



# NICHINO

# MINIMISES PRESSURE. MAXIMISES PERFORMANCE.

ACROSS THE ENTIRE SPRAYING OPERATION



**Kantor**<sup>®</sup>  
ADJUVANT

FORMERLY  **INTERAGRO**  
THE ADJUVANT EXPERTS

[www.nichino.uk](http://www.nichino.uk)



# ALLEVIATE PRESSURE POINTS ACROSS THE ENTIRE SPRAYING OPERATION with Kantor®

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

## 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.

## ALLEVIATES RISK FROM EXTERNAL FACTORS



IMPROVES PRODUCT  
COMPATIBILITY



INCREASES  
RAINFASTNESS



REDUCES SPRAY DRIFT



BUFFERS PH



INCREASES SPREADING &  
RETENTION ON THE LEAF



INCREASES PENETRATION  
INTO THE LEAF



## 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:

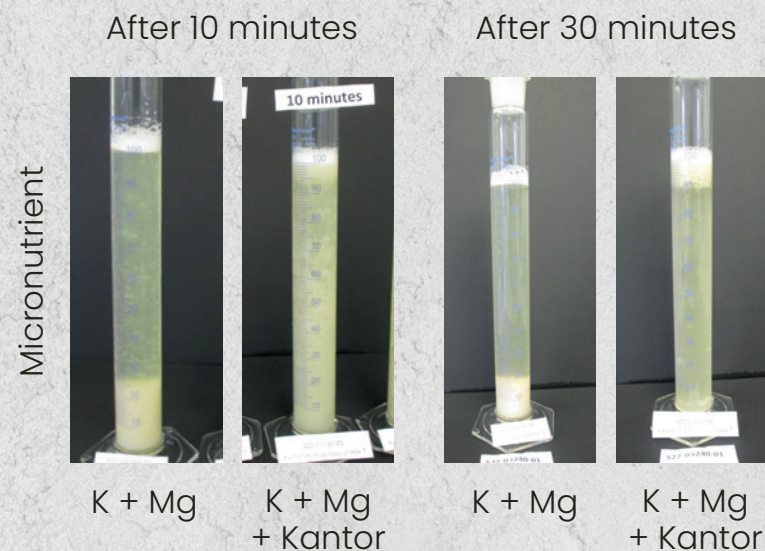
- A large number of products added to the tank– more than three products increases the risk.
- Product formulation– some formulations do not mix well e.g. wettable powders, emulsifiable concentrates, and salt formulations.
- Mixing conditions including low water volumes, high pH, hardness, and low water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

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

## 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.

Incompatible  
7- way tank-mix



Phase separation +  
sedimentation

After addition  
of Kantor



Fully mixed and  
in solution



# PREVENTS ALKALINE HYDROLYSIS

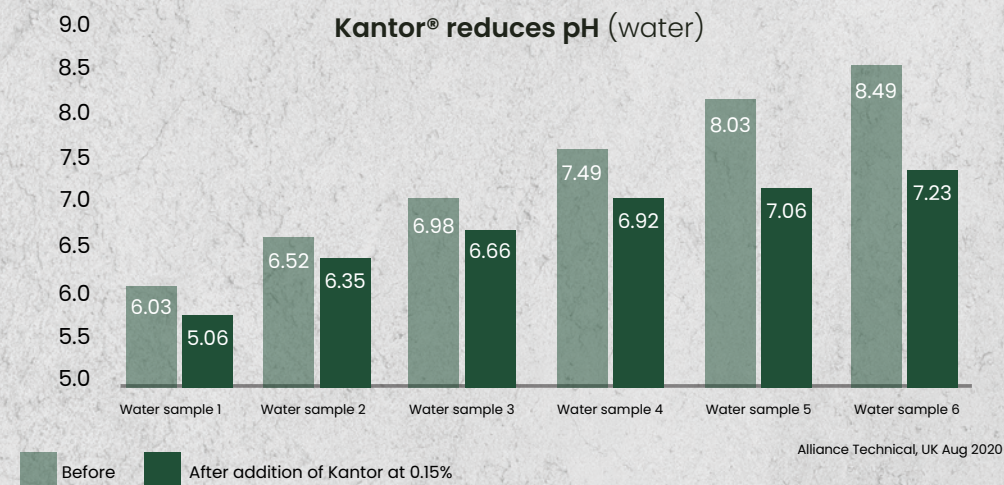
The conditions in which you mix your crop protection chemicals can affect their lifespan and absorption into plants.

