Rotational **grazing** for **organic** pregnant **sows** : a mechanism to **reduce feed** consumption ?

A. Roinsard[1], F. Maupertuis[2], C. Gain[1], P. Pierre[3]

[1]ITAB, 9, rue André Brouard, 49105 Angers, France,
[2]Chambre d'agriculture Pays de la loire, La Géraudière, 44939 NANTES CEDEX 9, France
[3]IDELE, 9, rue André Brouard, 49105 Angers, France; antoine.roinsard@itab.asso.fr

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Introduction

- Growing of organic pig production in Europe (Agence bio, 2019)
- In France, 50 % of organic sows are raised in free range systems (Roinsard & Bertin, 2018)
- 80 % of cost = feed ;

1

EU regulation towards 100% organic feeds for organic animal production

2

A lack of protein feeds in organic production

3

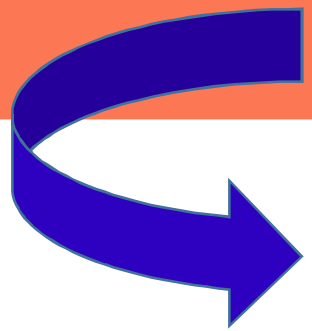
Make a better use of organic protein feeds (CASDAR SECALIBIO)

SECALIBIO
Sécuriser les Systèmes Alimentaires en Production de Monogastriques Biologiques

Why can grazing help to this challenge ?

Could pregnant sows graze pasture rich in legumes in order to reduce protein in supplied feed ?

Grassland rich in legumes (clover)
Rotating pasture with paddocks
Less protein in supplied feed



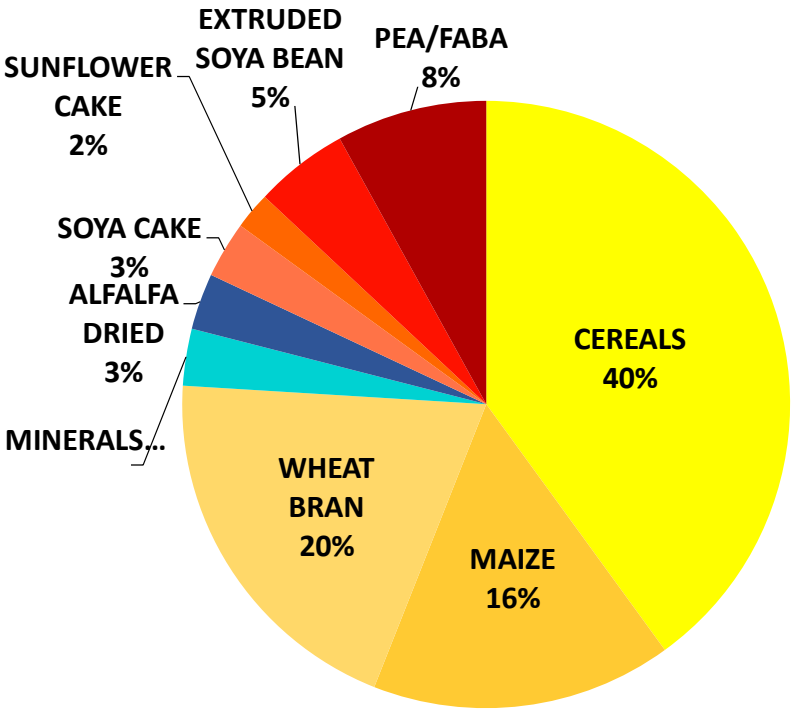
Evaluation in an experimental farm of an innovative farmer practice

