Effect of mixing grass silage with concentrate on feed intake in ewes and live weight gain in lambs

Carl Helander[1], Elisabet Nadeau[1], Peder Nørgaard[2] and Annika Arnesson[1]

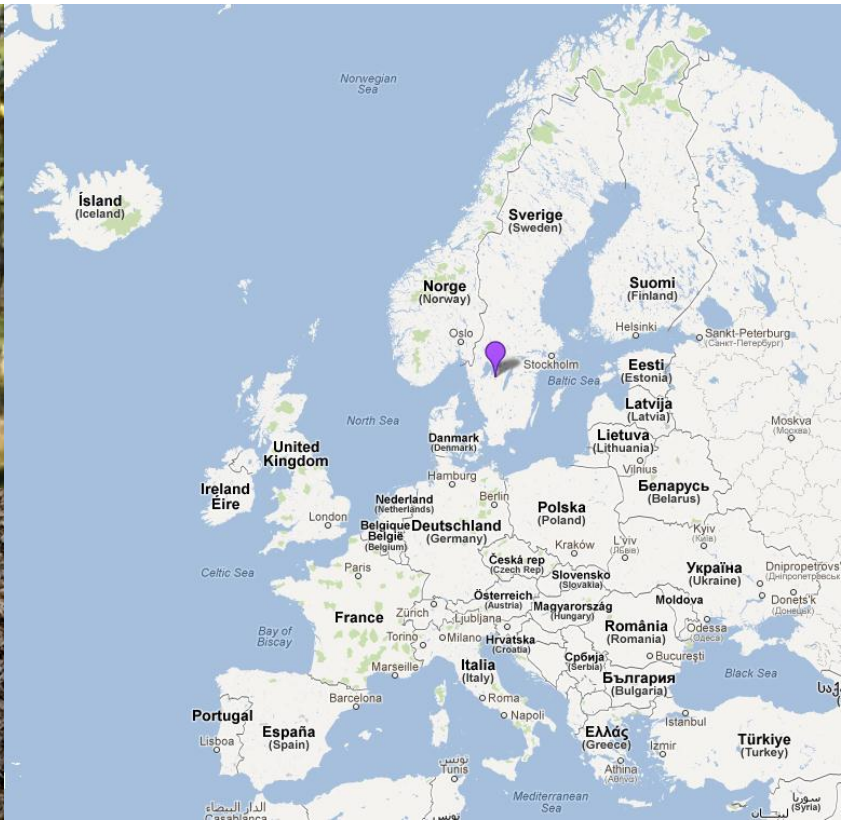
[1]Department of Animal Environment and Health,
Swedish University of Agricultural Sciences

[2]Department of Basic Animal and Veterinary Sciences,
Faculty of Health and Medical Sciences, University of Copenhagen

EAAP, 2012-08-29

SLU

Götala Beef and Lamb Research Centre



www.slu.se/hmh/Gotala

SLU

Background

Limited information available on the effect of chopping high quality grass silage and of mixing silage with concentrate on

- ***feed intake***

of high-producing ewes around lambing

- ***LWG***

of lambs until weaning

Aim

The aim was to study the effects of chopping grass silage and of mixing grass silage with concentrate on

- ***feed intake***
- ***BW*** *and* ***BCS***

in pregnant and lactating ewes and on

- ***LWG***

of lambs until weaning

Experimental design

- Two experiments (Exp. 1 and Exp. 2)
- Seven ewes assigned to one of three dietary treatments:

US unchopped silage *ad libitum* and 0.8 kg concentrate daily, fed separately

CS chopped silage *ad libitum* and 0.8 kg concentrate daily, fed separately

CM chopped silage mixed with concentrate *ad libitum*

SLU

Chemical composition of silages

	Exp. 1	Exp. 2
DM, g/kg	570	350
NDF, g/kg DM	579	482
CP, g/kg DM	143	189
IVOMD, g/kg	865	910
ME, MJ/kg DM	10.9	11.5

Chemical composition of silages

	Exp. 1	Exp. 2
DM, g/kg	570	350
NDF, g/kg DM	579	482
CP, g/kg DM	143	189
IVOMD, g/kg	865	910
ME, MJ/kg DM	10.9	11.5

Chemical composition of silages

	Exp. 1	Exp. 2
DM, g/kg	570	350
NDF, g/kg DM	579	482
CP, g/kg DM	143	189
IVOMD, g/kg	865	910
ME, MJ/kg DM	10.9	11.5

