

Germain's Seed Technology

Your seed technology partner providing new innovative seed technology solutions to the challenges of modern Horticulture production.

Dr. Patrick Butterbach

The logo for Spinach go seed features the word "Spinach" in a dark grey sans-serif font above the word "go seed" in a bold, dark grey sans-serif font. To the right of "go seed" is a stylized orange leaf with a white plus sign inside. To the right of the logo is the tagline "Minimise stress, maximise performance." in a dark grey sans-serif font.

Spinach
go seed® Minimise stress,
maximise performance.



Agenda

- Challenges the industry is facing
- Challenges the seed breeders and growers are facing
- Spinach goseed ®, developed to reduce crop losses from abiotic stress
- Protect your investment with Spinach goseed ®



Challenges the industry is facing

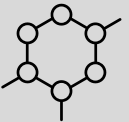


The changes in the European Seed and Horticulture Market present huge challenges, Germain's is tackling these head-on with innovative new seed technology solutions.

EU HORT. INDUSTRY CHALLENGES



New tougher legislation



Removal of harmful agrochemicals



Environment is top EU priority



Weather becoming more volatile



EU summers getting hotter 35-40 °C
(global warming)

GERMAINS RESPONSE



Deliver more advanced seed technology



Optimize use of novel biostimulants



More focus on plant health, nutrients and soil



Delivering abiotic stress tolerance at 35 °C +



More advanced priming and disinfection



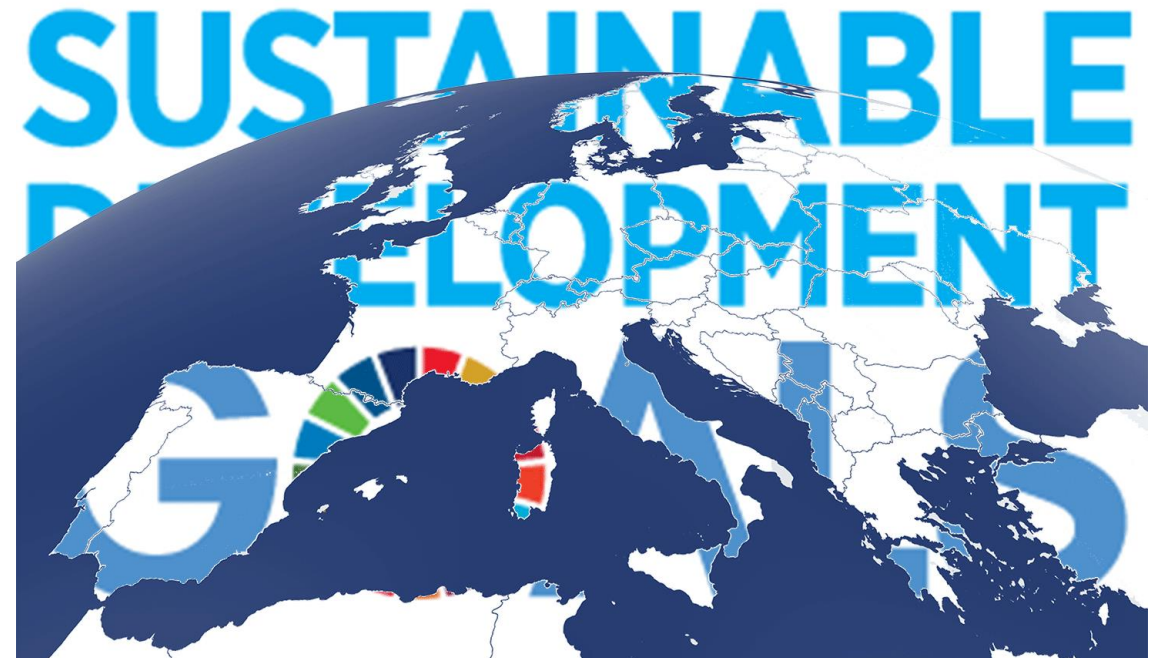
- ✓ 100% chemical pesticide free
- ✓ Provides multi-stress tolerance
- ✓ Precision formulated nutrients
- ✓ Biostimulants
- ✓ Boosts plant health in early growth stage
- ✓ Reduced crop losses from abiotic stress
- ✓ Improves yield vs untreated seed
- ✓ Microplastic Free from 1.10.23
- ✓ NMI approved

New legislation is changing the face of European Horticulture creating huge challenges for seed producers and growers.

The EU Commission, UN & FAO are all focused on reducing the negative impacts of food production on the environment and have put in place several legal directives to drive change.

Directives affecting the European Seed Industry :

- 50% reduction in harmful chemical pesticides by 2030.
- 25% of farm-land under Organic farming by 2030.
- 100% removal of microplastics by 2027.
- 20% Reduction of Fertilizer use by 2030.
- 55% reduction of Greenhouse Gas Emissions by 2030.
- EU soil strategy directives.
- Tightening of phytosanitary restrictions.
- reverse the decline of pollinators.

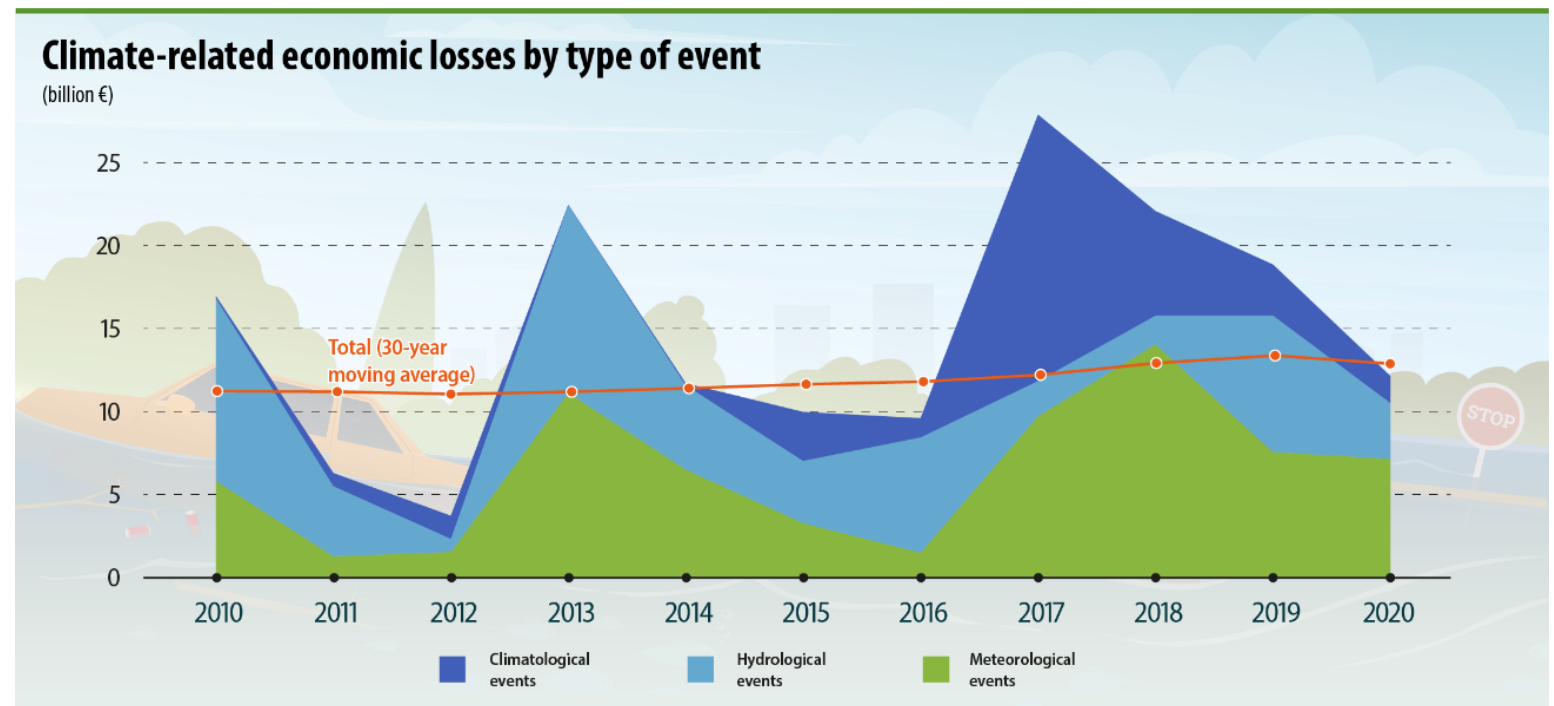


The industry is also facing unprecedented environmental challenges as a result of global warming and increased weather volatility.

Heat waves, floods and storms, have caused over €145 billion in economic losses in the EU over the past decade.

(Eurostat Study 2022)

Eurostat 2022 report shows impact of climatological events (heatwaves, cold waves, droughts & forest fires) and hydrological events (floods) on EU economy from 2010-2020.



ec.europa.eu/eurostat

One week in May 2023: News articles around increased weather conditions in Europe

A Record-Challenging Heatwave heads for Spain late this week. Extreme April Temperatures close to +40 °C possible

By Marko Korosec
Published: 25/04/2023
Global weather

According to the recent weather forecast for Spain and Portugal, temperatures will widely push into the mid to upper 30s, possibly very close to +40 °C (104 °F) in southern Spain at the end of April. And around 35 °C in southern Portugal. The first intense heatwave of 2023 will challenge the time heat records for both countries.

For many European places, April has been more dynamic and cooler than March, but Spain has been something else, literally the opposite. So after a very warm March and April, most of the Iberian peninsula is also very dry.

With the driest March in twenty years, drought conditions are already strengthening, and wildfires have also been reported. Pretty early in spring, which may hint summer will be extreme.

Extreme April heat in Spain, Portugal, Morocco & Algeria almost impossible without climate change

05 May, 2023

HEATWAVE
AFRICA, EUROPE

A large area of South Western Europe and Northern Africa experienced extremely high temperatures usually only seen in July and August, at the end of April 2023.

During the last week of April 2023 local temperatures in many regions in Spain, Portugal, Morocco and Algeria were up to 20 degrees higher than normally at this time of year. For Portugal and mainland Spain the national April record was broken by a very large margin, with 36.9°C and 38.8°C respectively measured in the southernmost parts of the countries. In Morocco, several (local) April records have been broken across the country and temperatures exceeded 41°C in some cities such as Sidi-Slimane, Marrakech, Taroudant. Temperatures exceeded 40°C in Algeria on 28 April (Maghnia, Mascara-Ghriss at least).

These record-shattering temperatures came on top of a historical multi-year drought in those regions, exacerbating the impacts of the heat on agriculture which is already threatened by an increasing water scarcity resulting from the

Floods cause serious disruption for Italian producers

By Silvia Scattolon 10 May 2023

Major floods across much of Emilia Romagna have reportedly caused widespread disruption to the Italian region's fruit and veg production and distribution networks.

Devastating floods in Italy's Emilia Romagna region that killed nine people, displaced thousands, and left thousands more without electricity over the past couple of days have cast a major shadow over the area's fruit and vegetable production.

The resulting widespread disruption for fresh produce companies and their employees in what is one of Europe's leading sources of fruit and vegetables threatens to plunge the sector into crisis and lead to "incalculable" damage, said national farmers' union Coldiretti.

Thousands of production sites across the region, including thousands of hectares of land planted with kiwifruit, plums, pears, apples, and vegetables, have been submerged by devastating floods which struck over the past couple of days.

According to Coldiretti, the fresh produce sector has been hit hardest. "The slow outflow of water left in the orchards suffocates the roots of the trees until they rot, and there is a risk that entire

- MOST POPULAR**
- Coca-Cola enters fresh fruit category with Frustra deal
 - Frustration grows over citrus situation
 - Assemblea stampa EU's proposed ban on packaging
 - South African lemons head to markets outside Europe
 - South African citrus provides strategic options

Challenges the seed breeders and growers are facing





European seed breeders and growers face complex challenges –
producing **more from less**,
achieving even greater yields, with **less chemicals**,
tighter legislation, and ever **more volatile growing conditions**.



We Maximise Nature's Potential®

Horticulture crop losses from Abiotic Stress are likely to worsen as weather conditions become more volatile and our hotter climates get even hotter.

Abiotic Stresses - particularly **drought**, **extreme temperature**, and soil salinity are **leading cause of crop losses worldwide**. As **desertification** intensifies in response to climate change, such **losses are likely to worsen**.

(Zaidi & Sing 2014)

Breeding tolerance to Abiotic Stress is the second most important goal for seed breeders after yield improvements⁽²⁾, but even more hardy varieties struggle to cope under excessive stress.

Abiotic stresses, such as low or high temperature, deficient or excessive water, high salinity, and ultraviolet radiation, are hostile to plant growth and development ⁽¹⁾

Abiotic Stresses

Cold



Heat



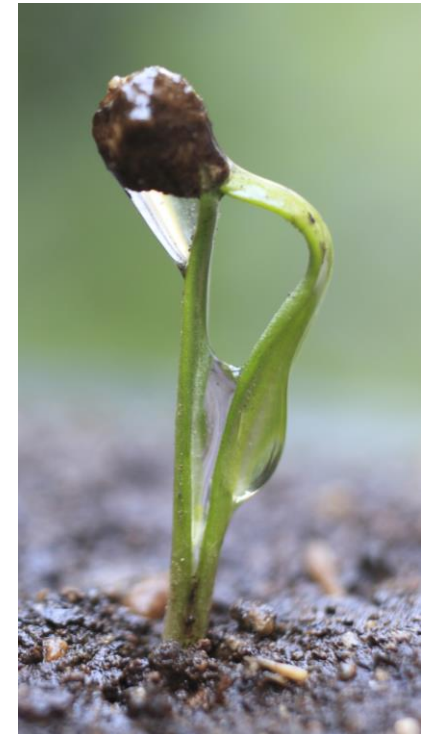
Flooding



Drought



Salinity



(1) Source: Frontiers in Plant Science, article on plant Abiotic Stress <https://www.frontiersin.org/articles/10.3389/fpls.2018.01771/full>

(2) Source: WBA access to seed report

Germain's is tackling these challenges head on with industry leading innovation

Changes affecting the seed industry	Germain's new solutions
➤ 50% reduction in harmful chemical pesticides by 2030	✓ Leveraging advanced priming, seed hygiene, plant health and the use of Biostimulants to deliver 100% chemical pesticide free seed treatments .
➤ 25% of farm-land under Organic farming by 2030	✓ Continued development of Organic certified solutions .
➤ 100% removal of microplastics by 2027	✓ 60% of all Germain's coatings are already microplastic free with the remainder being removed over the next 24 months*.
➤ 20% reduction of Fertilizer use by 2030	✓ Focusing on utilising precision formulated targeted nutrients to boost plant health during emergence and early growth stage.
➤ 55% reduction of GHG emissions by 2030	✓ Utilising novel biostimulants to tackle challenges.
➤ EU soil strategy directives	✓ Formulating seed treatments to complement the nutrients found in soil , using only what the plant needs, exactly where it needs it.
➤ Tightening of phytosanitary restrictions	✓ Focusing on seed Hygiene (Disinfection) to meet increasingly stringent legislation around the movement of seeds.
➤ reverse the decline of pollinators	✓ Helping to support a healthy farming ecosystem through using biostimulants and nutrients that are chemical pesticide free.
➤ Increased weather volatility will lead to greater losses from abiotic stress	✓ Focus on delivering multi-stress tolerance for plants to help them better cope in all the varying conditions of abiotic stress.



