



Task force circular economy
1 October 2018
Tarique Arsiwalla

Agenda

Why insects?

Insect production and safety

Insects for animal feed and food

The future (discussion)



The protein gap...

More people
More wealth
More protein demand

...[thousands of research papers]...

Lots of proteins needed!







Solution: Insects as a protein source

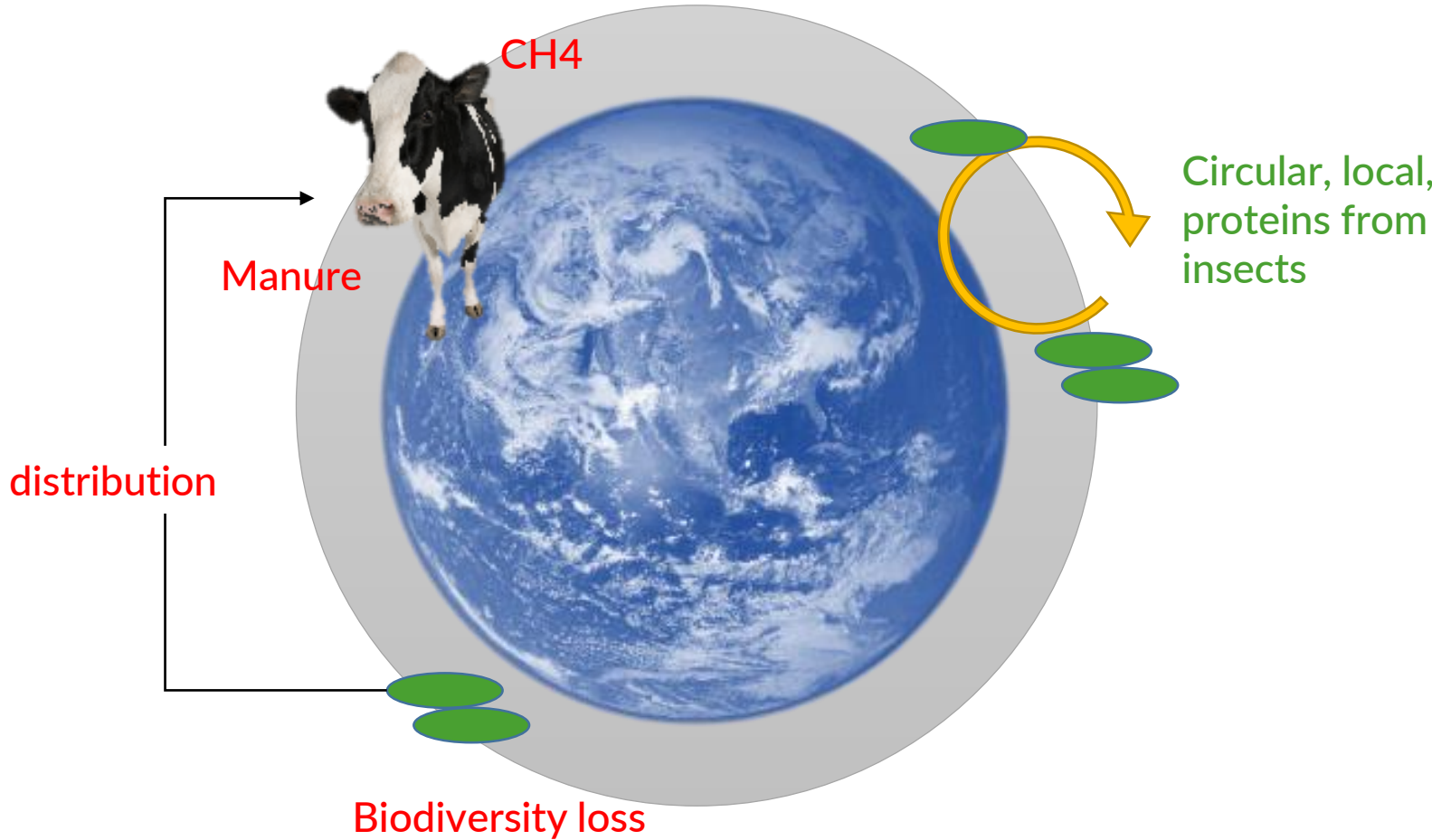
