



The 4Furrow® Package:

With information on-

Choosing a fungicide.

Pick the right fungicide for the job, both for efficacy and for cost

Triadimefon WP & EC

The strengths and weaknesses of these two products

Treating Fertiliser

How best to add fungicide on-farm, reduce costs & increase flexibility

Triadimefon formulations and FlexiX

How do they perform with liquid fertilisers?



Choosing a fungicide.

Guidelines for the selection of fungicide for at-seeding treatments on Cereals.

Smuts and bunt.

Clean seed is the best way to handle these diseases.

A seed treatment is the next best way. They are not particularly well controlled by fertiliser fungicides. That said, a 4Farmers trial at Kendenup in 2003 looked at control of barley loose smut by a range of 4Furrow treatments including Triadimefon, Triadimenol, Tebuconazole, and Flutriafol, all at 100 grams active per hectare.

Triadimefon was ineffective, Triadimenol and Flutriafol were about equal and reasonably effective, while Tebuconazole was clearly the best. Unfortunately the trial did not include a seed dressing to give a "best bet" treatment as a yardstick.

Trials at Horsham, Victoria in the mid 80's suggested that triadimefon and triadimenol on seed controlled smut at several hundred times lower rates than when applied as granules. One complication in making comparisons was that these were inert granules not fertiliser, which is likely to attract root growth and so enhance uptake.

Rusts.

Triadimefon on fertiliser is the standout treatment, especially for stripe rust.

Triadimefon is perhaps just ahead of Tebuconazole in efficacy against rust. Both are ahead of Flutriafol and Propiconazole (distilled from various trial reports).

A fertiliser treatment is the best method of application, better than an early foliar application. None of the fungicides will move basipetally (downwards, towards the base) within the plant, while they move readily acropetally (upwards, towards the leaf tips). So a post-emergent spray will protect all parts of leaves that it hits, but any leaf (or even half a leaf) that emerges later will not be protected.

The 4Furrow fungicide continues to move up from the roots as long as the supply lasts, and gives protection to all leaves. It also gives better protection to the stem, as this also is continually being fed fungicide. A foliar application however will usually not move from one side of the stem to the other, so for complete protection there must be very good turbulence during spraying to get droplets onto all sides of the stem. Or you could spray twice, either in different directions or with different winds!

Triadimefon seems to give longer protection than alternative at-sowing treatments. The Department of Agriculture had a rust reporting site for 2004 on its AgWeb at <http://www.agric.wa.gov.au/pls/portal30/docs/FOLDER/IKMP/PW/PH/DIS/CER/rustreport041029.pdf>. This site allows people to report rust outbreaks during the season, and includes information regarding fungicide at sowing treatments. Most reports either had no information for this, or reported a Nil treatment. In 13 cases a broad spectrum seed dressing (Jockey or Real) had been used, with the first reports in the second week of August. Not very good for a \$15 to \$20/ha treatment (to be fair, Real is cheaper, but only claims suppression of rusts). In 3 cases Impact had been used, the first report again in the second week of August but the other two in early September. This is a better result, for less money (\$9/ha?). but there were no cases of Triadimefon breaking down!

This sort of result is only indicative, as there is no way of knowing how representative the sample of reports is. There obviously were a lot more cases of rust than were reported. I did see cases in 2004 where crops treated with 4Furrow did get stripe rust, but it was always well after flag leaf emergence, and the rust did not seem very virulent. This might have been because there was still a low level of fungicide in the plants, and perhaps because the weather was getting warmer. Stripe rust does not like it hot, and slows down considerably in warm weather (but it does not die – it lives over summer in green bridges!).

Powdery mildew.

Seed dressings will give early protection, although Department of Agriculture trials have shown that treated fertiliser will give control for about twice as long – out to 14 weeks. This should get most people through the danger period, but late infections are readily controlled by foliar sprays. They seem to be about equal in efficacy, although a 4Farmers trial suggested that Triadimefon 125 EC was ahead of Triadimefon 500 WP. This would make Triadimefon 125 EC the choice ahead of WP, Flutriafol, Propiconazole, and Tebuconazole on cost.

