



Kantor®
ADJUVANT

MINIMISES PRESSURE. MAXIMISES PERFORMANCE.

ACROSS THE ENTIRE SPRAYING OPERATION



Uniquely versatile, only Kantor® gives
you the flexibility for success



INTERAGRO
THE ADJUVANT EXPERTS

PART OF



NICHINO

www.nichino.uk

Pressure points impact efficacy

High-performance crop protection sprays are increasingly vital in keeping yield-robbing weeds and diseases at bay. As input prices continue to soar, you need to make sure you're getting the best possible return on your investment. Challenging weather, spraying conditions, incompatibility and other crop protection weaknesses all put added pressure on your spraying workload, reducing its efficacy over time. Adding Kantor® to your spray programmes is the #1 thing you can do to alleviate the issues caused by these pressure points and achieve the superior performance you and your crops need.

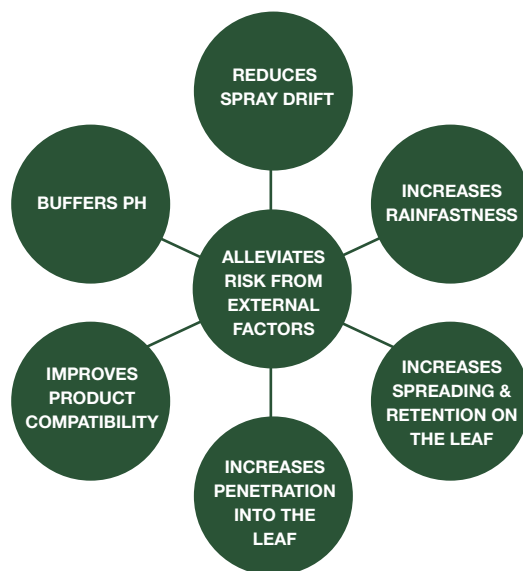
KANTOR® ALLEVIATES PRESSURE POINTS ACROSS THE ENTIRE SPRAYING OPERATION

Kantor® is the only activator adjuvant that does everything.

Kantor® buffers spray water to pH6-7, improves tank-mix compatibility, reduces spray drift, and enhances product effectiveness by increasing coverage, adhesion and penetration across plant surfaces. In fact, it's the only 1-can adjuvant solution on the market that alleviates risk across the entire spraying operation– from tank-mixing, through spraying to action on target plants.

Uniquely versatile, only Kantor® gives you the flexibility for complex tank-mixing in a single pass without the risk of crop damage. It also allows you to maximise product efficacy where water quality is poor, keeps you spraying in challenging weather conditions, enhances coverage, and optimises crop protection and nutrition.

Only Kantor® gives you the flexibility needed for optimal efficiency and effectiveness, helping you to maximise the return on your investment in a busy season when you need it most.



THE DOES-EVERYTHING ADJUVANT THAT GIVES YOU THE FLEXIBILITY FOR SUCCESS



Enables complex tank-mixing in a single pass



Creates optimal conditions for spray mix stability



Keeps you spraying in challenging weather conditions



More effective protection against invading pests, weeds, diseases, and lodging



Improves the efficiency and effectiveness of all products in your tank including herbicides, fungicides, insecticides, PGRs, and nutrition



Kantor®

Promotes emulsification

Tank-mixing chemicals gives you flexibility, saves time, and may increase pesticide effectiveness. Kantor® helps vital components mix together properly so you can avoid a tank-mixing disaster.

Water is not a great carrier for agricultural chemicals. As a charged polar molecule, variability in water temperature and quality can affect how well products dissolve into it.

Common causes of incompatibility:

- A large number of products added to the tank– more than three products increases the risk.
- Product formulation– some formulations do not mix well e.g. wettable powders, emulsifiable concentrates, and salt formulations.
- Mixing conditions including low water volumes, high pH, hardness, and low water temperature.

Kantor's unique adjuvant properties promote emulsification, enabling complex tank-mixing in a single pass.

Promotes compatibility

Extensive testing over the years shows adding Kantor® to the spray tank before adding chemicals, speeds up the mixing process and helps traditionally incompatible mixtures to blend together. This was proven initially with research at Agrochemex showing improved compatibility between chlorothalonil and prothioconazole (right).