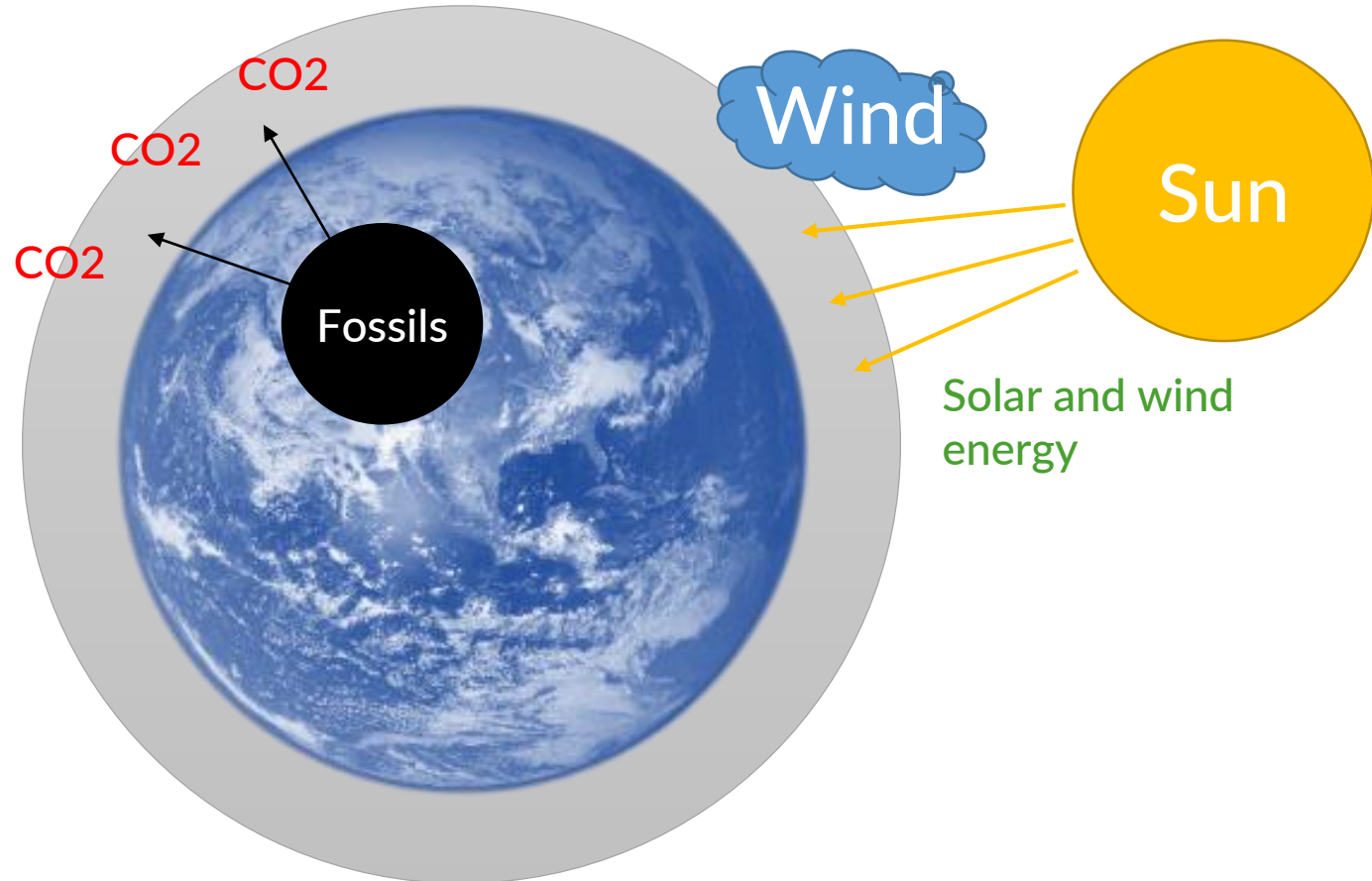
- ✓ They are the largest living biomass on earth
- ✓ They are very efficient
- ✓ They are a natural source for a lot of animals like fish and birds
- ✓ They have short life cycles
- ✓ High reproduction rates (many eggs in short periods)
- ✓ They can convert low-grade, degrading material into high-grade nutrients like protein meals and lipids