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.



## IT'S HIGHLY VERSATILE

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.

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



# 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

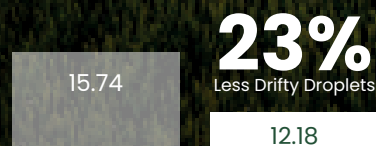
As well as enhancing the rainfastness of applications, Kantor enables more precise and targeted applications by significantly reducing the number of <100 micron fine spray droplets which are the most susceptible to drift.

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



Kestrel 0.6 L/ha

+ Kantor 0.15%

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®





# 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.

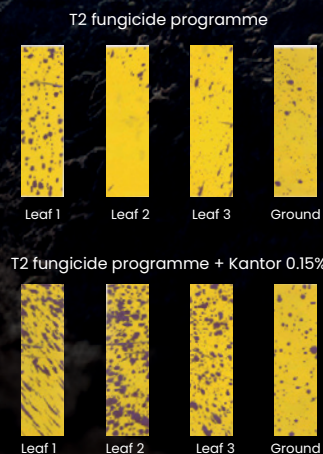
## IMPROVED ADHESION AND SPREADING

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

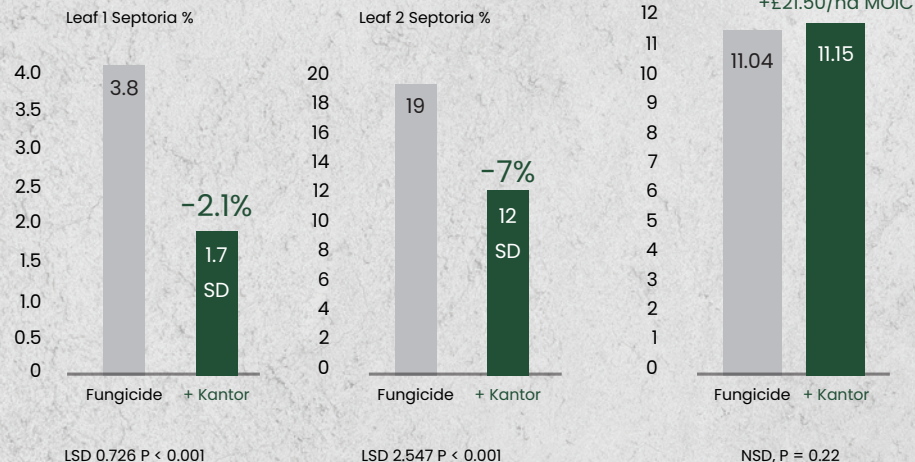
12kph 100 l/ha Lechler IDK120°  
03 air induction coarse spray quality



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

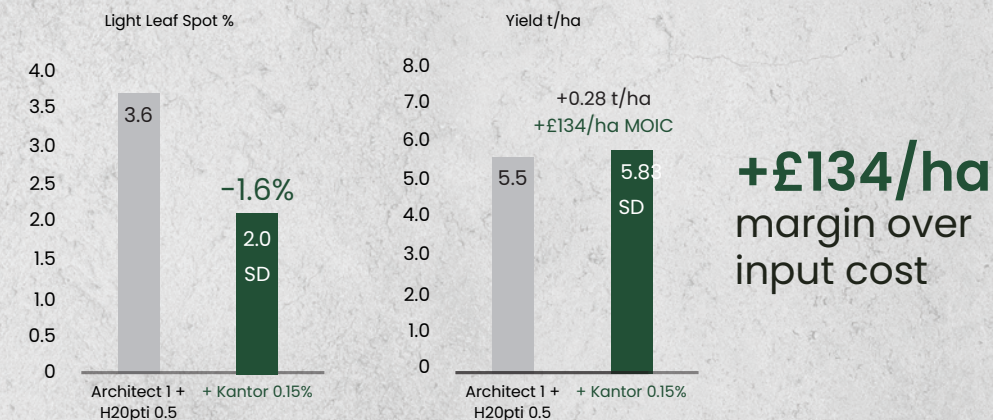
## SIGNIFICANT REDUCTION IN SEPTORIA INFECTION IN WHEAT

T2 Winter Wheat fungicide programme – Mean of 5 fungicide programmes



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.