The Department of Agriculture trials showed that treated fertiliser was effective on barley PM, not just wheat. Given that PM can strike very early in the life of the crop, a fertiliser treatment seems good insurance. In 2005 a "lag time" seemed to occur, allowing PM to get going before the fertiliser fungicide could act. Seedlings appeared with mildew on the first two leaves, but subsequent leaves were clean and stayed that way. One theory was that the seedling roots could not access the fungicide until the fertiliser has dispersed a bit. From then on though, the PM was controlled for 10-13 weeks. A seed pickle would cover this lag time, and also protect against smut.

Yellow spot (wheat).

A 4Farmers trial showed that neither Triadimefon or Flutriafol applied on fertiliser had any effect on Yellow spot. Tebuconazole however was quite effective up until stem elongation. Its effects had worn off by flag leaf emergence (this was 130 days after sowing – 18 ½ weeks!).

For foliar control, Department of Agriculture trials have shown Propiconazole being slightly more effective than Tebuconazole, but either should provide adequate control in practice.

Septoria nodorum (wheat).

We don't have any information on the efficacy of fertiliser fungicides on this disease. (Trials are being done to get such information).

For foliar control, both Tebuconazole and Propiconazole are effective, with Department of Agriculture and Bayer trials giving a small edge to Tebuconazole (just the reverse of Yellow spot!). Again, either should prove adequate in practice.

Septoria tritici (wheat).

Again, we don't have any information on the efficacy of fertiliser fungicides on this disease but given that it is suppressed by some seed pickles, including triadimenol, there is likely to be some side benefit against this disease from your Triadimefon 4Furrow for leaf rust (Triadimefon converts to Triadimenol in the soil). Otherwise you can use Flutriafol In-Furrow, but I don't have any comparative data between the two.

For foliar control, Triadimefon will give some control, but Tebuconazole and Propiconazole are better and about equal according to Bayer data. I haven't seen anything to slot Flutriafol into the rankings.

Take-all (wheat).

Take-all and other root diseases can only be done with seed or fertiliser treatments. Foliar sprays won't have any effect.

Flutriafol and Triadimefon are both registered for this disease. In trials at Horsham that looked at fungicide coated super for take-all control Triadimefon proved to be the equal of Flutriafol in all but one site.

There may well be other root disease such as Fusarium that are suppressed by a 4Furrow treatment (Triadimenol controls Fusarium species and take-all in turf). This could explain the yield increases sometimes observed with fertiliser fungicides even when there are no obvious leaf diseases present.

Incidentally Prof Lex Parker of UWA used to call it Take-some. He argued that it was much more wide-spread than people thought, present at levels that reduced yield but did not cause the obvious visual symptoms.

Scald (barley).

4Farmers trials have shown good control from Triadimefon treated fertiliser, although it was (just) better when applied as a foliar spray. Tebuconazole on fertiliser was also effective, but not as good as Triadimefon. Flutriafol is registered for In-Furrow treatment for this disease, but I don't have any information on the relative merits of the two.

All this is probably of academic interest only because of net blotch. Hold off any fertiliser treatment and use Propiconazole as a foliar spray.

Net blotch (barley).

There is no choice here. You use Propiconazole for Spot Type blotch. There is nothing for Net Type. Propiconazole is only labelled for foliar application.

Make sure you do all the good management practices that reduce the likelihood of the disease.

Rotate crops whenever possible. A one year rotation will markedly reduce the potential for serious disease. If retaining lots of stubble, two year rotations are needed.

Destroy crop residues if not rotating crops. Incorporating residues will help breakdown and reduce the abundance of the disease pathogen. Take care with the increased potential for erosion.

Avoid S and VS varieties, particularly in high production situations. Propiconazole will also control Scald and Powdery Mildew, but the ideal timings for these will probably be different from that for Net Blotch.



TRIADIMEFON 500 WP & 125 EC

For the control of foliar diseases in wheat and barley.

Preferred products for the addition to fertiliser.

Key benefits

Triadimefon 500 WP can be used both as a fertiliser treatment (4Furrow) AND as a foliar spray at the correct time during the season. This means farmers and agents only need to purchase one fungicide (but see the bit on WHP's below).

Triadimefon registrations are not consistent between products. The WP is labelled for control of leaf rust, stripe rust, powdery mildew and septoria tritici blotch in wheat and powdery mildew in barley, as a foliar spray. The 125 EC formulation is labelled for all these plus barley scald.

The WP as a fertiliser treatment is registered for the control of take-all, stripe and leaf rust in wheat, and powdery mildew in barley, but the 125 EC only for wheat leaf rust. While it does have some effect on stem rust as well, it does not last long enough to be effective enough. Stem rust is a warm weather fungus that does its worst after flag leaf emergence.

