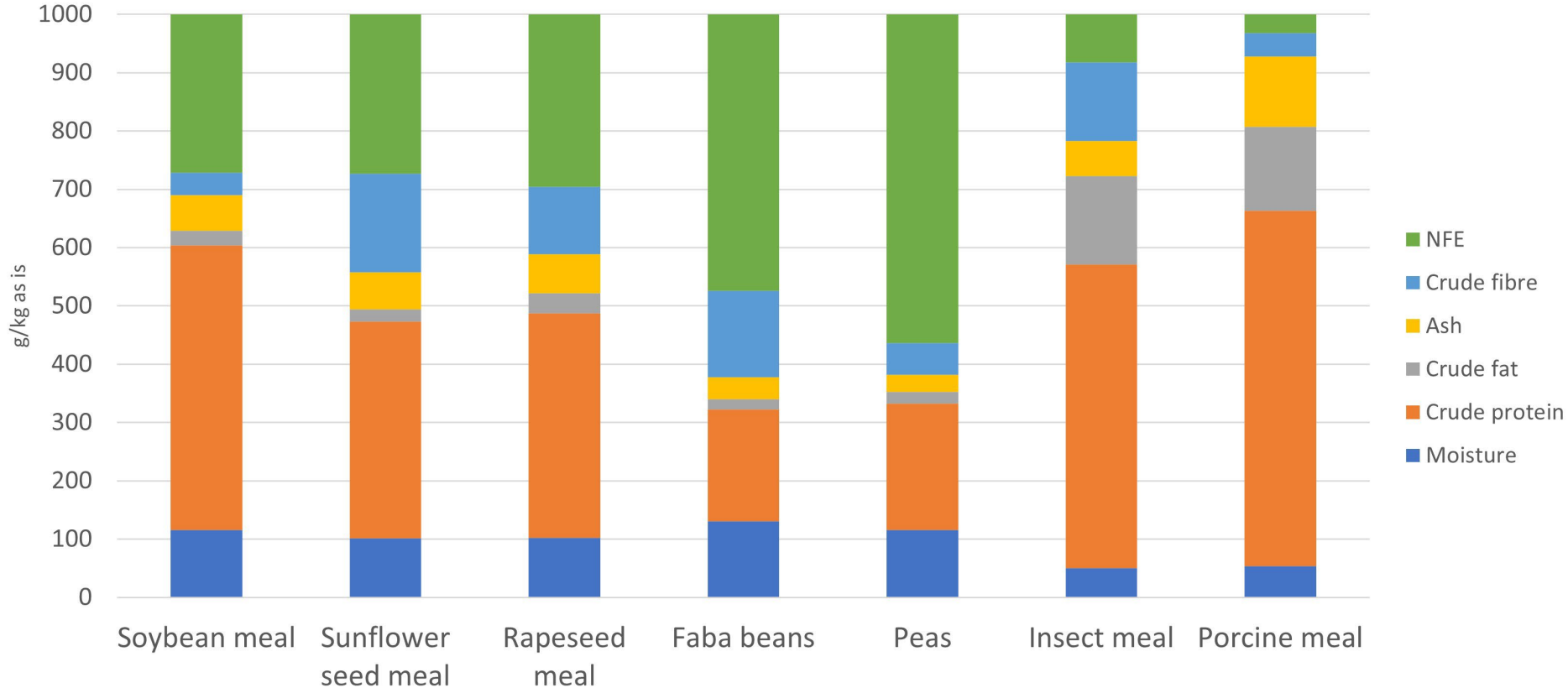
Background

- Soybean meal is the most used protein source in poultry feed
- Societal concerns on non-EU SBM dependency

