CORE organic II

ProPIG

# Nutritional characteristics of the diets in organic pig production

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CRA CONSIGLIO PER LA RICERCA E LA SPERIMENTAZIONE IN AGRICOLTURA

# Background

**Performance of pig production**
is relatively low in organic compared to conventional systems (INRA report)

- Growth rate (Sundrum et al 2000, Hansen et al 2006)
- Feed conversion (Maupertuis et al 2007, 2010)
- Littersize at weaning (review: Prunier et al 2013)

**Negative impact on**:

- Economic return
- Environmental balance

# Background

**Low performance due to**:

- Nutritional imbalance especially for essential amino acids (Sundrum et al 2000)

...

# Aims

- Improve knowledge of the feeding strategies on commercial organic pig farms across Europe, especially the diets composition
- Improve the situation in organic farms when not satisfactory

# Material and methods

- Data collection in 75 commercial farms in 2012 within the Propig project
- Interview with farm managers on feed practices: number and composition of the diets, quantity of feed… (72 farms)
- Calculation of the nutrient content from the feed composition of each diet using Evapig® (48-53 diets according to the age of pigs)

# Characteristics of the farm sample for feed evaluation

| | Birth to Finish | Finishing | Birth + Weaning | Birth | Weaning + Finishing | |
|---|---|---|---|---|---|---|
| | BtF | F | BW | B | WF | Total |
| n farms | 52 | 12 | 6 | 1 | 1 | 72 |
| % farms | 72.2 | 16.7 | 8.3 | 1.4 | 1.4 | 100 |

Last 3 categories grouped in one: “Other”

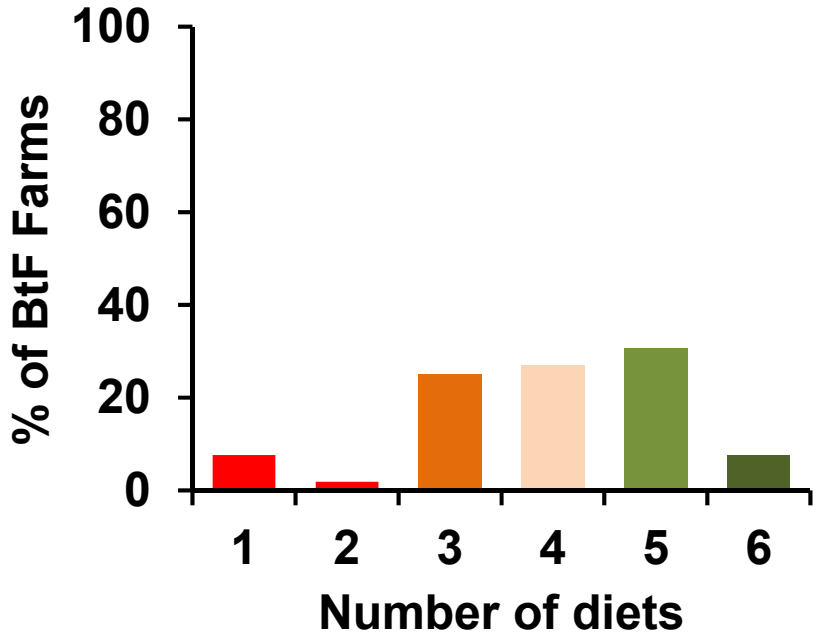
# Number of farms per category & country

| | Type of farms | | | |
|---|---|---|---|---|
| | **BtF** | F | Other | **Total** |
| **Austria** | **10** | 3 | 3 | **16** |
| **Germany** | **9** | 4 | 2 | **15** |
| **Denmark** | **10** | 0 | 0 | **10** |
| **Switzerland** | **4** | 3 | 2 | **9** |
| **Italy** | **7** | 1 | 1 | **9** |
| **UK** | **7** | 1 | 0 | **8** |
| **France** | 4 | 0 | 0 | 4 |
| **Czech Republic** | 1 | 0 | 0 | 1 |