## SIGNIFICANT REDUCTION IN LIGHT LEAF SPOT 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.





## HELPS ACTIVE INGREDIENTS GET TO WORK FASTER

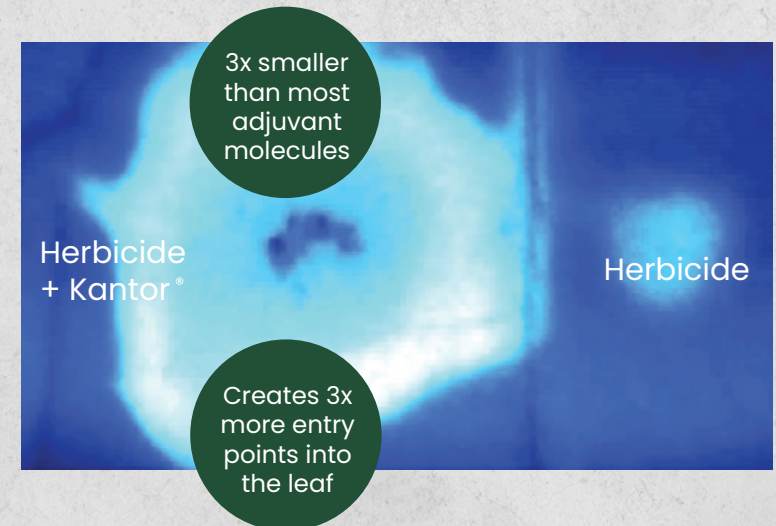
Effective uptake and distribution within plants is crucial for the efficacy of curative fungicides, contact herbicides and plant growth regulators.

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.