* Assuming legislation around the definition of MPF is in line with expectations

Spinach goseed®[®], developed to reduce crop losses from abiotic stress





Spinach goseed® is a new break-through innovation in seed technology by Germain's.

Specifically developed to reduce crop losses from abiotic stress, Spinach goseed® delivers **100% chemical pesticide free, multi-stress tolerance** for plants through providing exactly the right quantity of tailored nutrients along with carefully selected biostimulants to minimize stress and maximize performance.



We Maximise Nature's Potential

The Germain's goseed range is designed to minimise young plant stress through delivering early plant nutrition to support plant emergence, root development & vigor

Minimize stress, maximize performance.

The early stages of any living organism are vital to future growth and development. Germain's has developed a technology that focuses on early plant nutrition, even before the plant emerges, ensuring its success in variable growing conditions. **Goseed** maximizes the potential nutrient uptake of the seedling, offering many benefits to both the plant and the grower.

Key benefits



Promotes plant emergence &
root development



Enhances plant vigor to
minimize impact of abiotic
stress



Contains micronutrients for
improved early crop growth



Maximizes crop performance
to increase yield





How it works:



biostimulants and precision formulated micronutrients enhance plant health providing multi-stress tolerance.



Unique technology promotes plant emergence & supports plant stand in the critical early stages of growth.

Key benefits:



Reduced crop losses from abiotic stress.



Maximise crop performance to increase yield

Product assurance:



100% chemical pesticide free



Microplastic Free from 1.10.23



We Maximise Nature's Potential

Germain's set out to test the performance of Spinach goseed® in a variety of abiotic stress conditions.

Stress Trials - Overview

Cold & Moisture Stress Trials

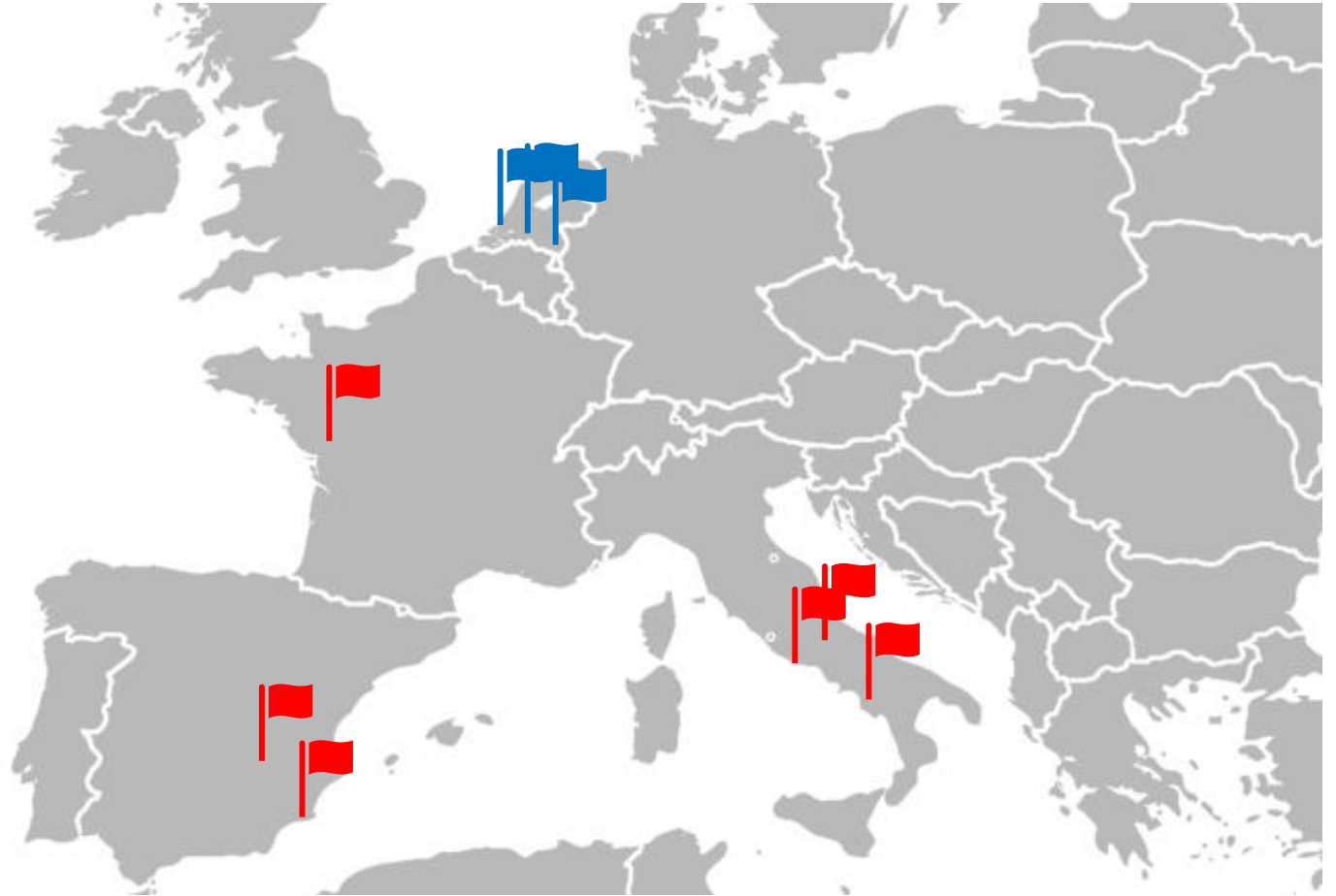


- Breda, Netherlands – Outdoor Field
- Herpen, Netherlands - Outdoor Field
- Venhuizen, Netherlands – Outdoor Field

Heat Stress Trials



- Battipaglia, Italy – Indoor Field
- Fiumicino, Italy – Indoor Field
- Avezzano, Italy – Outdoor Field
- Nantes, France – Outdoor Field
- Albacete, Spain – Outdoor Field
- Cartagena, Spain – Outdoor Field





Performance of Spinach goseed® in cooler conditions with high moisture:

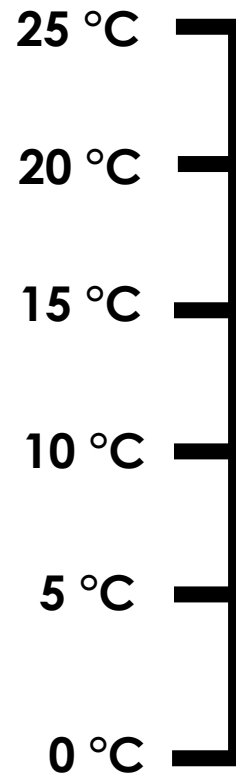
In the event of extreme flooding, little can be done to prevent crop losses, but Germains wanted to measure the commercial benefits of using Spinach goseed® in colder, wetter conditions.



What we know about the effects of moisture & cooler temperatures on spinach production.

Spinach is more typically a **cool-season vegetable** and grows well in temperatures up to 25 °C* ([Anderson, 2014](#)).

Spinach seeds will **germinate well in soil temperatures from 5 °C** ([Atherton and Farooque, 1983](#))



Spinach germination is **highly sensitive to moisture** ([Magnee 2022](#)).

Under water stress, spinach cell growth is adversely affected, water balance between tissues is disturbed, and stomatal opening becomes smaller. The adverse effect on cell growth causes leaves to shrink in plants, thereby reducing the products of photosynthesis. Excessive water stress can cause inhibition of photosynthesis, loss of turgor pressure, and cell death ([Necibe 2022](#))

Spinach has a shallow root system and is not very good at absorbing moisture that isn't close to the soil's surface. If the soil becomes waterlogged, the plants will become susceptible to a wide range of issues.

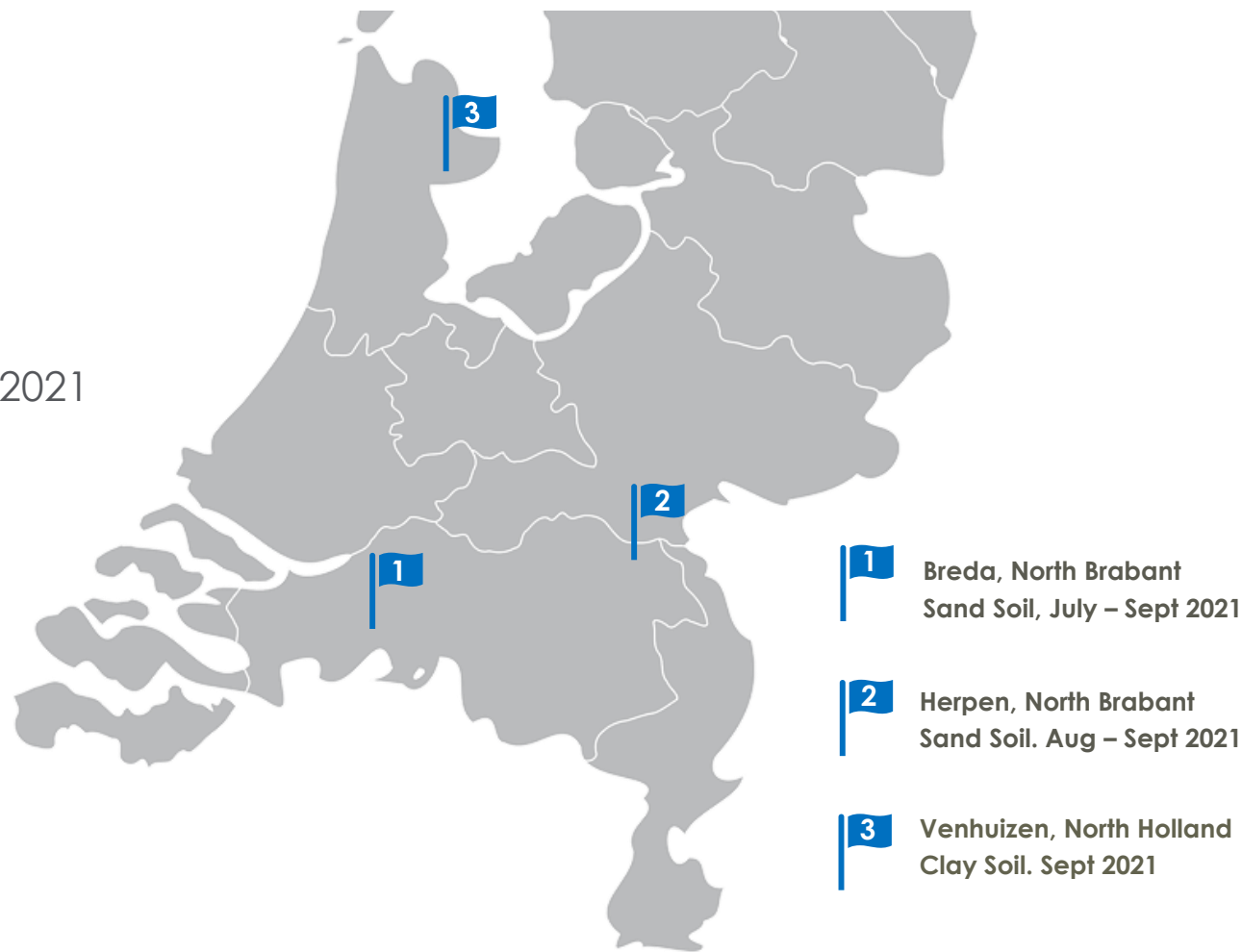


*All temperature measures are air temperature except for where it specifically mentions soil temperature

The Germans R&D teams set out to test the efficacy of Spinach goseed® in conditions of cold & moisture stress.

Moisture & Cold Stress - trial overview

- Our Netherlands trials were conducted at optimal temperature ranges for growing spinach c. 15-18 degrees.
- Trials were planted weekly from July – September 2021
- We experienced a broad moisture range - from normal, to exceptionally heavy rainfall.
- Nine different spinach varieties were tested.
- 24 reps planted at three different locations.