Experimental design *(organic free range pregnant sows). 2016/2017*

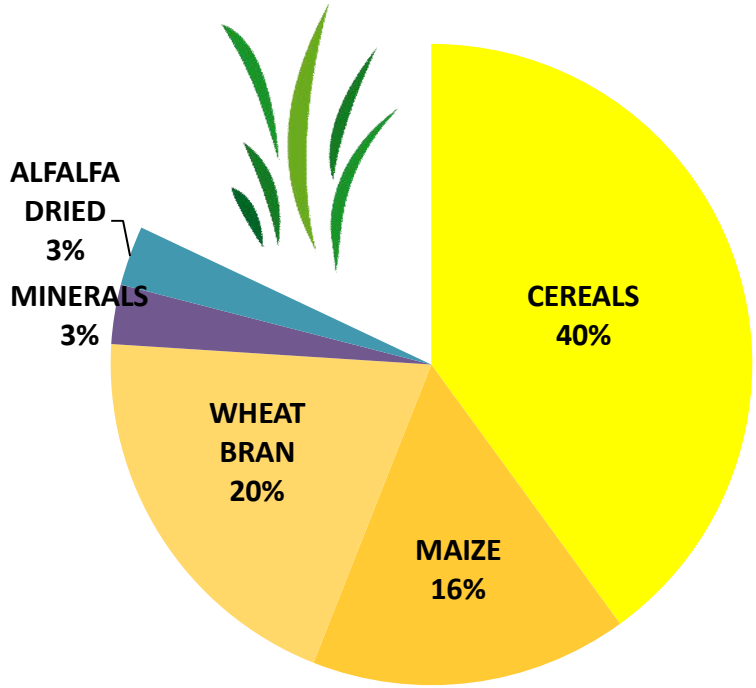
TOPIC	CONTROL SOWS (continue grazing)	PASTURING SOWS (rotational grazing)	INDICATOR
Zootecnic performances 	n=52 (5 groups)	n=22 (2 groups)	Weight gain Dorsal fat gain
Grassland intake 	-	n=14	Kg DM / sow
Selectivity of sows 	-	n=14	% grassland species
Contribution of nutritional needs 	n=52	n=14	% LYS an EM cover by pasturing
Economical impact 	Global for one year		Feed cost

Experimental design : *feed management*

CONTROL : 100% of classical feed (match with pregnant sows needs)



PASTURE : 80% of experimental feed (1 month after insemination)



Experimental design : *feed management*

	CONTROL	PASTURE
CP (%)	13,6%	10,2%
LYS (%)	0,64	0,38
CB (%)	6,4	6,0
Net energy (MJ / kg)	9,3	9,1

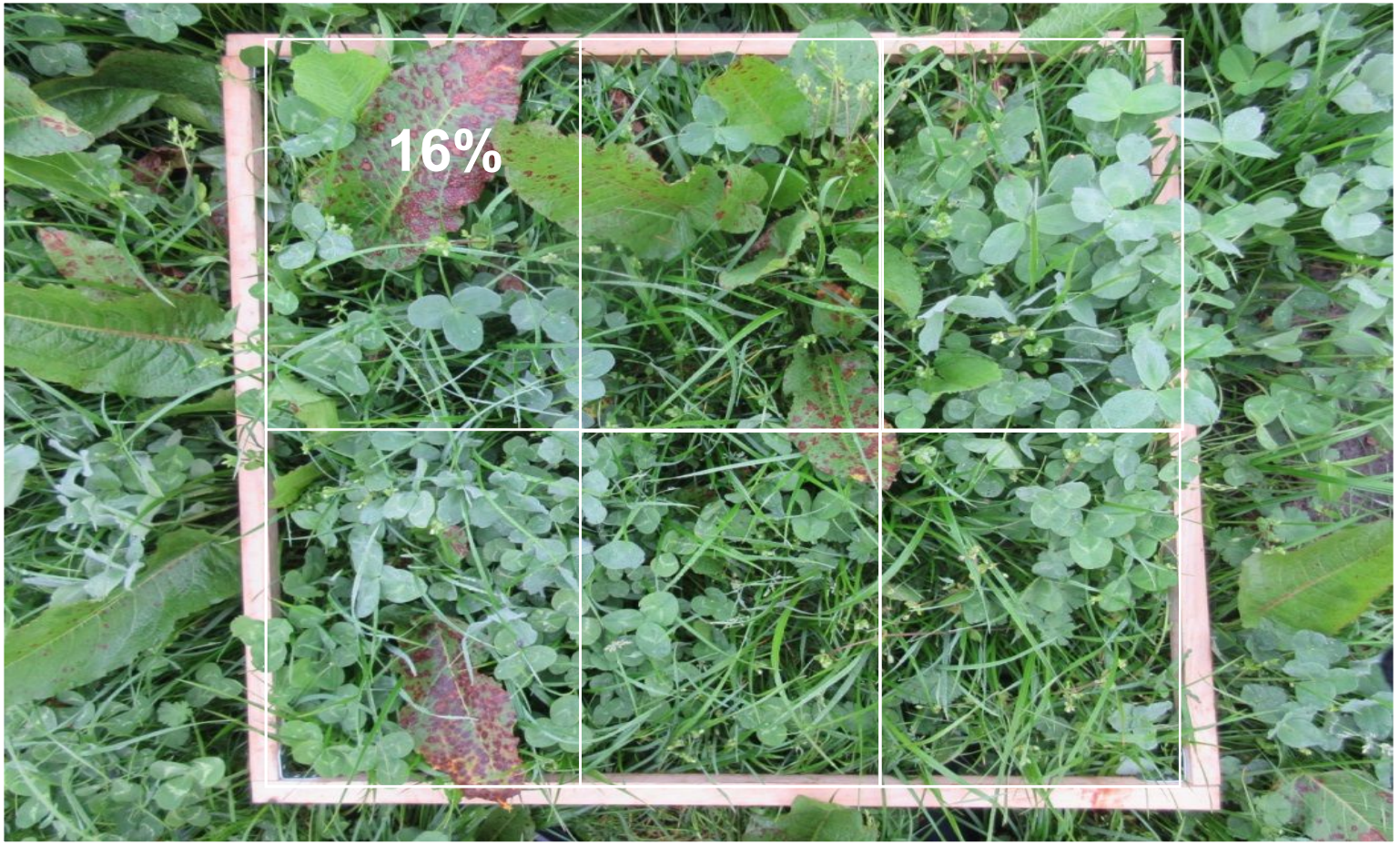
Experimental design : *grassland intake*

