

Alternative fertiliser

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Director

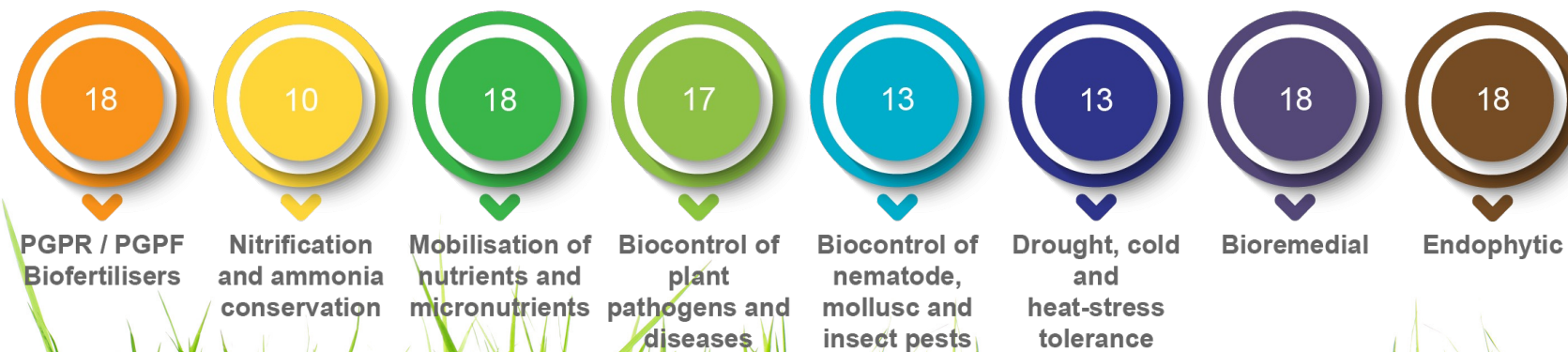
Sylgen Animal Health

Using microbes to improve soil, reduce carbon footprint & improve grass productivity



More than a slurry additive:

- SforS contains 18 different bacteria and fungi
- All are either Plant Growth Promoting Rhizobacteria or Fungi
- End product is a very effective and dynamic biofertiliser



	18
	17
	16
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	13
	12
	11
	10
	9
	8
	7
	6
	5
4	4
3	3
2	2
1	1
1st generation	2nd generation



Complex blend of 18 different fungi and bacteria:

Increases grass quality and quantity

Reduces costs

Benefits environment

Captures nutrients

Quicker and easier slurry handling and applications

Reduces volatilisation

Protects plants from pests and diseases

Reduces need for synthetic fertilisers

Saves fuel and fertiliser

Improves heat and drought tolerance

SS[®]
FOR
SLURRY FOR SOIL

Plant Growth Promoting Rhizobacteria (PGPR)

A NATURAL SOLUTION



Direct PGPR mechanisms

N₂ Fixation
Phytohormones
ACC Deaminase
Water soluble B vits
P solubilisation
K solubilisation
Siderophore production

Indirect PGPR mechanisms

ISR Responses
(Prevention of plant diseases)

(+)

Pathogens



(+)

Siderophore production
Competition
Antibiotics
HCN
Lytic Enzymes
Toxins

(-)

- ✓ Directly and indirectly enhance plant growth
- ✓ Reduce the disease development in plant systems by various mechanisms including:
 - antimicrobial metabolites,
 - volatile compounds,
 - Induced Systemic Resistance (ISR)

These defence mechanisms can cause substantial structural and functional changes in the plant that lead to pathogen and pest resistance

Plant Growth Promoting Fungi (PGPFs)

These are a heterogeneous group of non-pathogenic fungi around root surfaces (rhizosphere) or inside the roots.

- ✓ **COMPOSTING** - breaking down organic matter using powerful enzymes,
- ✓ **TRANSPORTING** PGPRs to the roots of plants (the fungal hyphae act like roadways)
- ✓ **BIO-REMEDIATION** - breaking down organo-chlorines, organo-phosphates, other chemicals and micro-plastics

They improve soil structure, health and productivity.



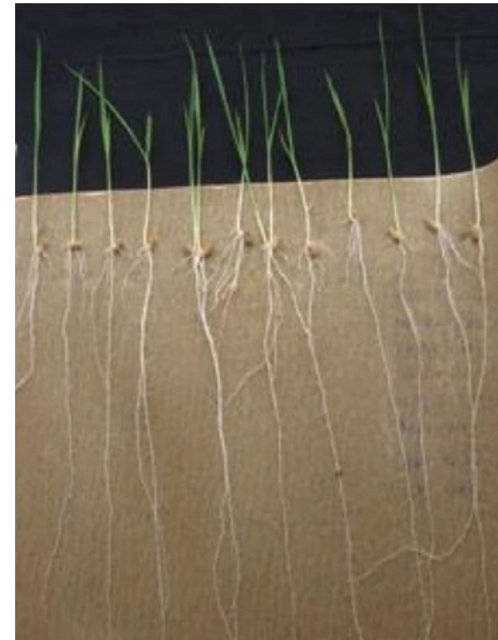
Plant Growth Promoting Rhizospheric - Microbes

Grown under identical conditions other than the addition of a PGPR bacterial strain

Hydroponically grown seedlings grown – Day 7



Impact of one PGPR strain only on seedlings – Day 7



TRIAL RESULTS

Trial results demonstrate three significant benefit groups combining to improve ROIs and reduce carbon footprints:



