



Steric K with BioSF325
Technology

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VERDESIAN

THE NUTRIENT USE EFFICIENCY PEOPLE™

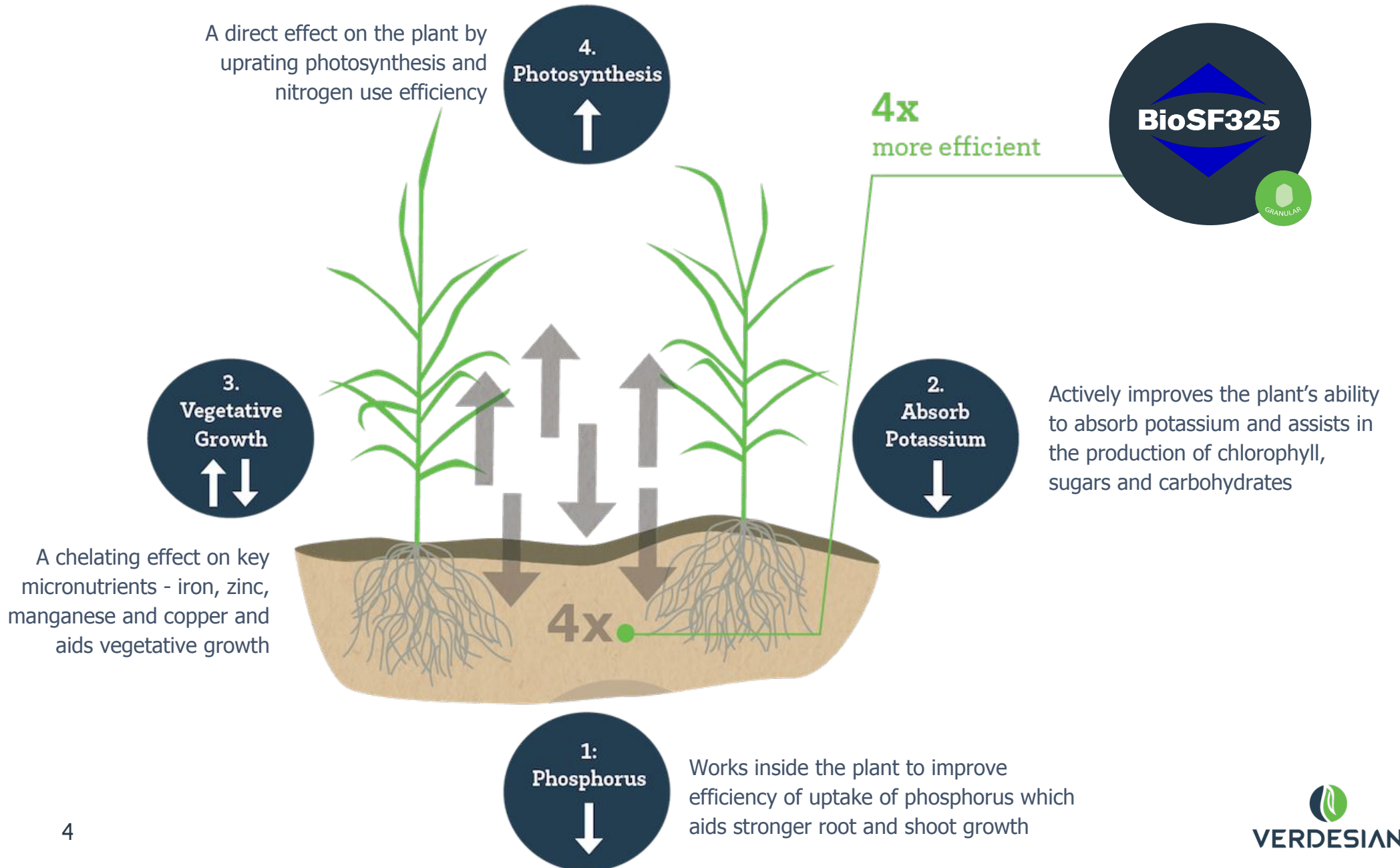
BioSF325 Technology

- Four key components which drive nutrient use efficiency allowing for more phosphorus and potassium to be utilised
- Do not just work in isolation, they are synergistic in their effect within the plant
- Improved nutrient use efficiency of phosphorus and potassium delivers proven increase in root and vegetative growth along with fruit and seed quality

BioSF325



BioSF325 Technology - 4 Key Components



BioSF325 Technology - Summary

- Sits inside the 100% water soluble Steric K dry formulation
- Enables Steric K to be a replacement for traditional forms of K - MOP, NOP, SOP, MKP
- Enables Steric K to be used as a full replacement for other potassium fertilisers
- Improves the efficiency of plant available potassium, phosphate and nitrogen
- Through higher K efficiency, the internal and external qualities of the produce are improved

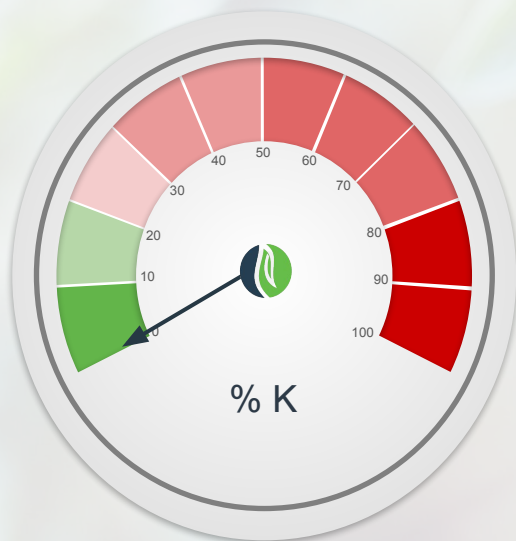




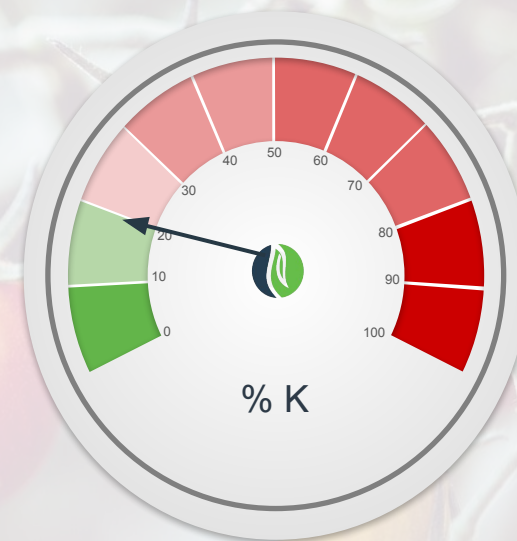
Steric K[®]