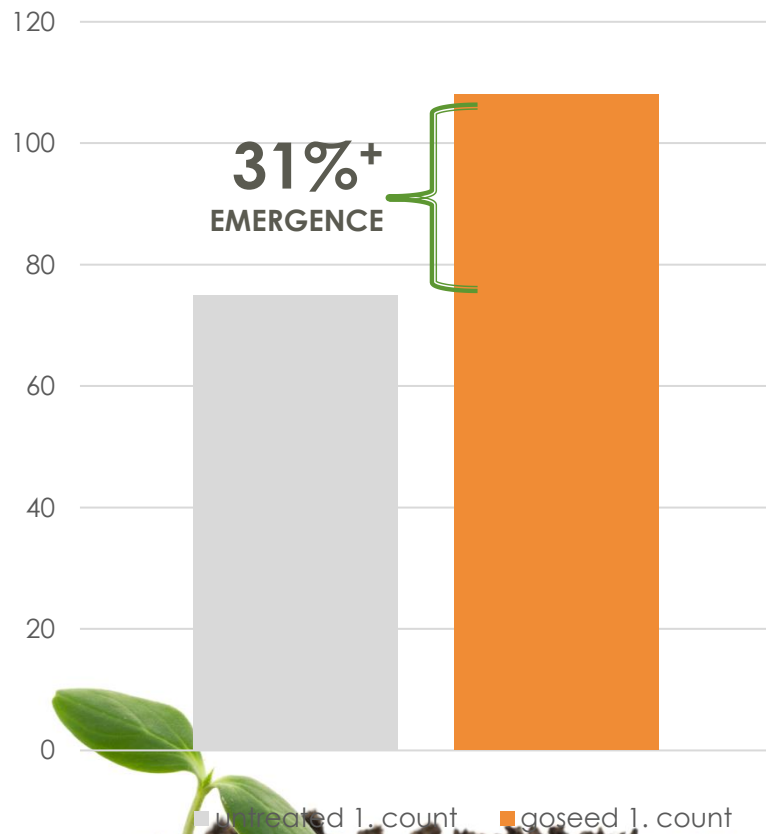


In conditions of moisture stress, Spinach goseed® was shown to improve emergence and plant stand by c.30% leading to improved final yields*

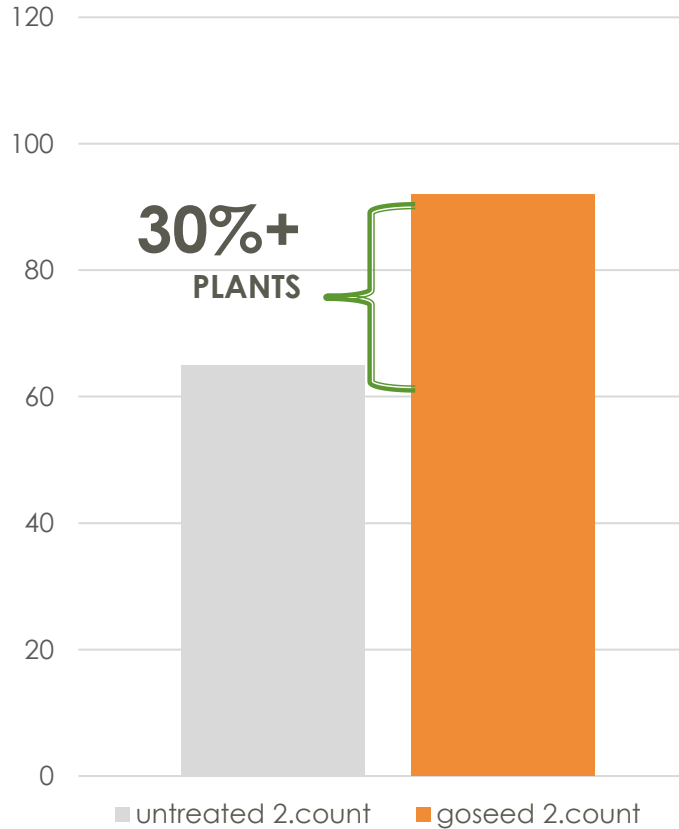


Average improvements across all moisture stress trials

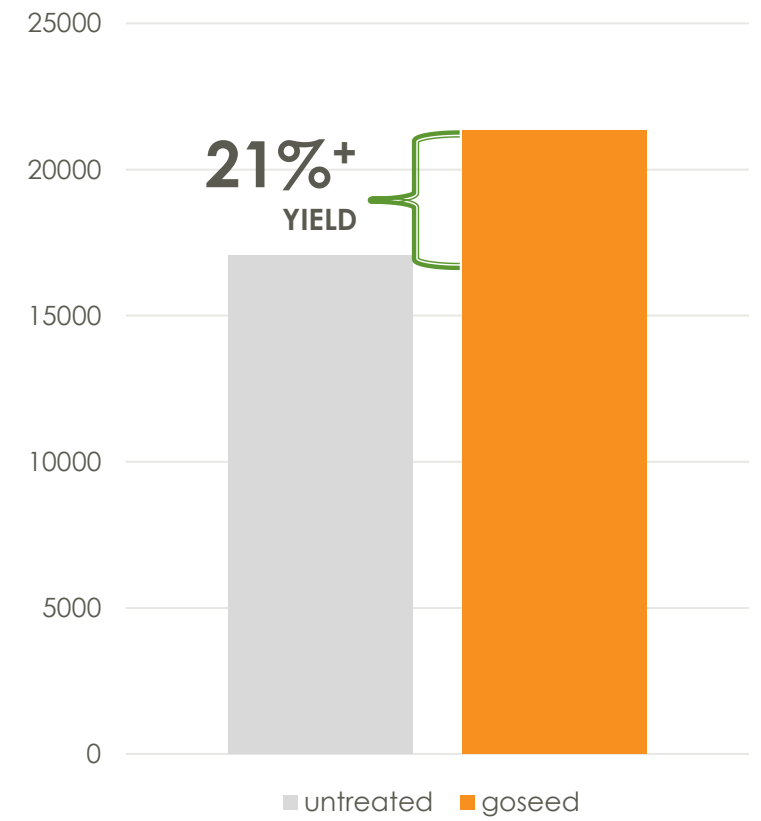
Average Emergence
9 Varieties, 24 trials



Average Plant Stand
9 Varieties, 24 trials



Average Yield
9 Varieties, 24 trials



* Estimates based on average improvements across all field results conducted in moderate to extreme wet weather conditions.

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Spinach grower revenue calculation: Example for wet weather conditions in the Netherlands during typical growing season.



Based on the following *variables **the additional revenue** with Spinach goseed® has been calculated

Price RAW seed cost	: €160 per bag
Sowing density	: 6,000,000 seed/ha
Typical crop planting area	: 1 ha
Average yield per ha	: 15 ton/ha
Price fresh spinach	: €1.50 euro/kg

**The average yield improvement when using Spinach goseed®
in wet weather conditions is 21%**

This equates to an additional revenue of €4,725 per Ha

**The variables used in the above calculation are based on known averages and can be adjusted in the ROI calculator tool to accommodate your specific situation. The % yield improvement in wet conditions is an average of all the wet trials conducted in the Netherlands in the spring and autumn.*



The Herpen trials had normal rainfall until wk. 4 when heavy rain led to significant losses on untreated varieties vs Spinach goseed®

* Wk. 3 Sept - Sharp drop in temperatures combined with heavy rain led to significant losses on untreated seeds.

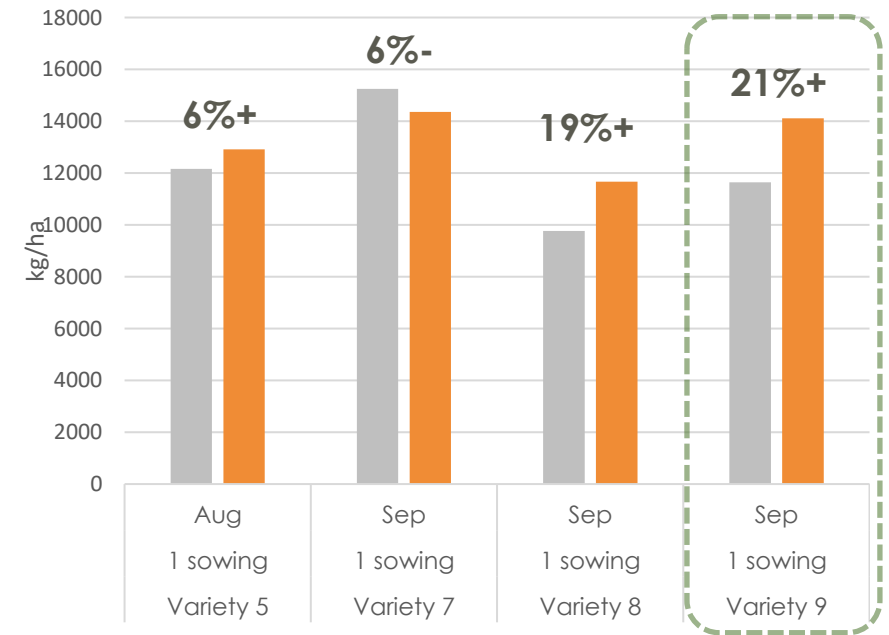
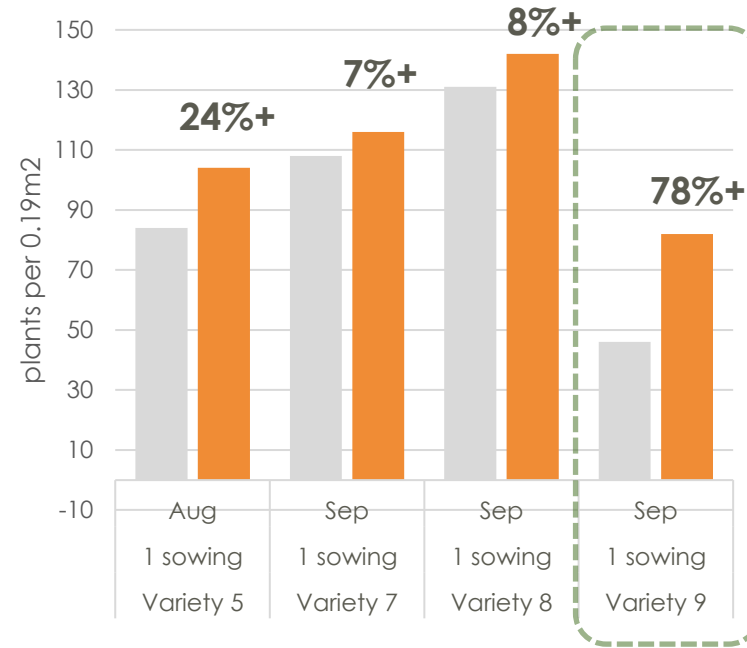
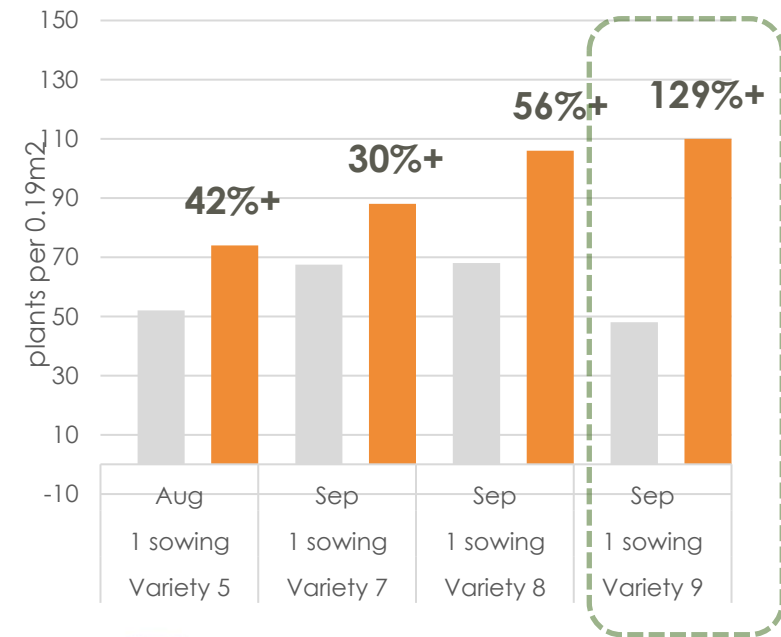


Herpen Moisture Stress Trials - Field Results Summary

Emergence 1st Count
7-11 DAS

Plant Stand 2nd Count
14-21 DAS

Average Yield kg/ hectare



■ untreated 1. count

■ goseed 1. count

■ untreated 2. count

■ goseed 2. count

■ untreated

■ goseed

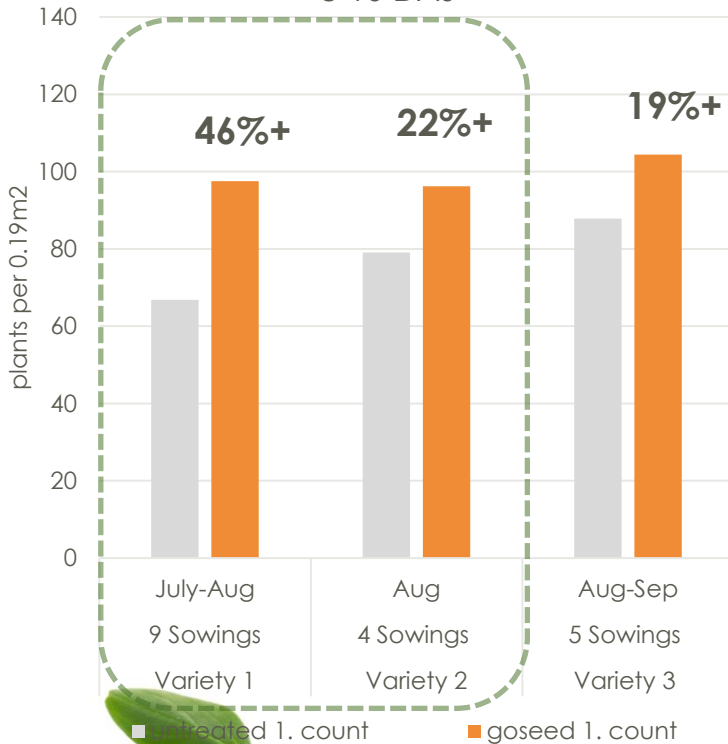
Soils - Sandy. Average Temperatures 15 – 18C