Kantor® improved compatibility between prothioconazole & chlorothalonil

Low water volume and cold temperature (4°C)

Product name	Water Volume	Product Rate per ha	Static Test of Mixture		
			5 mins	30 mins	120 mins
Boogie XPRO+CTL	80L	1.5L + 1.0L	H	S ↓ 5	S ↓ 10 R
KANTOR + Boogie XPRO+CTL	80L	150ml (0.18%) + 1.5L + 1.0L	H	S ↓ 0.1	S ↓ 0.1R

Abbreviations:

H: Homogenous

S: Sedimentation

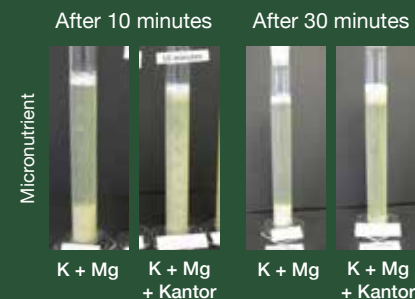
↓ : Direction of sediment

Figures represent % mixture at bottom of the cylinder R : Re-dispersible after 2 hours

Mixing made easy

New tank-mixing and compatibility studies at Eurofins in 2022 (below) highlighted how Kantor® helps tricky micronutrient mixtures dissolve and remain in solution with less flocculation and sedimentation– allowing them to be fully absorbed by plants.

Kantor® improved micronutrient mixing



Tank-mix recovery may also be possible

In 2023, a complex 7-way tank-mix application to asparagus proved problematic for Evesham Vale Growers spray operations manager, Will Parrott. Settling and sedimentation in the spray tank was leaving sprayer nozzles almost completely blocked. By adding Kantor®, Will was able to recover his mix and apply to the crop with no further issues.



“Kantor® totally brought the whole mix back into a homogenous solution. We left it overnight and it was still in suspension the next morning.

The lesson learnt was for complicated tank-mixes, always add Kantor®. It saves so much time.”

Will Parrott, Operations Manager, Evesham Vale Growers



Kantor®

Prevents alkaline hydrolysis

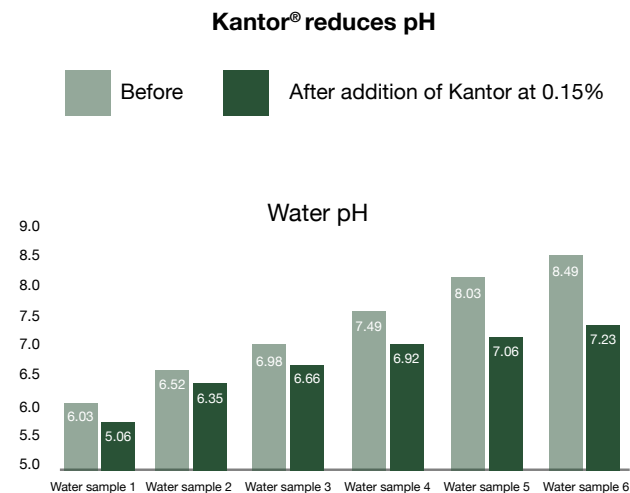
The conditions in which you mix your crop protection chemicals can affect their lifespan and absorption into plants.

Water may be an essential carrier for your pesticide application, but it can also destroy the active ingredients in your crop protection if its pH is too high. Many products undergo a chemical reaction known as alkaline hydrolysis in water. The more alkaline the water, the faster the breakdown, reducing absorption into plants.

Adding Kantor® to the spray tank before adding your spray chemicals conditions the water by lowering pH, preventing alkaline hydrolysis and creating optimal conditions for spray mix stability.

More durable mixes

Kantor® buffers spray water to pH6-7, the most stable pH for most of the crop protection products you will be adding to your spray tank.



Alliance Technical, UK Aug 2020

Kantor®

It's highly versatile

Achieving high-performance crop protection sprays is becoming increasingly vital in keeping on top of yield-robbing pests, weeds, and diseases.

Against a backdrop of soaring input prices, you need performance you can rely on, with maximum payback from your investment.

But with many adjuvants tailored to specific products such as herbicides, or fungicides, how can you improve the efficiency and effectiveness of each component of your tank-mix, without using a separate adjuvant tailored to each?

