

Innovations in Seed-Applied Biostimulants:

Shaping the Future of Agriculture in the Americas

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POLE POSITION

How to ensure a strong start?

A well-established crop

- Vigor
- Germination
- Seed treatment

- Spatial distribution
- Speed
- Depth
- Soil conditions
- Sowing time

- Temperature
- Water
- Oxygen
- Soil
- Pests and Diseases



What can happen:



Sowing under drought conditions



Waterlogged soils



Irregular rainfall



High temperatures

Regardless of the year, that is, the predominant climatic phenomenon, it is practically certain that the establishment of the crop will occur under adverse and/or irregular conditions such as rainfall, temperature, radiation, among others.

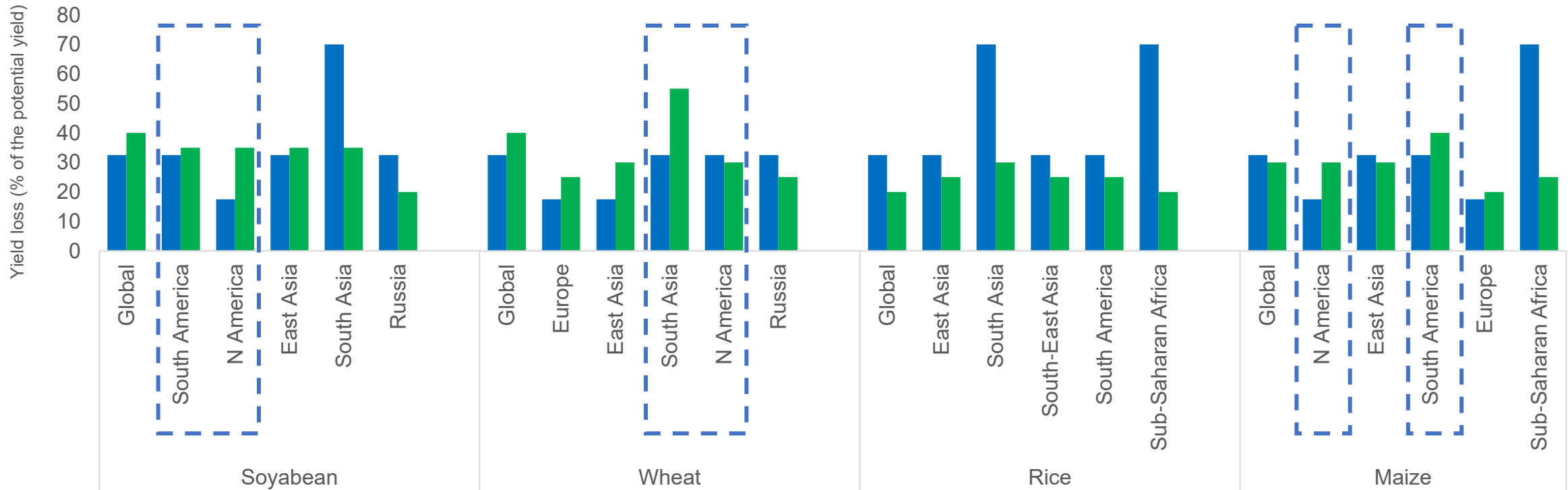
Impacts of biotic and abiotic stress on crops yield potential

% Yield loss

36%
Biotic

30%
Abiotic

■ Biotic ■ Abiotic





POTENTIAL YIELD



Crop
management



Climate



Soil



Genetics

Minimize biotic and abiotic stresses

- Stress
- Diseases
- Nutritional deficiency

Maximize physiological processes

- | | |
|------------------|-----------------|
| + Growth | + Fertilization |
| + Photosynthesis | + Grain Filling |
| + Tolerance | + Fruit Quality |

BIOSTIMULANTS – DIFFERENT CLASSES OF INNOVATIVE AND HIGH-PERFORMANCE SOLUTIONS

PLANT NUTRITION

High technology fertilizers to provide nutritional balance, activating metabolic process and potentializing natural defenses against diseases.

PLANT PHYSIOLOGY

New generation of physiological compounds to promote plant development, increase plant resistance against biotic and abiotic stress and activate metabolic processes.

BIOLOGICALS

Microorganisms that contribute to biofertilization, plant defense, stress resistance and plant development.