Grassland intake =

biomass before grazing – biomass after grazing

Number of sows in the paddocks

Experimental design : *sow selectivity*



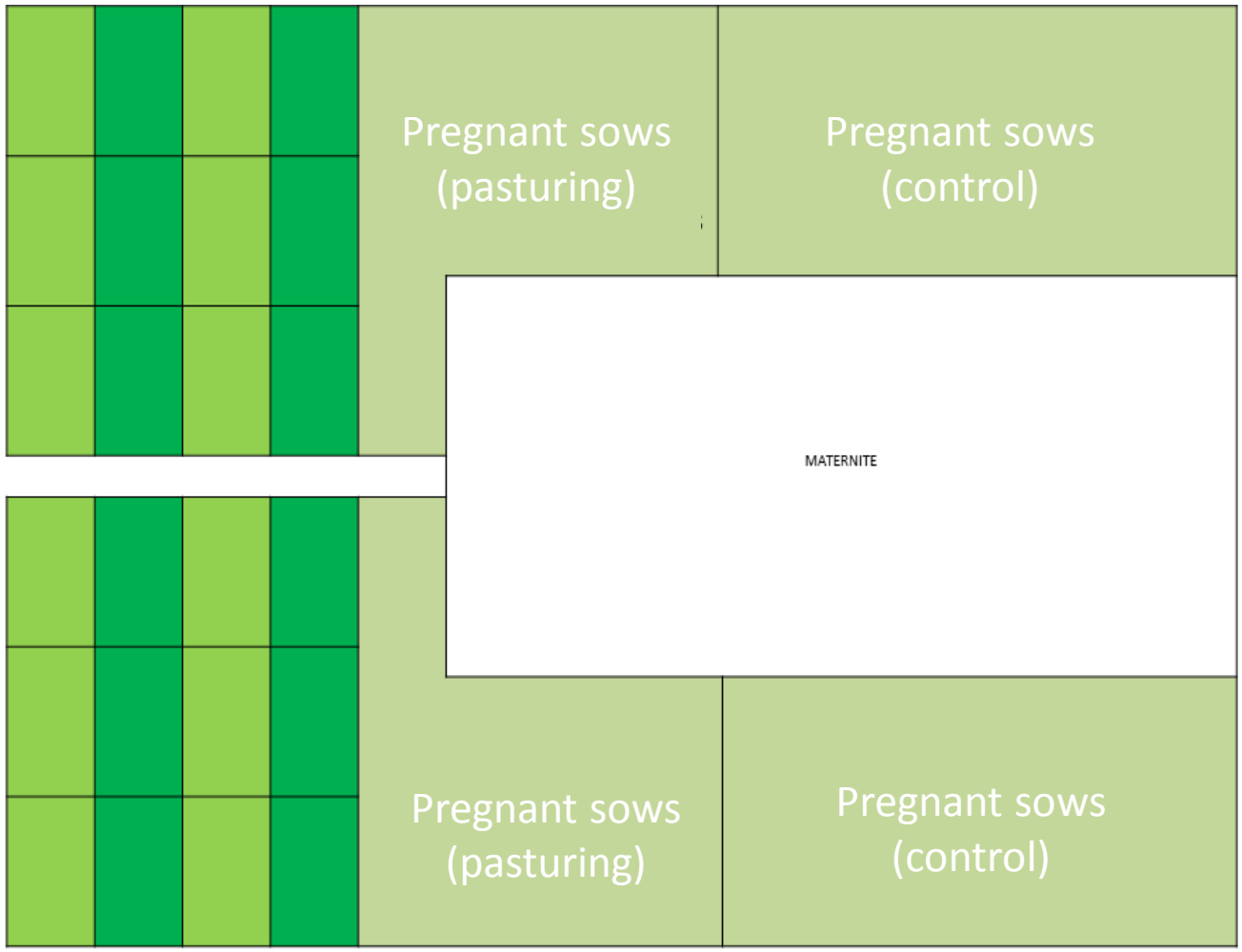
Experimental design : *grassland management*