Withholding period

WHP's for triadimefon formulations are also inconsistent. It is 3 months for the 500 WP but only 28 days for the 125 EC. When applied as fertiliser treatment this doesn't matter much, but for a foliar spray 3 months can last into harvest. We can't get this changed without a lot of trials, so don't expect a reduced WHP for some time. It is safest to use the WP for fertiliser treatment, and rely on the 125 EC for foliar spraying.

Rates

Foliar application:

500 WP → 125 – 250 g/ha

125 EC 500 → 1000 ml/L.

You will generally get the control you want with the low rate. The higher rate is beneficial if the variety is highly susceptible or if extended rust protection is required for an early disease outbreak.

The products have no registration for Stem rust, which is more difficult to control.

Fertiliser application:

500 WP → 200 g/ha

125 EC → 800 ml/ha

125 EC is not difficult to apply to fertiliser but few people use this formulation for this purpose. If you do decide to use 125 EC on fertiliser, apply it neat rather than diluted with a little water. A 1:1 mix with water often forms crystals of triadimefon!

It will spray quite well through a pickle applicator, but only one that is made of suitable material. The solvent in the product is aggressive and will attack most plastics. All hoses and other parts need to be made of solvent grade plastic (PVC, PTFE) or metal. Pumps need to have solvent grade impellers and seals.

Some users have just dribbled the liquid onto fertiliser in an auger. It does tend to redistribute itself over the granules and so evens out any irregular application. Granules may appear greasy after application, but become drier in storage as the liquid is absorbed. Most types of fertiliser are suitable, as the solvent will not dissolve them or make them sticky. It should NOT be used on Ammonium Nitrate fertilisers. The mixture is potentially explosive

Application of WP to fertiliser

Full guidelines on treating fertiliser on farm are available on a separate leaflet.

Apply the product evenly onto the fertiliser. If using DAP or a nitrogen based fertiliser use as a powder which sticks to fertiliser granules.

Alternatively apply as a slurry or fine spray into auger with minimum water similar to pickling seed.

Fertiliser rate kg/ha	Triadimefon WP kg/tonne
50	4
80	2.5
100	2
120	1.7
150	1.3

The fertiliser treatment is most beneficial in years when high disease pressure is forecast. The crop is protected for at least 12-14 weeks so this is ideal for paddocks that are difficult to drive over during winter or away from main property. The crop can grow without intensive disease monitoring during winter. Inspect frequently after 12 weeks.

Field experience from Western Australia in 2004 was that protection lasted until flag leaf emergence, and that any infection after that was not particularly virulent. The product was continuing to provide suppression even after full control had worn off.

Fertiliser application makes best use of the way triadimefon moves within a plant. Movement is almost entirely upwards. Thus fungicide absorbed by roots is moved into all above ground tissue as each new leaf grows, whereas foliar applications can only move toward the end of the leaves onto which they are sprayed. There is no movement back down the plant. Leaves that emerge after the application have no fungicide in them (all the commonly used fungicides move this way, not just triadimefon).

This is especially important for protection of the stem. Foliar spraying usually hits one side of a stem, and fungicide will not move across to protect the other side of the stem. Aerial application is usually better, as there is more turbulence and swirling around of the spray drops. But the best is a steady stream of fungicide moving up from the roots!

Foliar Application

Apply at the correct timing as recommended based on Dept of Agriculture data. Match the timing to the potential losses of diseases present in the crop and forecast diseases. Potential losses are greatest for stripe rust, stem rust, leaf rust and then septoria.

Stripe rust.

Previous advice was that seedling infections should be sprayed when approximately 20% of leaves show signs of infection. This threshold should probably be lowered given the virulence of the new stripe rust strain. It is these initial infections that, if untreated, continue to grow on lower leaves until they manifest as "hot spots" later on.

With adult infection it is most important to protect the flag leaf, the leaf immediately below flag and the stem just below the head. Monitor crops as they start to boot and spray based on recommendations for that variety.

General recommendations are:

Susceptible varieties: treat at first sign of infection.

Moderate susceptible varieties: 10%–15% infection.

Moderate resistant and resistant varieties: monitor crop carefully and spray if greater than 25% leaf infected or starting to spread.