Kantor® is the unique 1-can adjuvant solution that's highly versatile, benefiting the efficiency and effectiveness of all products in the spray tank:

- Herbicides
- Fungicides
- Insecticides
- Plant growth regulators
- Nutrition

Kantor®

Extends the spray window for chemical application

Timely on-target application is crucial for crop protection efficacy.

Spray drift and forecast rain can delay spraying putting crops at risk.

Improving rainfastness and delivering valuable drift reduction, Kantor® extends the spray window of opportunity for chemical applications, keeping you spraying whatever the weather.

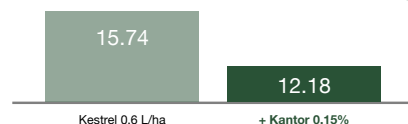
Buys you time

As well as enhancing the rainfastness of applications, Kantor® enables more precise and targeted applications by significantly reducing the number of <100 micron fine spray droplets which are the most susceptible to drift.

Crucially, this reduces the risk of off-target damage and environmental contamination, while also providing flexibility in scheduling crop protection applications.

Kantor® reduced the number of drift prone spray droplets

Effect of Kantor on spray droplet distribution
% Spray volume < 100 microns



23%
Less Drifty
Droplets

Source: Silsoe Spray Application Unit UK, 2018. Lurmark 03 F110 Flat Fan, 200 l/ha of water. Measurements made of droplet size distribution using laser diffraction.

T0 Fungicide



T0 Fungicide + Kantor®



"Kantor® has become an essential companion for the majority of our applications. Our spray days are often limited, so when sprayers are running, we have to make the most of it and get the best out of the chemicals we're using - which is getting more and more difficult every year. I'm passionate about spraying and always looking to learn and improve on what we're doing, so when an Agrii agronomist introduced us to Kantor®, I was keen to know more.

It sounded impressive, so I tried it myself, doing trials with different types of jets. The drift control was obvious immediately, and what I was really impressed with is how much better the chemistry spread on the leaf - when you turned around at the end of the field you could see the leaf was really wet, as if you'd wiped it, rather than just sprayed it on in little droplets. I think that was the best coverage I'd achieved to date at that point."

Martin Smart,
Farm Manager, Wiltshire

Kantor®

Enhances coverage of target plants

Good coverage of plant surfaces is crucial for protectant fungicides & contact herbicides to work effectively.

While coarse spray droplets can cause droplet bounce, high surface tension prevents the spreading of droplets on plant surfaces, limiting both coverage and effectiveness.

Kantor® enhances coverage of target plants leading to more effective protection against invading pests, weeds and diseases.

Improved adhesion and spreading

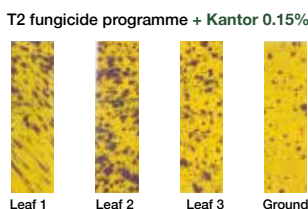
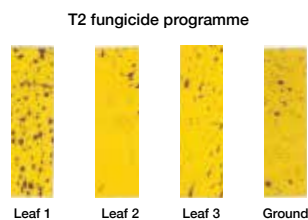
As well as reducing the small “drifty” droplets, Kantor® also reduces the number of coarse droplets, creating a more optimal droplet size for improved deposition and adhesion to plant surfaces— as shown by these deposition papers (right).

What’s more, Kantor’s ability to reduce surface tension and promote spreading results in better coverage of target plants and leaf layers, leading to more effective treatment overall.

Effect of Kantor® spray coverage with low drift nozzle

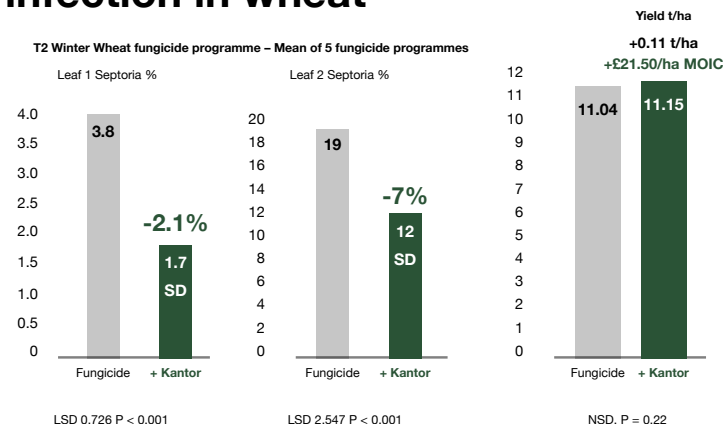
12kph 100 l/ha Lechler IDK120° 03 air induction coarse spray quality

Effective with flat fan and low drift nozzles.



