

# ICOPPP



## **Improved contribution of local feed to support 100% organic feed supply to pigs and poultry**

**A CORE Organic project with 13 partners/10 countries  
1/10-2011- 30/9-2014**

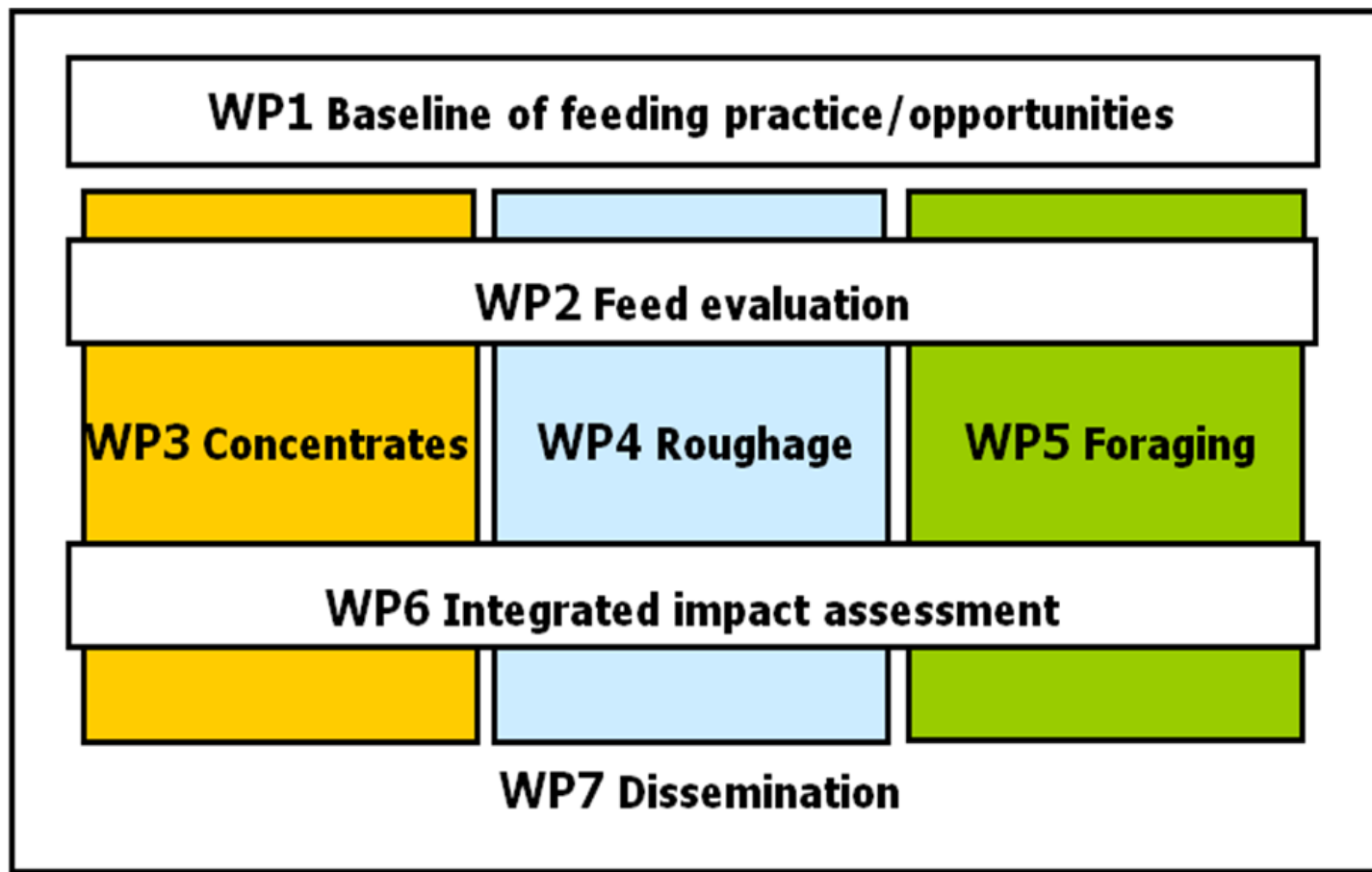
John E Hermansen, Dept. of Agroecology, Aarhus University