Potassium

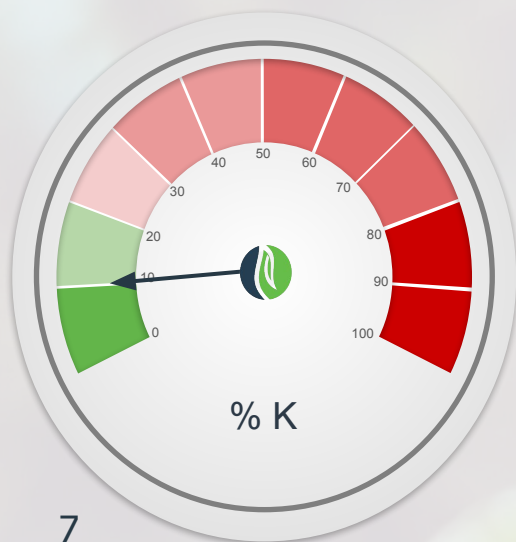
Why applied potassium is needed



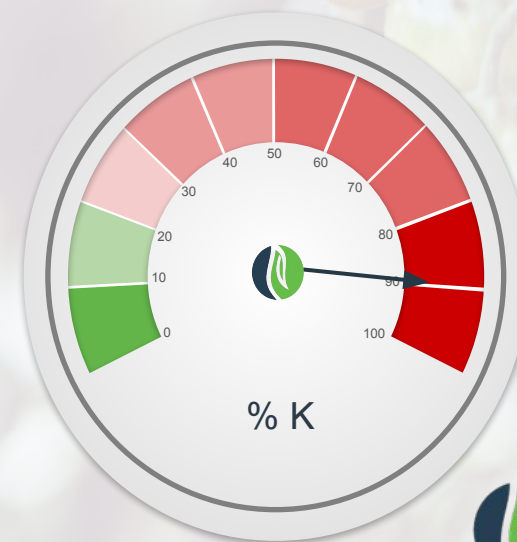
Only a small fraction ($\leq 0.5\%$) of the soil K is readily available



10-20% may become slowly available over time



($\leq 10\%$) can become gradually available



Up to 80-95% of soil K may become available only over a long time by weathering



ROLE OF POTASSIUM



Influences many enzymatic reactions and is associated with almost every major plant function



Helps to regulate the carbon dioxide supply to plants by controlling stomata opening and closing

It improves the efficiency of plant water and sugar use. It improves drought and frost resistance



It moves sugars from the site of photosynthesis to other storage sites



Potassium improves plant health, disease resistance, and tolerance to nematodes and insects



Potassium deficiency

- Negative effects occur on fruit yield and quality before leaf deficiency symptoms
- The rate of photosynthesis drops sharply
- Too much Nitrogen with too little Potassium can result in a backup of the protein building blocks
- K shortage can result in decreased yield and low fruit quality, reduced shelf life



Supplying the need for potassium

- Internal and external qualities of produce are increasingly important market factors
- Major element in determining crop quality
- Steric K has proven to be highly efficient means of fulfilling the potassium requirements
- The combination of potassium and nitrate in Steric K is highly beneficial
- Integration of Steric K into routine management results in positive Benefit/Cost ratios





Steric K[®]

Features

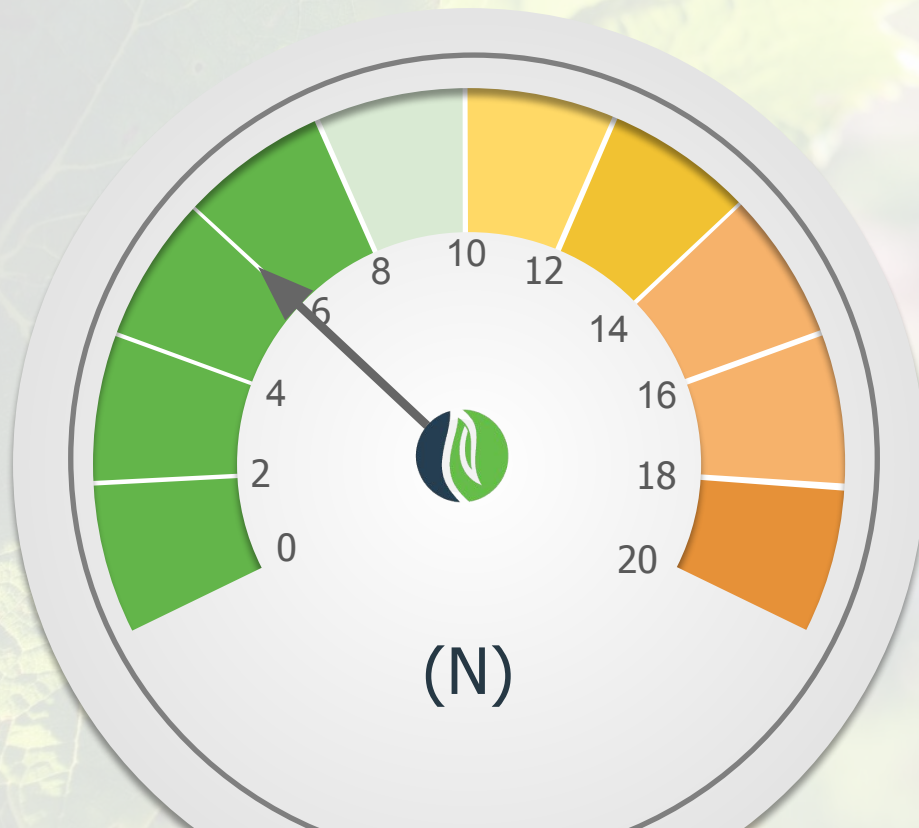
EC-FERTILISER (B.3.1)