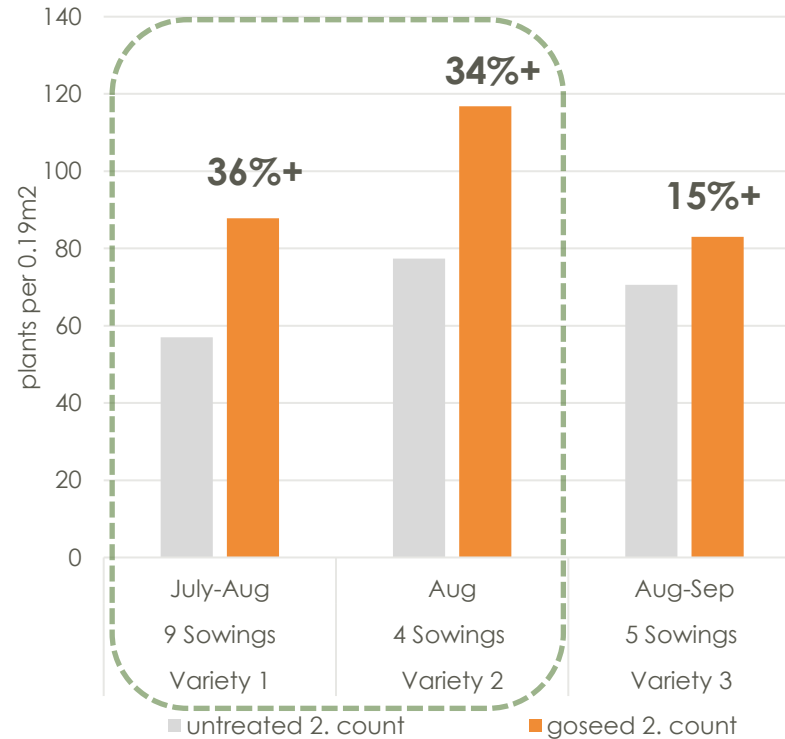
** Spinach goseed® is shown to mitigate losses in the most challenging wet weather conditions.*

Breda Moisture Stress Trials - Field Results Summary

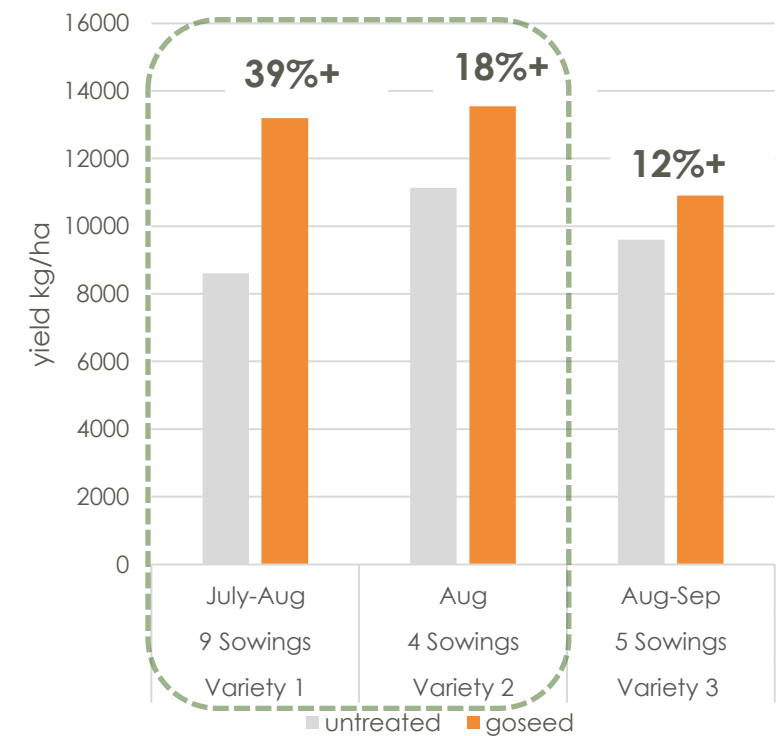
Average Emergence 1st Count
8-10 DAS



Average Plant Stand 2nd Count
14-15 DAS



Average Yield kg/ha



Soils - Sandy. Average Temperatures 15 – 18C



The Breda NL image clearly shows that the seed treated with Spinach goseed® performed significantly better than the untreated variety.

Breda, NL - Moisture Stress Trial

Results Trial 1, Variety 1 - summer variety

Sow date 09.07.21, sandy soil.

12 DAS, goseed : untreated

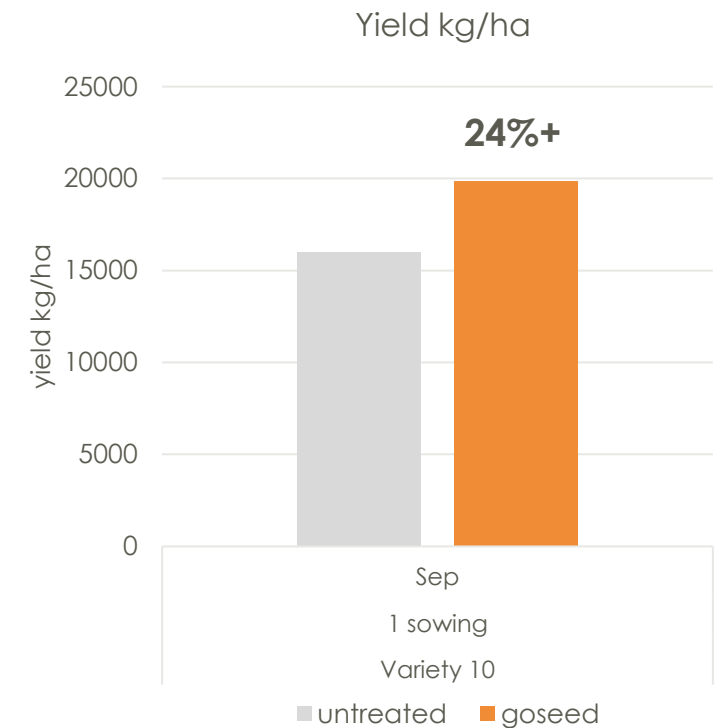
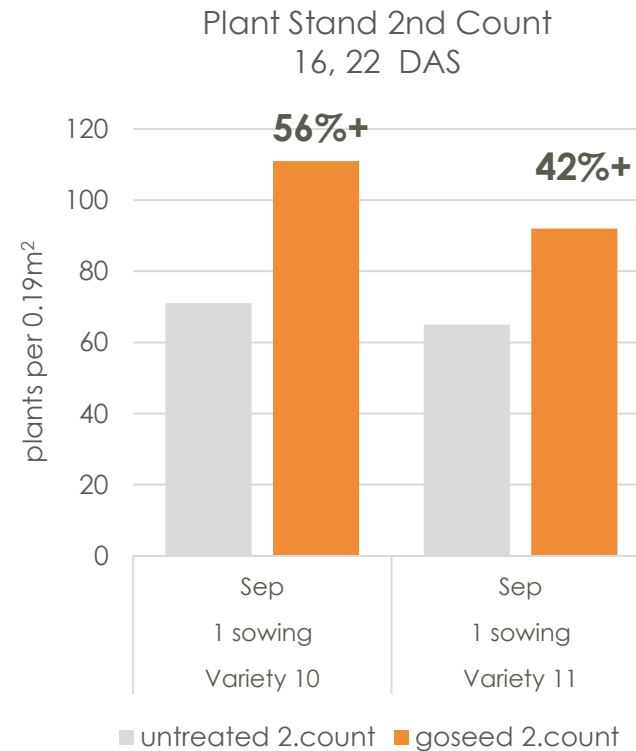
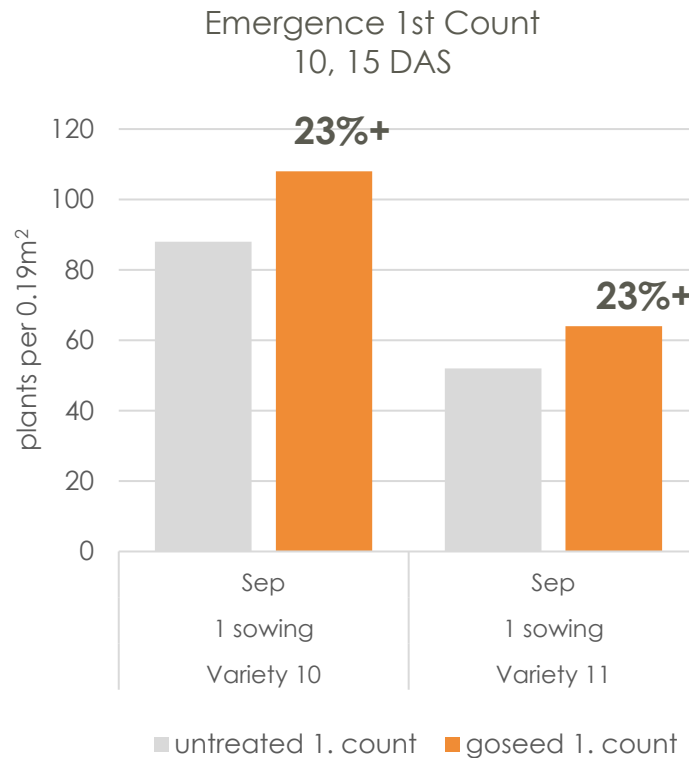
126:68 plants/0.19m²

85% more plants





Venhuizen Moisture Stress Trials - Field Results Summary



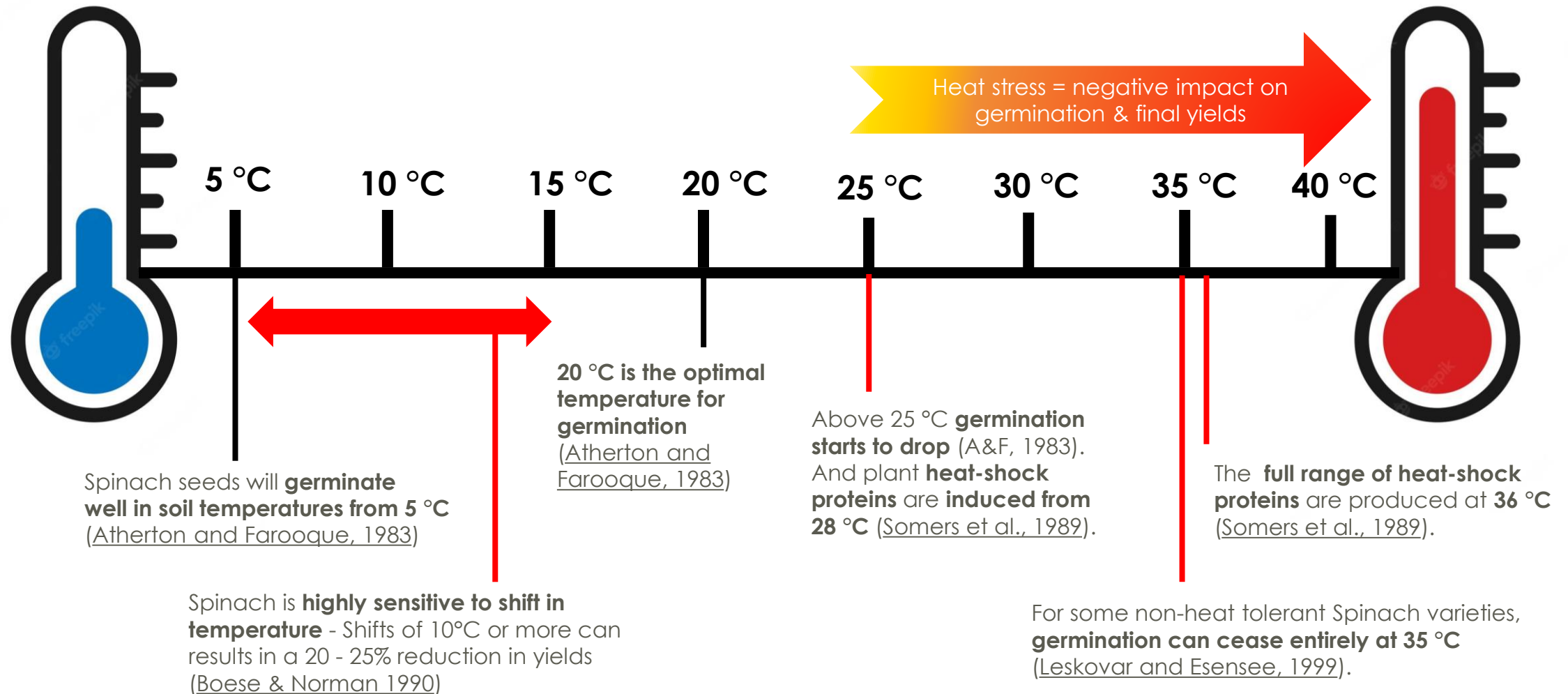
Soils - Clay. Average Temp 15.7C. Heavy rainfall 98mm in September.

Performance of Spinach goseed® in conditions of heat stress.

Turkey, France, Italy, Greece, Belgium, Spain and the Netherlands are Europe's biggest Spinach markets in terms of total tons produced.