If any "hot spots" are noticed in a paddock, spray immediately. Otherwise they will act as sources to infect the rest of the paddock. If you do spray in response to a hot spot, you can still expect the situation to appear to get worse before it gets better. The hot spot is just the first appearance of what is likely to be a crop wide infection. The infections on other plants will continue to develop for a week or so until the fungicide gets it under control. Thus, for a week or so, it will look as if the spray has not worked.

Alternatively, if the season is a bad one for stripe rust, consider a protective spray as soon as the flag leaf has emerged. This will mean all the leaves are protected. It is much easier to keep rust out than to get it out. In fact,

unless the variety is at least moderately resistant, it will probably only be possible to suppress an existing infection. It will flare up again in 3-4 weeks time.

Leaf rust.

This is a less severe disease, and control requirements depend on both yield potential and variety susceptibility.

Spray MR or I varieties when rust covers 10% or more of the top leaves if the potential is over 2 t/ha. Under 2 t/ha, don't spray.

Always spray MS or S varieties. See the attached Department of Agriculture flow chart.

Spraying

It is essential to ensure good coverage. Any stems and lower leaves not treated will remain unprotected. Larger droplets and/or extra turbulence will help to penetrate the canopy..

Triadimefon may be applied using Aircraft or Ground spraying equipment. Ground rigs tend to give better coverage of lower leaves but a good aerial operator should be equal to the ground rig.

Ground Rig Use 30 – 100L /ha as convenient but ensuring good coverage of lower leaves. For stem rust control higher water rates are required to penetrate to lower stems.

Aircraft Apply at not less than 10L/ha with a cross wind to increase penetration. Ensure pilots fly low to get good penetration.

Mixing and compatibility

Wettable powder.

Do not mix with trace elements such as copper sulphate.

Add soluble bags to the required water volume in the tank and mix thoroughly. Maintain agitation while spraying.

OR Add powder to a "Granni Pot" or similar and mix with water before pumping into the tank. For this method, use the powder packed in 2.5 Kg poly bags. Water soluble bags do not perform well in "Granni Pots".

125 EC.

Do not follow the (old) label! The instructions to mix with a small amount of water to form a slurry are WRONG. Its written for a powder.

Half fill the tank, then introduce the EC, then fill the tank. People have successfully used mixes with insecticides and/or triasulfuron (for radish).

The current label gives the correct mixing instructions.



Treating fertiliser



Guidelines for on farm treatment of fertiliser and on farm storage.

Anyone who can pickle their own seed can apply Triadimefon to fertiliser!!

Triadimefon 500 powder can be applied to fertiliser neat or as a slurry in water. It needs to finish up evenly down the seeding furrow more so than be applied evenly onto the fertilizer. Most users apply it dry to granular fertiliser, but to improve coverage when using high fertiliser rates it is better applied as a slurry sprayed into an auger similar to pickling seed.

Fertilizer rate kg/ha	Triadimefon kg/tonne
50	4
80	2.5
100	2
120	1.7
150	1.3

Auger

An effective way is to spray it onto fertiliser as it moves through an auger. Nozzles should be set up either internally or externally at or near the base of the auger.

The following points should be considered to achieve optimum coverage:

- Use a granulated fertiliser, which has been stored correctly and with moisture content that is within the manufacturers guidelines. Drier is better.
- Fertiliser should be as dust free as possible.
- A large diameter auger, which will vigorously tumble fertiliser, is preferred. This allows good secondary mixing of the fungicide with the fertiliser granules.
- The auger may be run at half speed to enhance primary application.
- If fitting nozzles to spray internally, fan jets should be aligned along rather than across the auger flow. Two fan jets about 500mm (20 in) apart may be better than one.

Calibrate auger

Triadimefon is applied at 200 g/ha. The correct amount of fungicide must be applied for the rate of fertiliser to be used.

1. Decide on your fertiliser rate. (say 80 kg/ha).
You will need $200 \text{ g/ha} \div 80 \text{ kg/ha} = 2.5 \text{ g/kg}$ ($\approx 2.5 \text{ kg/tonne}$).
So now you have the rate of powder to be applied to the fertiliser.
2. Decide how much water the fertiliser can tolerate.
This will likely be 6-8 L/t. Let's say 6L.
So you need 2.5 kg powder in 6 L of slurry. It will be a thick slurry!
The applicator will need coarse nozzles.
(Note that 6 L of slurry does not mean 6 L of water. 2.5 kg of powder needs about 4.5 L of water to form 6 L of slurry).