Chemical composition of silages

	Exp. 1	Exp. 2
DM, g/kg	570	350
NDF, g/kg DM	579	482
CP, g/kg DM	143	189
IVOMD, g/kg	865	910
ME, MJ/kg DM	10.9	11.5

Chemical composition of silages

	Exp. 1	Exp. 2
DM, g/kg	570	350
NDF, g/kg DM	579	482
CP, g/kg DM	143	189
IVOMD, g/kg	865	910
ME, MJ/kg DM	10.9	11.5

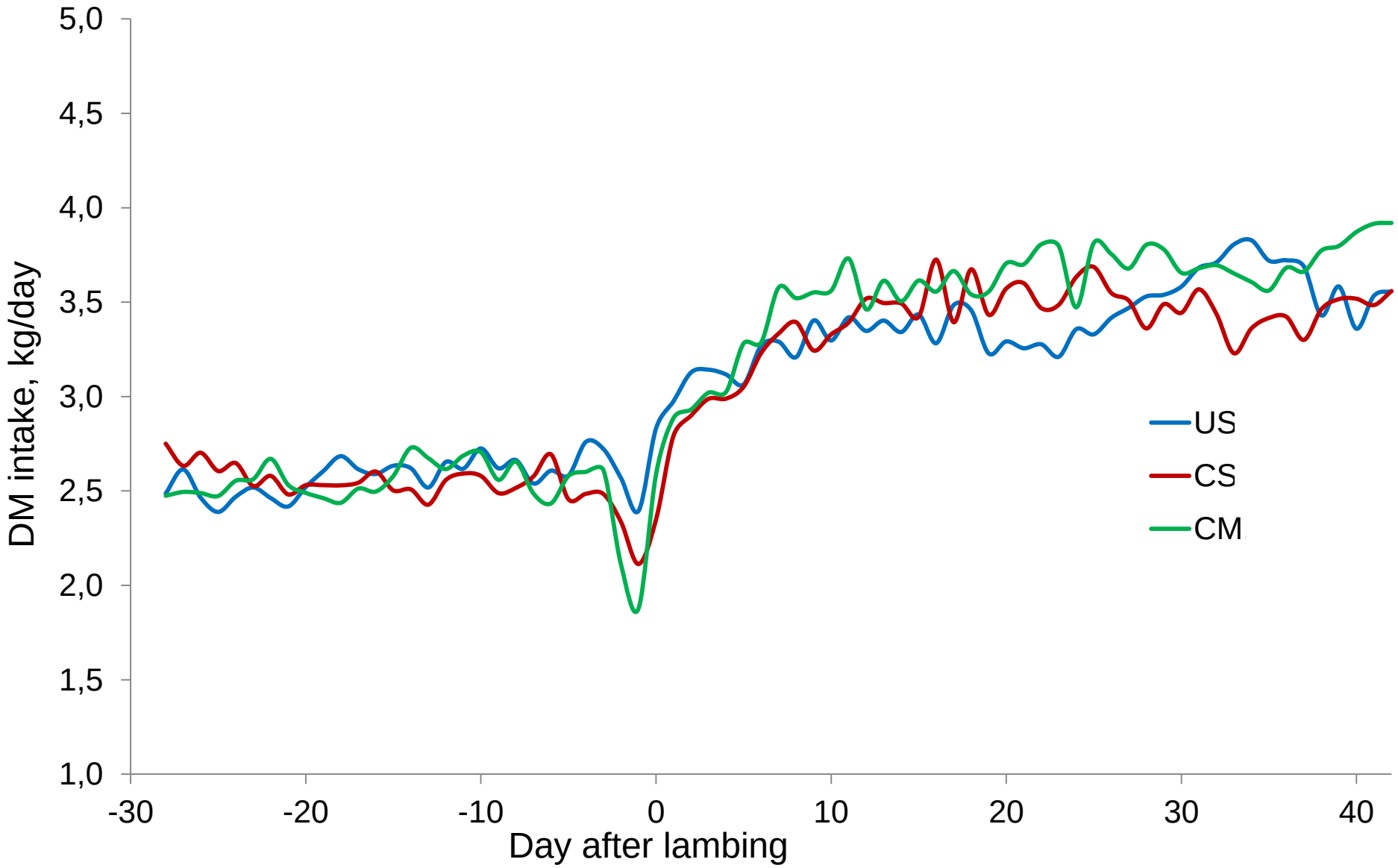
Chemical composition of silages

	Exp. 1	Exp. 2
DM, g/kg	570	350
NDF, g/kg DM	579	482
CP, g/kg DM	143	189
IVOMD, g/kg	865	910
ME, MJ/kg DM	10.9	11.5