Essentially northern/central Europe

# Main results

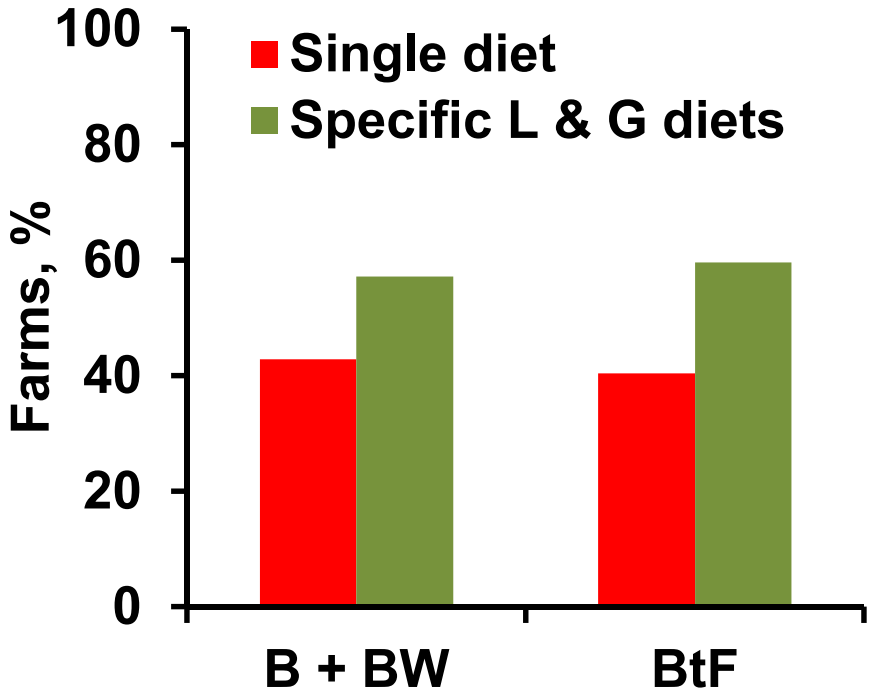
Number of diets in Birth-to-Finish farms (52 farms)




Few farms have a unique diet for all stages (8%)
A majority of farms have > 3 diets and nearly half 5 or 6 diets

# Main results

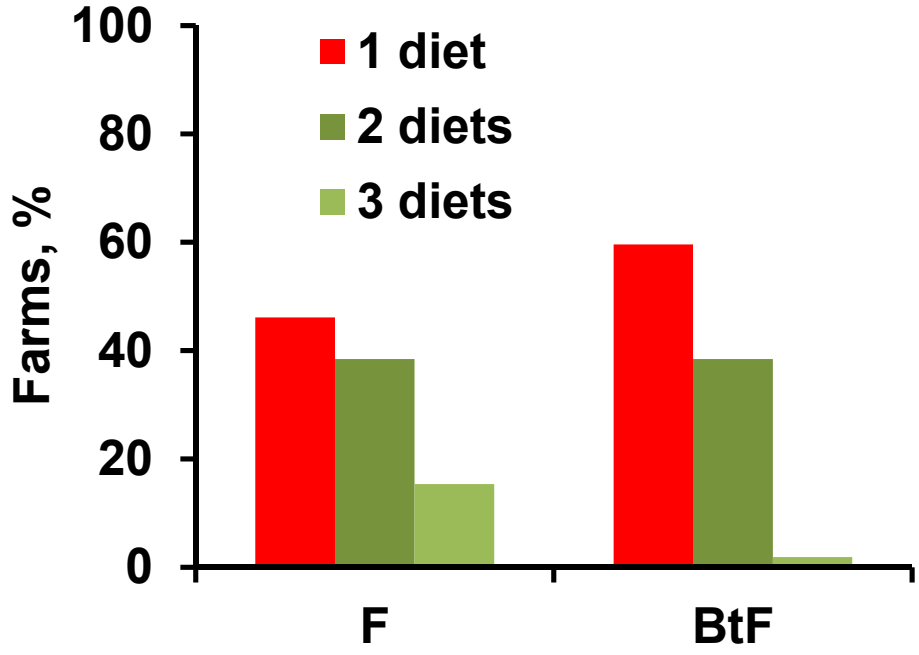
Number of diets for sows (59 farms)




A majority of farms have 2 diets for Lactating and Gestating sows (59%)