# Expected output: New validated systems that are economical viable as well as animal welfare - and environmental friendly and adapted to local agro-ecological conditions

- Improved knowledge of availability and nutritional value of new organic feed ingredients - focus on local feed resources
- Improved understanding of the possible benefits of roughage inclusion in relation to nutritional and behavioural needs as well as its impact on health and welfare
- Understanding how direct foraging in the outdoor area can contribute to meeting the animals nutritional needs
- Assessing the economic and environmental consequences of increased reliance on local organically produced feed



# ICOPP: Improved contribution of local feed to support 100% organic feed supply to pigs and poultry



# ICOPP partners



<b>AU</b>	<b>Dep. of Agroecology, AU</b>	<b>Denmark</b>	<b>John E. Hermansen</b>
<b>WUR</b>	<b>Wageningen UR</b>	<b>Netherlands</b>	<b>Herman Vermeer</b>
<b>ORC</b>	<b>Organic Research Centre</b>	<b>UK</b>	<b>Jo Smidt</b>
<b>SLU</b>	<b>Swedish University of Agricultural Sciences</b>	<b>Sweden</b>	<b>Maria Neil</b>
<b>BOKU</b>	<b>University of Natural Resources and Life Sciences</b>	<b>Austria</b>	<b>Werner Zollitsch</b>
<b>vTI</b>	<b>Institute of Organic Farming</b>	<b>Germany</b>	<b>Friedrich Weissmann</b>
<b>MTT</b>	<b>Agrifood Research Finland</b>	<b>Finland</b>	<b>Liisa Voutila</b>
<b>HSWT</b>	<b>University of Applied Sciences</b>	<b>Germany</b>	<b>Gerhard Bellof</b>
<b>LBI</b>	<b>Louis Bolk Institute</b>	<b>Netherlands</b>	<b>Monique Bestman</b>
<b>FAI</b>	<b>Food Animal Initiative</b>	<b>UK</b>	<b>Ruth Clements</b>
<b>FIBL</b>	<b>Research Institute of Organic Agriculture</b>	<b>Switzerland</b>	<b>Veronika Maurer</b>
<b>ITAB</b>	<b>Institute Technique de l'Agriculture Biologique</b>	<b>France</b>	<b>Joannie Leroyer</b>
<b>LAEI</b>	<b>LAEI, Lithuania</b>	<b>Lithuania</b>	<b>Virgilijus Skulskis</b>

# The detailed activities are in the planning phase now

**WP1 Feed resources– Veronika Maurer, FIBL, Switzerland**

**WP2 Feed evaluation– Kirsi Partanen, MTT, Finland**

**WP3 Local concentrates and productivity, health, behaviour and welfare– Friedrich Weissmann, vTI, Germany**

**WP4 Roughage and growth, health and behaviour in pigs and poultry – Herman Vermeer, WUR-LR, NL**

**WP5 Foraging in the range area– Klaus Horsted, AU, Denmark**

**WP6 Integrated impact assessment - John E. Hermansen, AU-DJF, Denmark**



# WP 1: Feed resources

Veronika Maurer, FIBL, Switzerland

## The Problem

What resources are available at a European scale (high quality protein)

What are the possibilities to increase EU self supply with organic protein

What innovative solutions have been used by farmers

## Two views: EU-local vs local-local

Combining this overview with the experimental work as described later will allow a good judgement on how to achieve 100% organic feeding with local sources



# WP 2: Feed evaluation

Kirsi Partanen, MTT, Finland

## The problem

- Scattered knowledge on feeding value of organic feed stuffs
- Different methods to estimate this, makes it difficult to transfer results from country to country
- Need for in-dept studies of new feeds

