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AGRICULTURE & INNOVATION

New feed for pigs and poultry

Which are the promising new sources and strategies to reduce pressure on natural resources while feeding or producing feed for pigs and poultry?

The livestock sector's environmental footprint is largely determined by its feed consumption. Applying the principles of the circular economy to feed production chains could potentially help to reduce this footprint. Pig and poultry meat production are the fastest growing livestock sectors. Hence, there is a growing need to find feed sources that can supply the expected increase in pig and poultry production, taking into account the increased focus on sustainable farming.

Based on a rationale focusing on economy, nutritional value and sustainability, the EIP-AGRI Focus Group on new feed for pigs and poultry, consisting of 19 experts from 13 EU Member States identified the following top five new feed options:

- Bakery products
- Green biomass (grass/clover)
- Insects (like the black soldier fly – Hermetia illucens)
- Micro-algae
- Single cell protein (bacteria)

The experts´ discussions show very clearly that there is a great need for more insight in processing of novel and current feedstuff, on the advisable content percentage in feed mixes and methods for fast(er) analysis of new feed materials.

"The insect meal, which replaced imported soya flour in the feeding of laying hens, did not change the quality of the eggs produced, demonstrating that it is possible to produce animal products in a more sustainable way."

- Daniel Murta (Portugal), expert from the EIP-AGRI Focus Group on New Feed for Pigs and Poultry -

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Ideas for Operational Groups

- Compare the efficiency of available screw presses and other technologies to extract grass protein to the liquid which is pressed from green biomass such as grass or maize silage.
- Test the use of grass/clover to control tail biting and feed piglets.
- Test different varieties of peas adapted to the specific climate, learn how to produce them.
- Test how far adding micro algae to the drinking water of laying hens can help to produce omega-3 enriched eggs.
- Test and disseminate good approaches to help producers to put their insect products on the market.
- Test how to efficiently and effectively separate the packaging from the bakery products to be turned into feed.

Research needs

- Nutrient requirements of black soldier fly (BSF) are unknown. How to influence the ratio fat/protein? What are the micronutrients needs?
- Calibration of near infra-red spectrography for novel feedstuff (insects, single cell protein, micro-algae) to measure nutritional value . Feed reference database for novel feedstuff linked with production conditions.
- Develop sustainability criteria for novel feedstuff, including environmental impacts (Life Cycle Analysis), meat/egg quality parameters (processing) and social impact.
- What is the right level and way to include green protein (grass/clover) in feed? Effect on performance, microbiota, health, animal welfarec by using eg. digestibility studies.

More ideas for Operational Groups and research needs available in the Focus Group report

More information

Focus Group webpage	EIP-AGRI new feed projects in the EIP-AGRI database Operational Groups Horizon 2020 multi actor projects Horizon 2020 thematic networks
Focus Group report	
EIP-AGRI brochure on protein crops	EIP-AGRI Inspirational ideas: - Alternatives for expensive protein feed for laying hens - Innovative technology for animal feed rich in protein - Adding a touch of spice to improve animal health
EIP-AGRI factsheet circular economy	

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