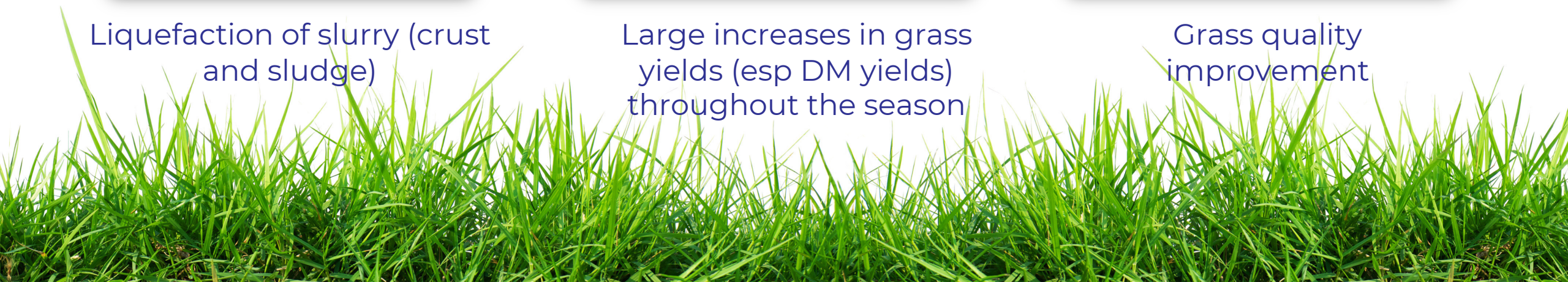
Liquefaction of slurry (crust and sludge)



Large increases in grass yields (esp DM yields) throughout the season



Grass quality improvement



Current Developments

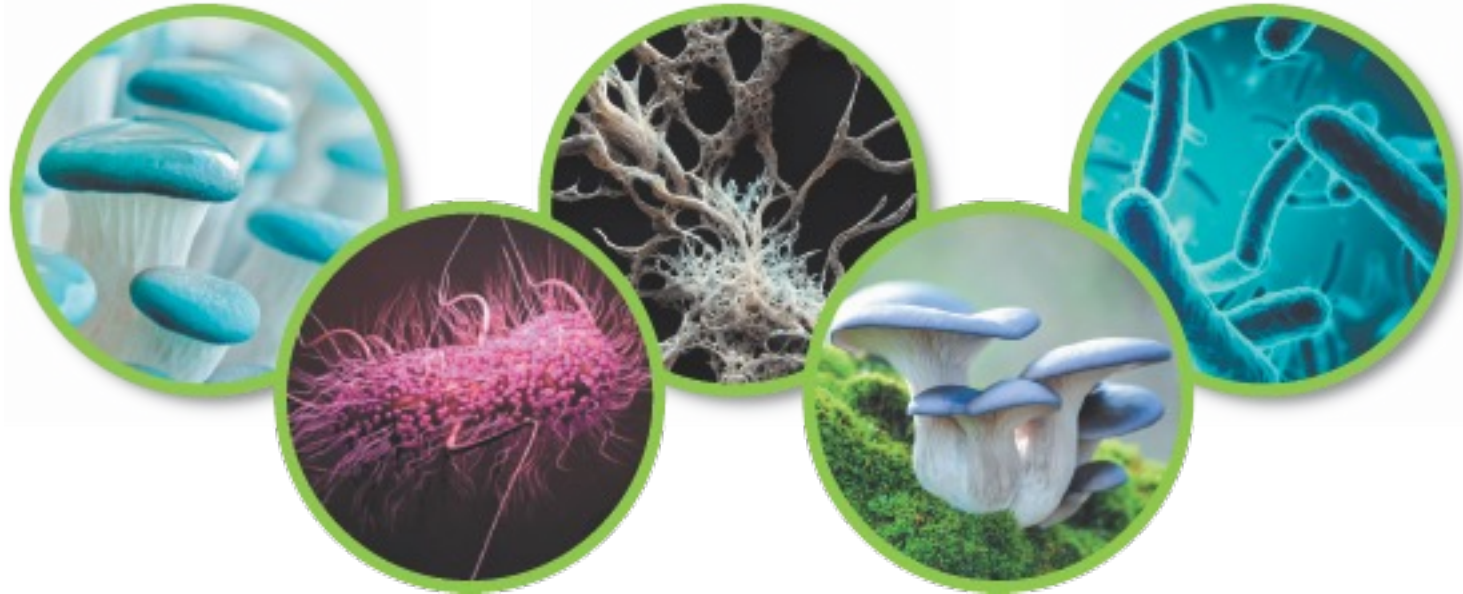
This year we've been carrying out trials using SforS as a foliar spray on crops.

- ✓ **A) Field Treatment:** Wheat crop. No fertiliser; No slurry; No fungicide.
50% of Field Treated with SforS. 50% of Field Untreated.
- ✓ **B) 4 Comparative Fields:** Slurry at 40 Tonnes/Ha + Fungicide
- ✓ **ALL FIELDS WERE CONTINUOUS WHEAT OVER AT LEAST THE LAST 8 YEARS**

Results of independent blind assessment 1 month pre-harvest (not yet harvested)

Out of all samples tested, the SforS-treated wheat scored equal 1st for visual health, ear-size and weight as well as for straw thickness and strength





THANK YOU

