

# UNIFORM® compatibility with liquid fertilisers



syngenta®

**UNIFORM Fungicide represents a breakthrough in the control of seedling and foliar diseases in wheat and barley by providing the only control available for *Rhizoctonia* and *Pythium* in Australian wheat and barley crops. Additional protection through the growing season from key foliar diseases of both wheat and barley contribute to uniform vigorous crops and ultimately better yields.**

One method of applying UNIFORM is by liquid banding below or beside the seed at sowing. It can be mixed with water or selected liquid fertilisers, however due to the numerous liquid options available it can be difficult to predict the compatibility of all companion liquids.

This tech note is designed to give guidelines to the most common combinations and provide techniques to test compatibility prior to broadacre application.

UNIFORM is compatible with liquid fertilisers (LF), with two things to keep in mind:

1. Some LF are fully saturated, making it difficult to 'fit' more molecules into solution
2. Some LF will interact with UNIFORM to form sediment, depending on the formulation

Syngenta recommends that a bucket test be undertaken prior to mixing commercial quantities of UNIFORM and liquid fertiliser.

## Bucket test

Generally if, on mixing, no sediment is formed after one hour the mix should be fine to use. If sediment readily goes back into suspension on shaking, the mix should also be fine to apply.

### Testing procedures, for example:

#### UNIFORM 300mL/ha plus 50L/ha LF

**TEST 1:** Place 500mL LF in a container, add 3mL UNIFORM and stir – leave stand for one hour, re-stir.

If sediment remains:

**TEST 2:** Add 30mL of UNIFORM to 30mL water before adding to 500mL LF, stir – leave stand for one hour, re-stir.

If sediment remains:

#### TEST 3:

- a) Add 15mL of UNIFORM to 15mL water
- b) separately, add 250mL water to 250mL LF, stir
- c) Add a) to b) and stir – leave stand for one hour, re-stir.

As a general rule, mix should be fine to apply if:

- On mixing, no sediment is formed after one hour
- If sediment readily goes back into suspension on shaking

Where sediment or coagulation does not form after dilution with water of both UNIFORM and LF, the mix is considered compatible.



**UNIFORM mixes with flutriafol** – slowly add UNIFORM while maintaining agitation.



Incompatible mix of UNIFORM plus Liquid NP.



Adding UNIFORM to a mix of water + UAN.

Flocculation or coagulation may occur initially but agitation will often overcome the problem.



Adding UNIFORM diluted with water prior to mixing with the UAN.

If flocculation or coagulation is not overcome with agitation – dilute UNIFORM with water before adding to liquid UAN.

cont. overleaf

**UAN (Flexi N, Easy N and N42) has shown excellent compatibility with UNIFORM.**

**Zinc or copper LF** either alone or mixed with UAN have shown good compatibility but should be tested.

**Liquid fertilisers containing phosphorus or sulphur** are generally incompatible and a bucket test should always be undertaken.

**NOTE:**

**Compatibility is reduced under cold conditions.**

**Do not use hard water.**

Mixes should remain agitated and not left to sit overnight.

When applying UNIFORM as a liquid in-furrow band, use a total solution volume of 20 to 100L/ha. Generally a minimum of 30L/ha will ensure a consistent stream and even distribution.

When applying with fertiliser, use the minimum distance from seed as recommended for the fertiliser.



Benefits of UNIFORM plus fertiliser on root development (left) versus fertiliser only (right) in Rhizoctonia affected crop.

**Reducing risk of Incompatibility**

Dilute UNIFORM with water prior to addition to liquid fertiliser.

Dilute Liquid Fertiliser with water before mixing products together.

**Formulations where lab tests and field experience demonstrate level of compatibility with UNIFORM.**

UAN	Compatible <sup>1</sup>
UAN with Zinc	Compatible <sup>1</sup>
UAN with Copper	Compatible <sup>1</sup>
UAN plus Phosphorus	Incompatible <sup>2</sup>
UAN + Phosphorus + Zinc	Incompatible <sup>2</sup>
Nitrogen (27%) + Sulphur (7%)	Incompatible <sup>2</sup>
Nitrogen (27%) + Phosphorus (14%) + Potassium (1%) + Zinc (.9%)	Incompatible <sup>2</sup>

**1. Compatible**

Flocculation or coagulation may occur initially but continual agitation will often overcome the problem.

**2. Incompatible**

Formulations from some manufacturers may be compatible with dilution but a bucket test must be undertaken.

**Effect of Temperature**

**Warmer temperatures** UNIFORM may be added without dilution.

**Cooler temperatures dilute** UNIFORM and liquid fertiliser before mixing together.

**Do not use hard water.**

**Consult your local Syngenta representative for compatibility information on UNIFORM and liquid fertilisers.**



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