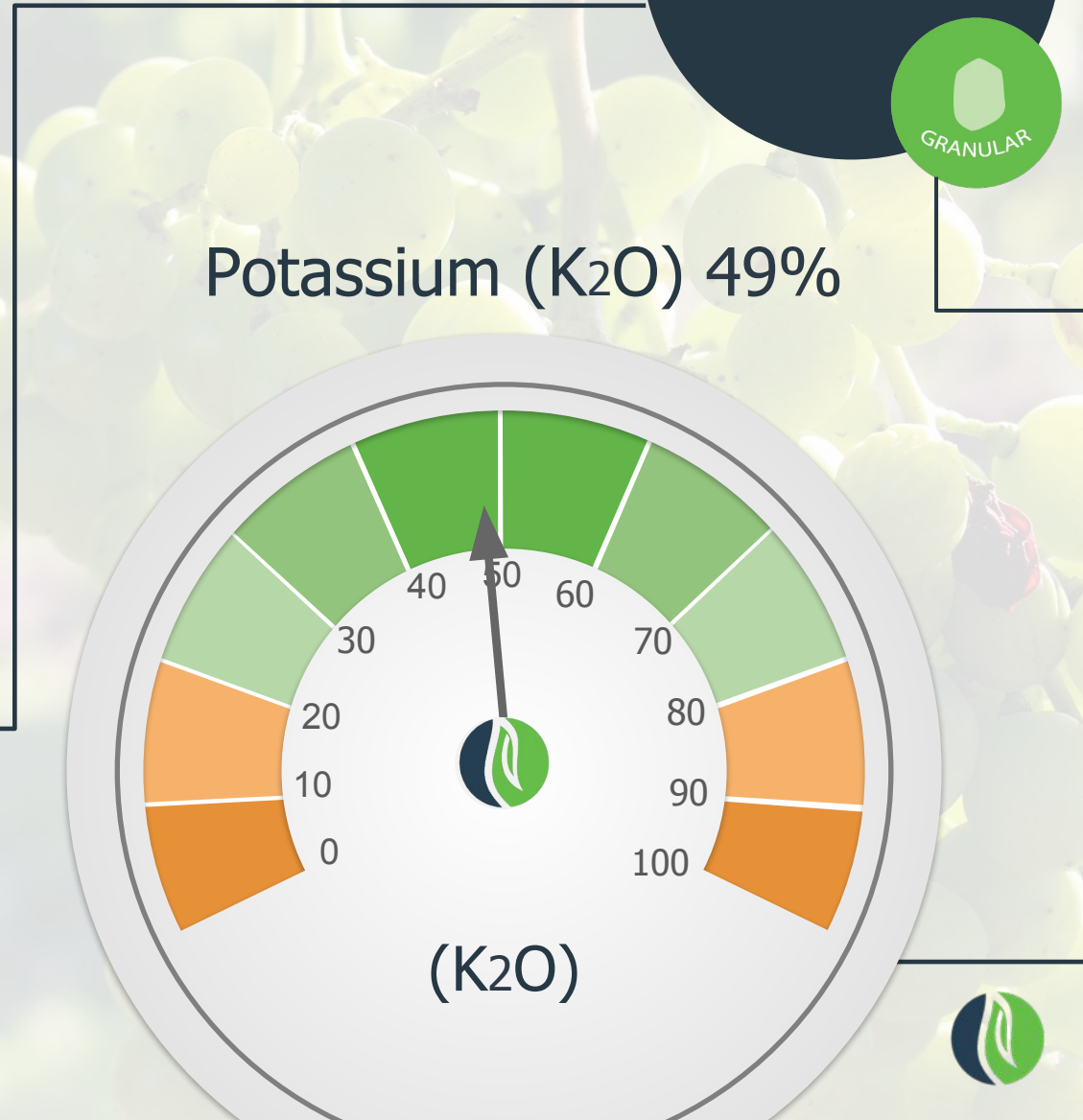
- Blended NK 6:49 water soluble dry formulation
- Also contains 8% sulphur
- Steric potassium is derived from 100% water soluble K₂O



Total Nitrogen (N) 6%



Potassium (K₂O) 49%



APPLICATION GUIDELINES



Top Fruit

- Apply during fruit enlargement phase
- Apply during/post harvest



Vines

- Several applications between change of colour and maturity



Citrus

- Apply during fruit enlargement phase
- Through colour break from 6-4 weeks before harvest
- Additional application in Autumn



Olives


- Spring application from beginning of fruit enlargement
- Autumn application during/after harvest