From here you can go one of two ways:

You can put a fixed rate through the applicator, and vary the auger's fertiliser throughput to match.

3. Make up 5-10 litres of this slurry, and put it through your applicator.
Don't have it attached to the auger, but set to recycle the slurry, and so that you can catch the output in buckets at any given time.
When the applicator has settled into a stable run, catch the output for 60 seconds.
Now you know the output of your applicator.

4. Calculate the amount of fertiliser the applicator can treat.
(output of say 5 L/min = 5 L/min ÷ 6 L X 2.5 kg in that 6 L = 2.083 kg/min)
2.083 kg/min ÷ 2.5 kg/tonne = 0.833 tonne.
Your applicator can treat 833 kg of fertiliser every minute.
5. If this rate is suitable, adjust the auger to have this throughput, and start the applicator as the fertiliser starts to go through.
If you want (need) to have a different throughput, adjust the applicator in some way – different pressure, change nozzles etc – to give the treatment rate you want.

OR you can vary the applicator rate to match the fertiliser throughput.

3. Work out the throughput of the auger – say 1200 kg/min(1.2 tonne).
You need to apply 1.2 X 6 L = 7.2 L of slurry every minute.
4. Calibrate the applicator to deliver this rate of slurry.
5. Start augering the fertiliser, and fine tune the applicator if necessary to get the correct rate of application.

Check: 1200 kg gets 7.2/6 X 2.5 = 3kg powder. 1200/80 = 15 ha. 3000g/15ha = 200 g/ha.

Note:

1. **The applicator must be calibrated with slurry rather than water. Water will have a much greater application rate due to its lower viscosity.**
2. **The fertiliser augering rate may change as slurry is added, due to the extra moisture and thus stickiness. Make sure to allow for this, and also ensure the driving engine has enough power.**

Alternative Application Method – Front End Loader (FEL) Bucket.

Applying to a known bucket weight and moving stacks can give adequate coverage. This is best if fertilizer will be moved several times and will be augered into the bin and then augered again into seeder.

It is necessary to know the weight of fertiliser contained in each FEL bucket load.

Add the required amount of Triadimefon powder across the base of the bucket.

Fill the bucket from the fertiliser stack and empty into the truck or field bin. Continue until the truck/bin is full. This will distribute the fertiliser through the load.

Some people have varied this procedure by spreading the fungicide across the face of the fertiliser stack, usually in two lines to coincide with how they scoop up from the face – one high one, one low one. They are then able to take multiple scoops from the face with their bucket without leaving the tractor. This saves considerable time, and is probably just as accurate as the fungicide evens out in the field bin.

Auger into the Airseeder bin and sow as normal. Experience has shown that the augering from the truck to the seeder, and from the seeder to the furrow, gives sufficient mixing of the fungicide.

Note that it is not necessary to coat each granule of fertiliser. As long as the fungicide is distributed evenly down the furrow, the roots of each crop seedling will be able to take up the amount necessary for protection.

There will be considerable dust around during this operation. This is a potential hazard to the operators.

Take suitable precautions – wear a dust-proof mask and/or work upwind at all times.

Alternative Application Method 2. Mixer.

Where only a small amount of fertiliser is to be treated, it is possible apply Triadimefon using a large capacity cement mixer

STEP1 Calculate the quantity of Triadimefon required per tonne.

STEP2 Using pressurised spray equipment, apply the product (diluted if necessary) into the rotating drum where the fertiliser falls vertically. Tumbling for a 5 minute period will give good coverage.

Triadimefon 125 EC

This product can also be applied to fertiliser by spraying, but there are a couple of special considerations.

Firstly, it must be applied neat rather than diluted with water. Adding just a little water to the formulation often results in the triadimefon crystallising out.

Secondly, the formulation contains rather aggressive solvents which will soften a lot of plastics. The applicator needs to be metal as far as possible, with any plastic plumbing being solvent quality PVC.

Follow the same procedures outlined for powder slurry above, but applying 800 ml of EC instead of 200 g of powder to every hectare's worth of fertiliser.

Do not be worried about applying a considerable amount of liquid to a fertiliser that gives problems when wet. The 125 EC product is not water, and even DAP can take up to 16 L/tonne without dissolving. The fertiliser will look wet, oily even, but it will retain its granular structure and will handle normally.