Background

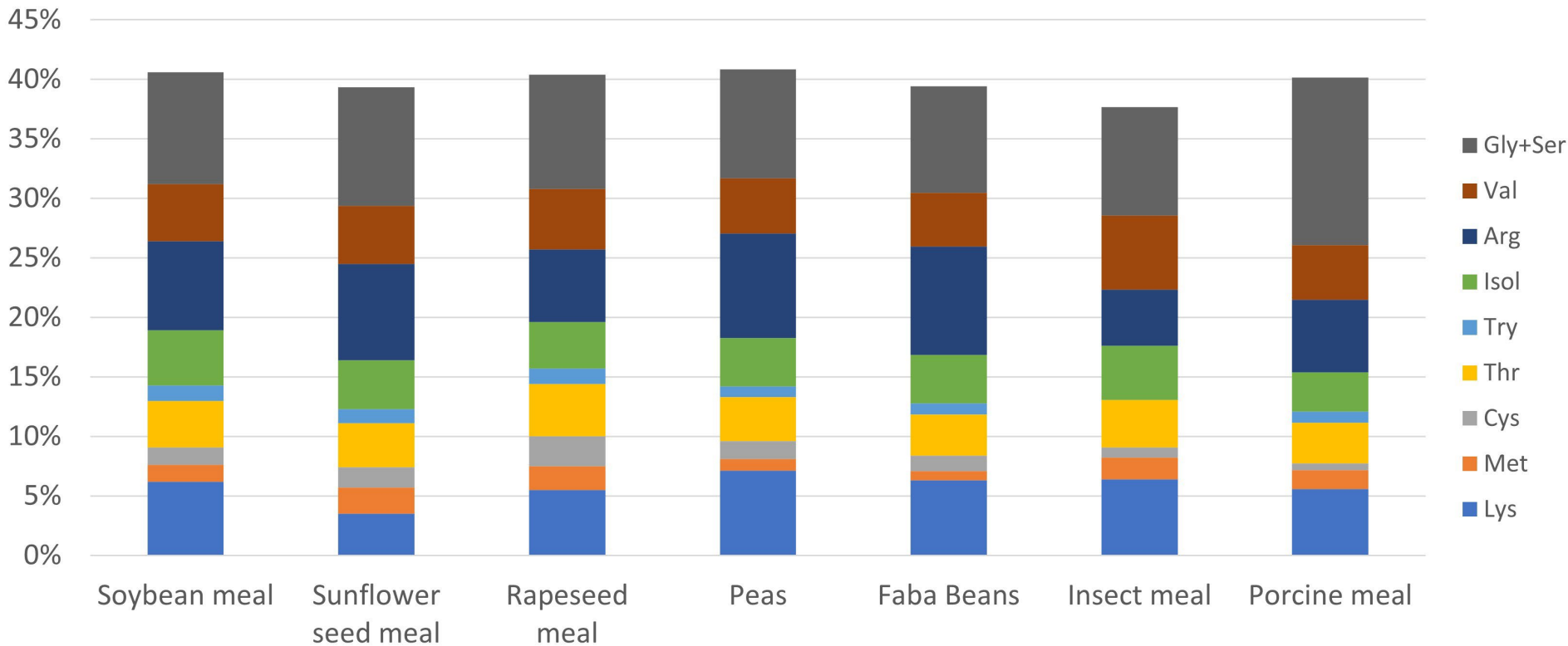
- Soybean meal is the most used protein source in poultry feed
- Societal concerns on non-EU SBM dependency:
- Locally grown or produced feed ingredients reduce environmental impact
- Peas, faba bean, sunflower or rapeseed meal, processed animal protein (porcine, insect)

Nutritional composition of local protein sources



Amino Acid profile

Most limiting amino acids (CP%)