Source: Agrii UK, Throws Farm 2016. Fungicide programme: Boogie Xpro + Bravo + Tucana in 100 l/ha water.

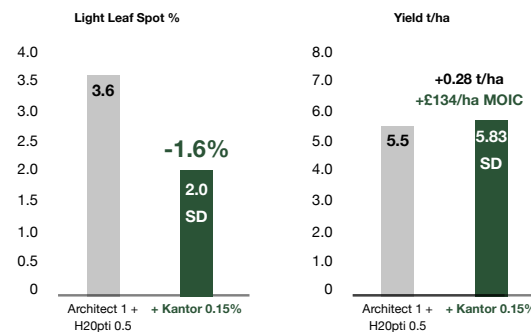
Significant reduction in septoria infection in wheat



2878 Ludlow. All treatments applied at T2. (Standard T1 was Helix 0.75 + Imtrex 0.75 + Pheonix 1). SD = Significant difference to fungicide alone. Winter Wheat cv Elation. Grain price used for MOIC £250/t, Kantor price £6/ha per application.

+£21.50/ha margin over input cost

Significant reduction in light leaf spot infection in WOSR



21834, Balbeggie, Scotland. Winter Oilseed Rape. Light Leaf Spot untreated infection 4.8%. SD = Significant difference to fungicide alone. Grain price used for MOIC £500/t, Kantor® price £6/ha.

+£134/ha margin over input cost

Fungicide + Kantor®

Significant disease reduction in crop base

Fungicide Only

Kantor®

Helps active ingredients get to work faster

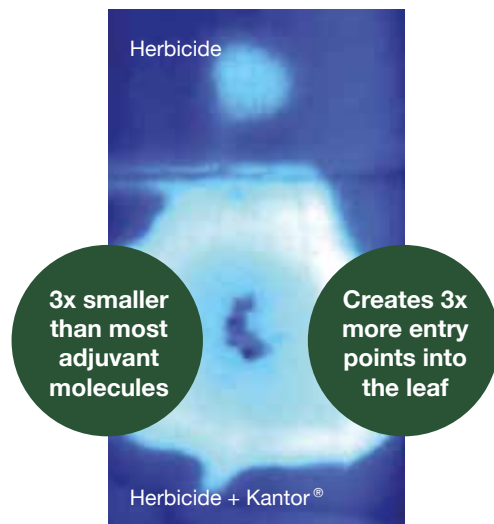
Effective uptake and distribution within plants is crucial for the efficacy of curative fungicides, contact herbicides and plant growth regulators.

The waxy cuticle on the upper and lower surfaces of plants is the biggest barrier the active ingredients in crop protection have to work against. As plants grow, it becomes thicker and tougher to penetrate. Uptake also slows in cold conditions, which can be disastrous if you're facing spraying delays.

Kantor's unique penetrative power secures rapid uptake into plants, ensuring active ingredients get to work faster for more effective prevention from weeds, diseases and crop lodging.