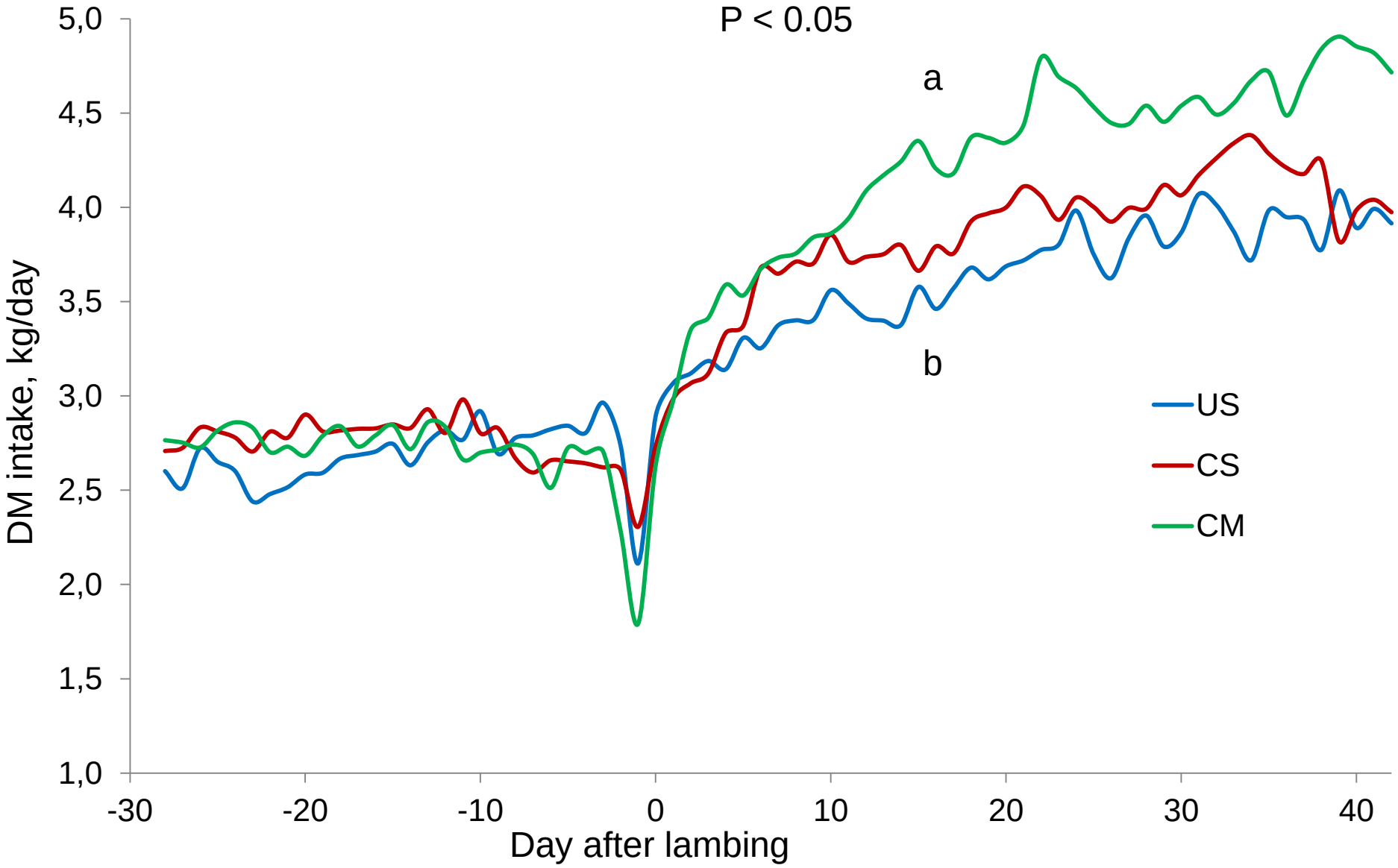
Silage particle length, mm

	Exp. 1	Exp. 2
Unchopped	170 ± 110	349 ± 169
Chopped	13 ± 2.8	18 ± 2.3

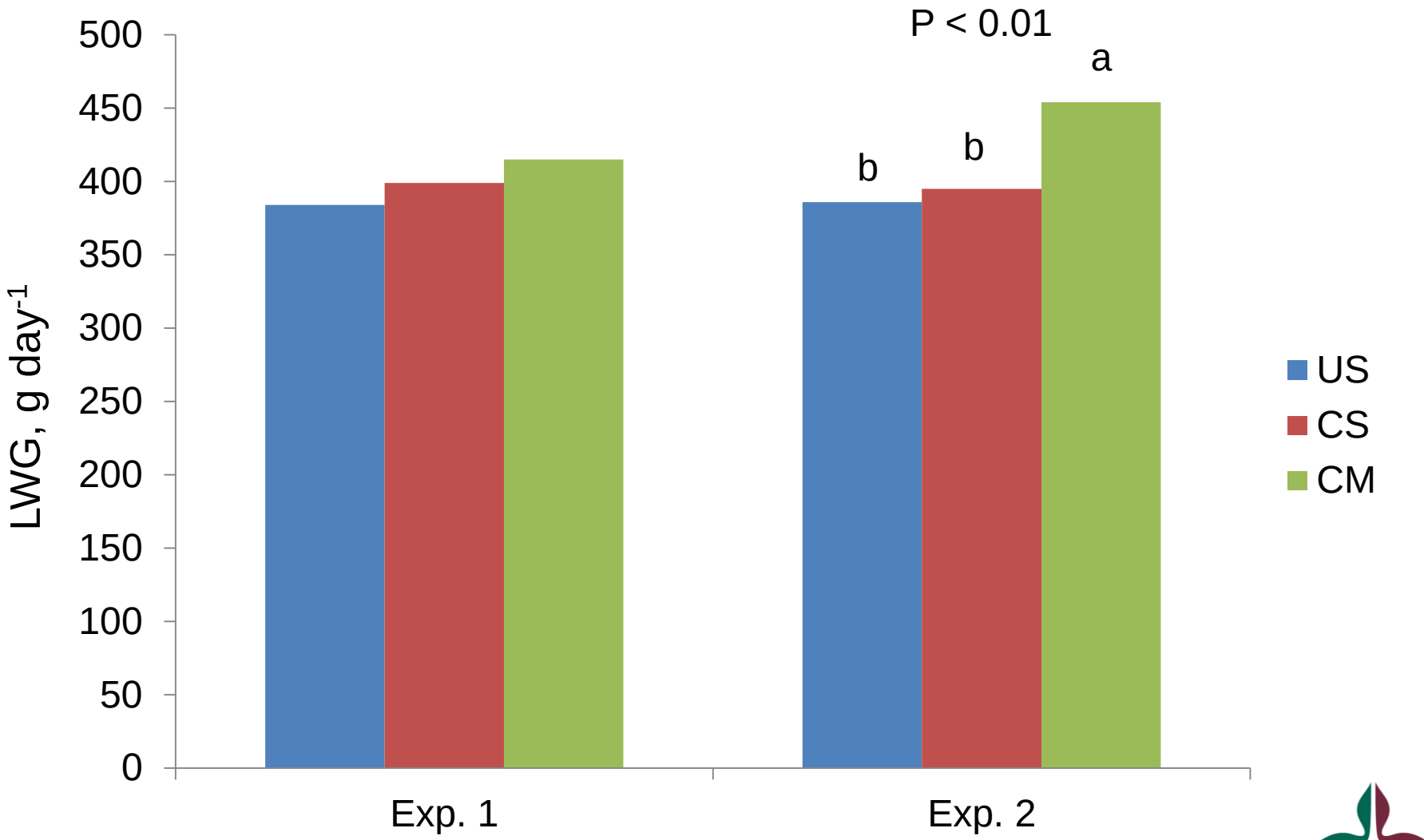
Feed intake, Exp. 1



Feed intake, Exp. 2



Live weight gain of lambs



Conclusions

Mixing silage and concentrate *can* increase

- DM intake in lactating ewes
- LWG of lambs from birth to weaning.

BW and BCS were not affected by the feeding treatments

Acknowledgements

Project financed by:

- Swedish Farmers' Foundation for Agricultural Research
- The Swedish Foundation for Sheep Research
- Agroväst
- Swedish University of Agricultural Sciences
- University of Copenhagen
- Fåreafgiftsfonden

Thank you for your attention!

Chemical composition feeds

	Grass silage		Concentrate	
	Exp. 1	Exp. 2	Exp. 1	Exp. 2
DM, g/kg	570	350	861	871
NDF, g/kg DM	579	482	260	267
CP, g/kg DM	143	189	205	209
IVOMD, g/kg	865	910	-	-
ME, MJ/kg DM	10.9	11.5	12.2	12.8