Aim

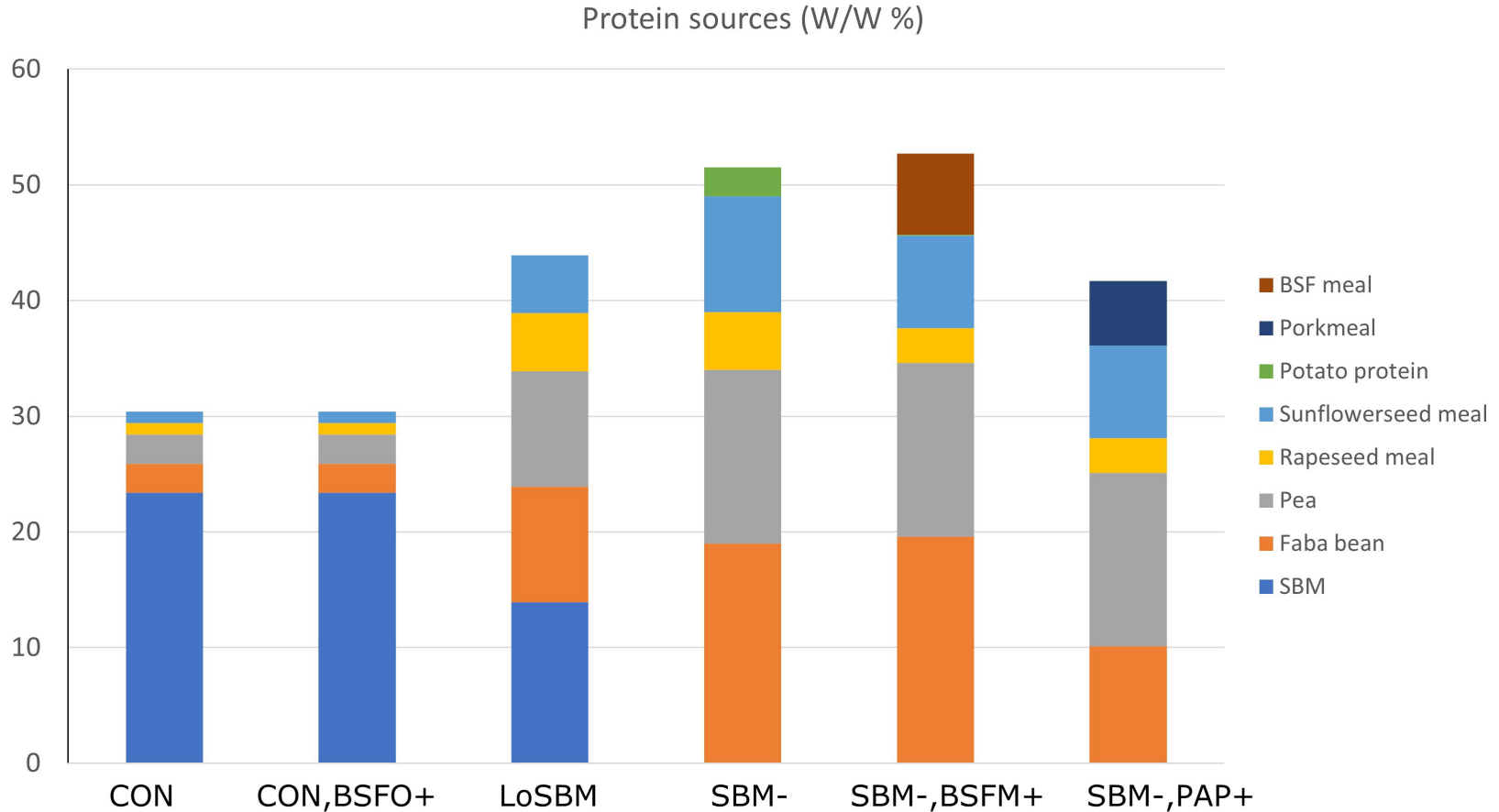
- to evaluate partial or complete replacement of soybean meal with combinations of different local alternative protein sources, i.e. processed animal proteins (insect and porcine), faba bean, peas, sunflower seed and rapeseed meals, on the production performance of slow-growing broilers.