Grassland 1

-Ray-grass Hybride 8 kg/ha
-White clover 3 kg/ha
-Red clover 3 kg/ha

Grassland 2

-Ray-grass Anglais 16 kg/ha
-White clover 3 kg/ha
-Hybrid clover 3 kg/ha
-Alfalfa 5 kg/ha




1st group : small sows
1 paddock = 270 m²
2nd group : big sows


Less productive grassland


After grazing
Before grazing

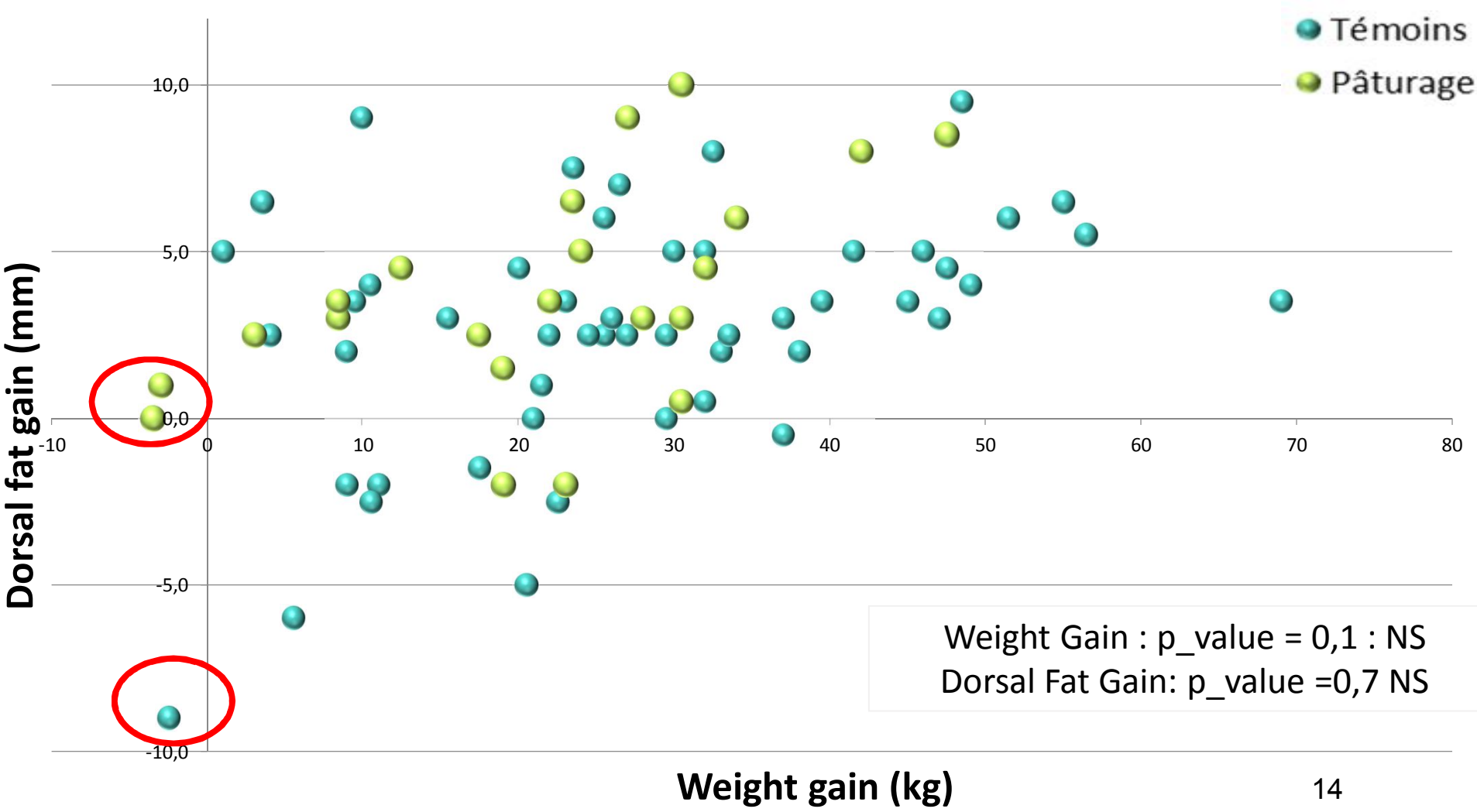
Experimental design : *nutrients provide by grazing*