Fungicide  
+ Kantor®

Significant disease  
reduction in crop base

Fungicide  
Only

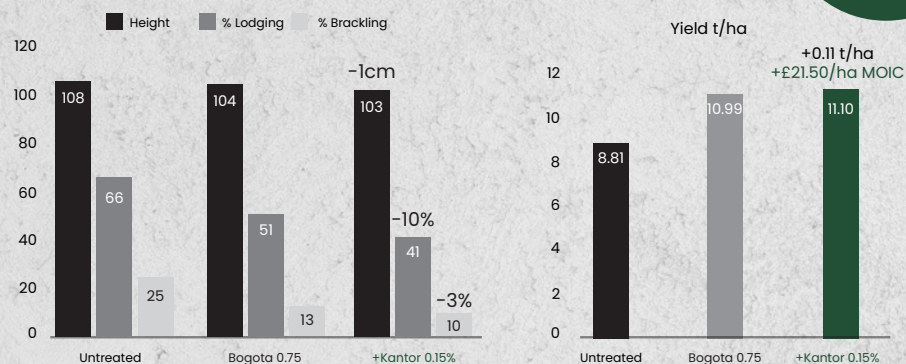


## REDUCED LODGING & YIELD GAINS IN BARLEY

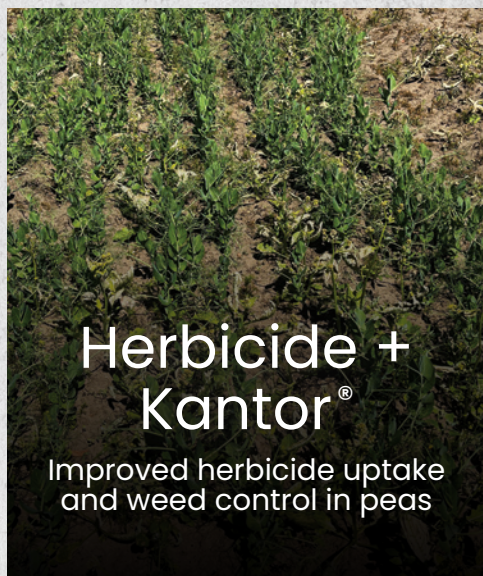
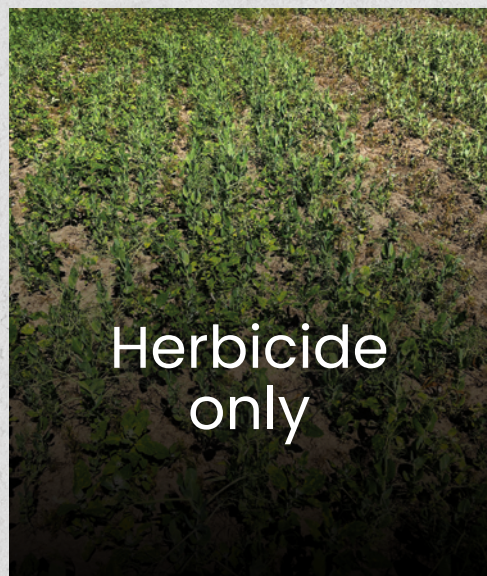
PGR uptake is often compromised in cool conditions. Adding Kantor to PGR applications increases uptake into plants leading to improved plant shortening and protection from lodging/brackling as shown in this barley trial below.