Seed-Applied Biostimulants – Key expected benefits



Control

Treated

Better root growth



Pt. 1



Pt. 2



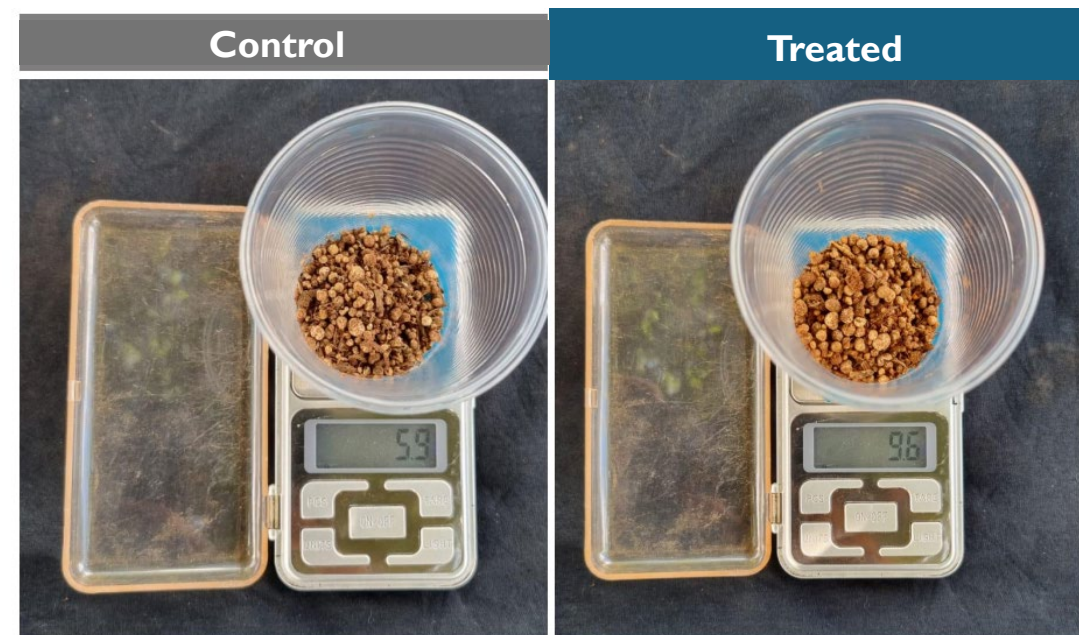
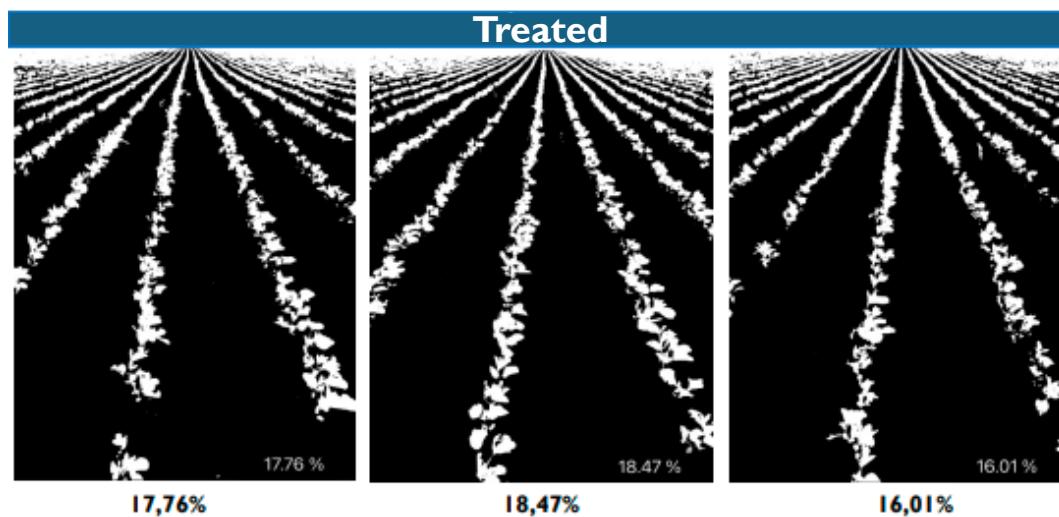
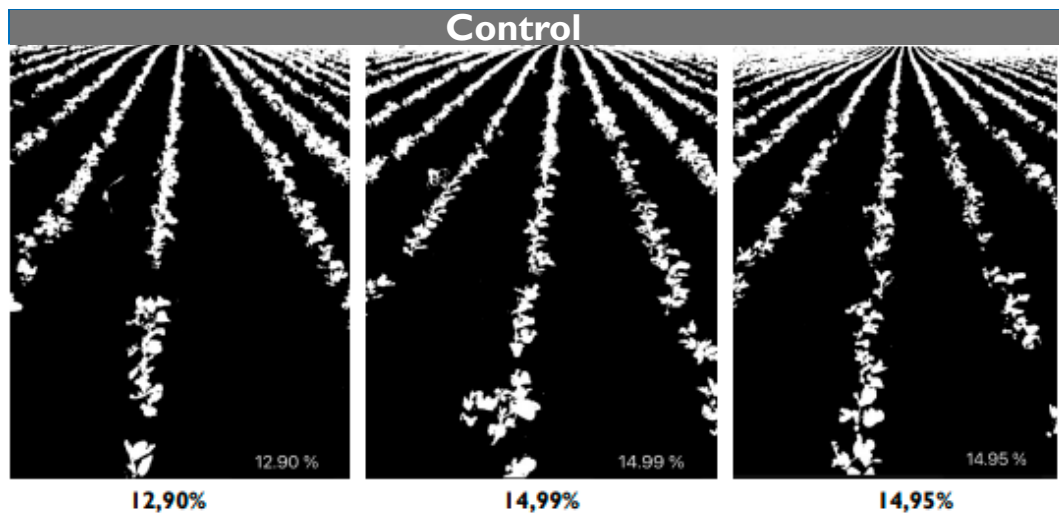
Pt. 3