→Calculation method : INRA Porc based on measured performances (herd scale)

Nutrients intake by pasture =

Animal requirement – nutrients intake by concentrate

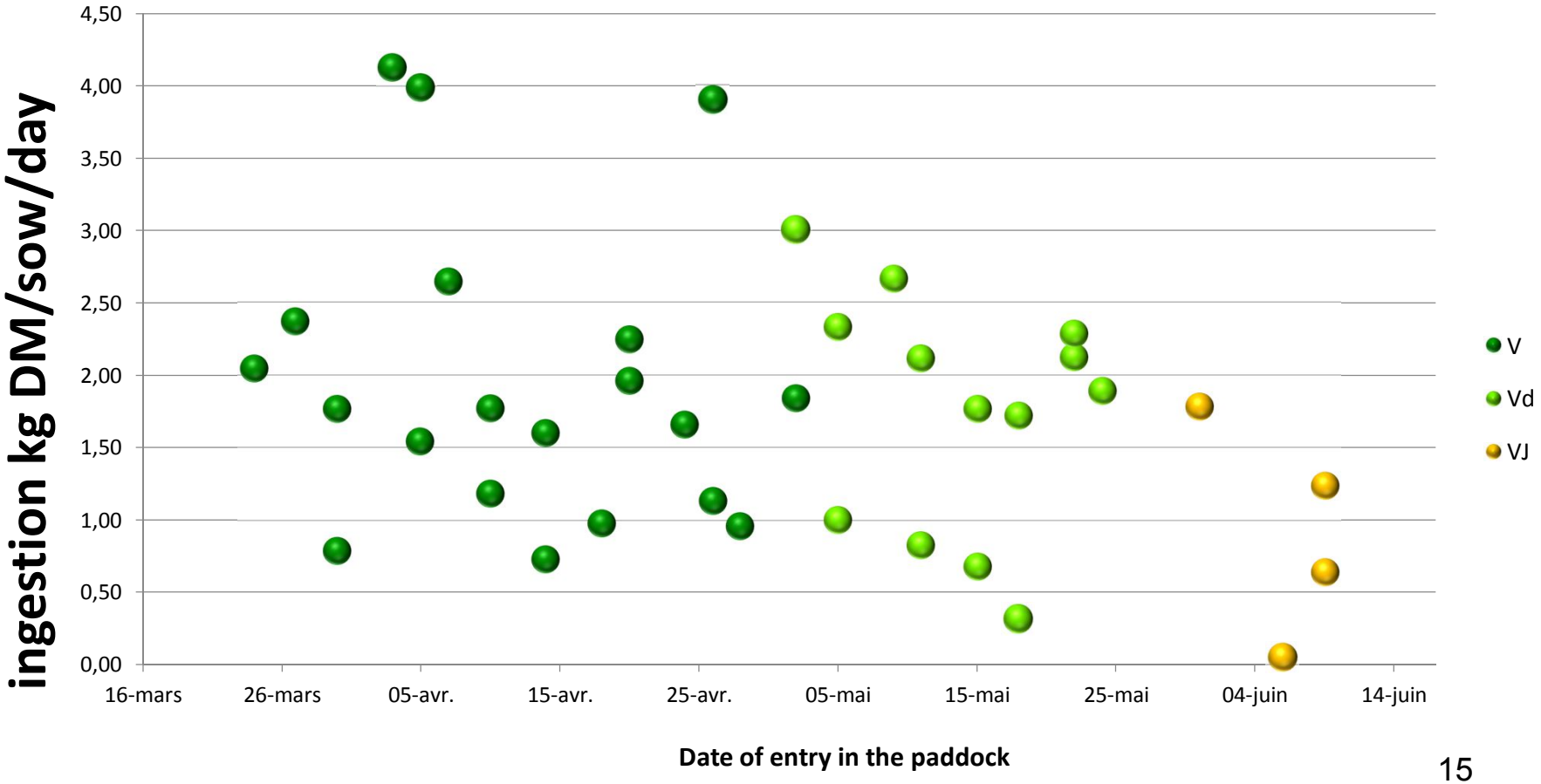
Main results: *zootecnic performance*



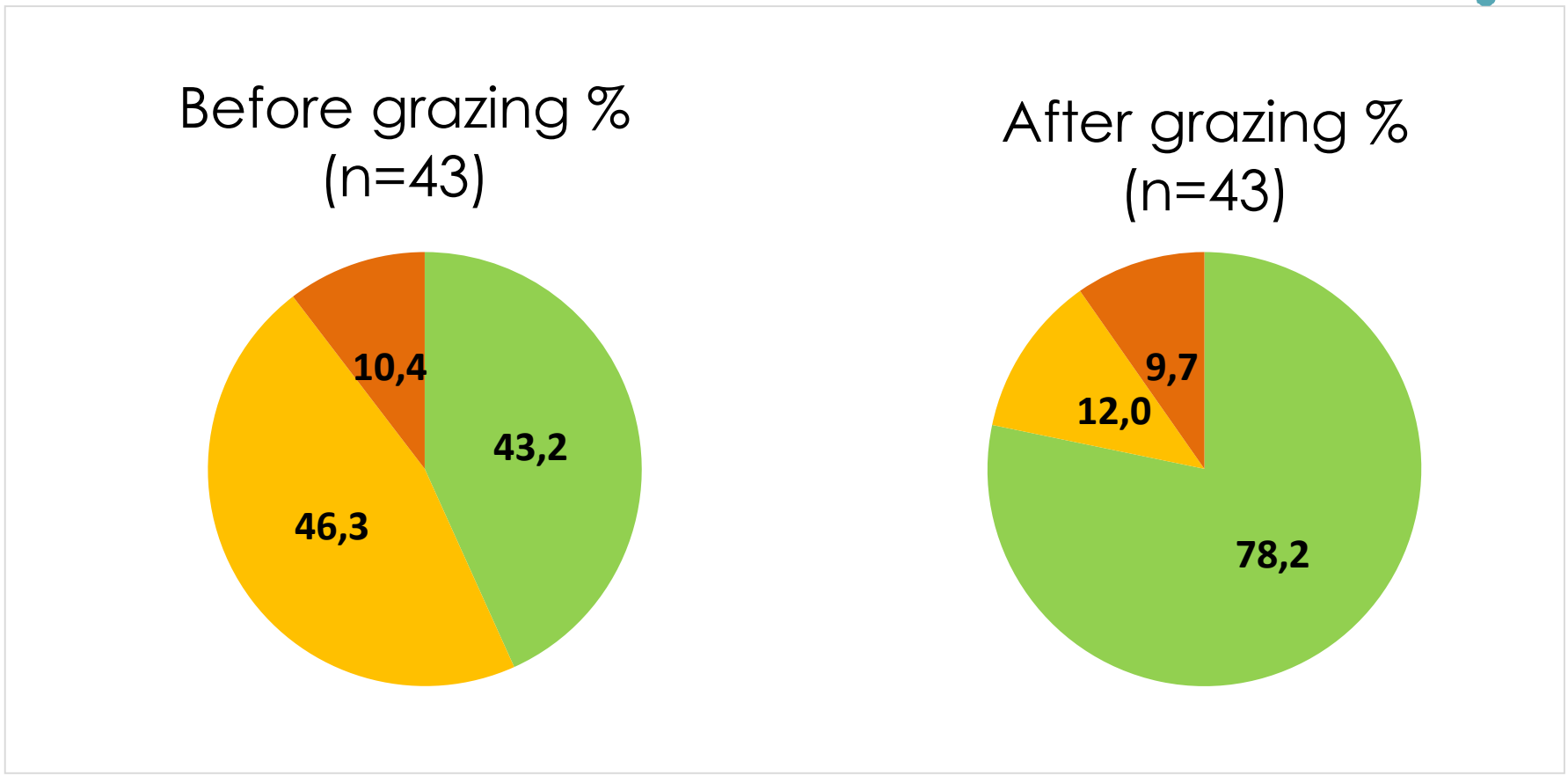
Weight Gain : p_value = 0,1 : NS
Dorsal Fat Gain: p_value =0,7 NS