Sustainable (circular) proteins are like the renewables of our food system



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Why insects?

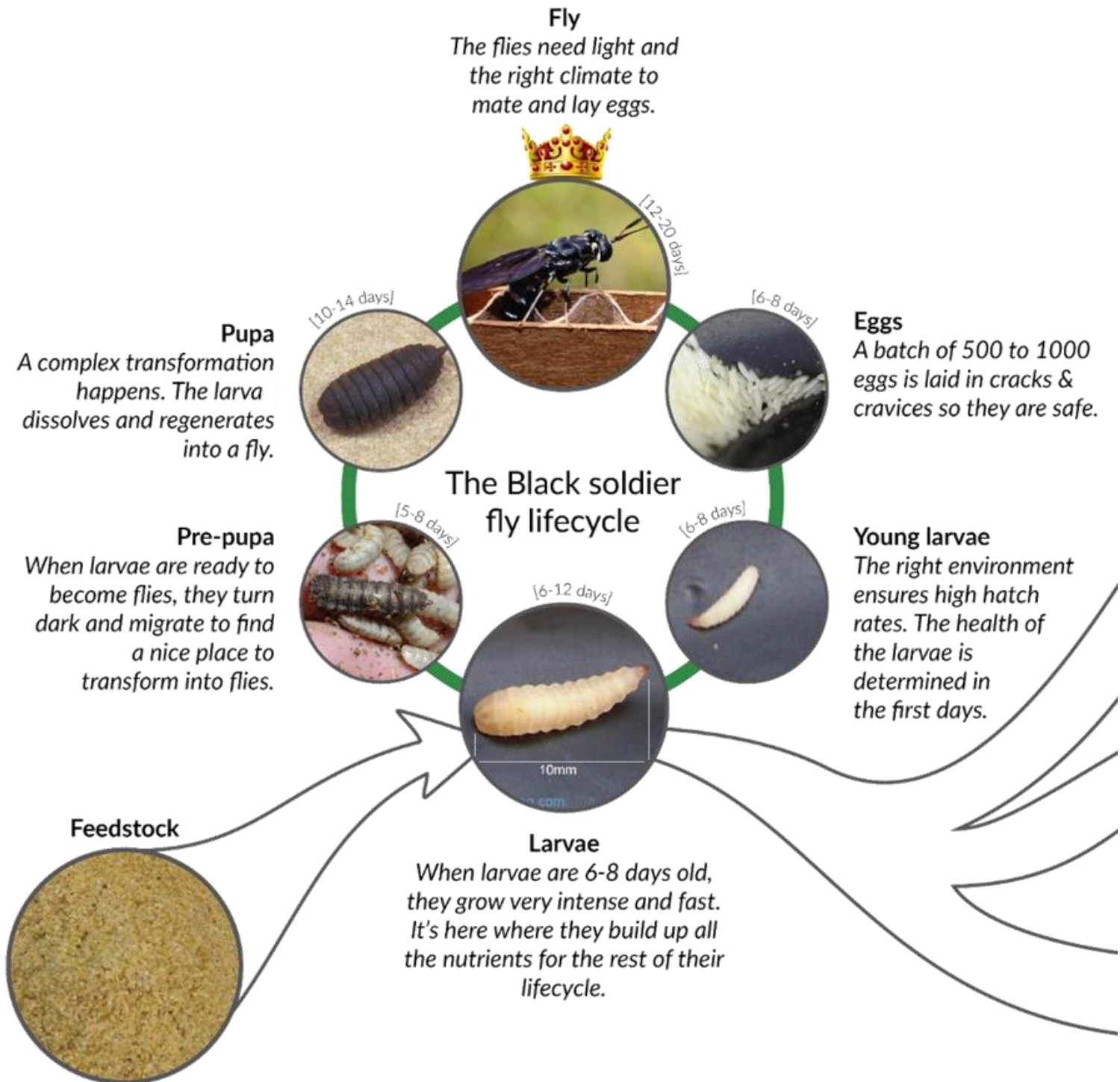
Insect production and safety

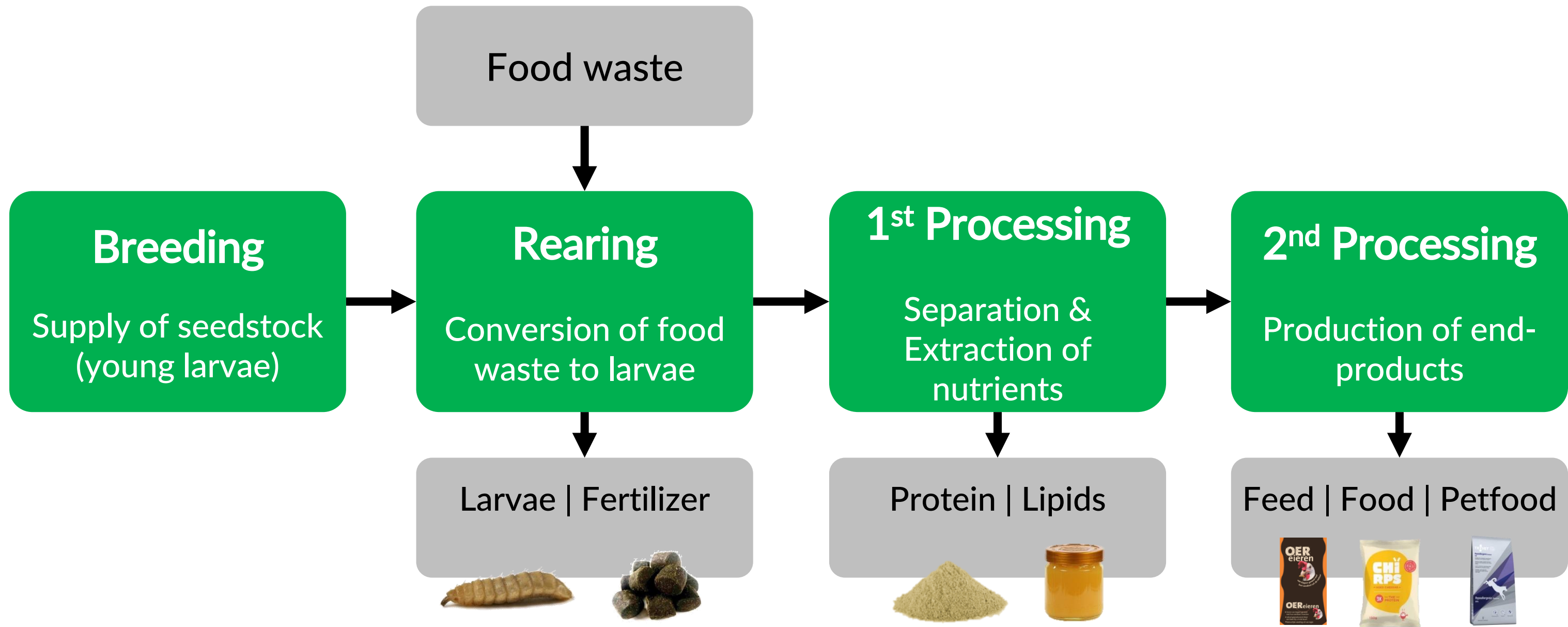
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Life stages of Hermetia Illucens (example)







International Platform of Insects for Food and Feed

IPIFF is the voice of the insect sector towards the European Union. We promote insects as a source of animal proteins for both human consumption and animal feed.



Building a responsible sector



EFSA's risk profile opinion (October 2015)