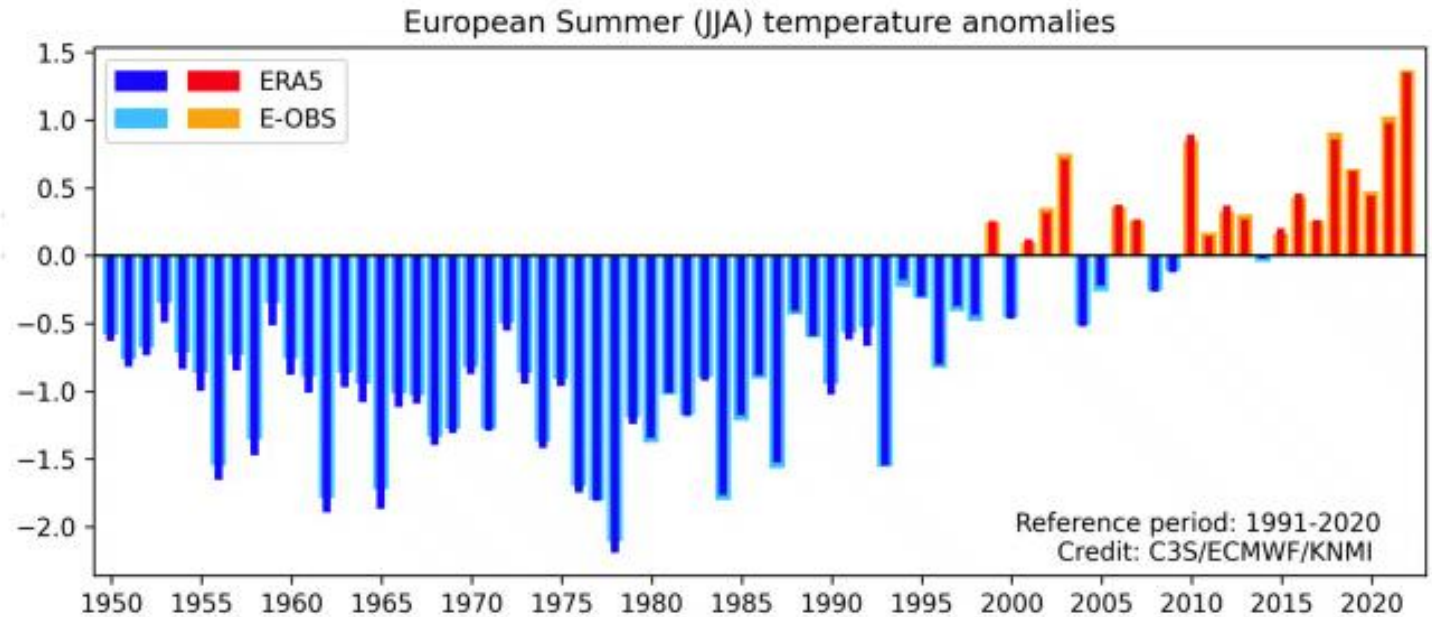
Average summer temperatures for southern Europe range from 25-35 °C making **heat stress a challenge most Spinach producers will face.**

What we know about the effects of heat stress on Spinach production



Europe is experiencing increasingly hotter summers

- 2022 was a year of high heat stress.
- New record temperatures for May June.
- Prolonged heatwave in July.
- Temperatures reached above 40 °C



Copernicus Climate Change Service
European State of the Climate | 2022



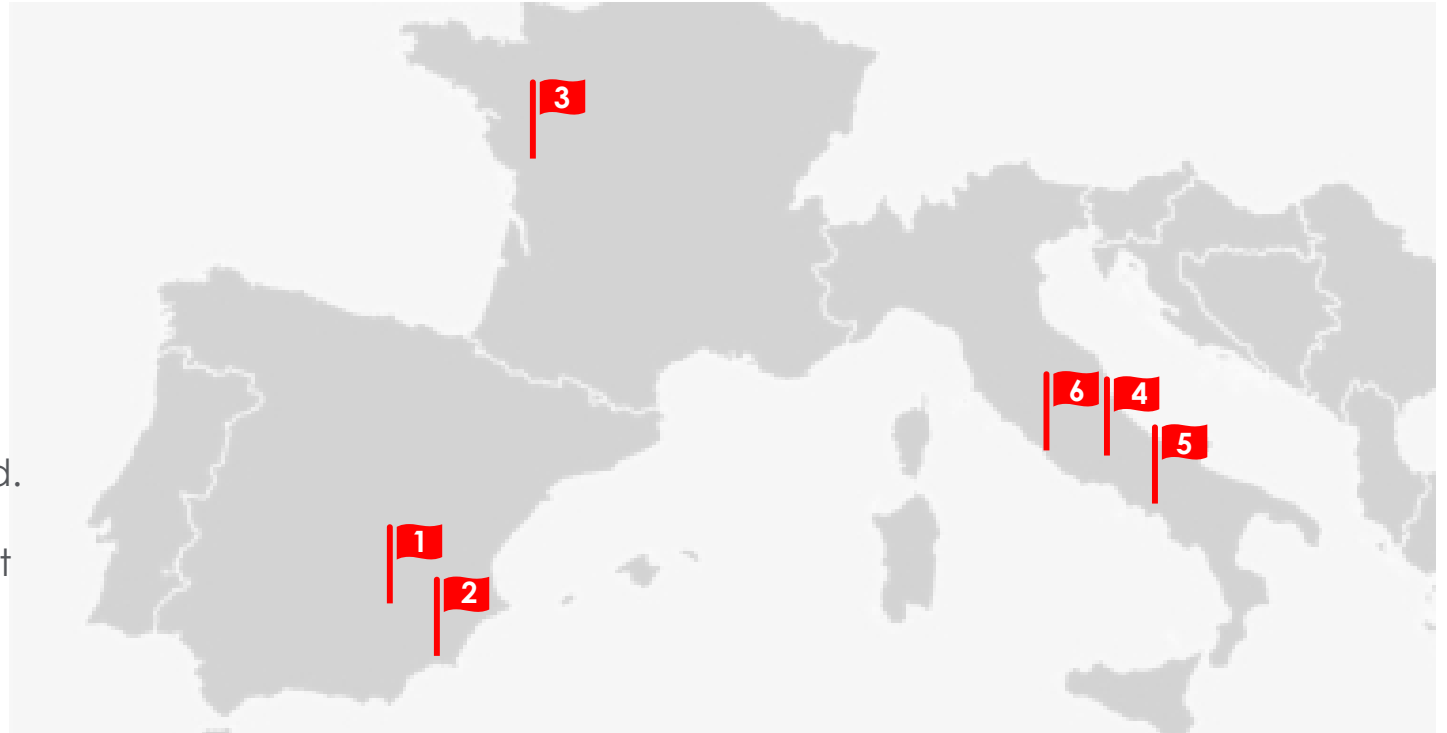
PROGRAMME OF
THE EUROPEAN UNION



During the summer of 2022 Germain's R&D teams set out to test the efficacy of Spinach goseed® in conditions of extreme heat stress.

Heat stress - trial overview

- Our heat stress trials were conducted from June to October 2022.
- 5 different sites were used across France, Spain and Italy.
- both indoor and outdoor fields were planted.
- Some crops were subjected to extreme heat stress, up as high as 38 °C!
- Two of the varieties used were heat tolerant.



1 Albacete, Spain
Sandy Soil, July – Sept 2021

3 Nantes, France
Clay Soil. Sept 2021

5 Battipaglia, Italy
Clay Soil. Sept 2021

2 Cartagena, Spain
Clay Soil, Aug – Sept 2021

4 Avezzano, Italy
Sand Soil. Aug – Sept 2021

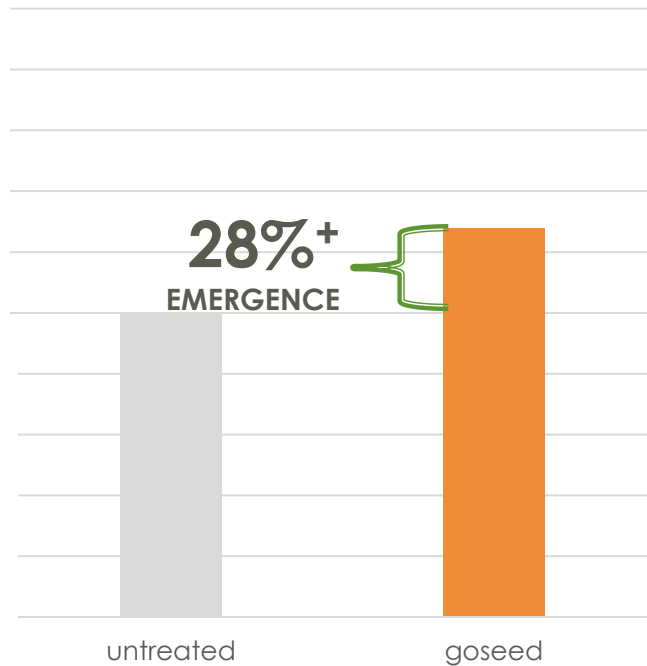
6 Fiumicino, Italy
Clay Soil. Sept 2021



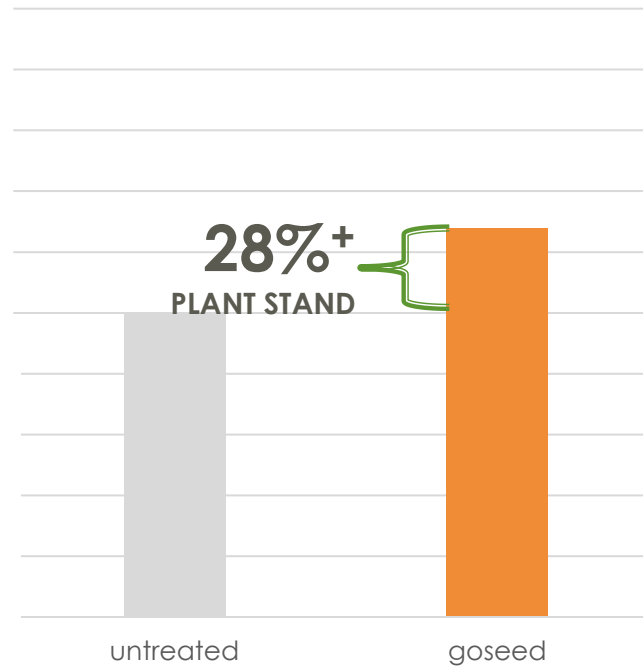
Looking at the average performance of Spinach goseed® across all trials in conditions of high heat stress, using goseed® led to 28% better emergence and 34% improvement in final yields.



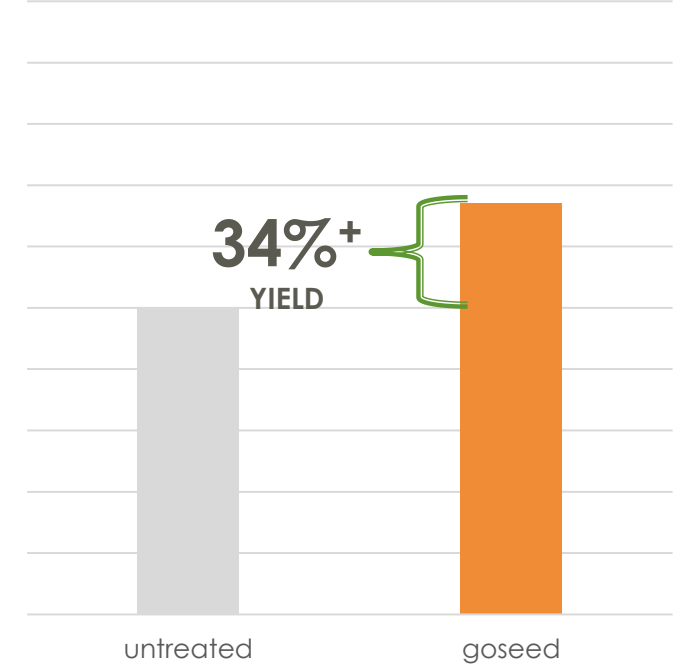
Average Emergence
13 trials



Average Plant Stand
13 trials



Average Yield
13 trials



Trials show that the multi-stress tolerance features of Spinach goseed® deliver benefits over the entire growth cycle of the spinach plant.

Spinach grower revenue calculation: Example for hot weather conditions in Spain, Italy and France during summer / autumn.



Based on the following *variables **the additional revenue** with Spinach goseed® has been calculated

Price RAW seed cost	: €160 per bag
Sowing density	: 12,000,000 seed/ha
Typical crop planting area	: 1 ha
Average yield per ha	: 30 ton/ha
Price fresh spinach	: €1.50 euro/kg

**The average yield improvement when using Spinach goseed®
in hot weather conditions is 34%**

This equates to an additional revenue of €15,300 per Ha

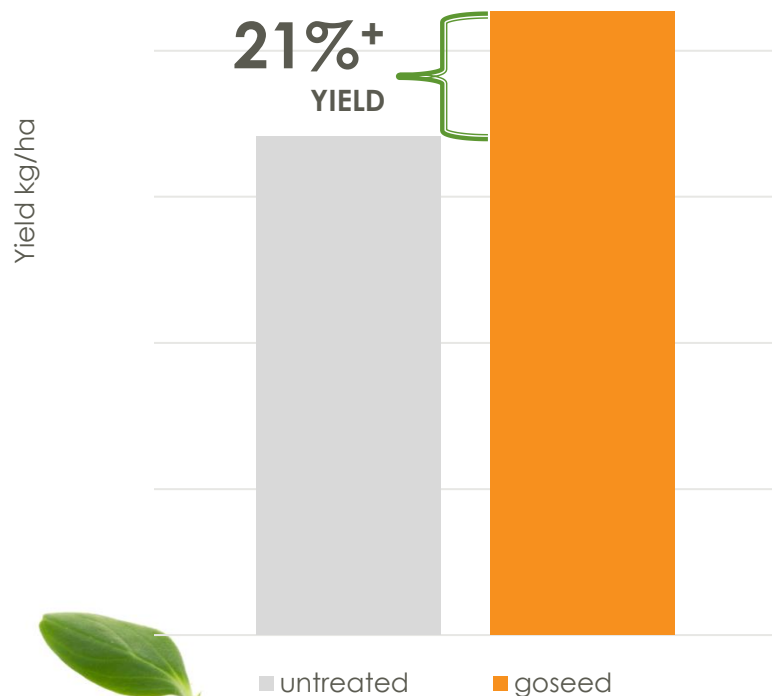
**The variables used in the above calculation are based on known averages and can be adjusted in the ROI calculator tool to accommodate your specific situation.
The % yield improvement in wet conditions is an average of all the wet trials conducted in the Netherlands in the spring and autumn.*



The benefits of using Spinach goseed® are most prominent when abiotic stress conditions are at their worst!

Moisture Stress Trials Summary

average yield from 9 varieties, 24 trials



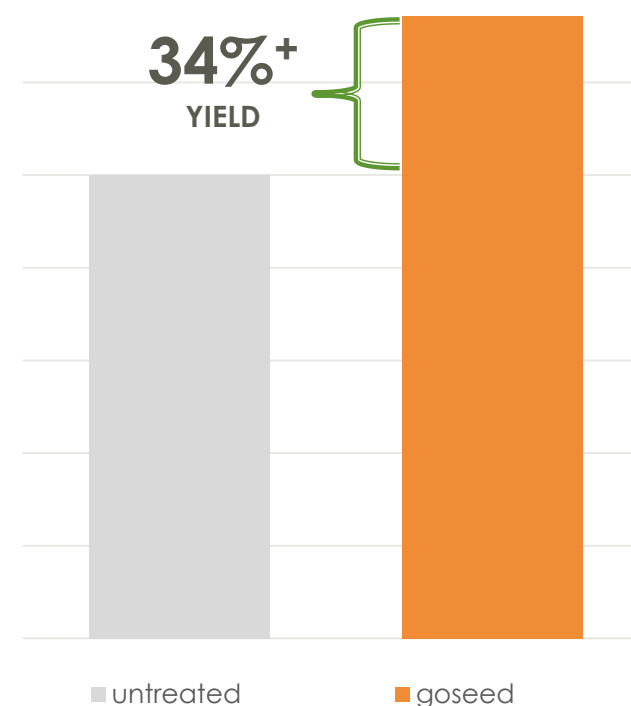
Spinach goseed® is developed to provide **multi-stress tolerance** to plants in whatever extreme conditions they face.

