


SAMSON Slurry technique product news 2022



News from advanced research and Smart Farming

- Sum up on the project: Gyllemajs
 - Why is precision application of natural fertilizers relevant
 - Prototypes and success rate
 - Corn response to banded dry fertilizer and slurry injection
 - Results from SAMSON-AGCO trial in harvested corn

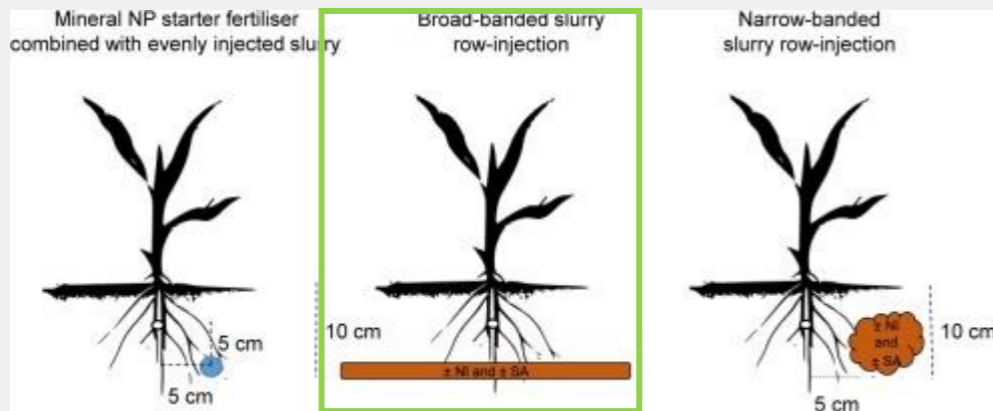


"We aim to play a leading role in developing **natural fertilizer machinery and technology** for professional agriculture with consideration for **people** and the **environment.**"

Sum up on the project: Gyllemajs

Avoid the use of mineral starter fertilizers for maize. The precise placing of slurry not only reduces the amount of starter fertilizer, it also gives you an efficient tool that complies with new phosphorus rules and maintains a high yield.

- Precise placing of early slurry
- Prepare a perfect seed bed with less weeds
- Soil drying and heating benefits
- Avoid the use of mineral fertilizers
- High capacity up to 65 m³/ha
- Reduce fuel consumption through local tillage
- Use varying ground conditions e.g. ploughed soil, stubble field.



Why is precision application of natural fertilizers relevant

The value of the product for the conventional cattle farmer is at minimum the saved mineral fertilizers

Current mineral fertilizer prices:

N: 2.33 €/Kg

P: 2.15 €/Kg

K: 1.14 €/Kg

Estimated reduction of mineral fertilizers (AU and Seges) when precise applicating slurry for maize

N: 30 kg/Ha

P: 15 kg/Ha.

Total savings pr. hectare with this assumption:

N: $2,33 \cdot 30 = 69.9$ €/Ha

P: $2,15 \cdot 15 = 32.25$ €/Ha

Total: $69.9 + 32.25 =$ **102.15** €/Ha

In addition, there are effects of being able to make better use of its harmony area which is not included here.

Periode	Kr. pr. 100 kg			Kr. pr. kg			
	Kvartal	Gødning 21-3-10	Kalkammonsalpeter	Kvælstof	Fosfor	Kalium	Patentkali
2020 1. kvartal		255	170	5,75	9,00	6,00	10,00
2020 2. kvartal		250	170	5,75	9,00	6,00	10,00
2020 3. kvartal		250	170	5,75	9,00	6,00	10,00
2020 4. kvartal		250	170	5,75	9,00	6,00	10,00
2021 1. kvartal		260	175	6,50	12,00	6,50	14,00
2021 2. kvartal		260	175	6,50	12,00	6,50	14,00
2021 3. kvartal		300	220	8,25	16,00	6,50	14,00
2021 4. kvartal		350	300	11,25	16,00	6,50	14,00
2022 1. kvartal		500	475	17,50	16,00	8,50	14,00
2022 2. kvartal		500	475	17,50	16,00	8,50	14,00

<https://farmtalonline.dlbr.dk/Grid/uiGrid.aspx?Farmtal=230&ViewType=View&Start=01-01-2020&Slut=04-04-2022>



Prototypes and success rate

Martin Nørregaard Hansen (Seges)

"It can be seen that the experiments this year show very high and unambiguous positive results when placing slurry, with significant additional yields when placing - between 15 and 20 crop units per hectare. ha. This also applies to the prototype, where in the on farm experiments at Mads in Southern Jutland we also see additional yields at this level"

Picture from our own field trials north-east from Hobro->

Preliminary conclusion - experiments with placement of slider for maize have shown the following:

- Placed slurry provides greater yield than traditionally incorporated slurry with allocation of start phosphorus
- Same yield can be obtained by placing slurry without addition of starter phosphorus, as by traditional incorporation of slurry with addition of 15 kg start phosphorus per. ha.
- Higher yield are obtained by fertilizing with the degassed slurry than by fertilizing with the same amount of ammonium nitrogen in cattle slurry



Corn response to banded dry fertilizer and slurry injection

The objective of this study was to measure the yield differences between dry fertilizer and pig slurry application in corn. One plot variant relied on slurry as the only plant nutrient application throughout the entire corn growing season. This Variant "50 ton/ha slurry" are representing the practice for organic farmers where the only source of nutrient is livestock manure and slurry. The equipment used in this study was tractor Fendt Vario 939 and Fendt Vario 828 both with RTK FendtGuide. The implements used in this study were:

- AGCO Sunflower Strip-Till 7610-30, (4 row, 75cm) (Banded dry fertilizer 16-18 cm depth)
- SAMSON PGII 28 Slurry tanker with AGCO Sunflower Strip-Till 7610-30, (4 row, 75cm) (Banded pig slurry 10-12 cm depth below soil surface)

Video from the field day with AGCO ->



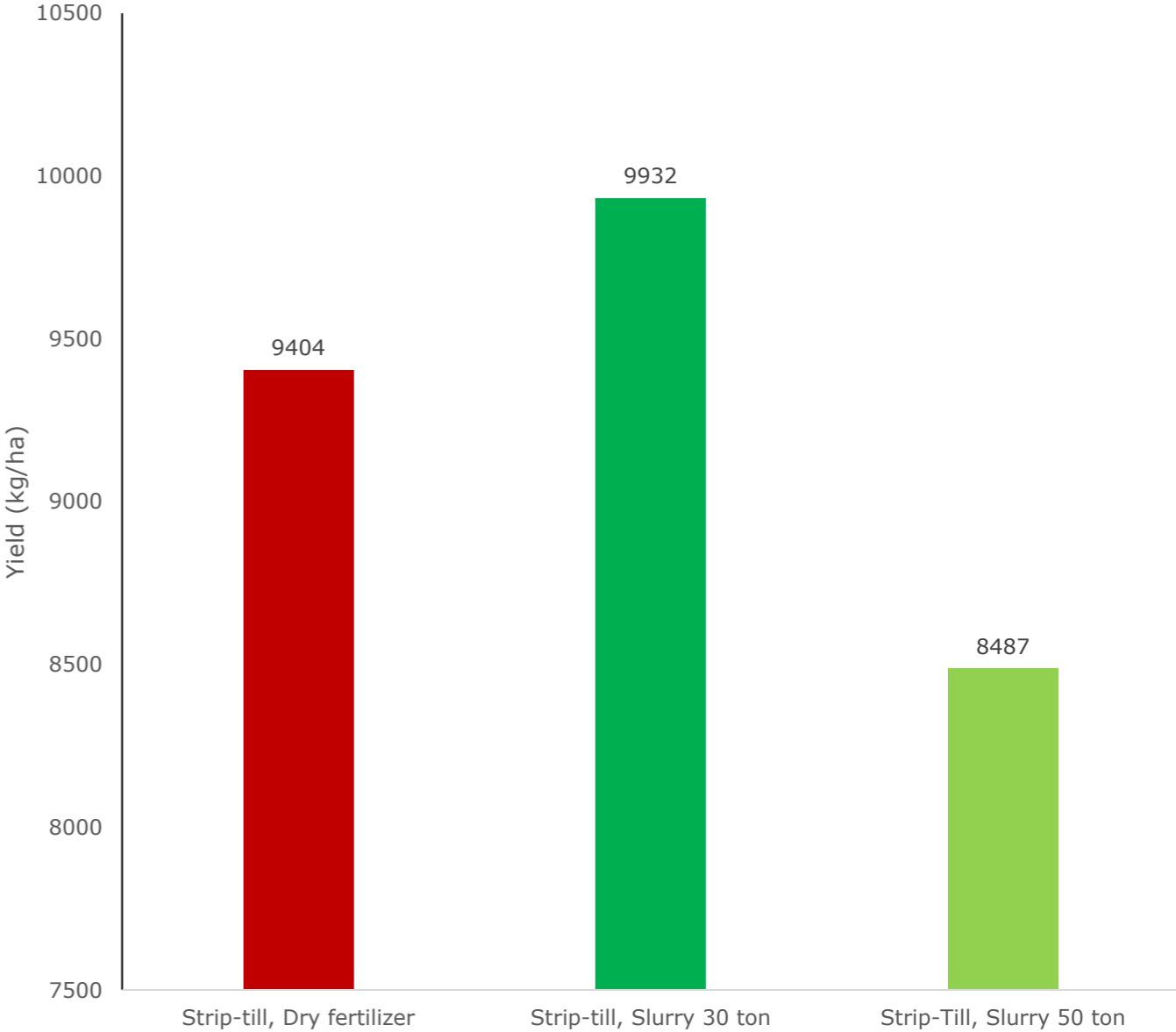
Results from SAMSON-AGCO trial in harvested corn

The "Strip-till, slurry 30 ton" (see table on next page) plots produced the highest yield. Here the slurry ensured a steady mineralization throughout the growing season supplemented by the starter and in-season applications.

The study indicates that the extensive use of slurry as a plant nutrient source can support high corn yield.

Additional Observations:

- The "Slurry 50 ton/ha" variant did cause significantly higher soil compaction compared to the other variants. The high axle loads in early spring are a yield limiting factor that should not be overlooked
- The AGCO Sunflower Strip-Till 7610-30 row unit proved to be highly suited to injecting high volumes of slurry without surface run off. When applying large volumes of slurry 30+ ton/ha there is a significant risk of the slurry being forced to the soil surface. This leads to run off and ammonia loss due to evaporation



Thanks you for your attention



- Questions?

„Growing Together“