# Main results

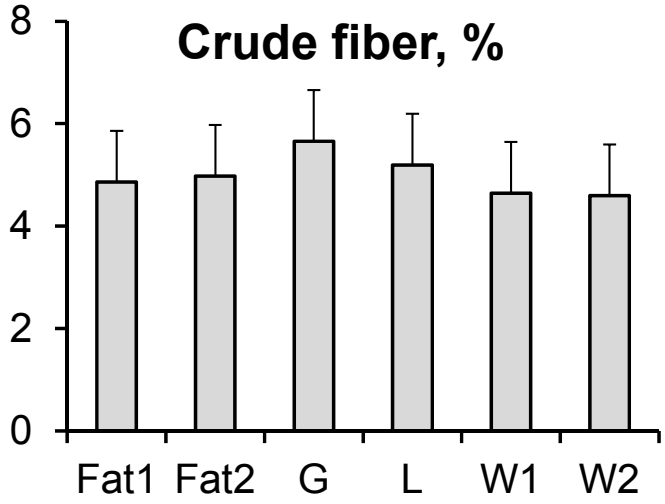
Number of diets for fatteners (65 farms)

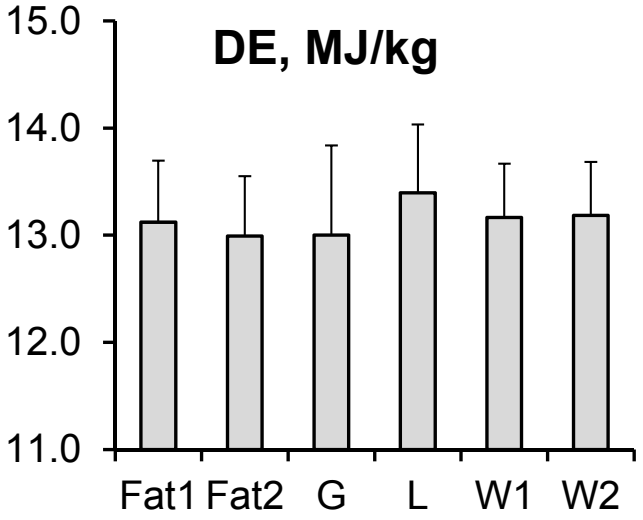


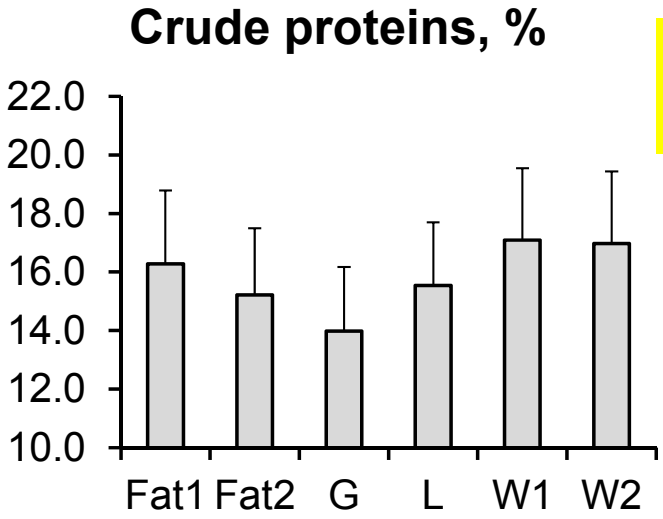

F farms differentiate better diets for fatteners

Overall, 49% of farms have 2 or 3 diets for fatteners

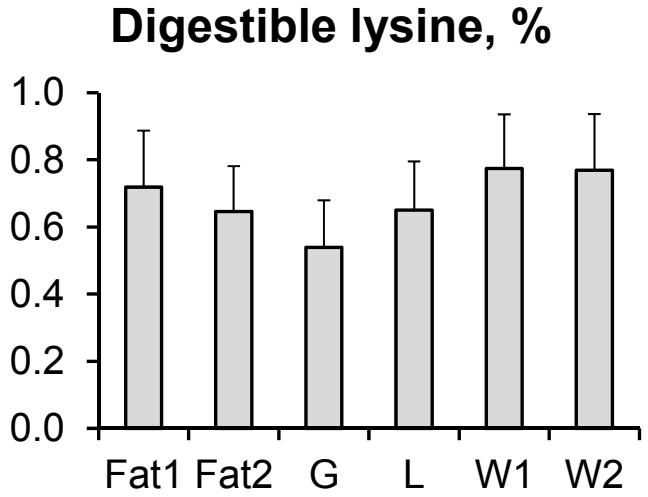
# Main results (preliminary)



