



*Super soluble potassium sulphate
foliar fertilizer for today's agriculture*

Introduction

Of the estimated 4 mio Te annual global market for potassium sulphate (SOP) fertilizers, about 7% is supplied in the water soluble form. This is used in formulation, fertigation and foliar application. Solupotasse™ from Tessenderlo is well established as the leading brand of water soluble SOP and has the best solubility in irrigation water, but lacks the *instant* solubility characteristics necessary for modern spraying machinery. Today's agricultural sprayers are geared towards rapid filling with water and product so as to maximise time "in the field"; typically induction bowls are used so any product must be rapidly and completely soluble (or dispersible).

Recognition of these needs led to the development and commercial launch of K-LEAF™, a super soluble formulation of SOP and three times faster to dissolve than its sister product Solupotasse™.

K-LEAF™ is perfectly suited to modern spraying machinery, enabling convenient foliar application of potassium and thereby providing an important agronomic opportunity.

Why foliar application of potassium sulphate?

1. Potassium management

Foliar applications of SOP are known to stimulate and improve the uptake of the earlier soil applied potassium. Similarly foliar applications can enable the farmer to precisely match crop needs with supply. As a result fertiliser efficiency is increased and waste eliminated where for example because of growing conditions a crop will finish well.

2. Improved crop profitability.

Better profitability is achieved through increased yields and improved quality. See later trials section.

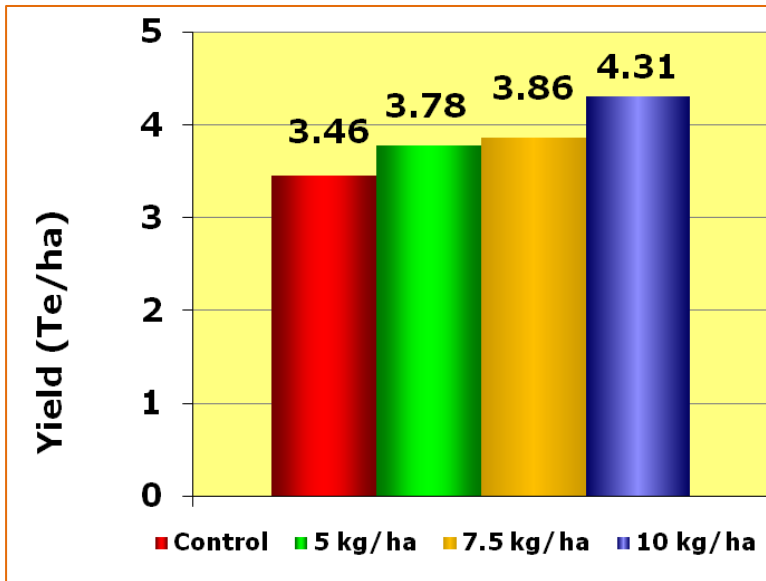
3. Environmental considerations

Foliar applications of potassium sulphate can reduce the burden of chlorine in soils that comes from soil applied chloride-based fertilisers. Similarly electrical conductivity (EC) of soils is not increased.

Trial result summaries

1. INTA, (National Institute of Agricultural Technology) Buenos Aires, Argentina 2011

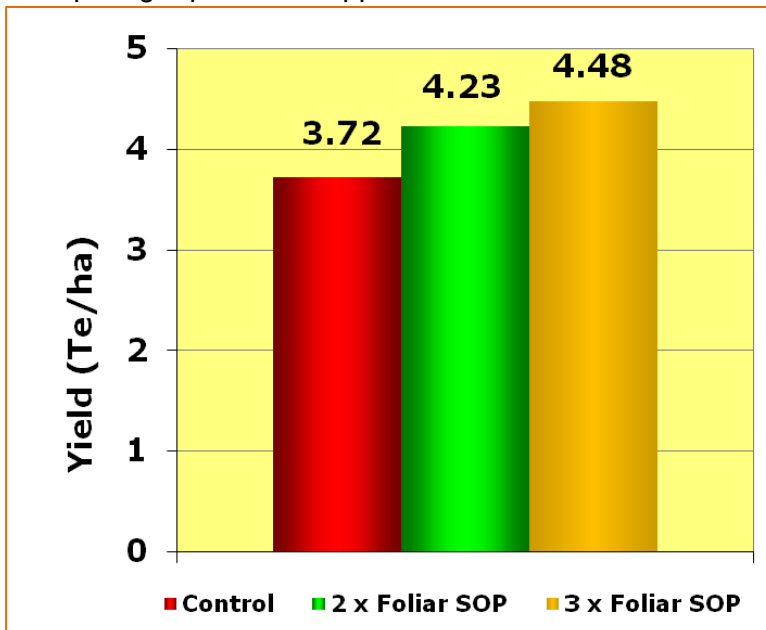
Replicated field trial on four varieties of wheat, three rates of foliar applied SOP. Combined results shown.



