

## Baltic Slurry Acidification

### Slurry Acidification

-Swedish Field Trials 2016 & 2017, preliminary results

Stakeholder Meeting in Riga, October 11th 2017

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## Aim

To examine to which extent the acidification of cattle slurry improves the nitrogen uptake when spread on ley

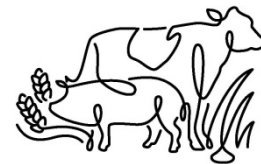


Experimental farm:  
Dairy farm northeast of Uppsala

Crop:  
Grass-dominated ley with some  
legumes

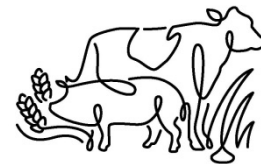
Extent:  
Nitrogen utilization in the second  
cut (harvest)

## Trial design; aimed plant nutrient supply to the second cut



Experimental treatment	Fertilizer	Nitrogen content, kg/ha	Remark
A	Unfertilized	-	Control
B	Mineral fertilizer	30	
C	Mineral fertilizer	60	
D	Mineral fertilizer	90	
E	Slurry, untreated	60	ammonium-N
F	Slurry, acidified	60	ammonium-N

# Spreading of acidified slurry June 14th, rate 24 ton/hectar



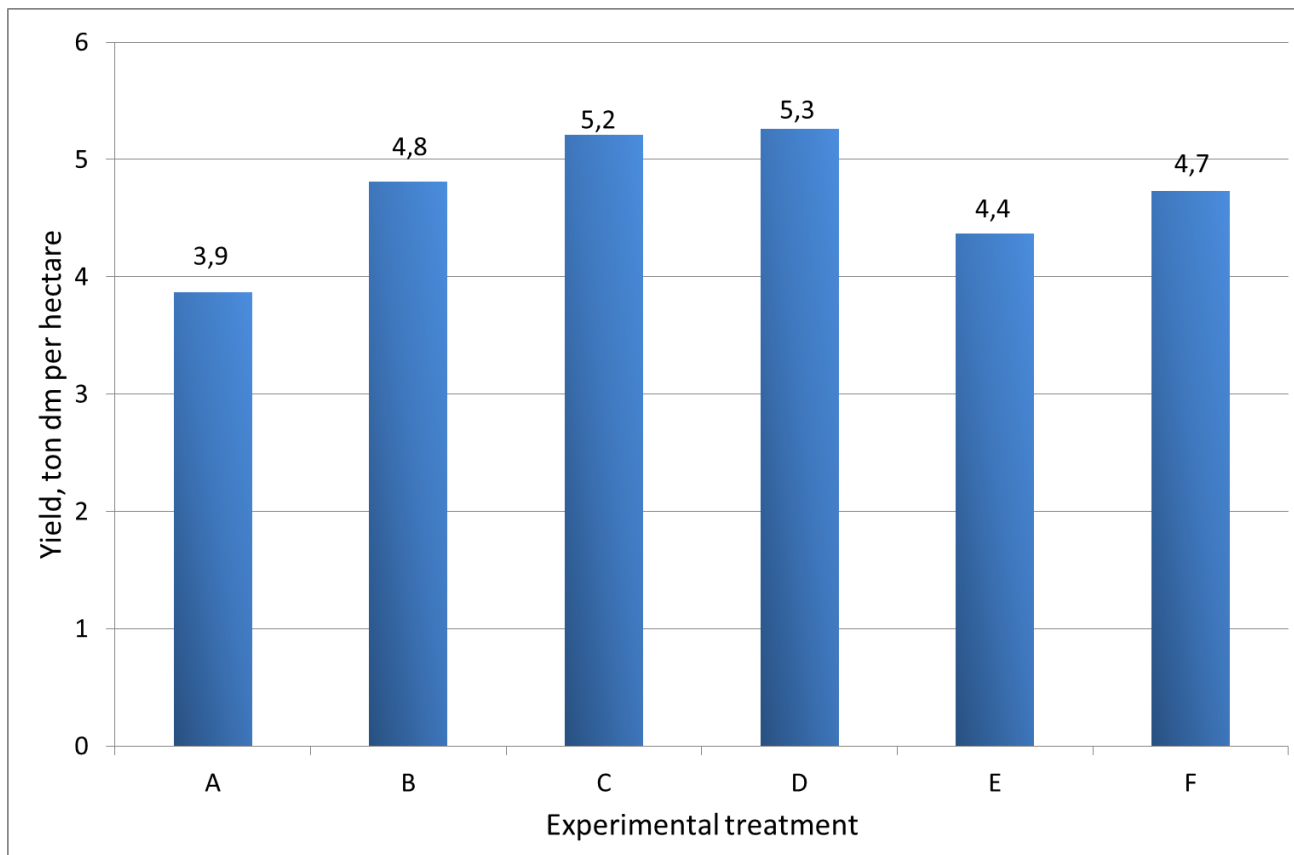
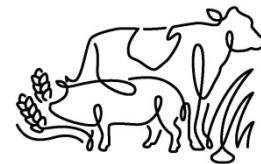
Spreading