## Activities

- Set up a data base for practical use
- Perform digestibility trials with pigs and poultry of new feeds – focus on amino acids (insects protein, mussel meal, sainfoin, grass pea seed)
- Contribution of amino acids by roughage



# Grass pea (*Lathyrus sativus*)



[http://www.agroatlas.ru/en/content/cultural/Lathyrus\\_sativus\\_K/](http://www.agroatlas.ru/en/content/cultural/Lathyrus_sativus_K/)

[http://www.clovegarden.com/ingred/bp\\_legumev.html](http://www.clovegarden.com/ingred/bp_legumev.html)

[http://homepage.smc.edu/hodson\\_kent/Med\\_Gen/Mendgen.htm](http://homepage.smc.edu/hodson_kent/Med_Gen/Mendgen.htm)





# WP 3: Feeding experiments- Local concentrates

Friedrich Weissmann, vTI, Germany

## Piglets ( Growth and gut health)

- *Grass pea seed ( Boku)*
- *Sainfoin (Boku)*
- *Insects protein (FiBL)*
- *Home grown mix (vTI)*

## Finishers (Growth and product quality)

- *Mussel meal (SLU)*

## Sows (Reproductive performance)

- *Legumes and rape seed cake in phase feeding strategies (MTT)*



# WP 4: Roughage -growth, health and behaviour in pigs and poultry

Herman Vermeer, WUR-LR, NL

## The problem

- To what extent can roughage contribute with nutrients
- Can it improve gastro-intestinal health
- Can it improve welfare
- What are implications on product quality



# Experiments -roughage

- Grass silage (high quality) for growing pigs ( WUR)
  - (focus stomach health)
- Clover grass for finishers (FAI)
  - focus product quality)
- Grass/chicory for finishers (SLU)
  - Interaction genotype



# WP 5: Foraging in the range area as an integrated approach

Klaus Horsted, AU, Denmark



## Participants:

Organic Research Centre (ORC), UK

Food Animal Initiative (FAI), UK

Institut Technique de l'Agriculture Biologique (ITAB), France

Aarhus University (AU), Denmark

# Working hypothesis

Foraging in the range area can contribute significantly to the nutritional needs of pigs and poultry

Differences in breeds exist due to differences in exploring behavior and growth patterns



# Approach/methodology

- A. Literature review of biodiversity studies of on-farm habitats (cropped and non-cropped including AES options) (UK)
- B. Experiments in DK with growing pigs and broilers (2013)
- C. Experiments in France broilers, sows, piglets and growing pigs including different genotypes with or without access to forage (2012 and 2013)



# WP 6: Integrated assessment

John E Hermansen

Generic 'optimized' systems (economic viability, animal welfare, environmental impact) based on 100% organic feed are produced for different local feed resource availabilities and agro-ecological conditions through

- Typologies of pig-, egg-, and broiler production systems across Europe defined in terms of input, land use, and production
- Adaptation of typologies (100 % organic diet) based on innovations identified in the other wp's through an iterative process and through discussion with relevant stakeholders in different countries
- Assessment of new systems to be used as basis for local adaptation of the production system



# WP 7: Recommendations and dissemination

Jo Smith, ORC

Basically, provision of user friendly information from the research targeted to producers, advisors, feed supply chain and organic regulatory bodies

Through

- Being visible at European farmers network website and the poultry network web
- Facilitate popular articles in different languages
- Synthesis report
- User friendly guidelines based on the synthesis report





# Conclusion

The starting point is local resources and the activities are centered around this

It is an important element that the local solutions that are explored through experimentation at the same time is sufficient generic to represent ideas for solutions at other localities

The crosscutting WP's (Feed resources, feed evaluation, integrated assessment) play an important role in that respects





<http://youtu.be/IMqv8KTHc-w>