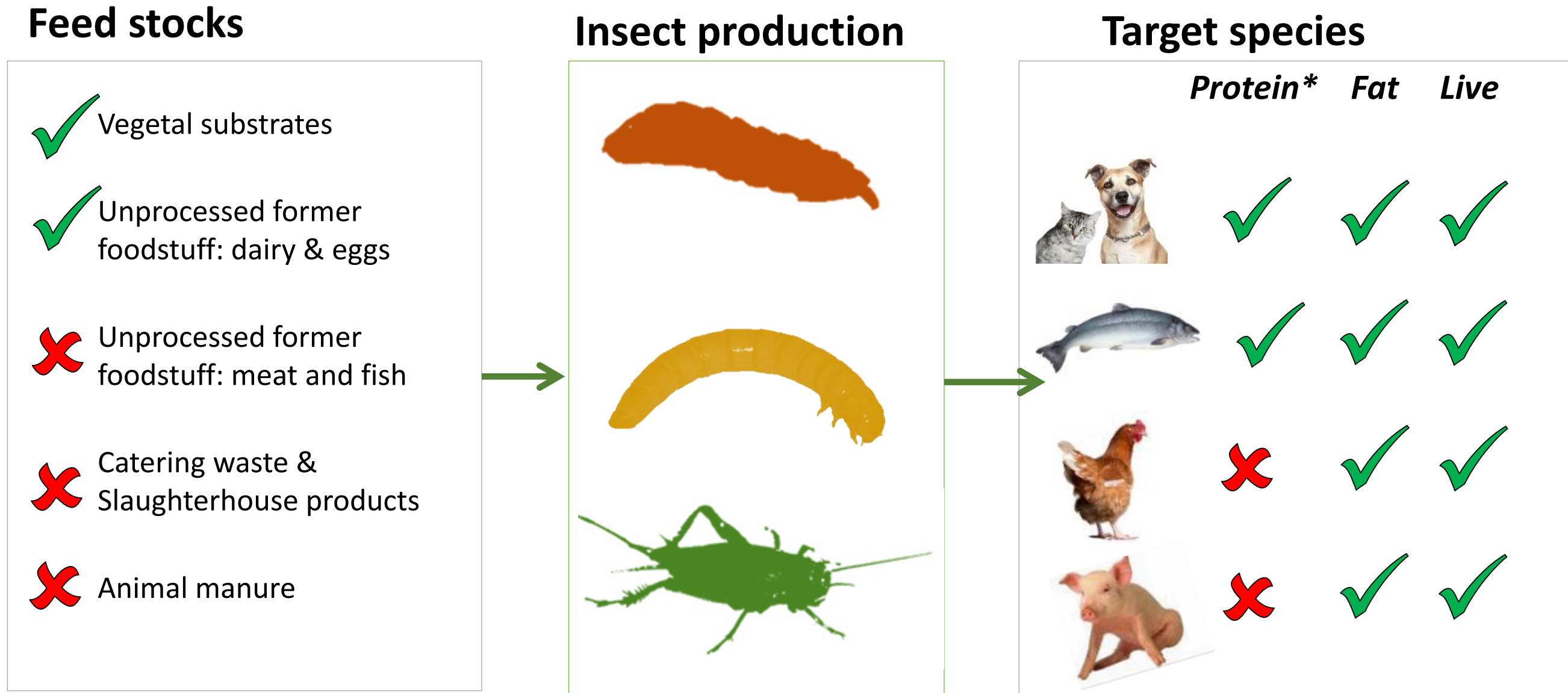


Main conclusions:

*“When currently allowed feed materials are used as substrate to feed insects, the possible occurrence of **microbiological hazards** is expected to be comparable to their occurrence