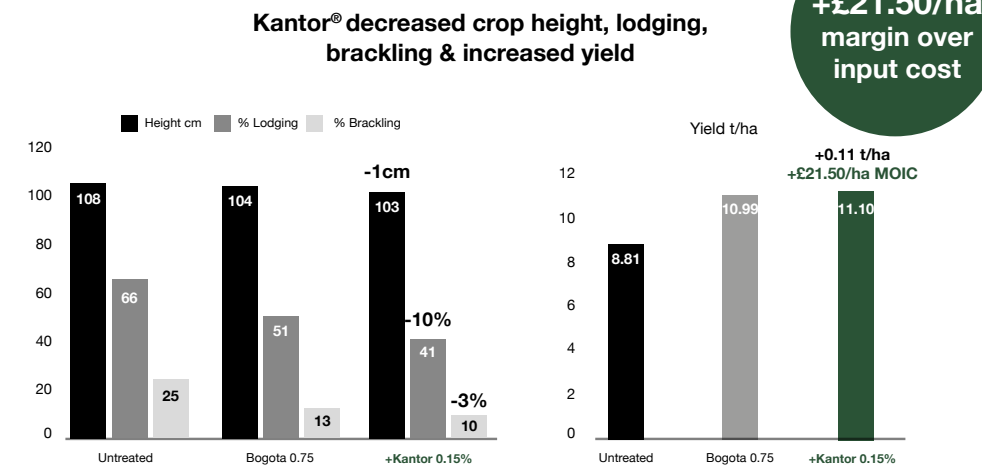
Intense penetrating power

Research at Wageningen University using UV tracer dye, shows Kantor® delivers higher concentrations of crop protection /foliar nutrition to the leaf cuticle, leading to significantly higher uptake into plants.

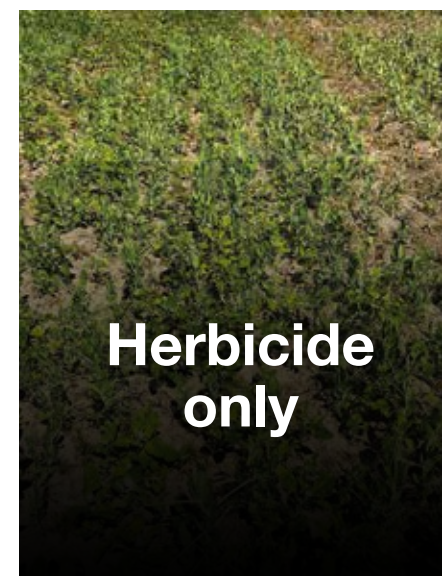


Reduced lodging & yield gains in barley

PGR uptake is often compromised in cool conditions. Adding Kantor® to PGR applications increases uptake into plants leading to improved plant shortening and protection from lodging/brackling as shown in this barley trial below.



Agrii 20092 Friday Bridge, Winter Barley KWS Gimlet. Treatments Applied at GS25. Standard Adjust 1 + CC Alatrino Evo 1.5 at GS32 and Bogota 0.75 + Kantor 0.15% at GS37. NSD. Grain price used for MOIC £250/t, Kantor price £6/ha.



Valuable weed control & yield benefits in Peas

Below: Birds Eye 2021 Yorkshire. Vining Peas cv Linnea. Treatments applied post-em on 10th June when crop at 4 nodes. Weeds at 3TL plus.

Basagran

Basagran + Kantor®

Untreated

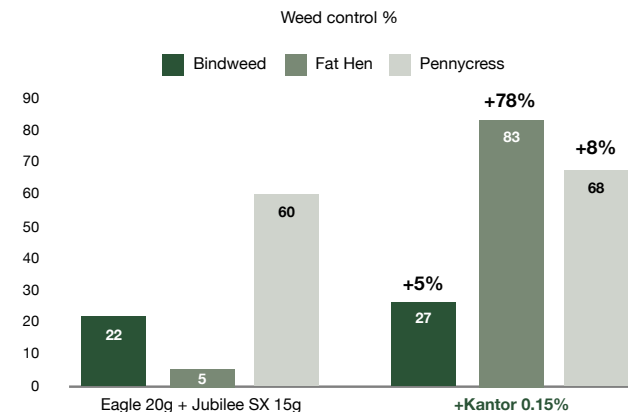
With Kantor®

14%
Less weeds

4 extra
pea plants
per sqm

+2%
Yield

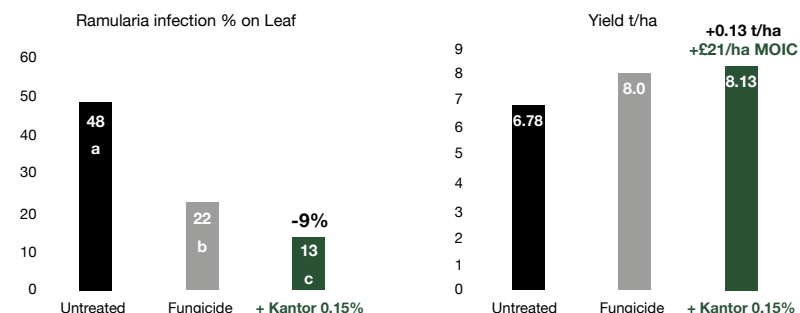
Valuable weed control benefits in spring linseed



21148 Throws Farm. Spring Linseed cv Emma. Applications at 10cm tall. Untreated broadleaf weed ground cover 46%

+£21/ha
margin over
input cost

Significant reduction in ramularia infection in barley



Institute of Hop Research and Brewing, Slovenia 2020 – Winter Barley cv Concordia Fungicide programme T1 Elatus Era 1.0 fb T2 Zantara (bixafen + tebuconazole) 1.5. NSD on yield. Grain price used for MOIC £250/t, Kantor® price £6/ha per application.