Study Design

- Breed: Hubbard JA757
- Trial facility: WBVR, Lelystad
- Experimental period: 0-56 days
- 6 treatments X 8 replicates
- Experimental unit: Pen
- Number of broilers: 19/pen

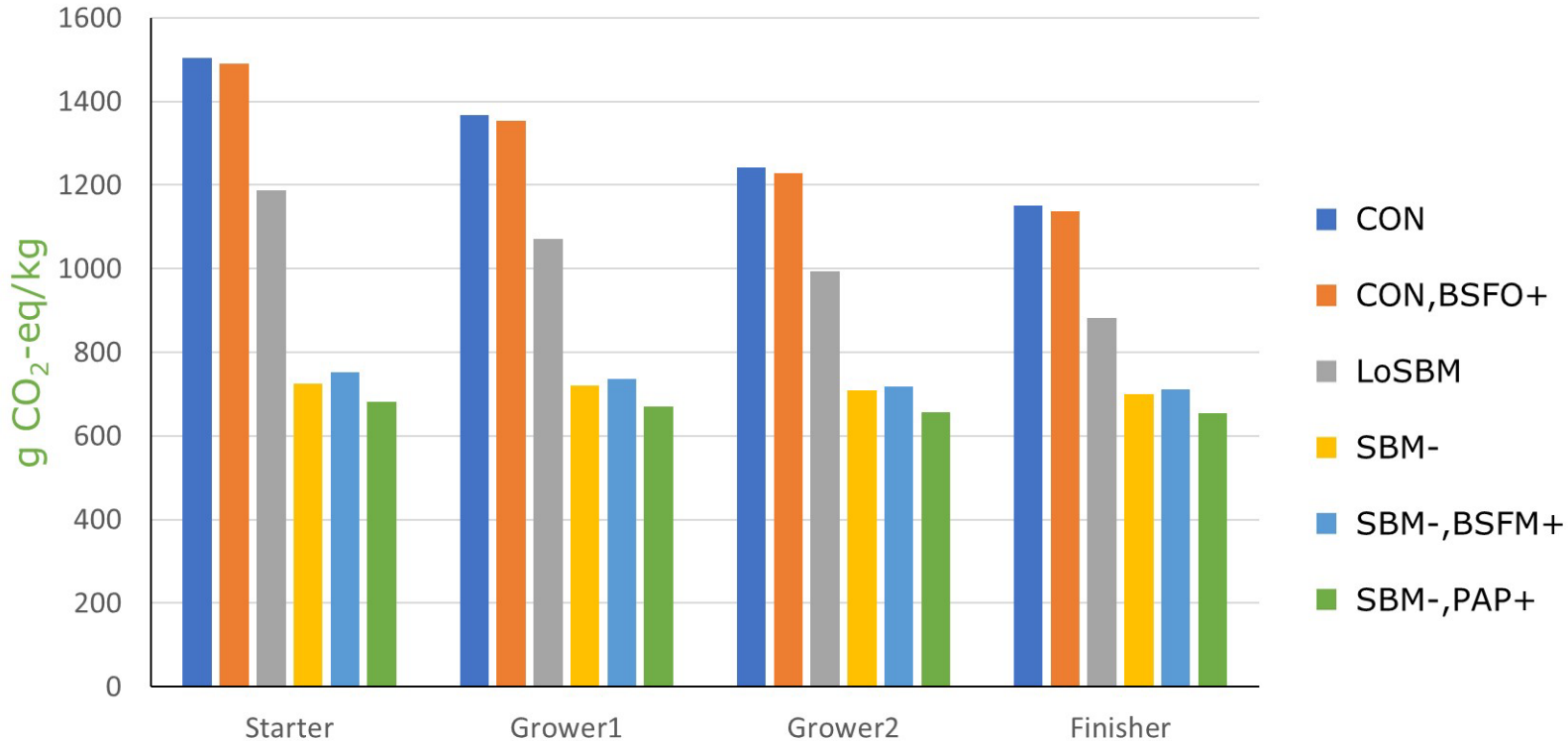
Treatment	Description
1.CON	Control
2.CON,BSFO+	Control + 1% LipidX
3.LoSBM	Reduced SBM + local plant protein + 1% LipidX
4.SBM-	No SBM + local plant protein + 1% LipidX
5.SBM-, BSFM+	No SBM + local plant protein + 6.6% ProteinX
6.SBM-,PAP+	No SBM + local plant protein + 1% LipidX + 5.6% PAPs