Yield Improvement up to 0.85 Te/ha

2. University of Life and Environmental Science of Ukraine Kiev, Ukraine 2011

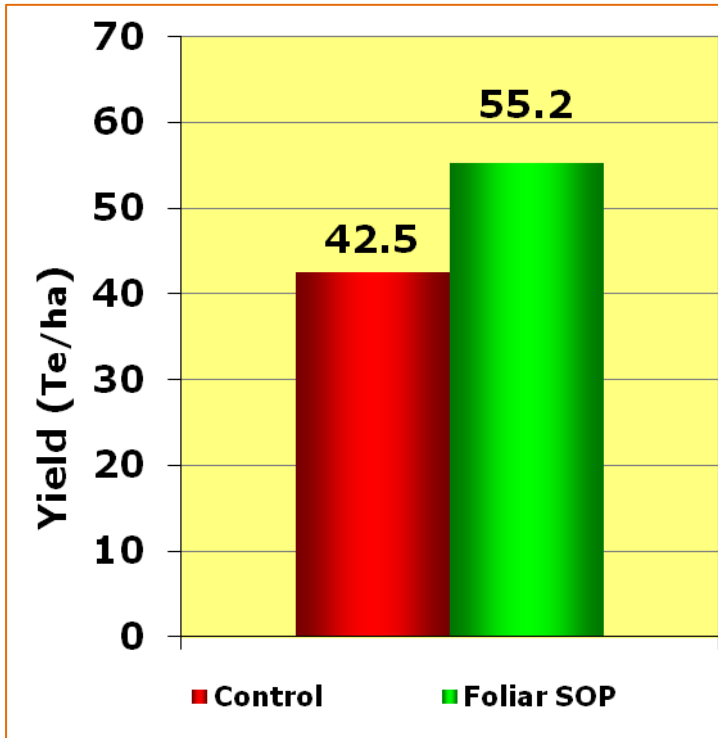
Comparing repeat foliar applications of SOP to wheat



Yield Improvement: 0.51 and 0.76 T/ha respectively

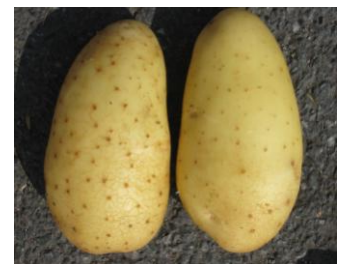
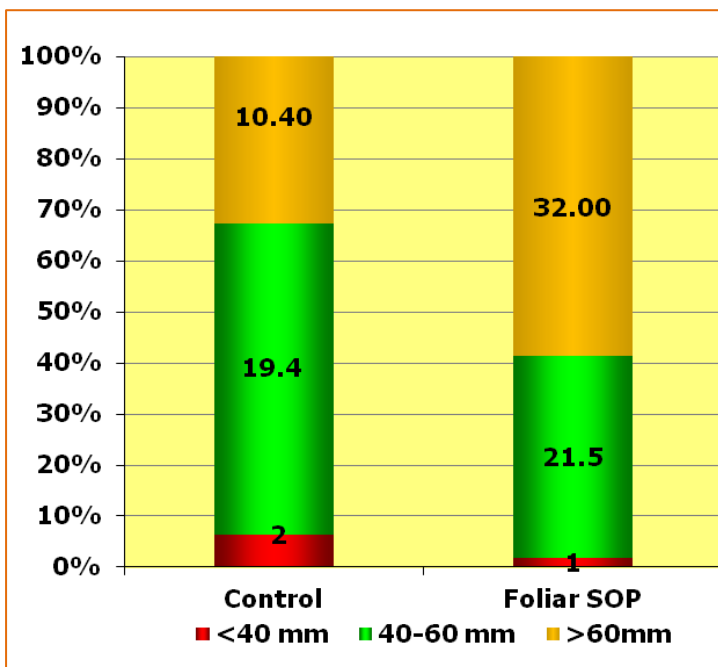
3. Distributor Trial – Northern France 2011

Foliar application of 6 kg/ha SOP to potato cv *Mona Lisa*



Yield Improvement: 12.7 Te/ha

Quality was also evaluated and treatment increased the percentage of larger tubers. Skin finish was also improved.