APPLICATION GUIDELINES



Tomato

- Apply at first flowers visible
- Two weeks before beginning of harvest



Watermelon & Cucumber

- Apply by mid to end of fruit enlargement phase
- During harvest period



Lettuce

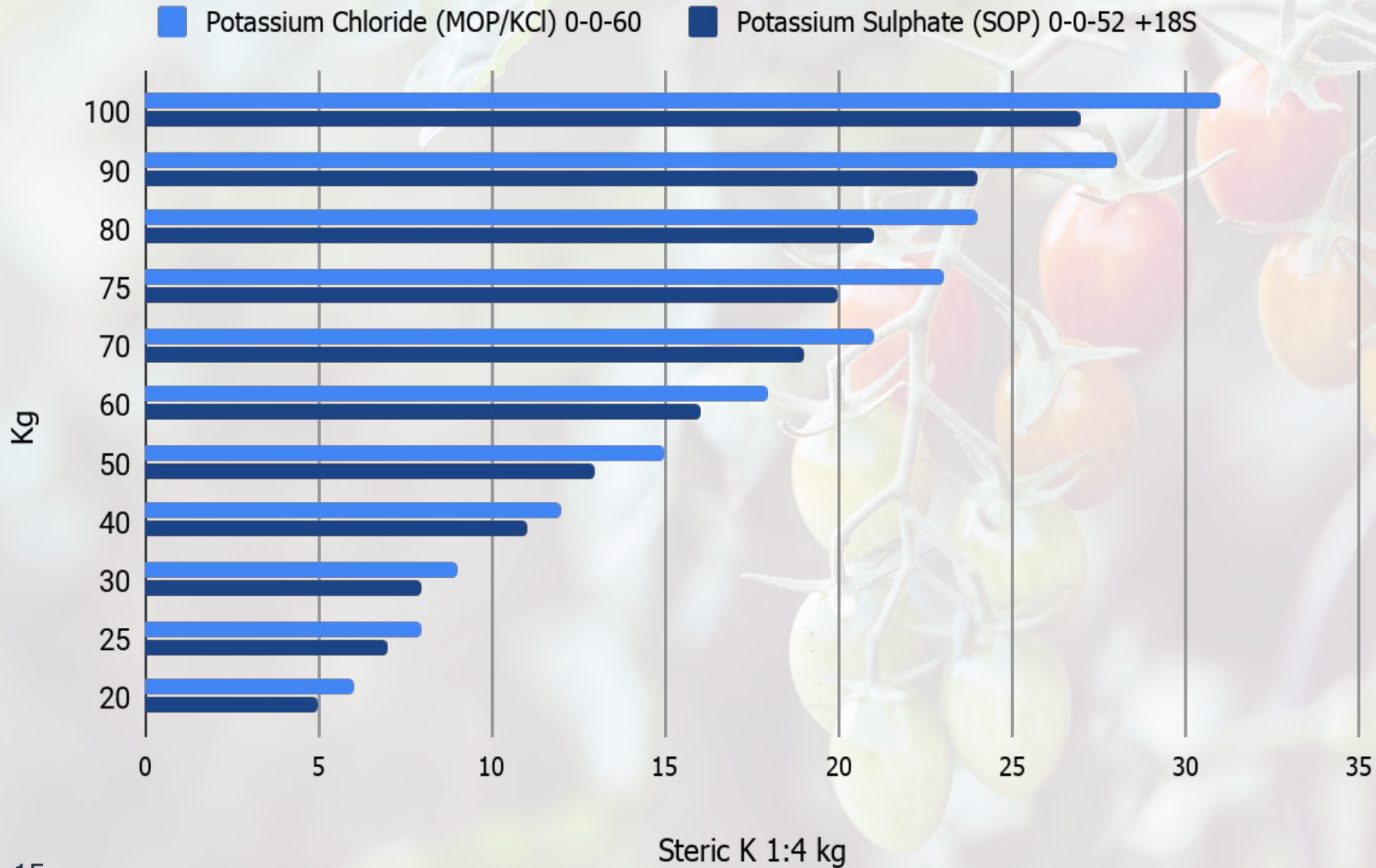
- Apply at the beginning of of head formation
- At 2 weeks and again one week before harvest