in other non-processed sources of protein of animal origin”*

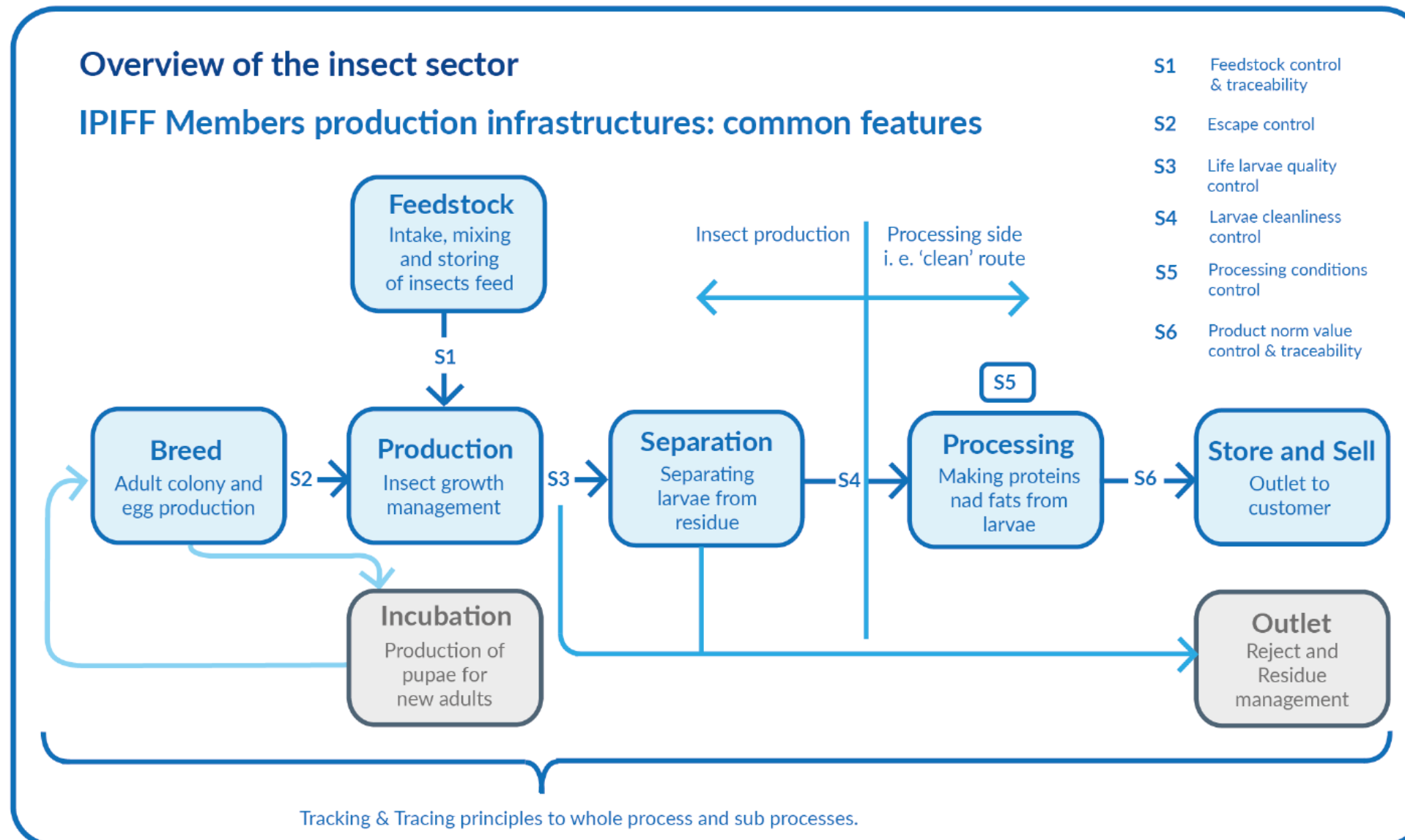


High level overview of EU legal situation



* Non-hydrolysed protein (if classified “hydrolysed”, all markets would be allowed)