Treated

Seed-Applied Biostimulants – Key expected benefits

Better crop establishment



Nodules mass
(5 plants)

5,9g

+ 3,7 g / 62,7%

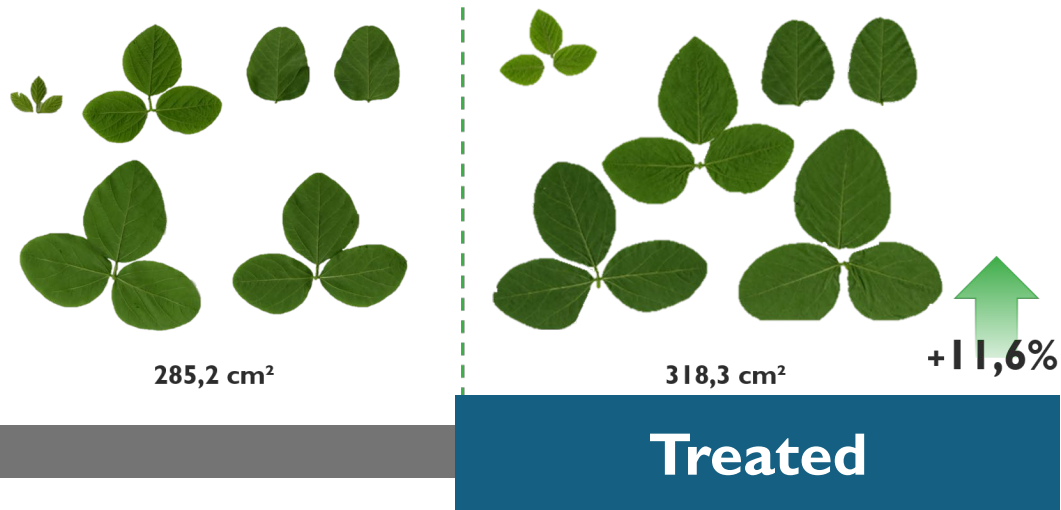
Nodules mass
(5 plants)