Some people have had good results by dribbling rather than spraying the liquid onto their fertiliser. The liquid seems to redistribute itself over the granules as it travels up the auger and even as it sits in storage. This overcomes any initial unevenness in application.

DO NOT apply 125 EC to Ammonium Nitrate fertiliser. The resultant mix is an explosion hazard. Even CAN could be unstable.

Flutriafol 250 SC

Basically you will follow the directions for applying Triadimefon 500 powder as a slurry. Because of its higher cost, Flutriafol is often applied at a lower rate than the maximum 400 ml/ha. Substitute your desired rate for the 200 g/ha of Triadimefon used in the calculations above. Then work through the steps as shown.

Remember that reducing the rate will reduce the duration of control. 200 g/ha of Triadimefon will provide close to full season control of stripe rust, with Flutriafol at 400 ml/ha close to this. But the half rate will barely get the crop through to flag leaf emergence.

On Farm Storage Guidelines

Fertiliser treated with Triadimefon should be stored in a similar fashion to other fertilisers kept on farm. Treated fertiliser should be clearly marked and segregated from other fertilisers to minimise the chance that it will be used incorrectly.

As a general rule, fertiliser should be treated as close as practicable to the time of its intended use. Some fertilisers treated with Triadimefon can be stored for up to 12 months after application, but keeping treated fertiliser between seasons is not recommended. Fertilisers which are dust free and well granulated are likely to store most reliably.

The flow rate of fertiliser treated with Triadimefon may change. Ensure that seeding equipment is recalibrated with treated fertiliser.



Triadimefon formulations and Flexi-X fertilisers.

Some of this information has been drawn from the CSBP Liquid Fertilisers Manual. It should be noted that pesticides are not designed to be applied using liquid fertilisers as the carrier medium. In fact, almost all pesticide labels give directions to "add to water in the spray tank" or words to that effect. This may mean it is illegal to use a liquid fertiliser as the carrier, as strictly speaking it is not water.

Pesticides do not mix well with water having the high salt content found in liquid fertilisers, and Triadimefon 125 and 500 are no exception. Excellent agitation is a must. The agitator pump must be capable of recirculating the entire contents of the spray tank every 10-15 minutes. The agitation outlets in the tank must be situated so there are no dead spots where product can accumulate and settle.

It is important that the pump have sufficient capacity **while it is spraying**. Some sprayers have adequate agitation in standby mode, but when the pump is required to also supply spray to the nozzles there is insufficient bypass capacity to maintain adequate agitation. In this case a separate dedicated agitation pump is the best solution.

Triadimefon 500 WP.

Soluble bags do not dissolve in Flexi-X. Use the product packed in 2.5 kg poly bags. In any case, the product is best mixed to a slurry with a small amount of water in a Granni Pot or similar and then added to the liquid fertiliser. From then on, agitation is essential. Do not mix more than can be used in a day, as overnight settling will certainly happen.

If possible, invert filter bodies on the sprayer so that powder cannot accumulate in the bottom of the filter casing.

Triadimefon 125 EC.

This product will disperse in liquid fertiliser, but may have more trouble with Flexi-NS and Liqui-NS than with Flexi-N. Some directions advise mixing the Triadimefon 125 EC with a small quantity of water first, but this can lead to crystallisation in some circumstances. It is best to add the 125 EC directly to a full tank of liquid fertiliser with the agitation running.

Again, do not mix more than can be used in one day. The products will separate as soon as agitation ceases, and crystallisation may occur overnight.

Another problem with 125 EC is solvent degradation of seals, O rings and hosing. Ideally all these parts should be of solvent resistant Viton or PVC.

Some farmers are experimenting with direct injection systems that meter the fungicide solution directly into the Flexi-X stream as it leaves the pump. From there it flows directly to the distribution lines and out into the soil or onto the crop foliage. Such a system allows the user to easily change the rates of either fertiliser or fungicide, and also to change the fungicide itself. Any product that is sufficiently flowable can be used – Triadimefon 125, Tebuconazole 430, Propiconazole 250, possibly even Flutriafol 250.

However, the injector system must be made of metal, or plastics that will tolerate aggressive solvents if either Triadimefon 125 or Propiconazole 250 are to be used.

Again it is important to not leave any fungicide/fertiliser mixture overnight. Turning the injector off just before stopping will flush the lines with pure Flexi-X.

With either product, compatibility can be improved by diluting the Flexi-X with a small amount of water. This of course will reduce the per hectare fertiliser rate.