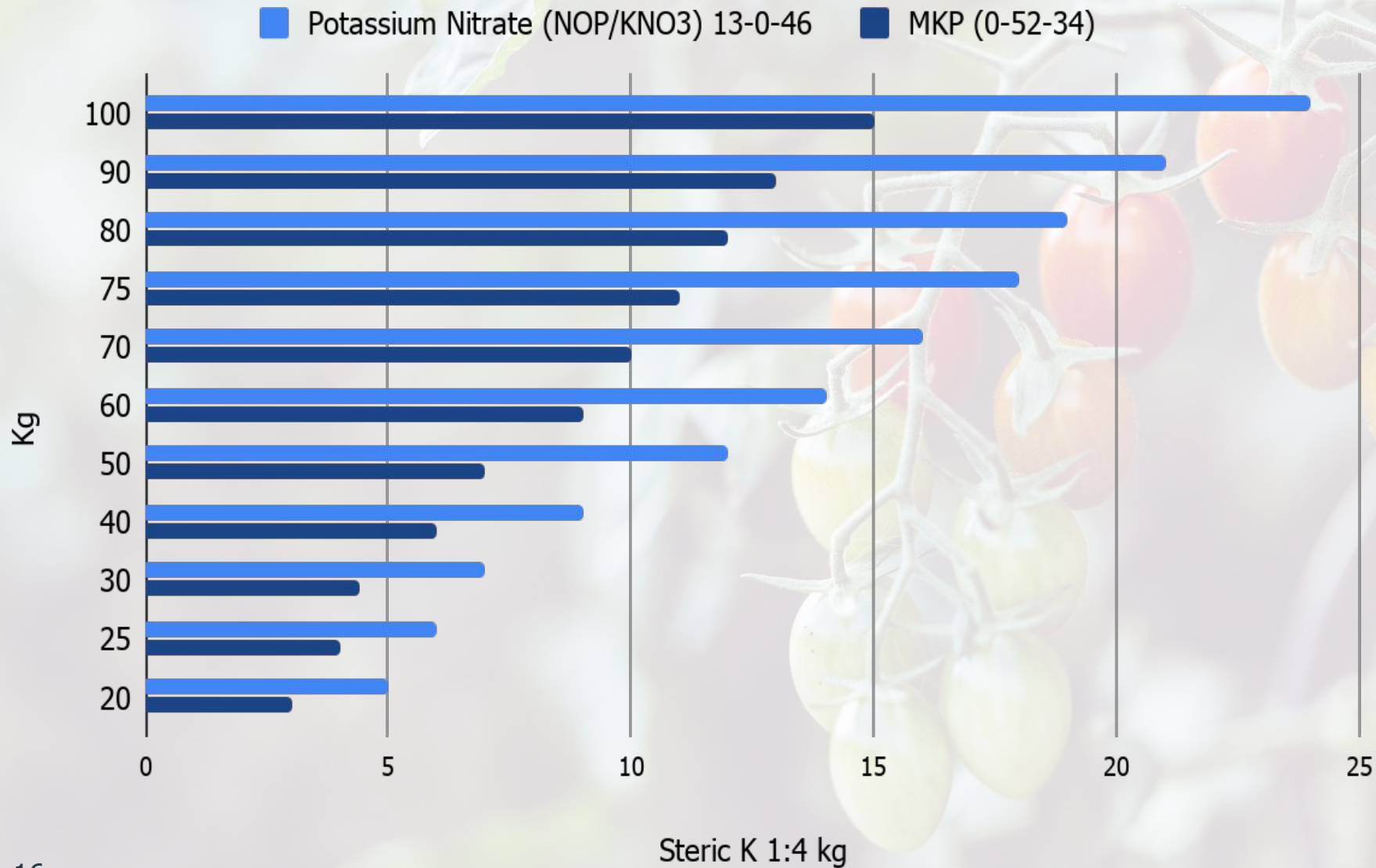
Potato

- Apply at bulking
- One month before harvest

Steric K vs MOP and SOP



Steric K vs NOP and MKP





Steric K[®]

Summary trials by C.Q. Masso S.A



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Steric K

Citrus, Spain



Potassium Nitrate



Improved fruit set and size
with Steric K



Citrus, Spain
Travernes (Valencia)
Lanelate 2013



Larger and more
homogeneous fruits
with Steric K

Application rate:
12.5 kg/ha



Persimmon, Spain
Carlet (Valencia)
CAKI 2013



Steric K



**Potassium
Nitrate**

Application rate: 50kg/ha

Larger and more
homogeneous fruits
with Steric K

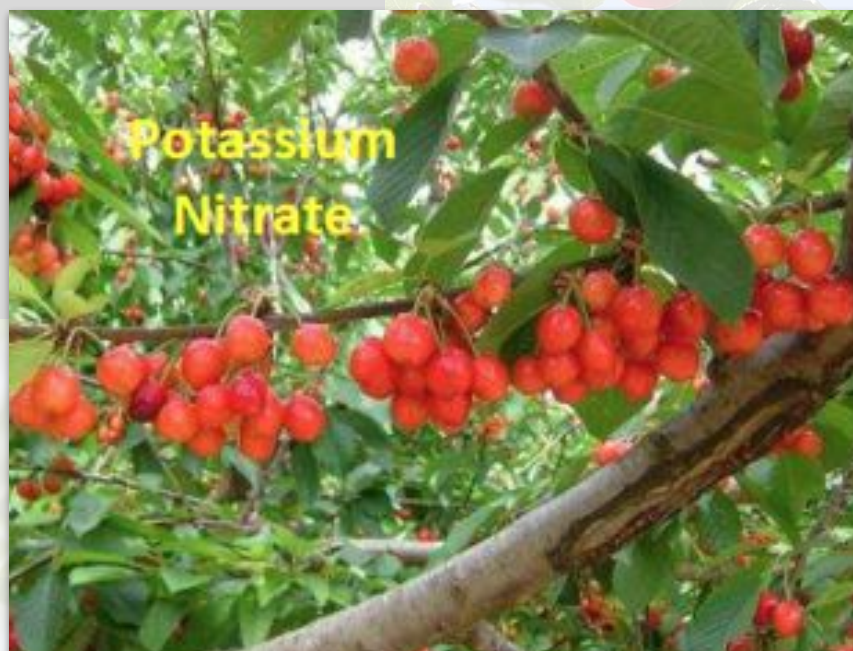
Application rate:
12.5 kg/ha



Cherry, Spain
Alcanar (Tarragona)



Steric K



**Potassium
Nitrate**

Larger and more
homogeneous fruits, even
ripening with Steric K

Application rate:
12.5 kg/ha



Table Grape -
Spain
Totana (Murcia)
Crimson



Steric K



**Potassium
Nitrate**

Application rate: 50kg/ha

Heavier, more evenly filled
grapes and more evenly
coloured

Application rate:
12.5 kg/ha



Tomato - Spain



**Farmer
Standard
Practice**

Even and consistent ripening
within 10 days of application
with Steric K

Application rate:
3 x 12.5 kg/ha


Steric K



Tomato - Spain



Liqui-K


Steric K

Liqui-K yield: 1760 bags

Steric K yield: 2280 bags

30% yield increase

Application rate:

3 x 12.5 kg/ha

Liqui-K is a registered trademark of Sipcam



Lettuce -
Spain
December Harvest



Application: 3.75 kg/ha
fertiligated (At $\frac{1}{4}$ of NOP rate
15 kg/ha)