**Kantor® decreased crop height, lodging, brackling & increased yield**

**+£21.50/ha  
margin over  
input cost**



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®**

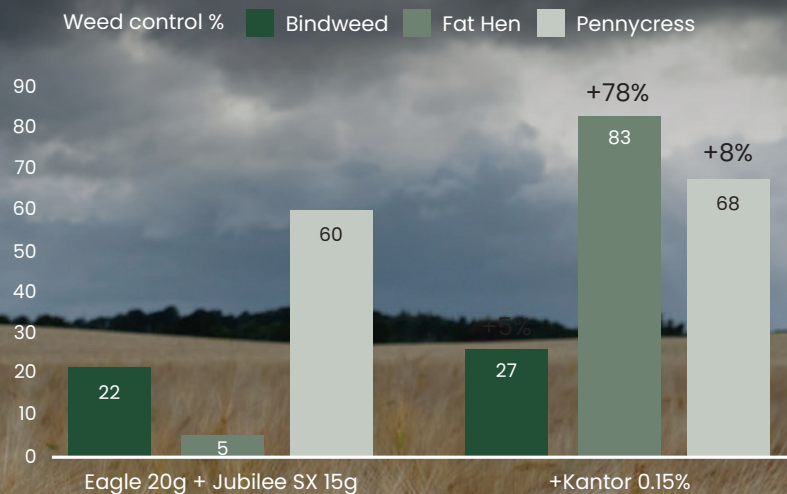
**14%**  
Less weeds

**4 extra**  
pea plants  
per sqm

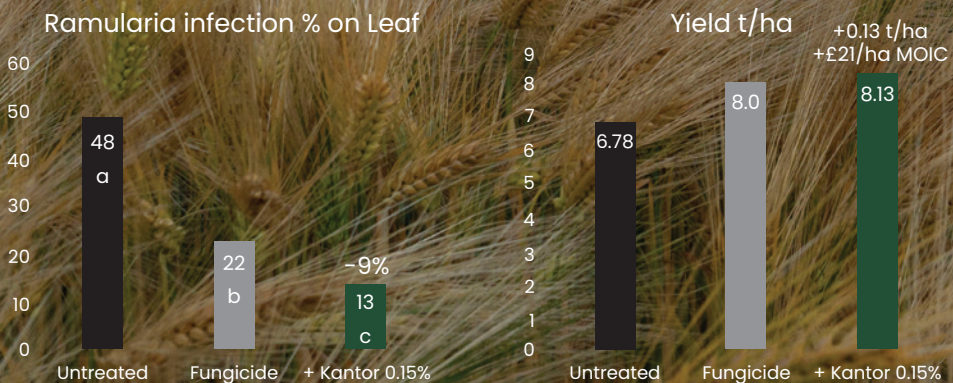
**+2%**  
Yield



## VALUABLE WEED CONTROL BENEFITS IN SPRING LINSEED



## SIGNIFICANT REDUCTION IN RAMULARIA INFECTION IN BARLEY



+£21/ha  
margin over  
input cost

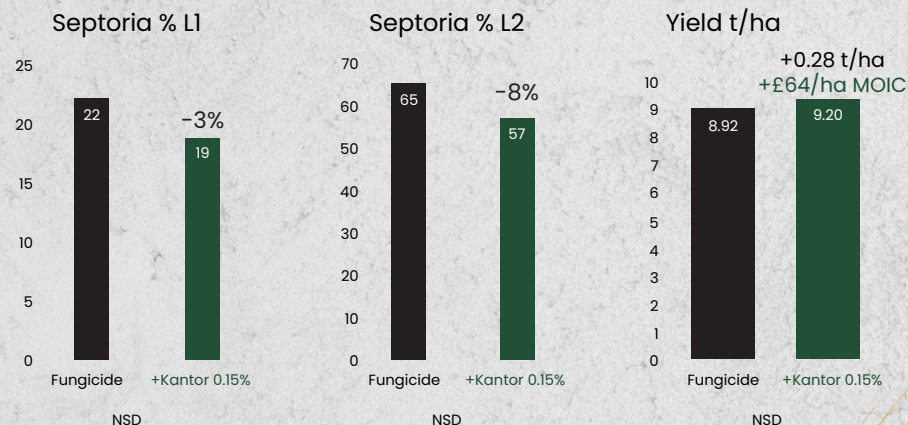
## THE FLEXIBILITY FOR SUCCESS

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.

## VALUABLE REDUCTION IN SEPTORIA INFECTION & YIELD GAINS

T2 Winter Wheat fungicide programme  
Mean of 5 fungicide programmes

+£64/ha  
margin over  
input cost



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

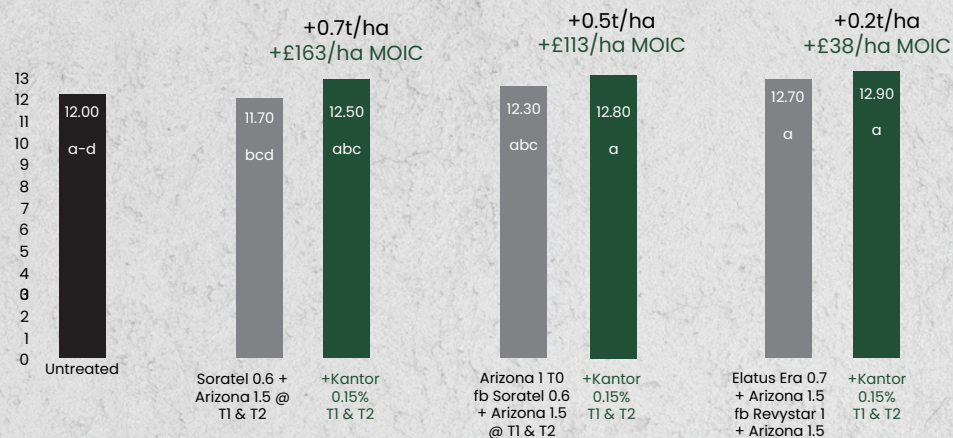
Bottom: Institute of Hop Research and Brewing, Slovenia 2020 – Winter Barley cv Concordia Fungicide programme T1 Elatus Era 1.0 fb T2 Zantara (bixafen + tebuconazole) 1.5. NSD on yield. Grain price used for MOIC £250/t, Kantor\* price £6/ha per application.

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.