Spinach goseed works best when environmental challenges are at their worst.

Delivering on average 21% yield improvements in wet conditions and 34% final yield improvements in conditions of heat stress.

Heat Stress Trials Summary

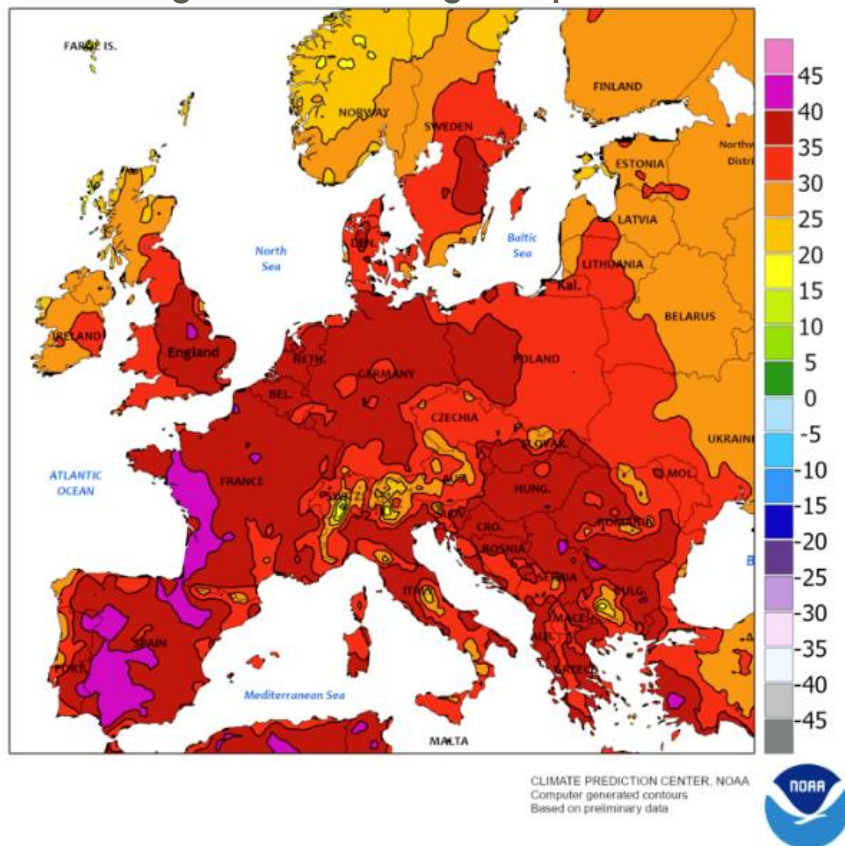
average yield from 4 varieties, 13 trials



Six of the Spinach goseed® trials were conducted when the temperatures were in excess of 35 °C, this led to the most significant differences between Spinach goseed® and untreated.

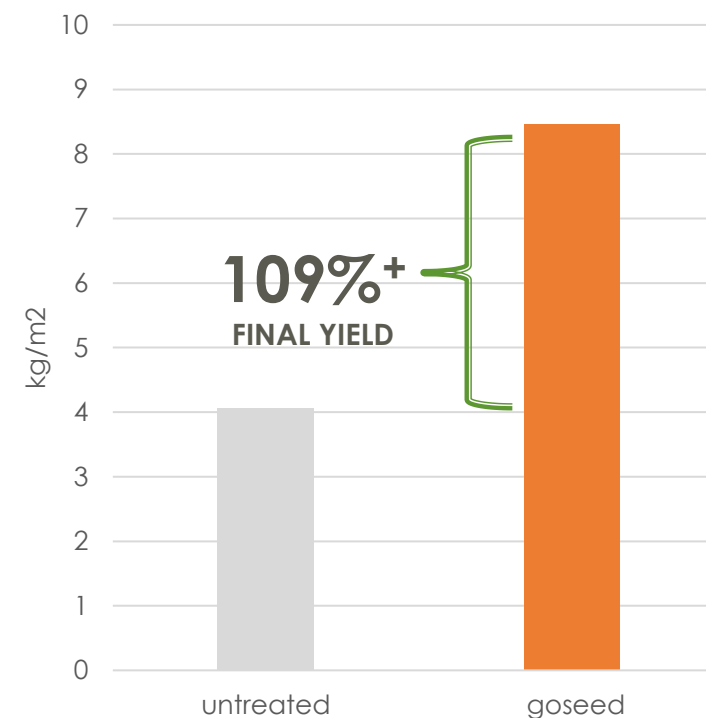


Heat Map – Europe
Showing 2022 summer high temperatures



Higher
heat
stress = Higher
performance
for Spinach
goseed®

Average yield from 6 trials (2022)



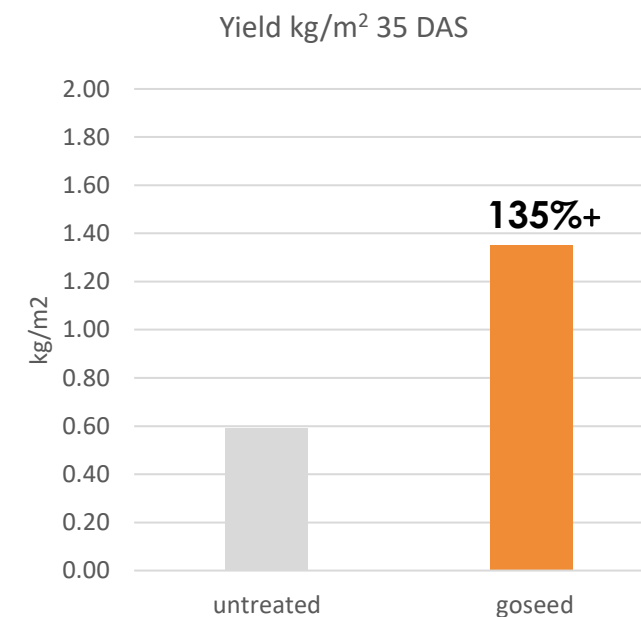
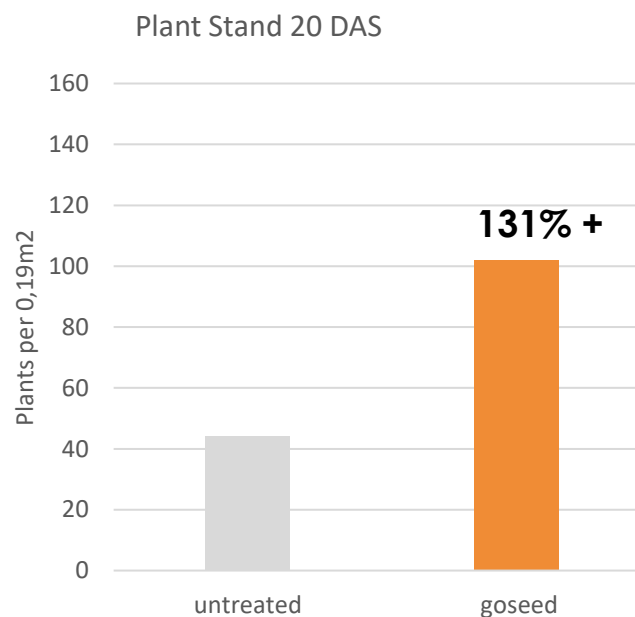
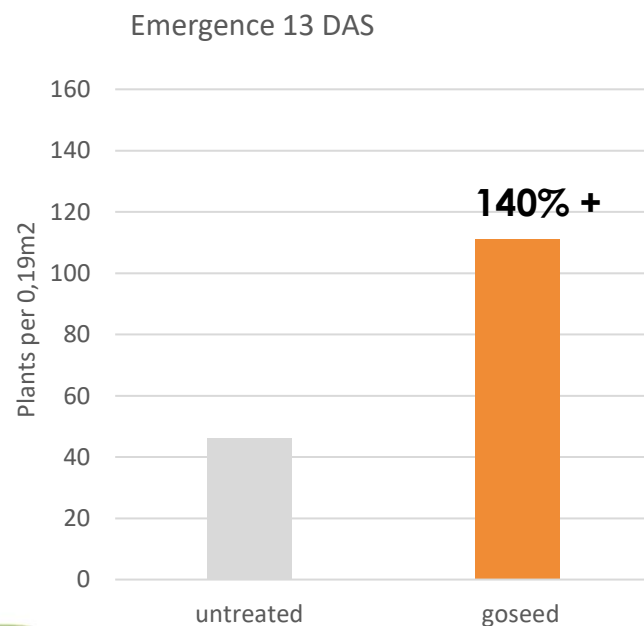
Trial sow dates : June 9, June 22, July 6, July 18,
Aug 1, Aug 8

The Albacete (Spain) crop sown in early July, experienced high heat stress (31- 38 °C) over a 5-week period, leading to significant losses on the untreated heat tolerant variety versus Spinach goseed®



Albacete, Spain Heat Stress Trial – Results Trial 1

Outdoor Field, Variety 11 – Heat tolerant variety, sow date 09.06.22, sandy soil.



The extreme heat in this trials led to significant losses during emergence. In these extremely challenging conditions, the benefits of using Spinach goseed® are marked with 140% better emergence on SGS vs untreated.

**DAS = Days After Sowing*





The Albacete (Spain) image clearly shows that the seed treated with Spinach goseed® performed significantly better than the untreated variety.

Albacete, Spain Heat Stress Trial,
Results Trial 1, Variety 11 – Heat tolerant
Sow date 09.06.22, sandy soil.

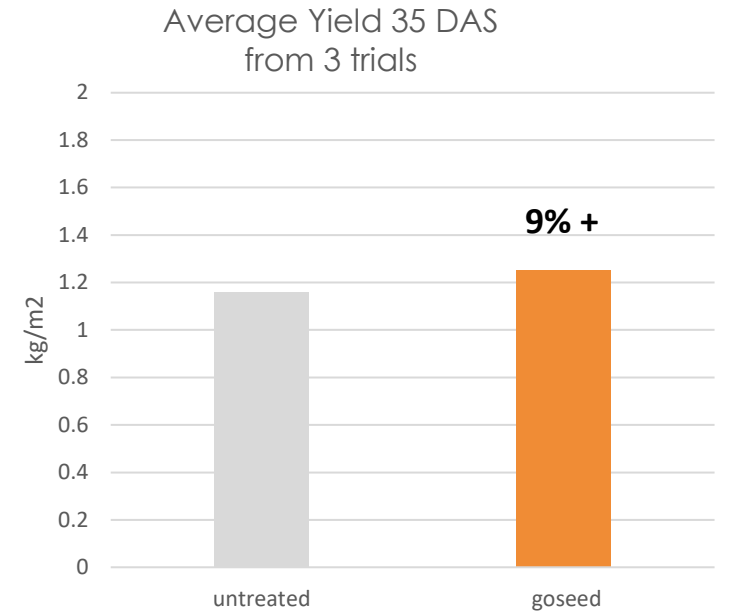
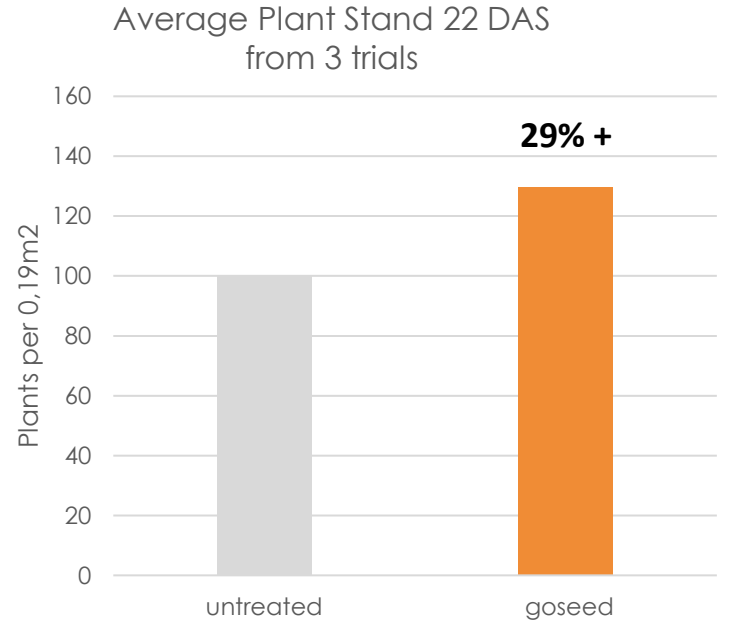
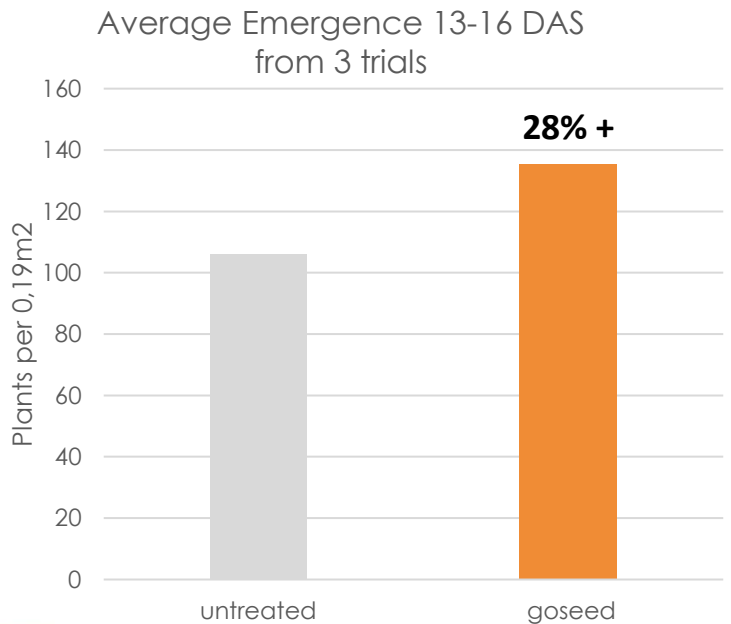
20DAS, goseed : untreated
102:44 plants/0.19m²
131% more plants



In the 3 Spanish trials sown Sept - Oct the crop experienced moderate heat stress (24-27 °C). Spinach goseed® performed significantly better than the untreated heat tolerant variety.