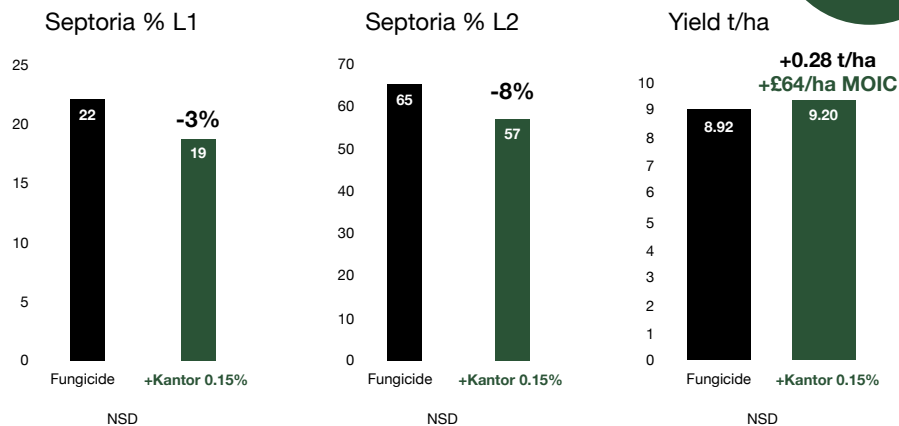
Kantor®

The flexibility for success

Latest trials show Kantor® can add valuable efficacy to the latest fungicides delivering more effective disease control and higher yields.

Valuable reduction in septoria infection & yield gains

T2 Winter Wheat fungicide programme
Mean of 5 fungicide programmes

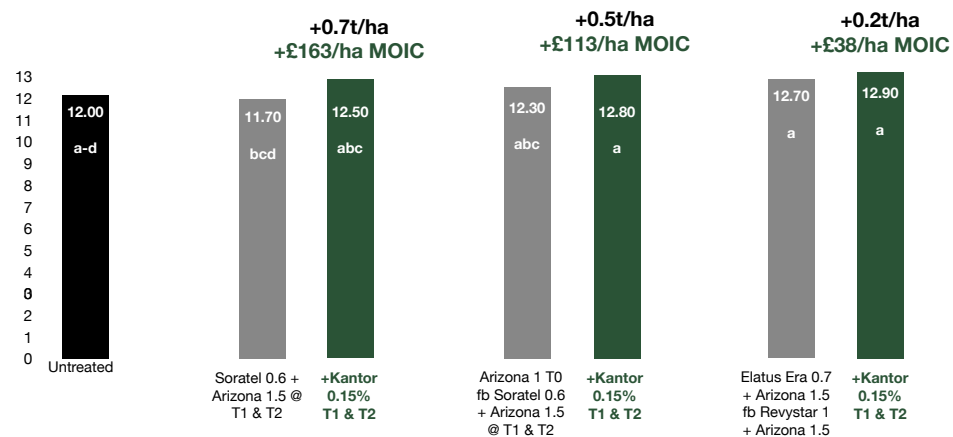


+£64/ha
margin over
input cost

22879 Saltash. All treatments applied at T2 (Standard T0 was Sakura 0.6 + Pheonix 1 and T1 was Helix 0.75 + Imtrex 0.75 + Pheonix 1). Winter Wheat cv Elicit. Grain price used for MOIC £250/t, Kantor® price £6/ha per application.