Steric K



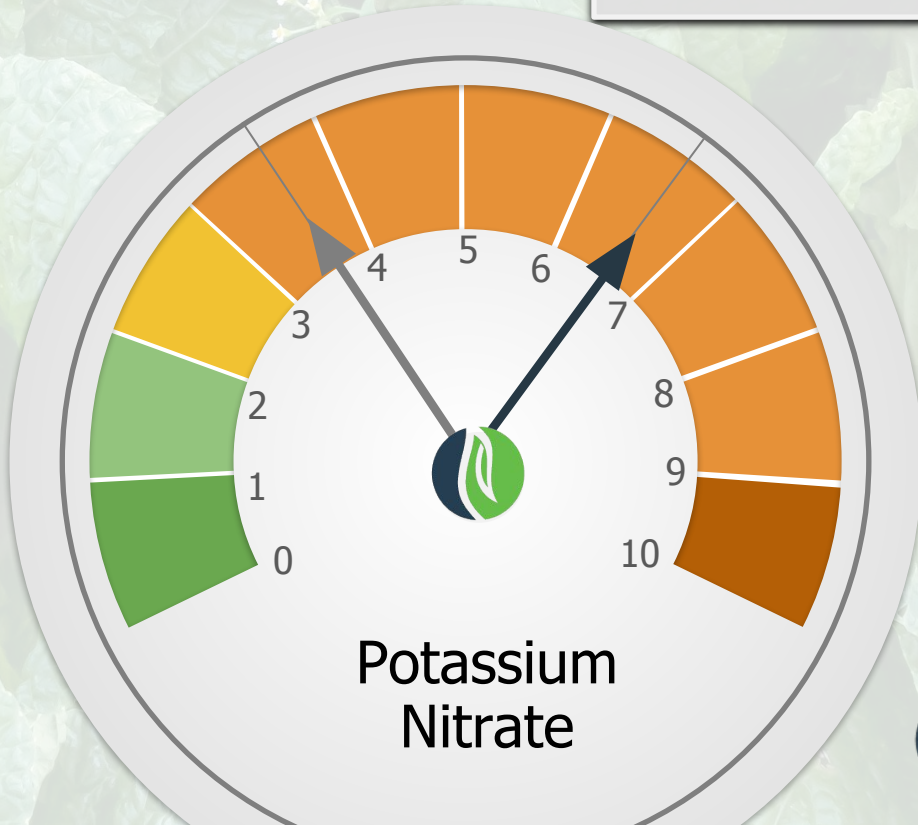
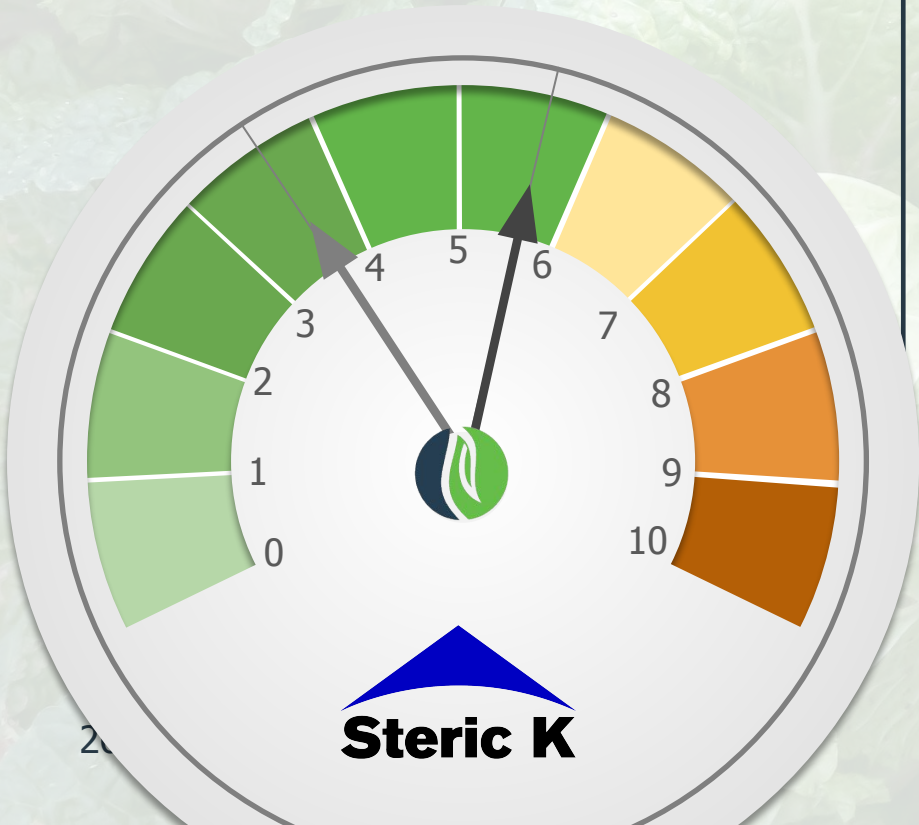
Post harvest properties improved in lettuce

- Steric K improves shelf life
- 15% less N, 5.5% more K with Steric K in leaf tissue