Put safety always first: critical control points



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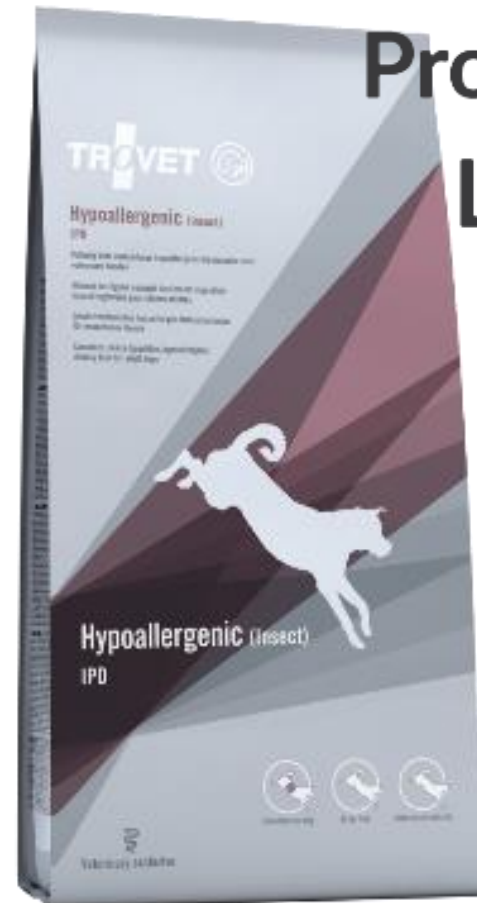
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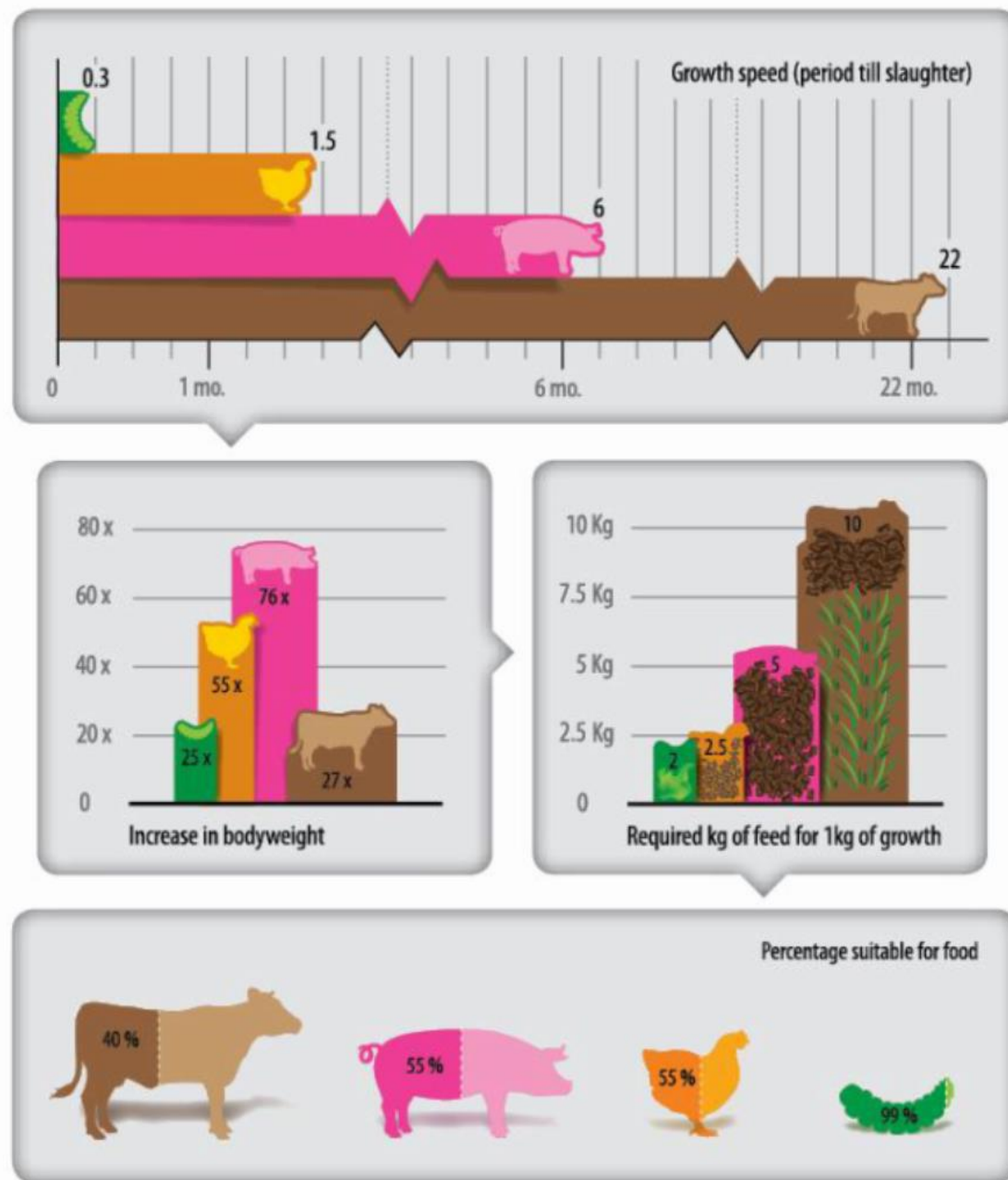