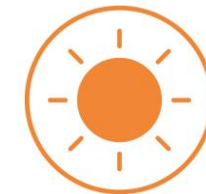


Cartagena, Spain Heat Stress Trial - Average improvements across 3 trials in moderate heat stress (24-27 °C)
 Outdoor Field, Variety 11 – Heat Tolerant Variety, sow dates 06.10. and 10.10.23, clay soil.

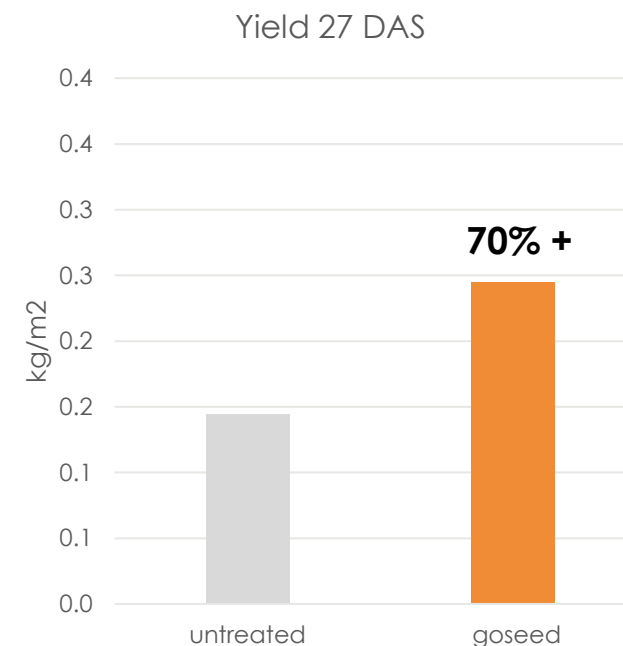
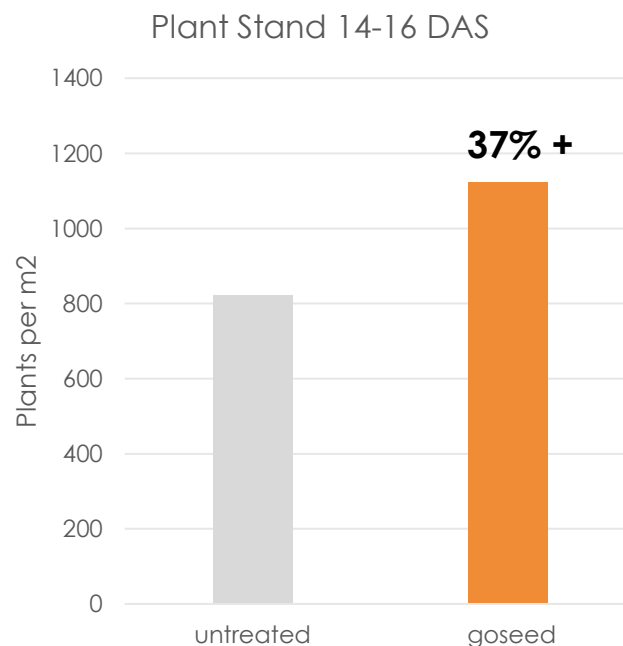
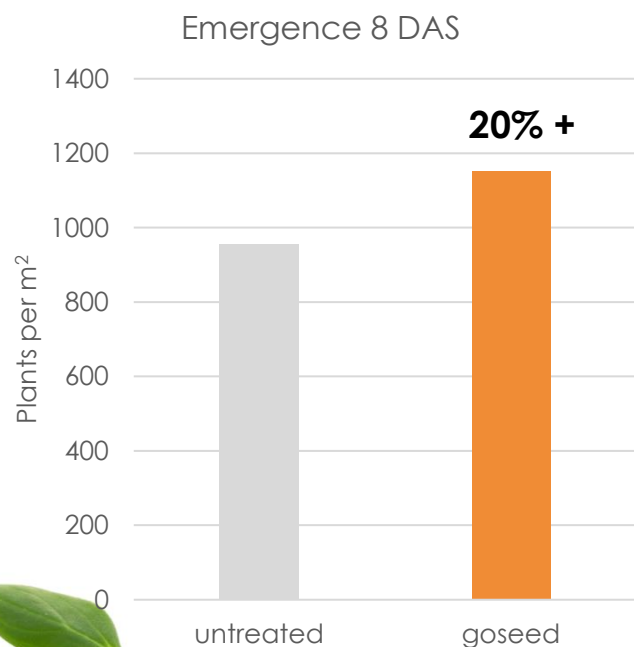




In moderate heat stress in indoor trials, Spinach goseed® was shown to deliver significantly better emergence, plantstand and final yield compared to the untreated variety.



Battipaglia and Fiumicino (Italy) Heat Stress Trial – Average improvements across 2 trials in upper temperature range 23-27 °C
Indoor field, Variety 12 (suited to summer planting), sow dates 27.07 and 22.08.2023, clay soil

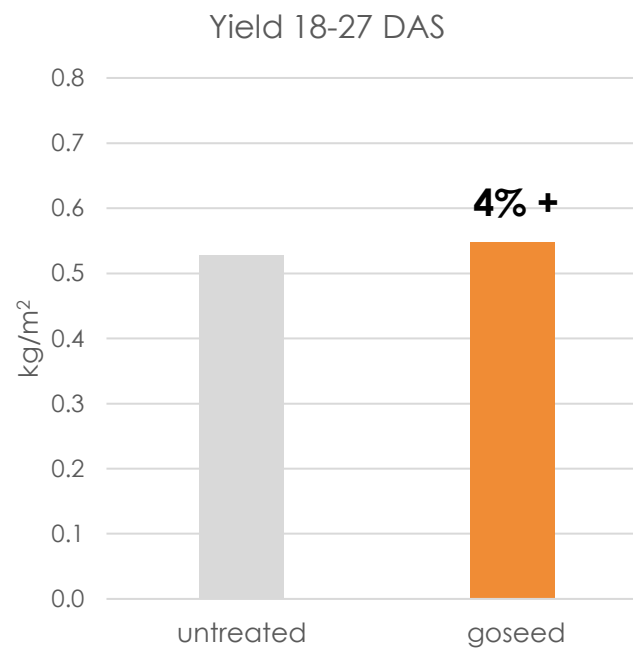
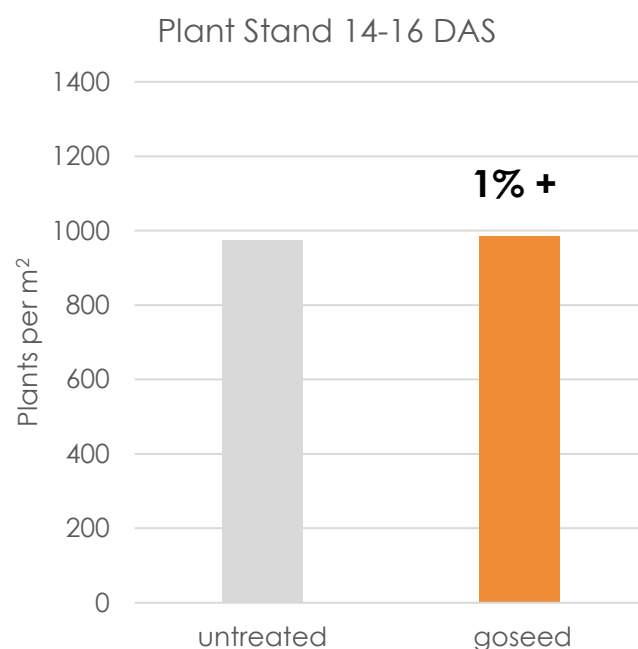
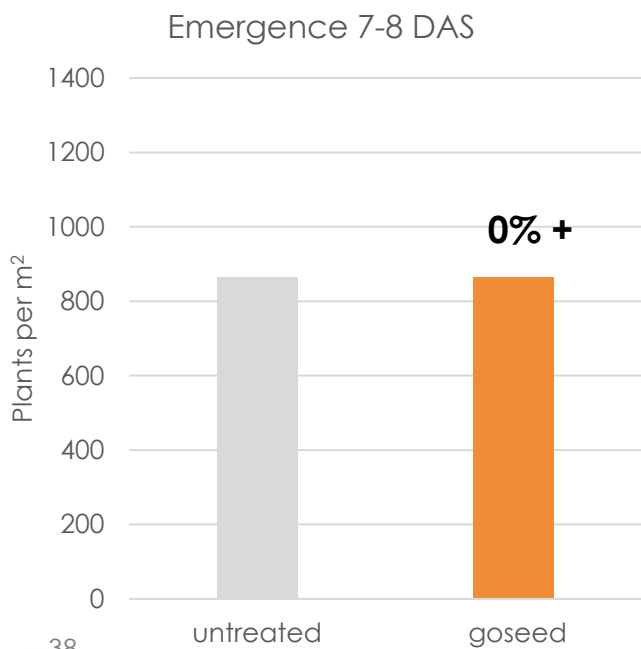


Over the course of an additional 5 indoor trials the crops was subjected to temperatures of 28-32 °C, across these trials we saw a 4% improvement on final yields for Spinach goseed® vs untreated.



Battipaglia Italy – Average improvements across field results in upper temperature range 28 – 32 °C

5 Trials Indoor Field, Variety 12 (suited to summer planting); sow dates 22.06; 06.07; 13.07; 20.07; 11.09.2023, all clay soil.



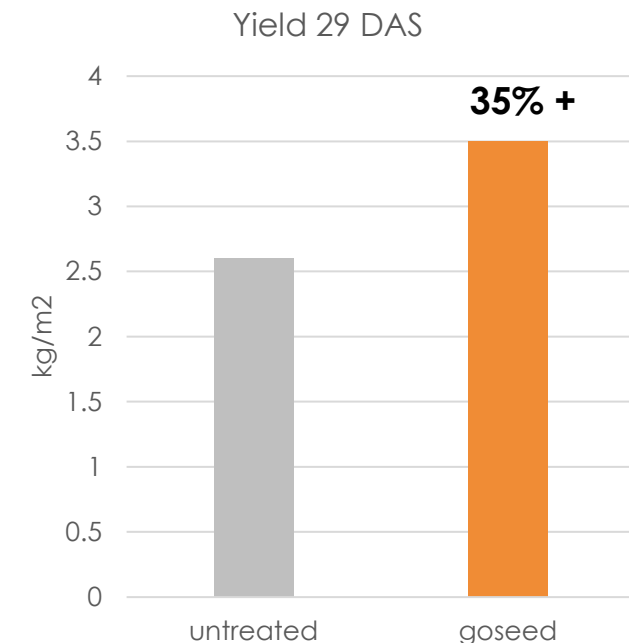
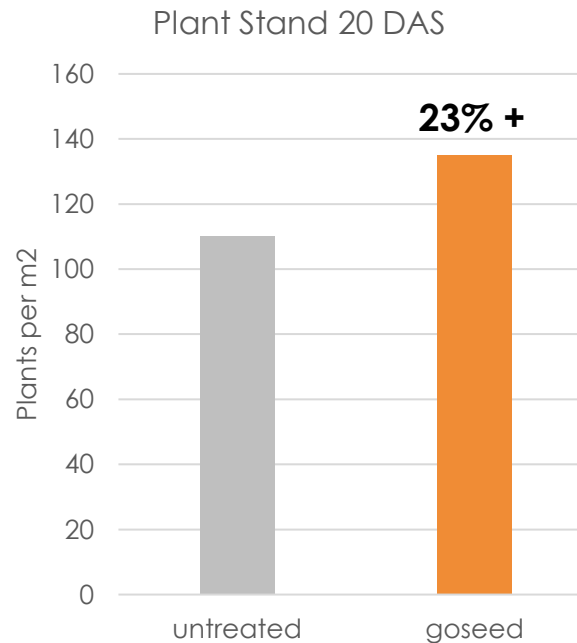
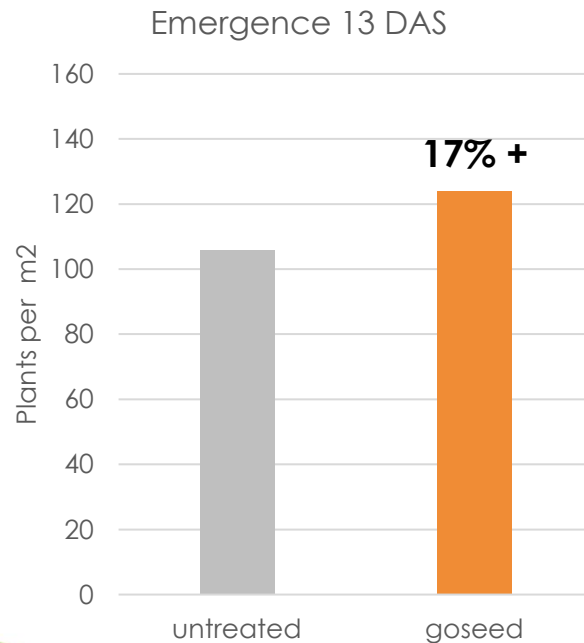
It is important to note that in growth conditions where there are less environmental stresses (such as indoor production) the plant requires less support and therefore the differences between untreated and seed treated with Spinach goseed® as less significant.



When a different F1 variety was tested outdoor through June – July the crop experienced moderate Heat Stress and the benefits of using Spinach goseed® were clearly demonstrated.



Avezzano (Italy) - Improvements in upper temperature range 20-24 °C
Outdoor field, Variety 13 (one sowing); sow date 22.06, sandy soil.