Valuable returns with the latest fungicides

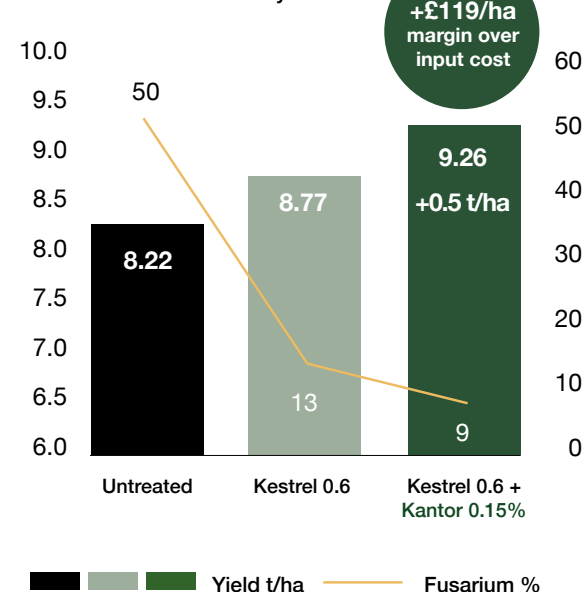
Effects of Kantor® and fungicides on Yield t/ha in Winter Wheat cv Gravity



Enviroworld 2022 Flawborough. Winter Wheat cv Gravity. Soratel contains prothioconazole. Standard T3 Soratel 0.3 + Comet 0.3 (Except Untreated). Different letters signify significant difference between treatments. Grain price used for MOIC £250/t, Kantor price £6/ha per application.

Reduced fusarium infection & yield gains from T3 application

Fusarium infection % and yield t/ha



Source: Agrii Yorkshire N=2 trials: 2015 and 2016. Treatments applied GS59. Grain price used for MOIC £250/t, Kantor® price £6/ha per application.

The only adjuvant that helps you mitigate risks across the entire spraying operation, giving you the flexibility for success.

Recommended use

Based on the unique, patented class of adjuvant chemistry: alkoxyated triglycerides, Kantor® offers the broadest range of benefits of any adjuvant on the market. Uniquely versatile, adding Kantor® to your spray mixture gives you the flexibility to enhance the performance of all products in your tank– post-emergence herbicides, fungicides, insecticides, PGRs, and nutrition.

Typical situations to include Kantor®:

- ✓ Spray water above pH7
- ✓ Tank-mixing in cold water
- ✓ More than 3 products in the spray tank
- ✓ Products that can be hard to mix e.g. wettable powders, emulsifiable concentrates
- ✓ Low-water volume spraying
- ✓ Drifty conditions
- ✓ Catchy weather
- ✓ Late applications
- ✓ Curative and protectant fungicides sprays
- ✓ Difficult weeds– especially if weeds hairy/ large/very waxy/cool conditions
- ✓ Early season PGRs
- ✓ Applications to sensitive crops to improve crop safety

How to apply

Classification	Adjuvant
Composition	Emulsifiable concentrate containing 790 g/l alkoxyated triglycerides
Recommended use	With all approved fungicides, plant growth regulators, post-emergence herbicides, insecticides and nutrition. Kantor® will improve the efficiency and effectiveness of all products in your spray tank.
Rates of use	Apply Kantor® at a rate of 0.15% of the final spray volume
Mixing order	Add Kantor® to the spray tank first before adding plant protection products or fertiliser
Pack size	5 litres
UK supplier	Kantor® is available to purchase through Agrii



Approved label crops in the UK

Kantor® benefits an extensive list of crops.

Kantor® may be used with all approved plant protection products applied at full rate up to and including the following crop growth stages below.

Application of Kantor® beyond the latest timing is permitted only where using half the approved rate of the plant protection product and up to the latest timing of the plant protection product.

In cereals, Kantor® may also be used with all authorised triazole and morpholine fungicides at their full recommended rate and latest timing.