9,6g

Seed-Applied Biostimulants – Key expected benefits

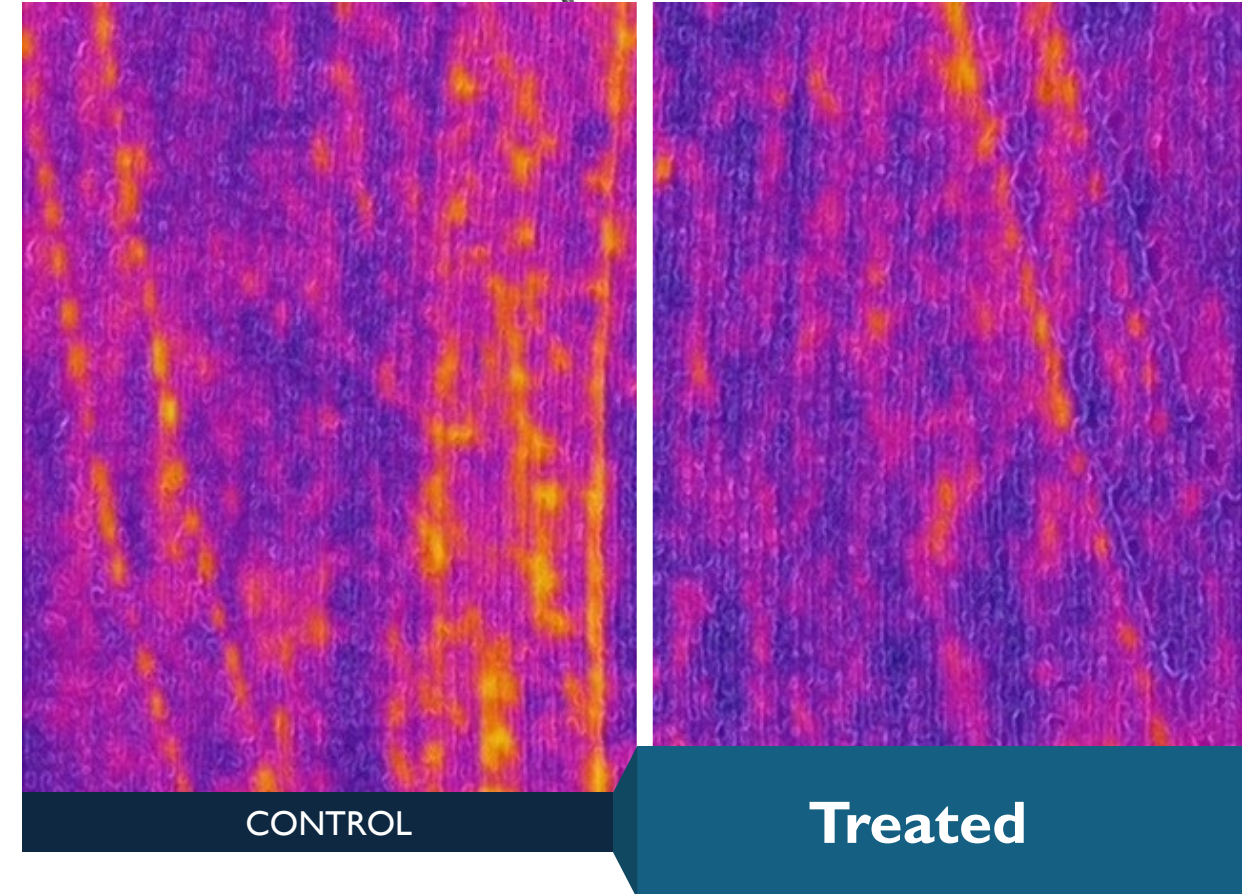


Soybean



*Avaliação em V4

Larger foliar surface



Lower foliar temperature

Seed-Applied Biostimulants – Key expected benefits



*72h water deficit

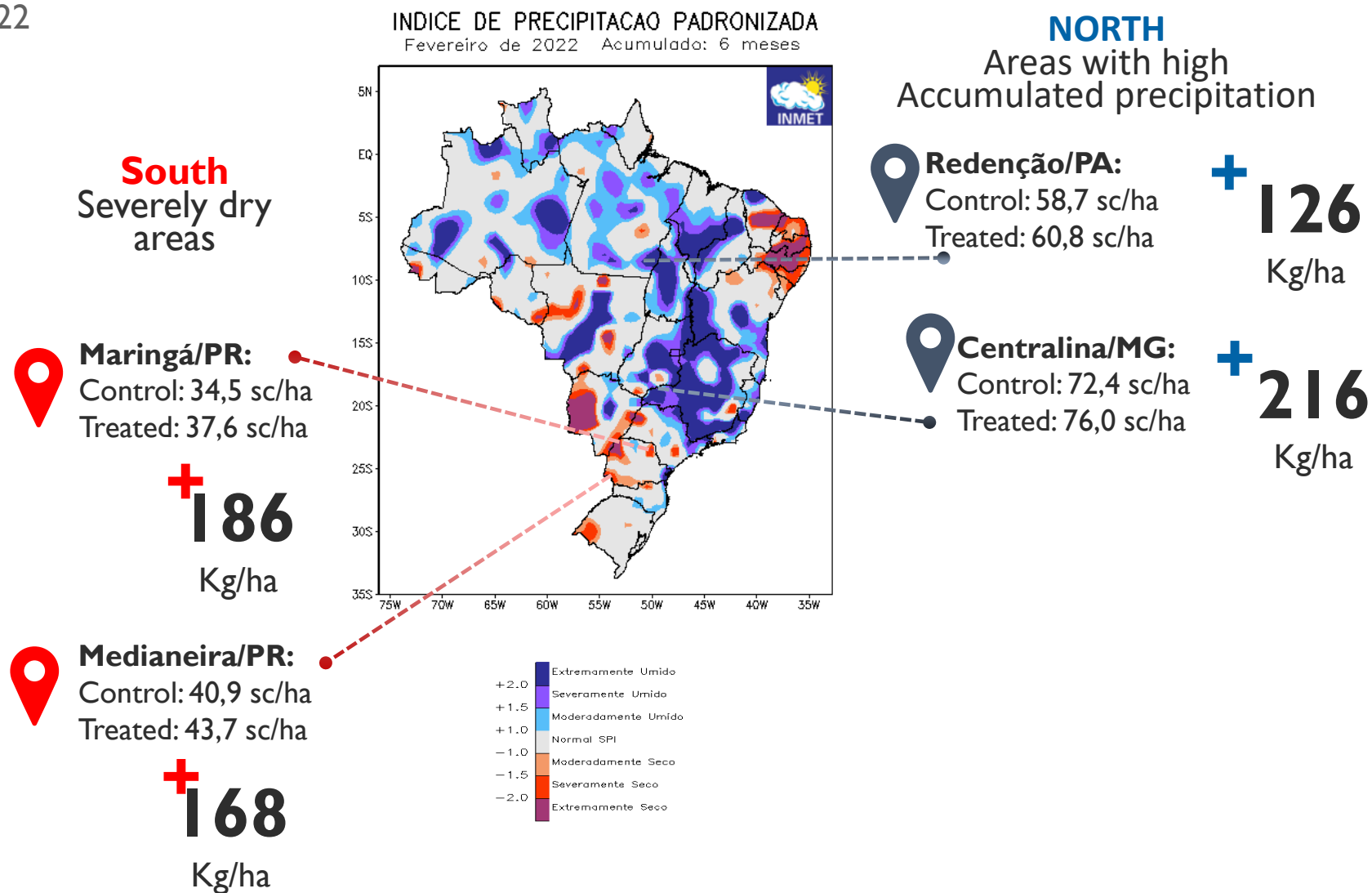
		CONTROL	Treated	
CO ₂ assimilation (μmol CO ₂ m ⁻² s ⁻¹)	Irrigated	15,39	17,73	➔ + 15%
	Water deficit	0,97	4,44	➔ + 358%
Stomatal conductance (μmol m ⁻² s ⁻¹)	Irrigated	0,472	0,651	➔ + 38%
	Water deficit	0,010	0,0146	➔ + 45%
Water usahe efficiency (A/E, μmolCO ₂ (mmol H ₂ O) ⁻¹)	Irrigated	3,52	3,66	➔ + 4%
	Water deficit	3,08	7,36	➔ + 140%

Assessment 6 days after water suspension
Water potential of plants -1.0MPa

Photosynthesis improvement and Stress Mitigation

Consistent Results - Even in different water conditions

Season 2021/2022



---Internal Use---

TAKE AWAY MESSAGES:

1. Growers are aiming to safety, stability and higher yields
2. Integrating seed-applied biostimulants as part of the competitiveness, innovation and sustainability strategy in the seed sector, generating value to all stakeholders
3. Seed-applied biostimulants are not just a product — they are an enabler of resilient, productive, and sustainable agriculture.



THANK YOU!



Promoting the Seed Business
in the Americas