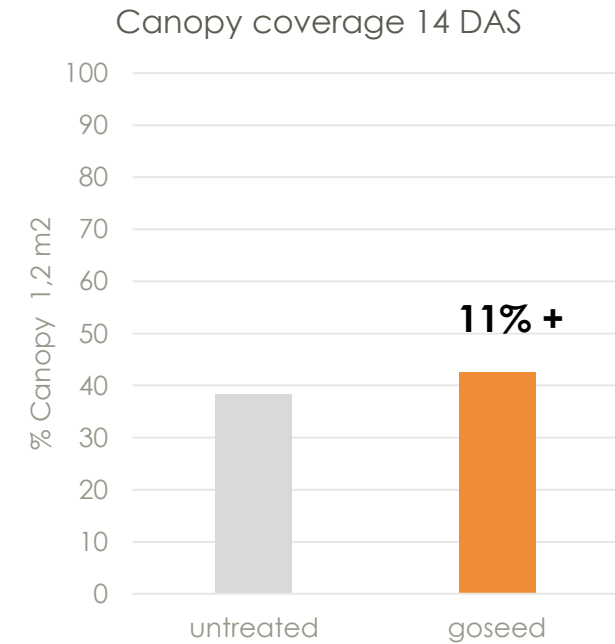
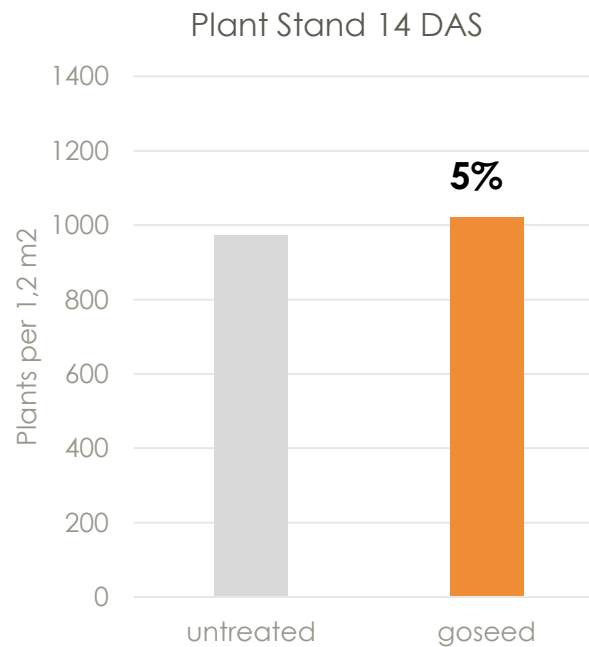
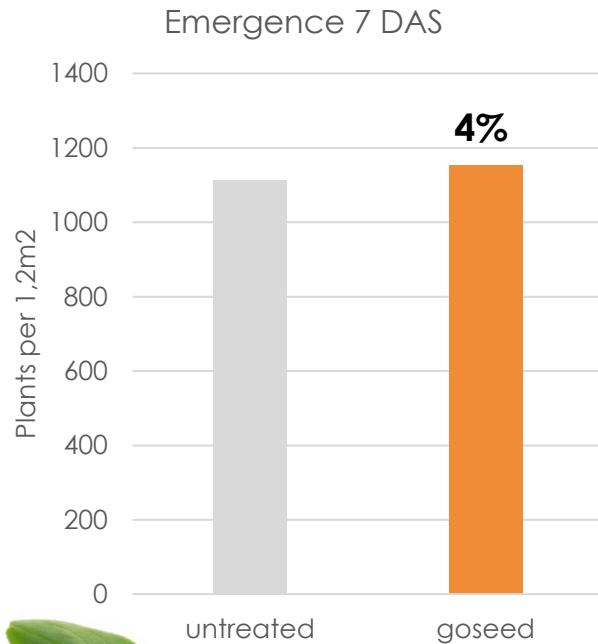




The French trials showed the benefits of using Spinach goseed® during the critical growth period (0-14 days) when the crop experiences early heat stress (34 °C) then falling temperatures.



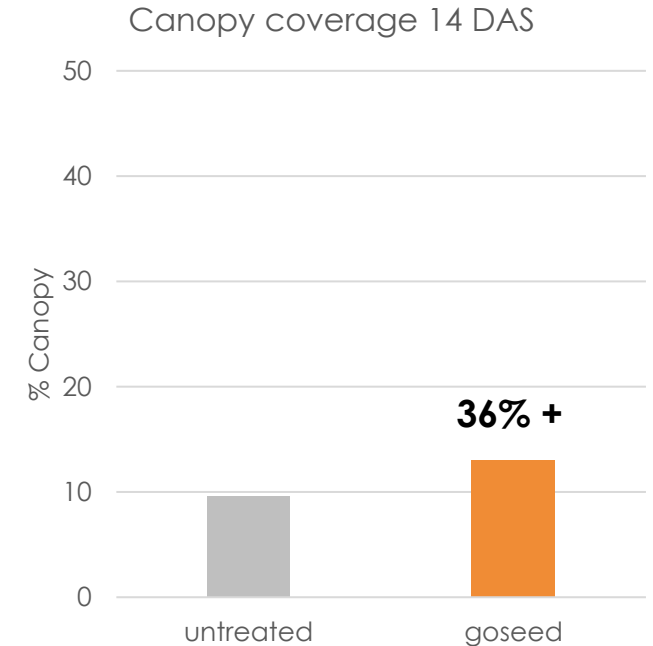
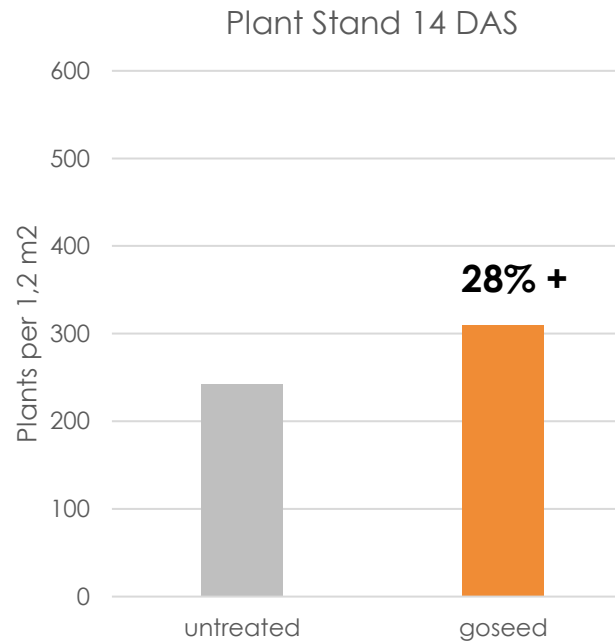
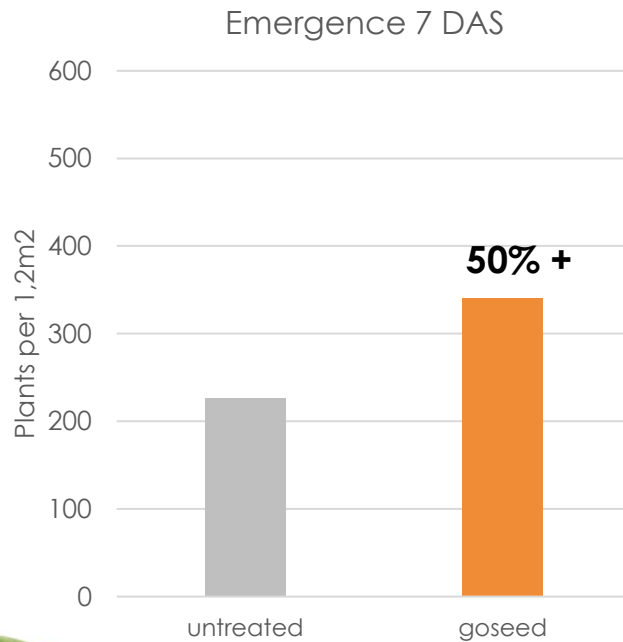
Nantes (France) Heat Stress Trial - Average improvements across 2 field results in upper temperature range 25- 34°C
2 Trials outdoor field, Variety 14; sow dates 10.08. and 11.08.2023, clay soil.



This trial showed the benefits of using Spinach goseed® in weather conditions where the crop experiences sustained moderate heat stress (29 °C) for the first two weeks post germination.



Nantes (France) Heat Stress Field Trial - improvements in field trials with heat stress 29 °C
Outdoor field, Variety 14; sow date 18.07.2023, clay soil.

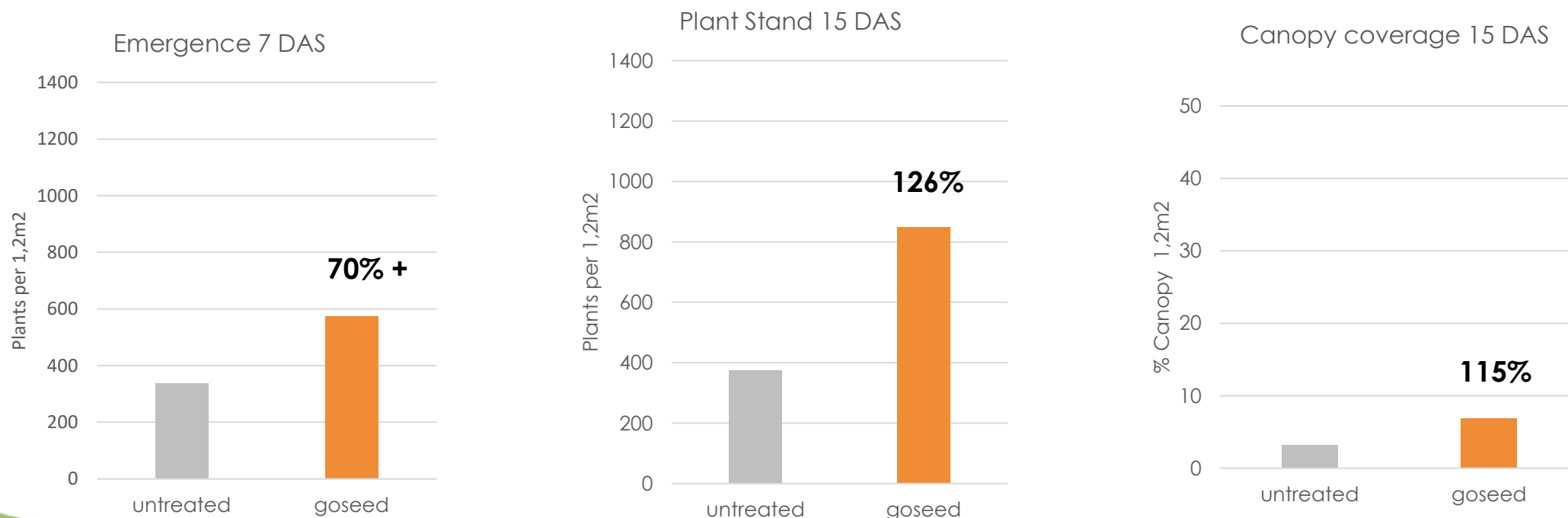


The benefits of using Spinach goseed® were most apparent when the crop experienced sustained and significant heat stress (up to 34 °C) for the first two weeks post germination.



Nantes (France) Heat Stress Field Trial - improvements in upper temperature range 31 - 34°C (rising temperatures)

Outdoor field, Variety 14; sow date 01.08.2023, clay soil.



The improved emergence at 7 days led to 126% improvement at 14 days and 115% better canopy coverage at 15 days.



Sustained heat shock in the first 2 weeks post germination led to the biggest losses on untreated

Protect your investment with





Spinach goseed® is a next generation seed technology that fully meets the stringent requirements of the EU marketplace

How seed treatment is changing	Germain's solutions
➤ 50% reduction in chemical pesticide use by 2030	✓ Spinach goseed® is a 100% chemical pesticide free seed treatment
➤ 20% reduction in fertilizer use by 2030	✓ Spinach goseed® contains precision formulated nutrients
➤ Microplastic free by 2027	✓ Spinach goseed® will be micro-plastic free from 01.10.23
➤ New biostimulant laws coming into force in 2022	✓ Spinach goseed® Biostimulants are registered in the EU
➤ New fertilizer laws coming into force in 2022	✓ Spinach goseed® nutrients are registered as Fertilizers in the EU
➤ Environmental safety & soil health is top of the EU agenda.	✓ Spinach goseed® is carefully formulated to ensure it poses no risk to the environment, working in synergy with the soil. The safety of Spinach goseed® has been independently validated by the NMI institute.





Spinach goseed® builds upon the nutrient levels in soil to avoid any risk of over-fertilization

- The nutrient levels in Spinach goseed® have been carefully formulated to supplement the nutrients naturally found in soil.
- The product is formulated to adhere to the levels set for the safe inclusion of nutrients in soil and has been independently validated by the Nutrient Management Institute.
- The fertilizer nutrients in Spinach goseed® are approved for use in the EU
- The bio-stimulants in Spinach goseed® are also approved for use in the EU.
- To assure soil safety without overfertilization, GAP Guidelines should be followed for use of Spinach goseed® - 6 million seeds/hectare and 4 rounds per year (or equivalent).



**The environmental safety of
Spinach goseed®
has been independently evaluated
and validated by the
Nutrient Management Institute (NMI).**





Like all Germain's products, Spinach goseed® is produced with the highest quality controls.

Germain's operates to the highest quality standards

- Germain's aims to deliver the best germination and performance possible for your Spinach seed.

Germain's Seed Technology quality assurance processes include:

- Rigorous incoming seed sampling and quality examination
- Standard germination testing by a certified testing laboratory
- Multi-stage quality control throughout production process
- Quantitative monitoring of production processes and improvements via Six Sigma methodologies





How it works:



biostimulants and precision formulated micronutrients enhance plant health providing multi-stress tolerance



Unique technology promotes plant emergence & supports plant stand in the critical early stages of growth.

Key benefits:



Reduced crop losses from abiotic stress



Maximises crop performance to increase yield

Product assurance:



100% chemical pesticide free



Microplastic Free from 01.10.23



We Maximise Nature's Potential

A large tree stands on a grassy hill. The left side of the tree is dead, with bare, dark branches reaching out against a dark, stormy sky. The right side of the tree is lush and green, with a full canopy of leaves. The ground is cracked and dry on the left, transitioning to green grass on the right. The sky is a mix of dark, heavy clouds and a clear blue area on the right.

Minimise stress,
maximise performance.

Spinach 
goseed

Questions?