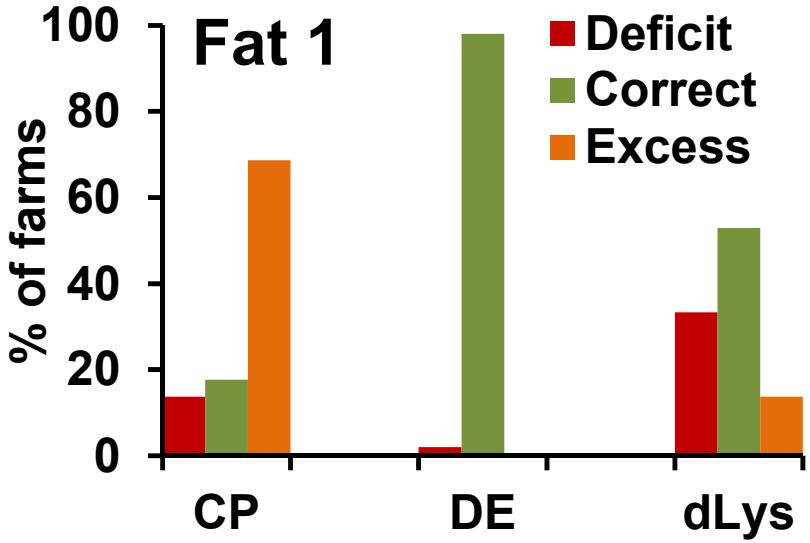




**W = Weaners**



# Main results (preliminary)

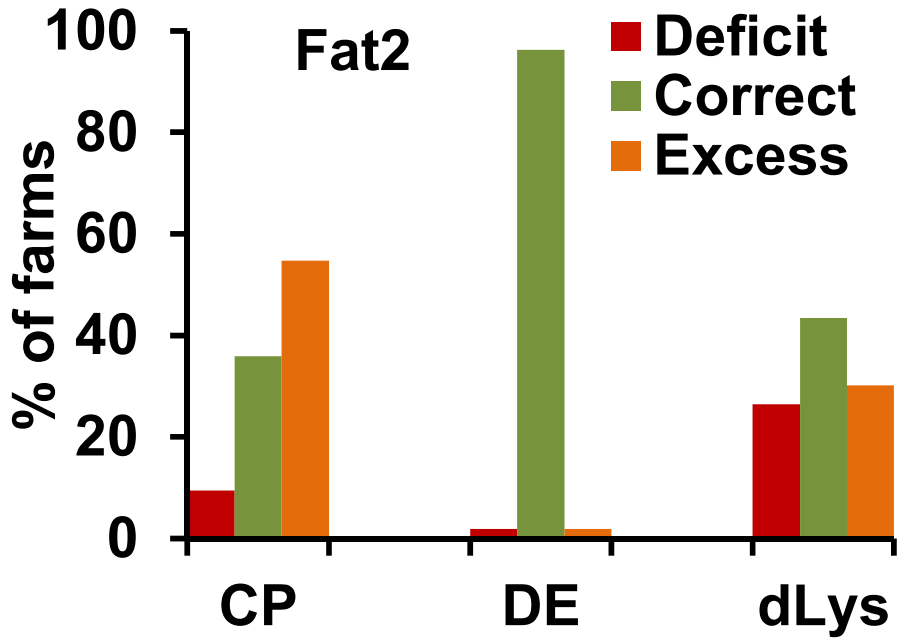
Diet classification according to recommendations for conventional growing pigs (IFIP, 2013). For each nutrient, the diet was considered correct if it contained 90 to 110% of the recommended value, otherwise deficit (<) or excess (>)




- Crude Proteins: “excess” probably to “secure” intake in essential AAs
- Digestible Energy: OK
- Digestible lysine: a third of farms with deficit

# Main results (preliminary)

Diet classification with recommendations for Fat 2




- Similar conclusion as for fat 1

# The work will continue

- Classify all diets with more characteristics
- Relate results to animal's performance, animal based indicators (e.g. Body Condition Score) and environmental balance
- Relate results to feed analysis when available

# Main conclusions

**Situation should be improved, main solutions are:**

- Specific diets for the various stages
- Formulate better the diets according to the animals' needs
- Use the experience of existing organic farms that show that fulfilling animals needs is possible under organic constraints

**BUT problems exist:**

- Place and equipment for storing several types of diets are often lacking
- Low availability and high prices of organic ingredients rich in essential amino acids (lysine, tryptophan…)

# Thanks for your attention !

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