Protein X

Lipid X



Insect proteins are produced with much lower footprint than conventional animal proteins...





NO
MEAT

First promising insect-for-food products on the market

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Insect burgers go on sale in Swiss supermarkets

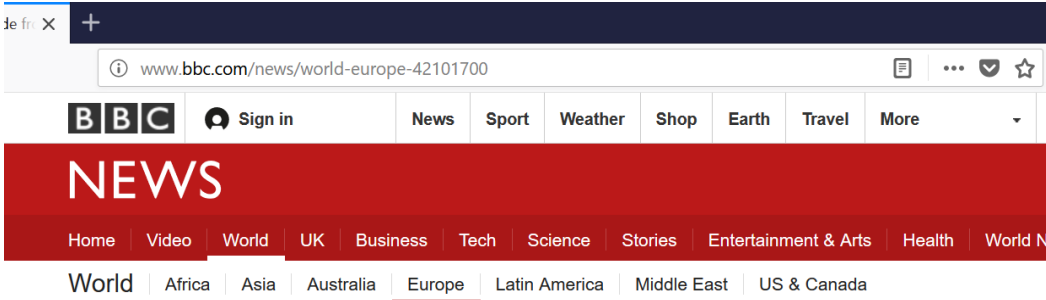


A Swiss retailer is launching a range of burgers and meatballs made from mealworm larvae

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First promising insect-for-food products on the market



Finland rolls out bread made from crushed crickets

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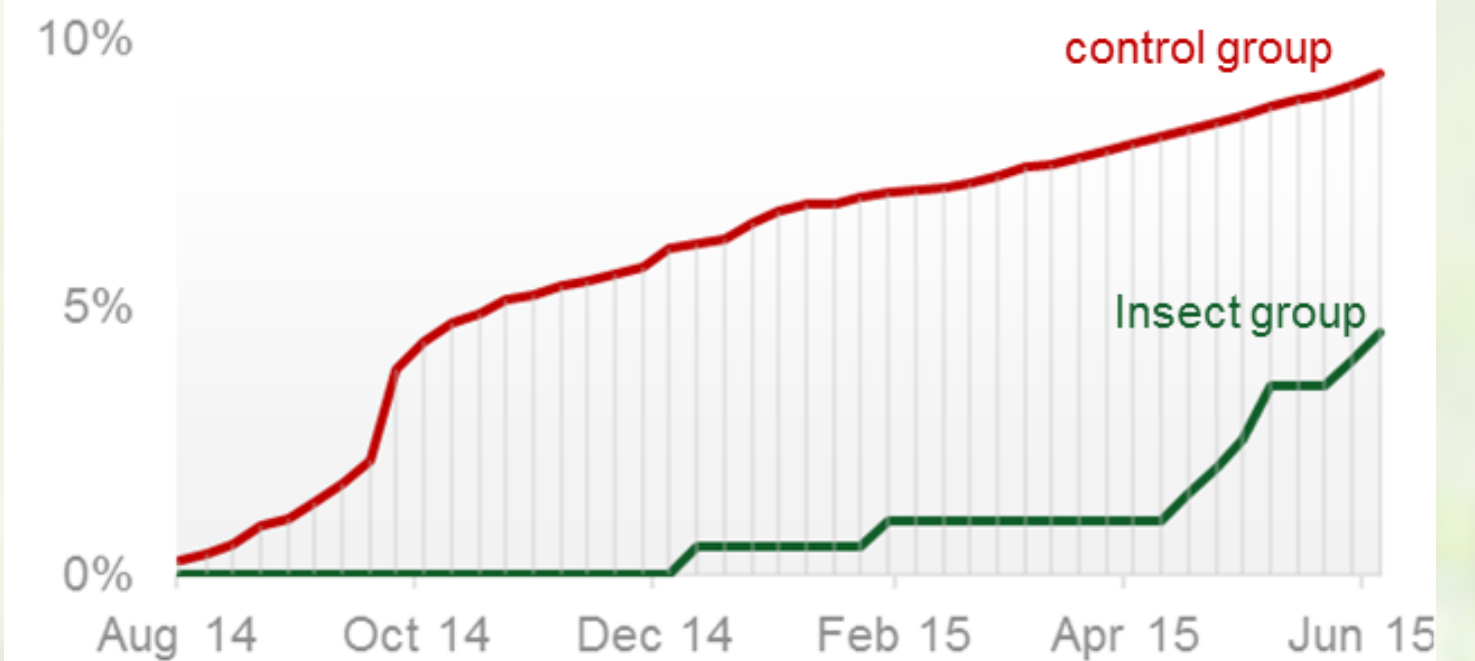
Registreer uw woning vandaag nog