Main results: *herbage intake*

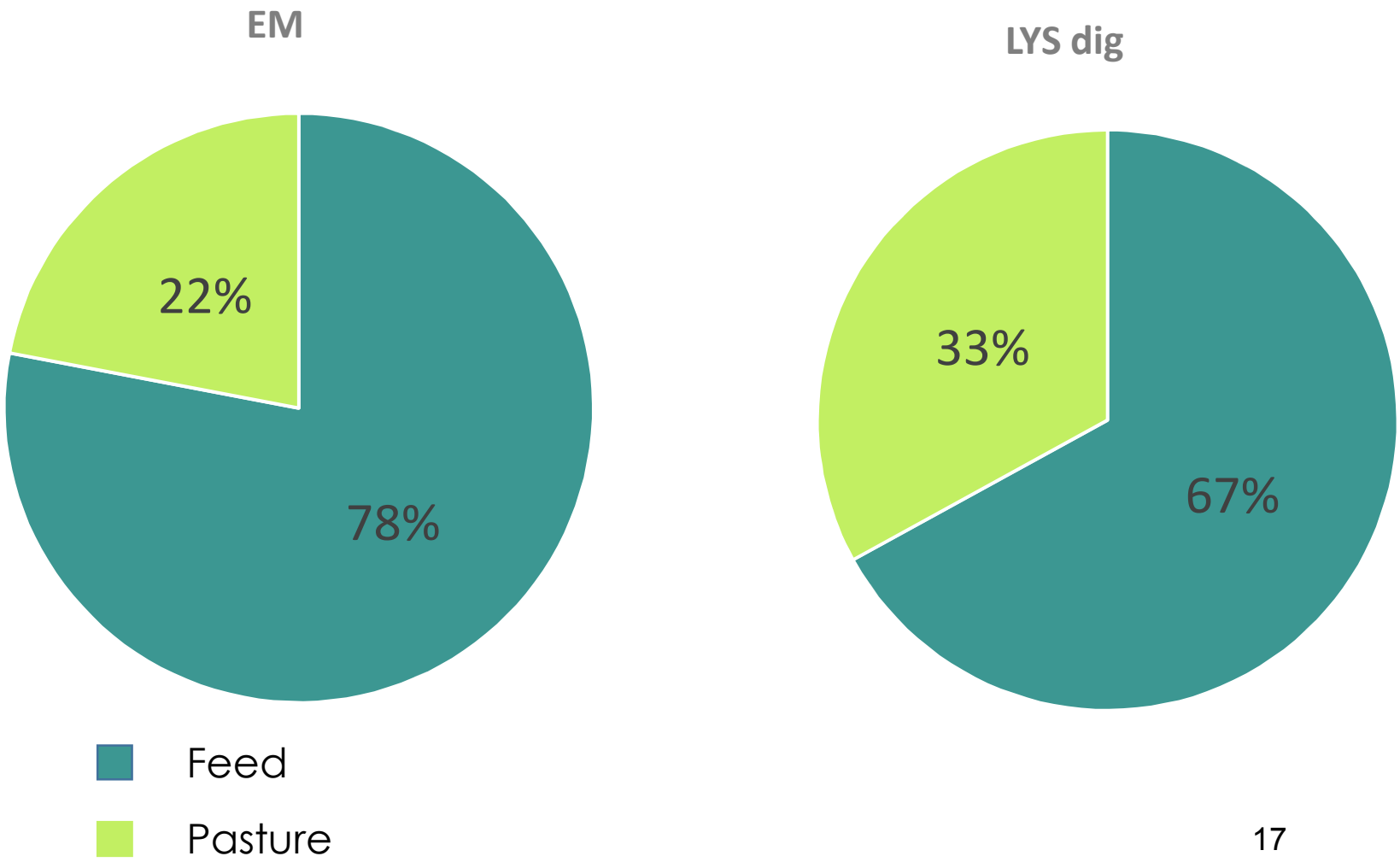
- Small sows : 1,5 kg DM/day
- Big sows : 2 kg DM/day