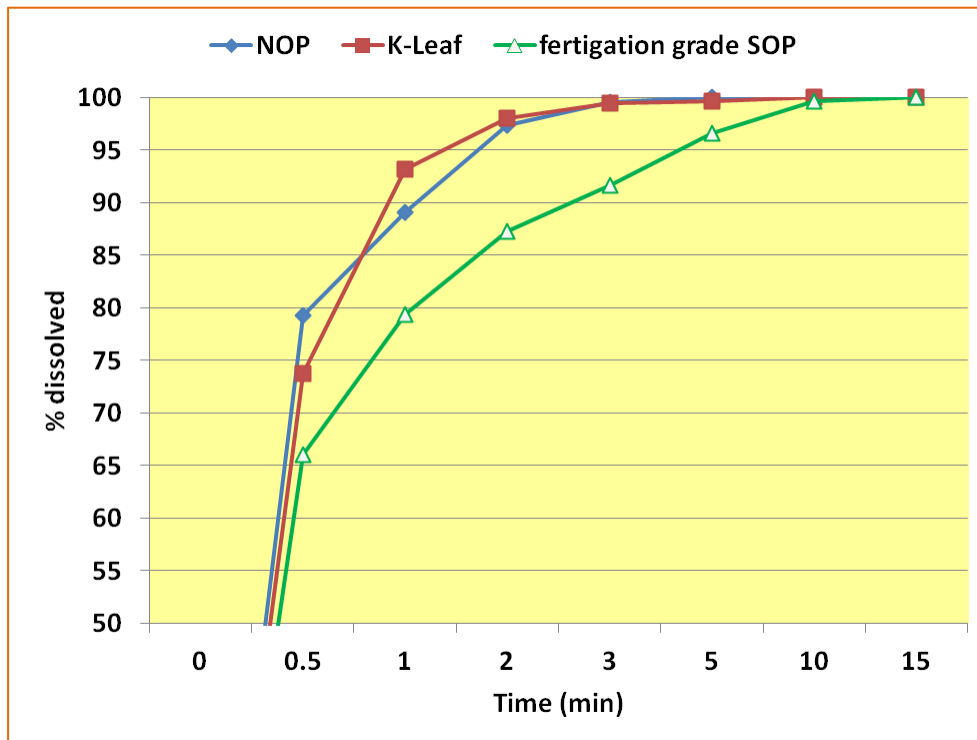
Good for bakers!

Why K-LEAF™ (better chemical and physical properties)

Traditional potassium sulphate products are slow to dissolve in water so not a realistic proposition for modern sprayers. In response to this K-LEAF which is three times more soluble than the very best existing formulation (Solupotasse™) has been developed. The main chemical and physical properties are compared in the table below, data in red is crucial.

Chemical Data	Typical (K-LEAF)	Guarantee (K-LEAF)	Typical (Solupotasse)	Guarantee (Solupotasse)	Physical Data	Typical (K-LEAF)	Typical (Solupotasse)
K ₂ O %	52.0	51.5	51.0	50.5	Ganulometry	> 0.120 mm	75-80%
Cl %	0.2	0.5	0.8	1.0		> 0.100 mm	25%
H ₂ O %	0.07	-	0.02	-		< 0.06 mm	25%
SO ₄ %	56	-	56	-		< 0.045 mm	10%
pH (1% soln)	2.9	-	2.7	-	Bulk density	loose	1.44
Insol %	0.03	-	<0.2	-		struck	1.10
Solubility at 25 °C	135g in 1000 ml H ₂ O		135g in 1000 ml H ₂ O		Angle of repose	35°	40°
Dissolution Speed	90% after 1 min		90% after 3 min				

Relative solubility rates of K-LEAF™ compared to potassium nitrate (NOP) usually regarded as a benchmark for solubility and fertigation grade SOP are shown below



The superior solubility of K-LEAF™ is clearly demonstrated.

Directions for use

Application rates: 2.5 – 10 kg per ha (typically 6.0 kg/ha for a single application).

Directions: Apply as a conventional foliar spray using a convenient volume of water to suit the crop being sprayed – typically 200 litres per ha. Observe normal foliar application precautions.

Application Timing: In general begin applications early in the season when there is sufficient leaf area to absorb the spray.

Crop specific directions are tabulated below:

Crop	Rate of use (kg/ha/application)	Number of applications	Application stage
Wheat	5 to 10	1-2	End of booting to grain filling
Maize	4 to 10	1-2	Starting at 5-7 leaves
Potato	5 to 12	2-4	During 4-5 weeks from tuber initiation
Oilseed rape	4 to 10	1-2	Up to flowering
Sugar Beet	6 to 12	2-4	Full coverage

K-LEAF product details

Pack: 20 kg net polythene sacks.

Pallet: 56 sacks per standard pallet (1,120 kg net).

Health & Safety: An MSDS is available to professional users upon request.



Conclusions

K-LEAF™ :

- Is the very best quality product for purpose
- Is a no frills foliar fertilizer
- Has full technical support
- Produces proven agronomic results
- Easily gives extra profitability

More at solufeed.com

Acknowledgements

All data in this document courtesy of Tessenderlo Group.

UX4200 spraying machine photo courtesy of Amazone Ltd.

Important

Always read the label before using any product.

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Please note that products may differ or be unavailable in certain territories.

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