24 uur per dag persoonlijke hulp per telefoon of e-mail

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- ✓ Replaced all soy proteins in diet by life insects
- ✓ Natural searching behaviour restored
- ✓ Chickens live longer and show vital improvements

Cumulative mortality of layer hens







NATIONAL GEOGRAPHIC



Why Salmon Eating Insects Instead of Fish Is Better for Environment

Companies in Europe have developed new kinds of feed for salmon farms that could help the environment—if they can scale up quickly.



By **Heather Brady**

PUBLISHED FEBRUARY 5, 2018

Researchers in the Netherlands have come up with a new, more sustainable way to feed salmon that are grown in aquaculture environments: insects.



friendly SALMON

fish fed with sustainable food

- Salmon raised with ProteinX, a natural ingredient for salmonids
- Fish meal reduced towards zero
- Contribution to SDGs thanks to Protix low footprint production of Protein X
- On a mission to eliminate all fish derived ingredients, incl. fish oil, in aquafeeds



friendly
SALMON

fish fed with sustainable food





Insect lipids in diets for young piglets

Product | *Insecto Speen*

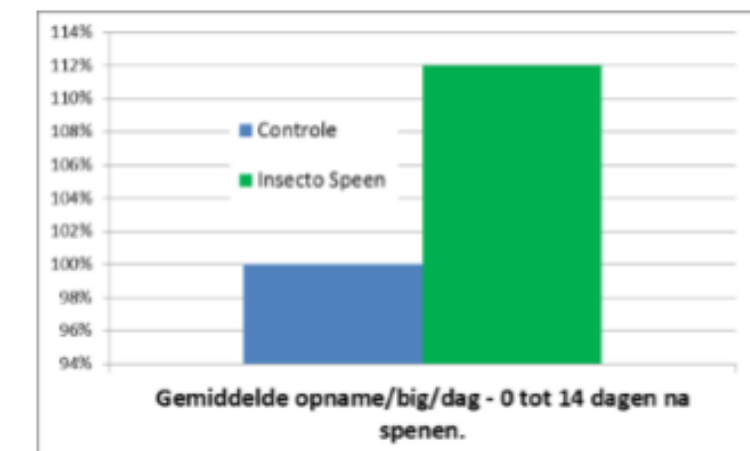


Benefits of using insect oil in weaning diets

- ▶ Insects are part of the natural diet of burrowing pigs
- ▶ Insect oil is easily digestible and a quick energy source
- ▶ Insect oil helps to fight against streptococcus and clostridium related problems
- ▶ Insect oil combined with the unique processing and the piglet feed program developed by Coppens brings quality piglets to the market

Results

The results from the Insecto Speen feeding trial show a higher feed intake and reduced diarrhoea starting from the weaning moment up to 14 days later. Improved feed intake results in better performance and reduction of the low postweaning feed intake. Because of the higher nutrient absorption the intestinal villi stay better intact and therefore the gut microbiota remains stable. This ensures a better health and a higher growth.



Insecto Speen
Tasty and healthy feed for piglets

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Protix second commercial facility “highest point reached”



- Demand driven investment
- Allows further acceleration in:
 - Aquaculture
 - Poultry
 - Pet food
 - Specialties



A food secure future, global opportunity...