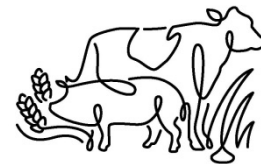
Placing of the slurry in lines at the bottom of the crop



## Yield



## Yield



Experiment I treatment	Fertilizer	Nitrogen supply, kg/ha	Yield,	
			Kg dm/ha	Relative number
A	Unfertilized	0	3870	100
B	Mineral fertilizer	30	4810	124
C	Mineral fertilizer	59	5210	135
D	Mineral fertilizer	89	5260	136
E	Slurry, untreated	50	4370	113
F	Slurry, acidified	51	4730	122

Increased yield by acidifying: 380 kg/ha (i.e. 8%)

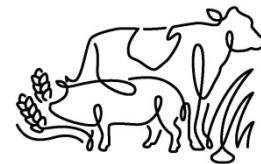


Overall conclusion 2016:

Acidification increased the yield through improved nitrogen utilization, indicating that ammonia emissions were reduced during and after spreading



# Field trial 2017



The investigation was performed on the same farm and with the corresponding methodology as during 2016

June 9th



The farmers own harvest (first cut), June 9th



# Spreading of untreated slurry June 14th, rate 24 ton/ha





Drought:

Total precipitation to the second cut (June 9th-Aug 11th) = 53 mm



## Field inspection July 21th







Field inspection  
July 21th



Untreated slurry

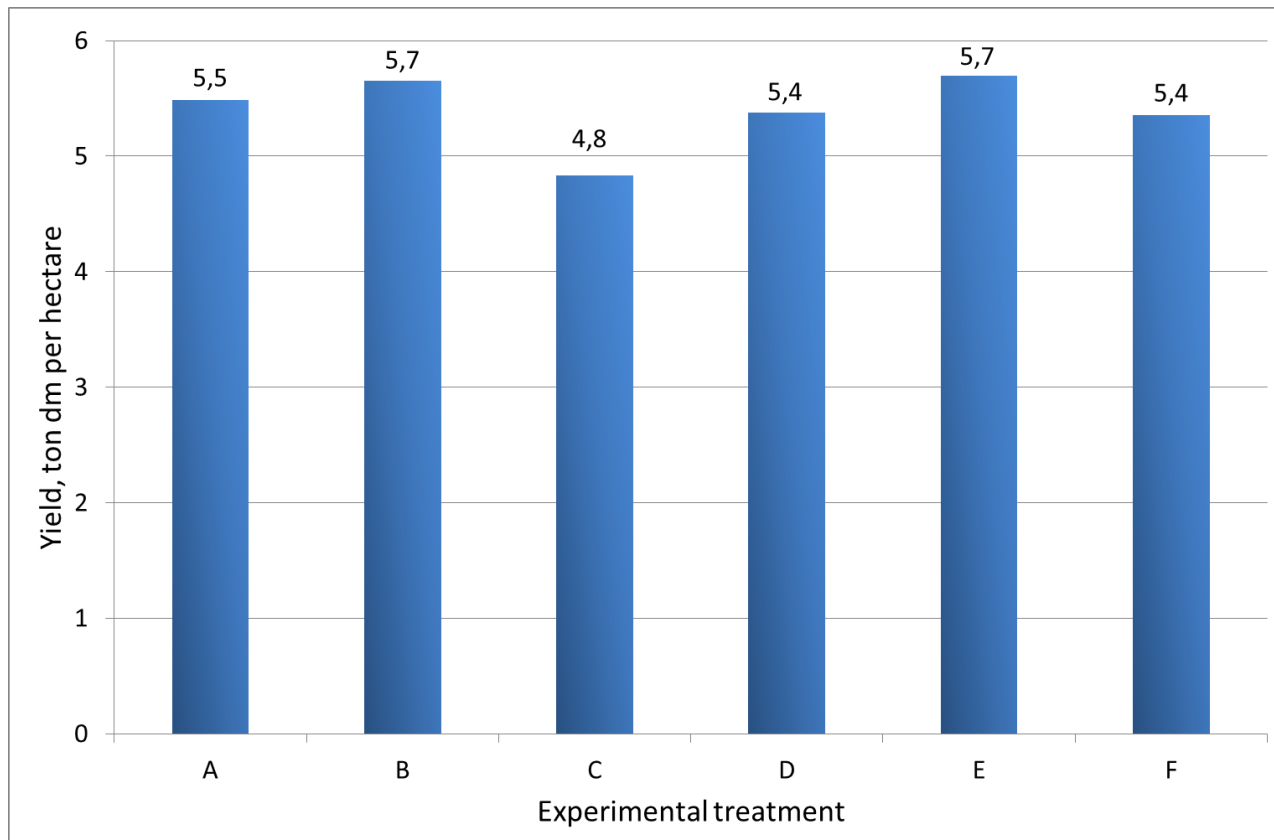
Acidified slurry

# Harvest on August 11th





## Yield





Overall conclusion 2017:

Extensive drought led to that no significant yield increases were achieved either from mineral fertilizer or slurry, untreated as well as acidified.