Challenges in feed production

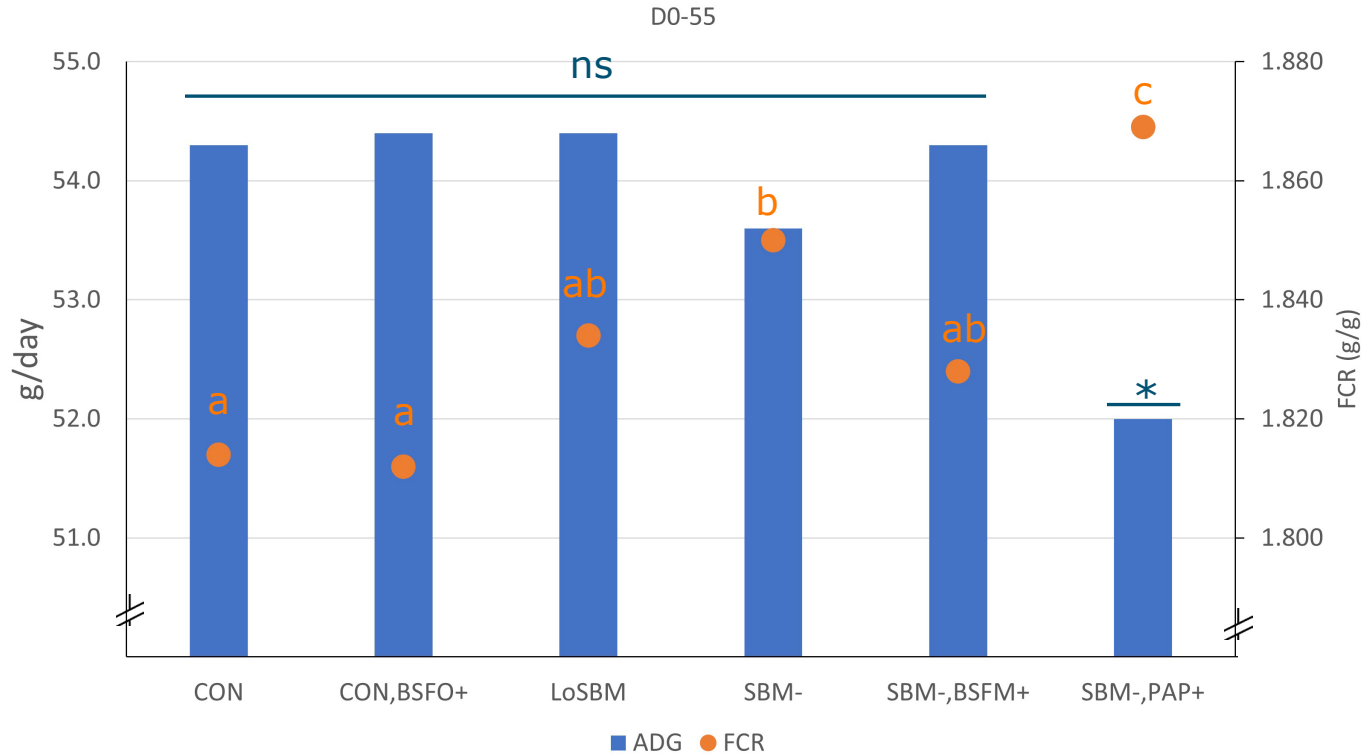


Environmental impact of diets

Carbon Footprint including Land Use Change



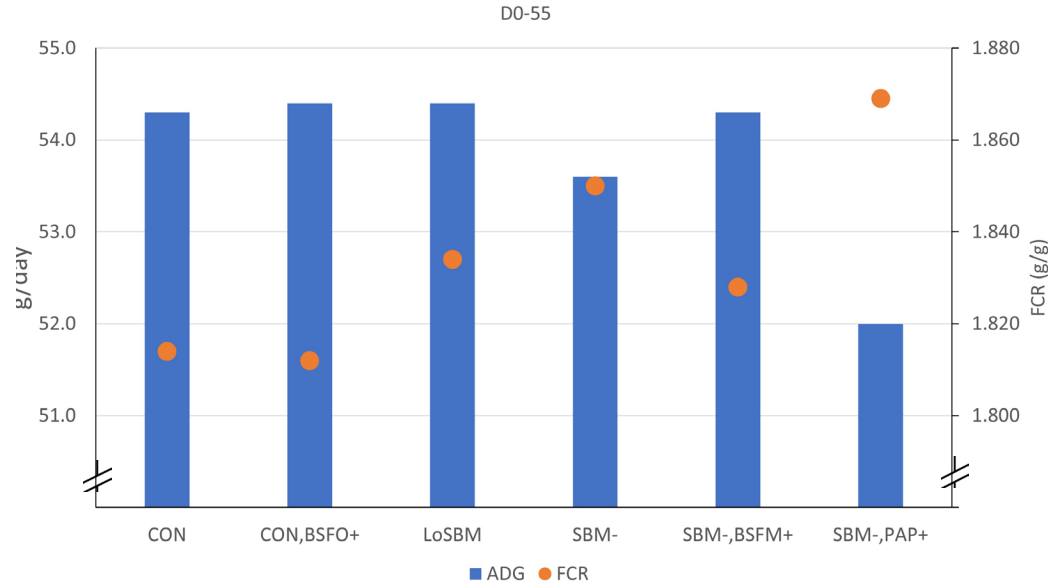
Effects on growth performance



- Broilers maintained growth performance when BSFM was included in SBM-free diet

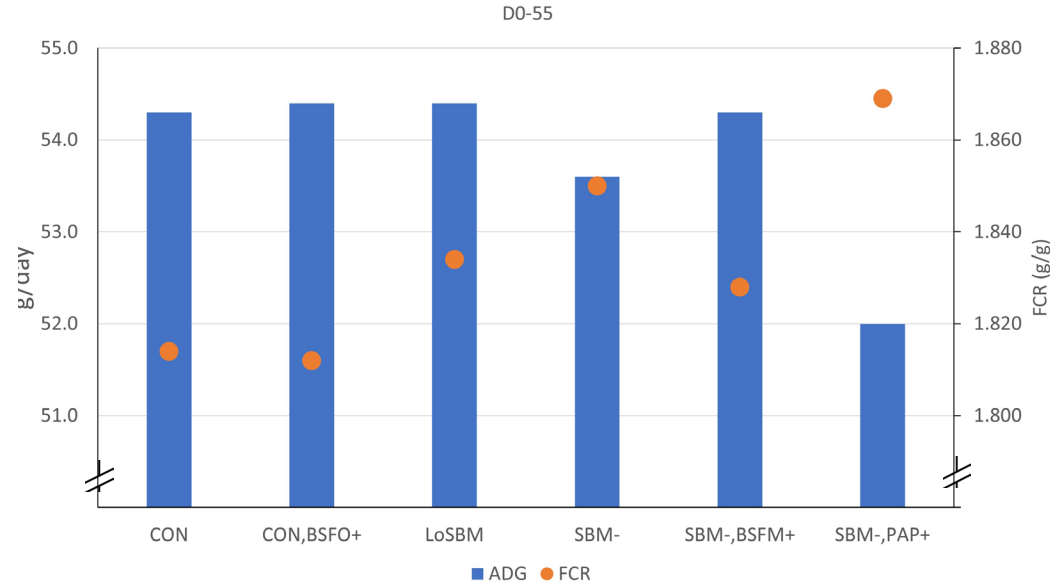
Effects on growth performance

- LoSBM:
Higher FCR
Lower environmental impact
- SBM-free:
Slightly compromised BW
Low environmental impact
- SBM-free + Insect meal
Maintained growth and efficiency
Higher price



Effects on growth performance

- LoSBM:
Higher FCR
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Slightly compromised
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- SBM-free + Insect meal
Maintained growth and efficiency
Higher price
- **Is FCR still a practical indicator?**



Conclusion

- Slow-growing broilers maintain growth efficiency when soybean meal is completely replaced with local protein sources.

Further investigation:

- Indicators to predict the nutritional value of by-products
- Efficiency indicators instead of FCR

Acknowledgement

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Thank you for your attention

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