	Arable & Veg.			Fruit and Salad	
		Latest timing of application			Latest timing of application
	Cereals	Up to and including 1/4 inflorescence (GS52)		Almond	Up to and including first fruit set
	Beans*	Up to and including first pod set		Apple and Pear	Up to and including fruit 5 - 10 mm
	Broccoli / Calabrese	Up to and including heads begin to form		Apricot and Cherry	Up to and including first fruit set
	Brussel Sprout	Up to and including lateral buds begin to form		Aubergine	Up to and including first fruit set
	Cabbage	Up to and including heads begin to form		Black / Strawberry	Up to and including first fruit development
	Carrot and Parsnip	Up to and including 9 true leaves unfolded		Black / Redcurrant	Up to and including first visible green fruitlet
	Cauliflower	Up to and including heads begin to form		Chilli and Pepper	Up to and including first fruit set
	Collard and Kale	Up to and including main shoot at 30% of height		Cucumber	Up to and including first fruit set
	Combining Peas	Up to and including flat pod		Lettuce (heads)	Up to and including heads begin to form
	Forage Maize	Up to and including tip of tassel visible		Lettuce (no heads)	Up to and including leaf rosette 30% diameter
	Hops	Up to and including cone set		Melon	Up to and including first fruit set
	Leak and Onions**	Up to and including 9 leaves clearly visible		Peach and Nectarine	Up to and including first fruit set
	Linseed	Up to and including 10% capsule formed		Plum	Up to and including first fruit set
	Oilseed Rape	Up to and including 10% of pods at final size		Raspberry	Up to and including first fruit set
	Potatoes	Up to and including tuber initiation		Rocket	Up to and including 3rd true leaf unfolded
	Pumpkin / Squash	Up to and including first fruit set		Sweetcorn	Up to and including tip of tassel visible
	Soyabean	Up to and including first pods visible		Tomato	Up to and including first fruit set on first truss
	Spinach	Up to and including leaf rosette 30% diameter		Wine / Table Grapes	Up to and including first fruit set
	Red / Sugar Beet	Up to and including 6 leaves fully expanded			
	Swede and Turnip	Up to and including 9 true leaves unfolded			
	Vining Peas	Up to and including flat pod			

Beans*: Includes Broad, Dwarf French, Field, Runner, Edible Podded Pea
Onions**: Includes Bulb, Salad, Shallot, Garlic



Frequently asked questions

Will I still benefit from adding Kantor® to a large tank-mix which may already contain a lot of surfactant?

Yes, Kantor® helps aid compatibility so will reduce the chance of mixing problems, help maintain products in solution, and still offer other benefits such as drift reduction and improved coverage and uptake into the leaf.

Why are tank-mix adjuvants more effective than in-built wetting systems?

Most crop protection products have an in-built adjuvant wetting system to reduce surface tension on leaf surfaces, but it's usually never enough. This is because crop protection products are recommended at a rate per hectare - the rate does not take your water volume into account. Tank-mix adjuvant application rates like Kantor® are based on total water volume for optimal reduction in surface water tension and enhanced coverage across target plants.

How does Kantor® increase the uptake of active ingredients into the leaf?

The triglyceride structure allows for more adjuvant molecules to line up at the droplet plant interface. The molar volume is smaller than for other individual molecules, hence more stacking at the interface and better trans-laminar mobility in the leaf.

Can I use Kantor® with herbicides in more sensitive crops, such as vining peas?

Yes, trials have shown Kantor® is crop safe and we see positive improvements in weed control.

Why is Kantor® a safer choice for weed control in sensitive crops compared to oil-based adjuvants?

Oil based adjuvants can improve penetration into the leaf by modifying (solubilising) leaf surface waxes. These can cause injury if applied with a herbicide under less-than-ideal moisture conditions. Kantor®'s mode of action is unique – it increases the number of molecules per square unit that are in contact with the cuticle, which increases the number of entry points (like increasing the number of lanes on a motorway), but it does not disrupt the cuticular wax as most adjuvants do.

Will Kantor® benefit multisite as well as systemic chemistry?

Yes, multisite products benefit from retention and spreading, maximising protection across the whole leaf. Field trials over the years have shown positive improvements in disease control. Systemic products will be helped into the plant through the gentle penetrating properties. This can be advantageous in cold conditions when cuticle wax will be less permeable, slowing mobility, and in curative disease situations when rapid fungicide performance is crucial to disease control.

How to order

Kantor® is available
to purchase from Agrii

Get in touch

For more information visit
www.nichino.uk

Technical Support:

Will Ramsay

Mobile: 07568 107994

Email: wramsay@nichino-europe.com

General Enquiries:

Nichino UK

Email: info@nichino.uk



INTERAGRO
THE ADJUVANT EXPERTS

PART OF



NICHINO

Kantor® is a registered trademark of Interagro (UK) Ltd. All trademarks of other companies are acknowledged where proprietary rights may exist. Use crop protection products safely, always read the label before use.

For more information, visit www.nichino.uk