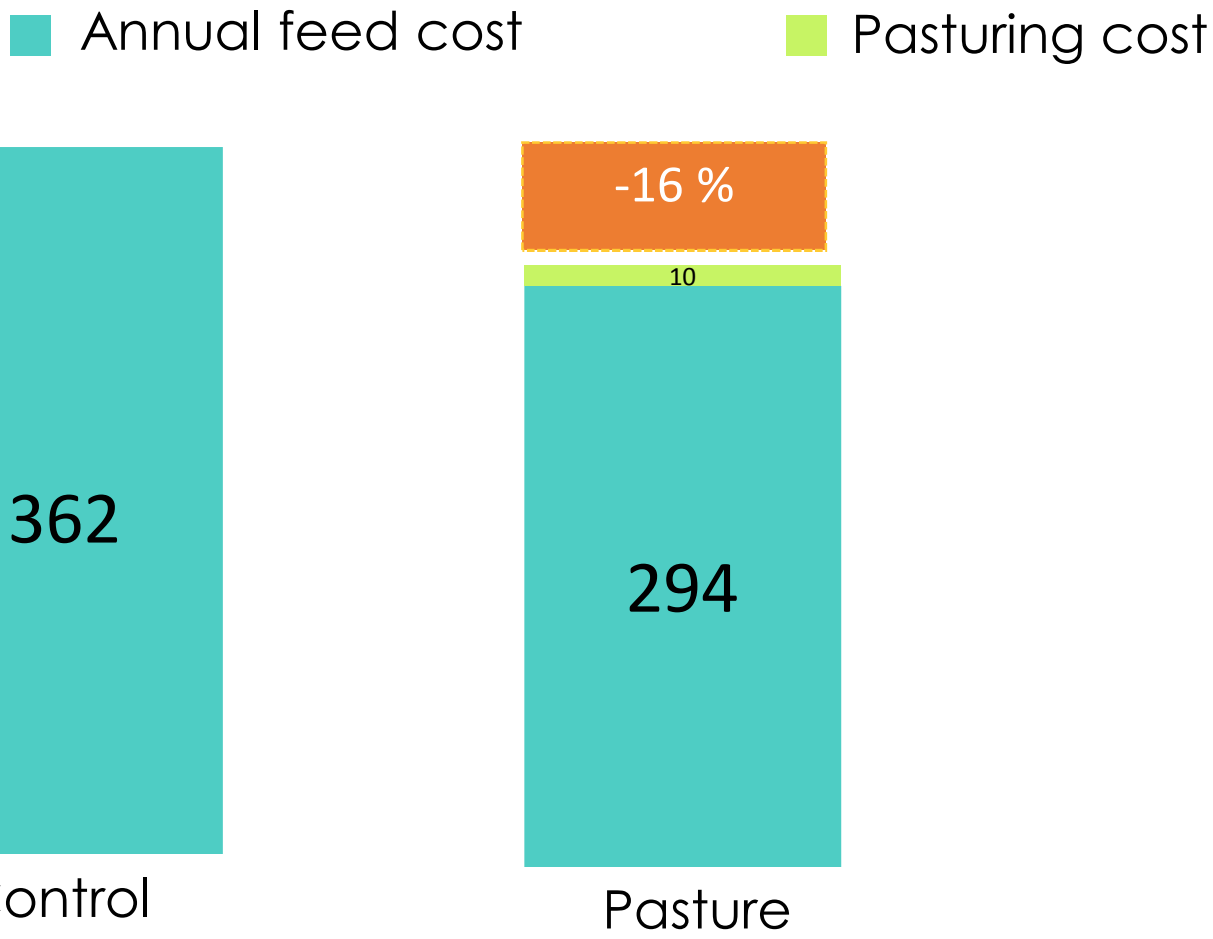
Main results: *selectivity*



Main results: *contribution of nutritional needs*



Main results: *feed cost for pregnant sow*



Pasturing system improvement:

Too much competition at feeding for pasturing sows → Individual feeding (refectory)

Less interest to pasture at the end gestating period → Back to a complete feed 3 weeks before farrowing

Start pasturing system at the beginning of pregnancy

Other elements :

Silage distribution when pasturing is not possible
Increase knowledge of fodder value for pigs and sows
Long term impact on lactating performances