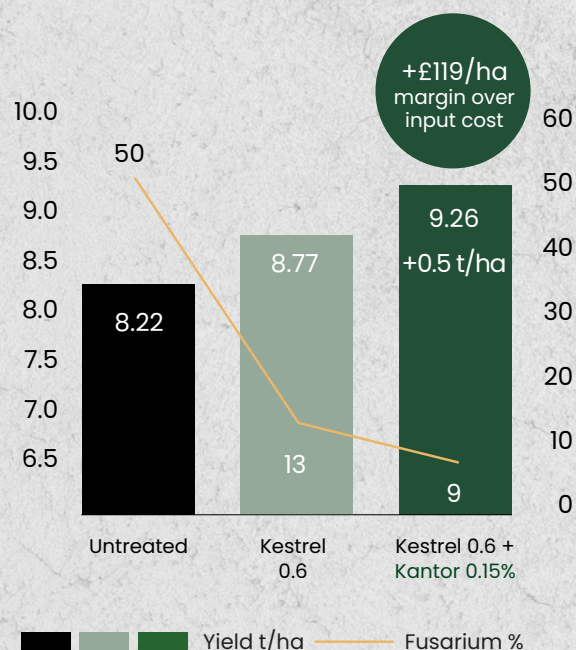
## VALUABLE RETURNS WITH THE LATEST FUNGICIDE

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



## REDUCED FUSARIUM INFECTION & YIELD GAINS FROM T3 APPLICATION

Fusarium infection % and yield t/ha



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

TOP: Envirofield 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.

Bottom: 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.



# 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.	Latest timing of application
Cereals	Up to and including 1/4 inflorescence (GS52)
Beans*	Up to and including first pod set
Broccoli / Calabrese	Up to and including heads begin to form
Brussel Sprout	Up to and including lateral buds begin to form
Cabbage	Up to and including heads begin to form
Carrot and Parsnip	Up to and including 9 true leaves unfolded
Cauliflower	Up to and including heads begin to form
Collard and Kale	Up to and including main shoot at 30% of height
Combining Peas	Up to and including flat pot
Forage Maize	Up to and including tip of tassel visible
Hops	Up to and including cone set
Leak and Onions**	Up to and including 9 leaves clearly visible
Linseed	Up to and including 10% capsule formed
Oilseed Rape	Up to and including 10% of pods at final size
Potatoes	Up to and including tuber initiation
Pumpkin / Squash	Up to and including first fruit set
Soyabean	Up to and including first pods visible
Spinach	Up to and including leaf rosette 30% diameter
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



## Fruit and Salad

## Latest timing of application

Almond	Up to and including first fruit set
Apple and Pear	Up to and including fruit 5 - 10 mm
Apricot and Cherry	Up to and including first fruit set
Aubergine	Up to and including first fruit set
Black / Strawberry	Up to and including first fruit development
Black / Redcurrant	Up to and including first visible green fruitlet
Chilli and Pepper	Up to and including first fruit set
Cucumber	Up to and including first fruit set
Lettuce (heads)	Up to and including heads begin to form
Lettuce (no heads)	Up to and including leaf rosette 30% diameter
Melon	Up to and including first fruit set
Peach and Nectarine	Up to and including first fruit set
Plum	Up to and including first fruit set
Raspberry	Up to and including first fruit set
Rocket	Up to and including 3rd true leaf unfolded
Sweetcorn	Up to and including tip of tassel visible
Tomato	Up to and including first fruit set on first truss
Wine / Table Grapes	Up to and including first fruit set

"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



# 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 its 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.



**“Kantor® is an essential companion in the spray tank because it provides so many benefits and gives us the security that all products tank-mixed will be utilised to their full potential.”**

Jason Winning, Sprayer Operator,  
Clarendon Park Farms, Wiltshire

**SEE JASON'S  
CASE STUDY**







**Kantor<sup>®</sup>**  
ADJUVANT

Kantor<sup>®</sup> is available  
to purchase from Agrii

## Get in Touch

For more information visit  
[www.nichino.uk](http://www.nichino.uk)

General Enquiries:

Nichino UK

Email: [info@nichino.uk](mailto:info@nichino.uk)



**NICHINO**

Kantor<sup>®</sup> is a registered trademark of Nichino. 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](http://www.nichino.uk)