➔ Nitrogen: 5.64
➔ Potassium: 3.76

➔ Nitrogen: 6.65
➔ Potassium: 3.57





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Timings and rates



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Spain, Peach

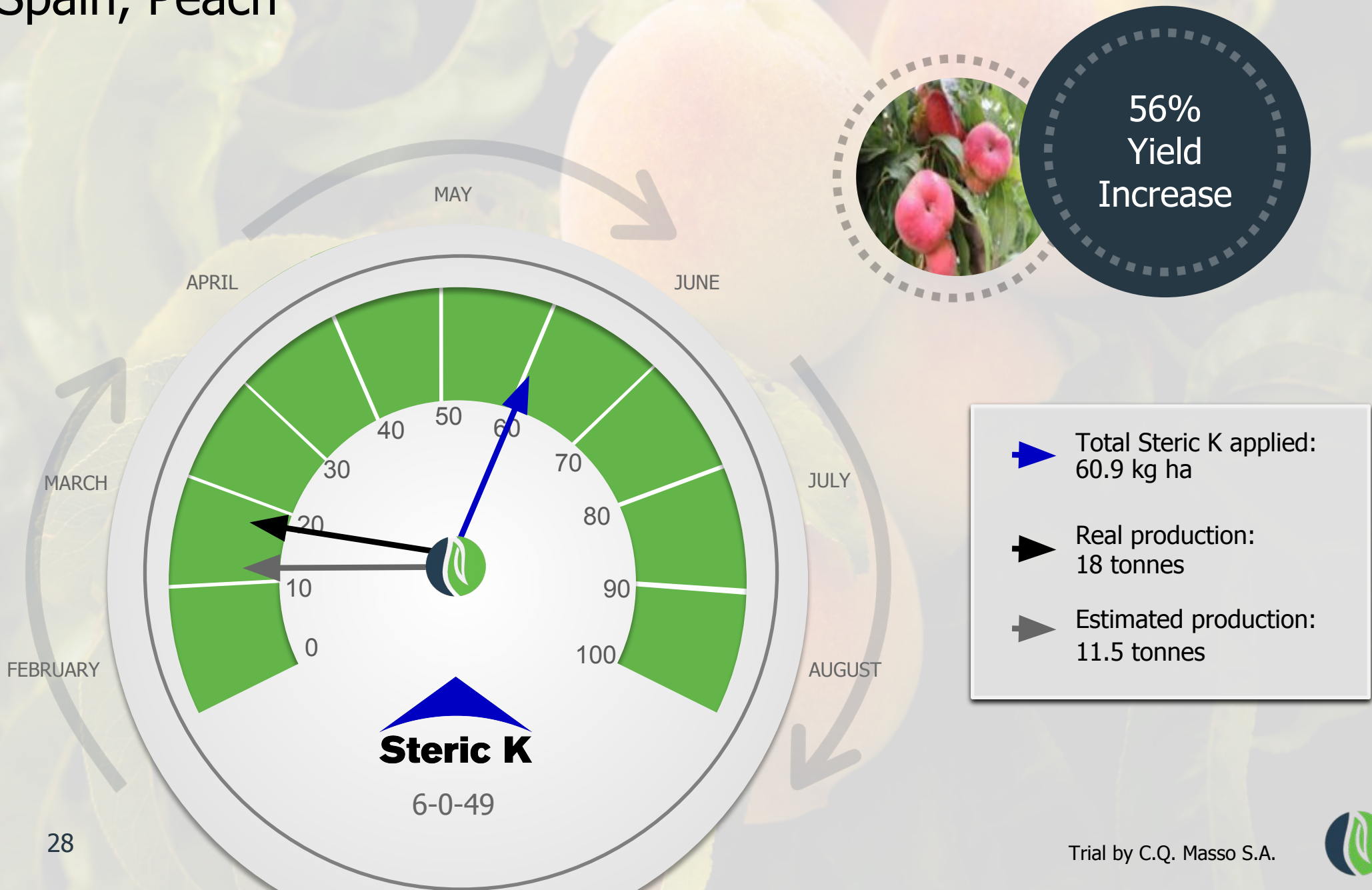


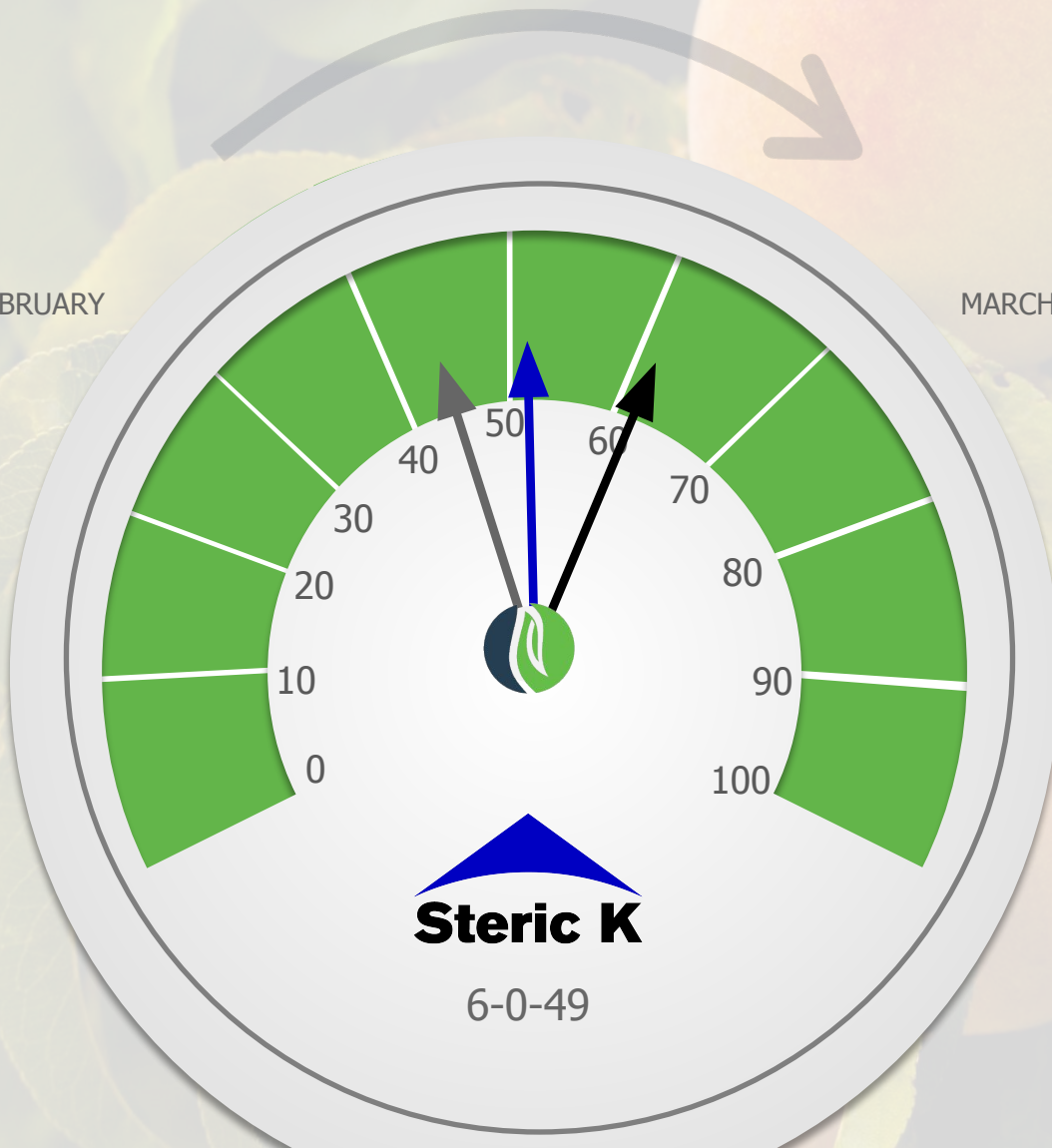
Plate Peach




38%
Yield
Increase



FEBRUARY

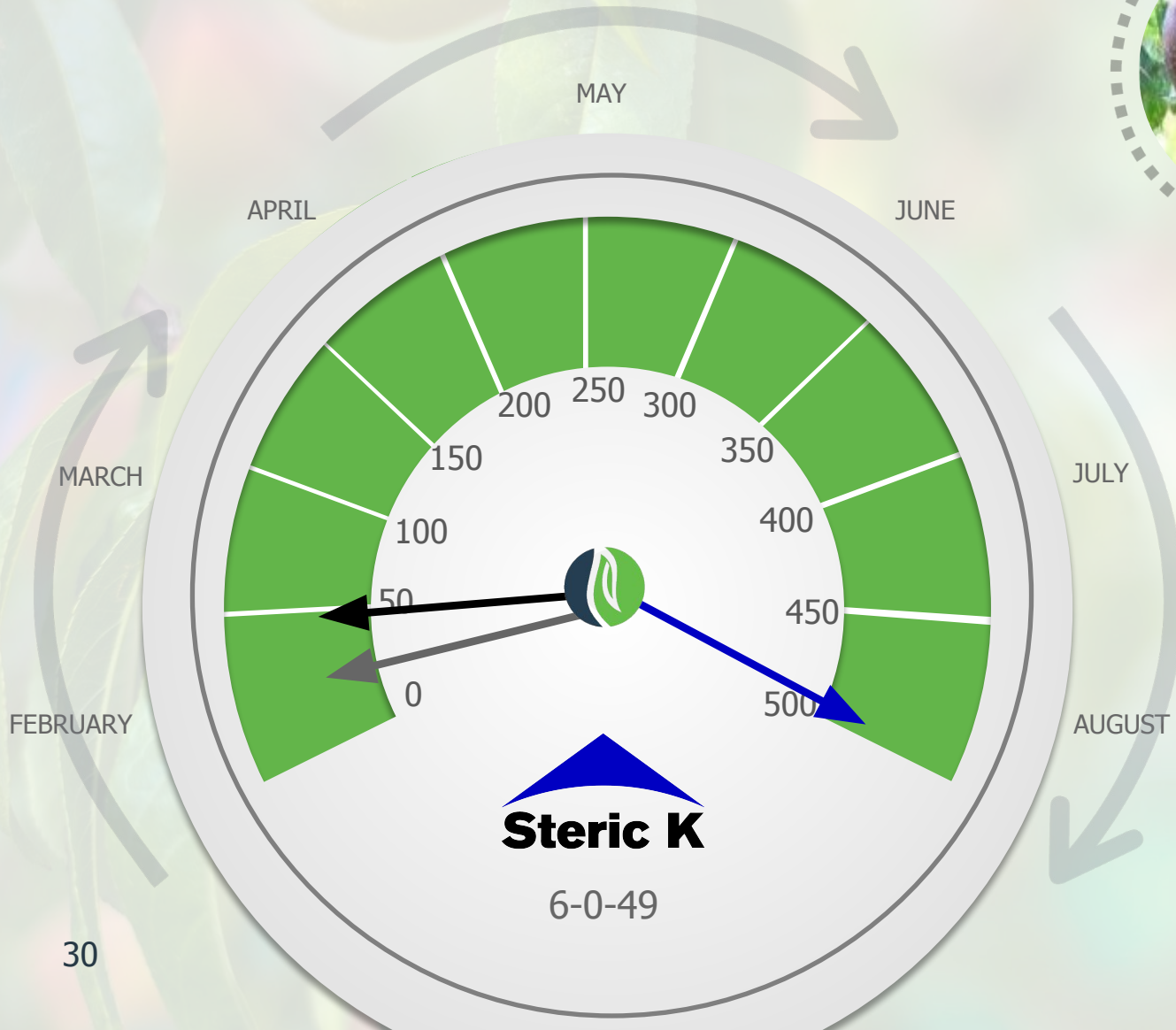
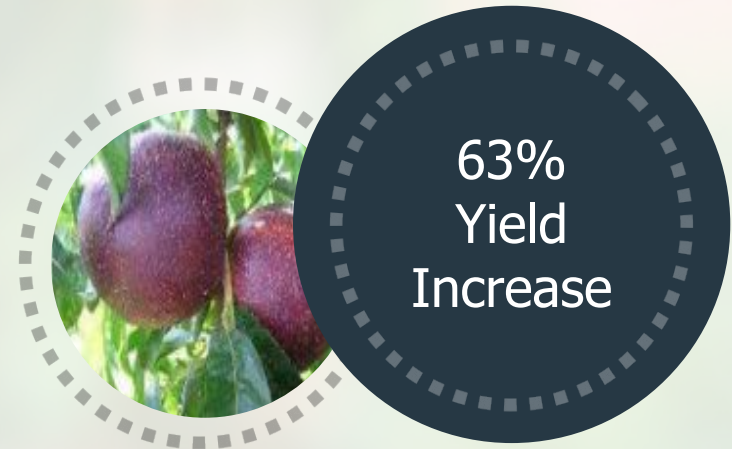
MARCH



-  Total Steric K applied:
50.4 kg ha
-  Real production:
60.8 tonnes
-  Estimated production:
44 tonnes



Spain, Nectarine



- ▶ Total Steric K applied: 498.96 kg ha
- ▶ Real production: 49 tonnes
- ▶ Estimated production: 30 tonnes





Steric K[®]

Benefits

STERIC K BENEFITS



Top Fruit

Improved fruit consistency and colouration



Citrus

More intense colouration and advanced maturity



Vine and Cherry

More even filling and colouration

Olives

Improves resistance to cold and drought, higher oil content



Lettuce

Advances maturity and improves shelf life



Tomato and Pepper

Even and consistent ripening



Potato

Improved resistance to mechanical damage and abiotic stress





4x More
Efficient

Steric K is 4x more efficient than standard potassium fertilisers



25%
Applied

- Steric K is applied at only 25% of normal application rate of standard potassium fertilisers

Formed in 2012

R&D company with head quarters in North Carolina with total 200+ personnel

7 Manufacturing Sites

Verdesian has 4 manufacturing sites in the US and 3 sites in Europe, producing liquid and dry formulations.

300+ Patents

Over 300 patent families with research links to 7 universities in the USA and 3 universities in Europe (Greece, Italy and UK).

Globally Established

A global footprint operating across North & South Americas, Europe, Africa, Middle East, Asia and Far East.




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Thank you