HASTEN™

SPRAY ADJUVANT

HASTEN spray adjuvant is a blend of esterified vegetable oil and non-ionic surfactants that has :

- Proven cost effective performance for over 20 years with a wide range of agricultural products,
- Excellent plant and insect penetrating and wetting properties,
- An internationally recognised tradename and reputation for reliability,
- Approval by Environmental Protection Agencies in many countries including the USA,
- Renewable material – Vegetable oil – as its base raw material,
- A high quality formulation providing easy dispersion and stable emulsion characteristics, and
- International Patents granted and pending.

Product Description

HASTEN is a unique spray adjuvant that has been designed to improve the efficacy of a wide range of agricultural products including; Herbicides (selective and non-selective), Insecticides, Fungicides and Defoliants.

Fungicide Applications

When **HASTEN** is tank mixed with certain fungicide products and applied in the field, the non-ionic surfactants in the **HASTEN** formulation help to retain spray droplets and ensure thorough coverage of plant surfaces. The esterified oil in the **HASTEN** formulation will retard crystallization of water soluble fungicides as water evaporates from spray droplets. It will also increase the penetration of systemic fungicides through a plant's epicuticular waxy surface leading to enhanced fungal control. It is this dual action of surfactant and esterified oil which makes **HASTEN** a very effective adjuvant with certain fungicides.

HASTEN is primarily used as a tank mix adjuvant, that is, the fungicide and **HASTEN** are added separately to the spray tank. This provides the greatest flexibility for matching the use rate of **HASTEN** with the situation at hand eg. environmental conditions, type of fungal disease, spray equipment etc. **HASTEN** can also be formulated directly with fungicide formulations where market conditions make this preferable.

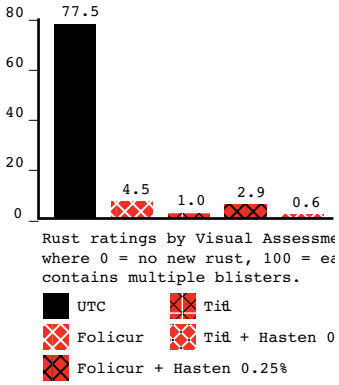
Fungicide Applications

TRIAL 1

Rust Control in Perennial Ryegrass - Oregon USA

Fungicides:
TILT* (250g/L Propiconazole) - 440ml/ha
FOLICUR* (430g/L Tebuconazole) - 440ml/ha
Spray Rate: 200 L/ha
Fungicides were applied twice 25 days apart. Treatments were assessed 19 days after second application.

Assessment Rust Rating - 19 DAT

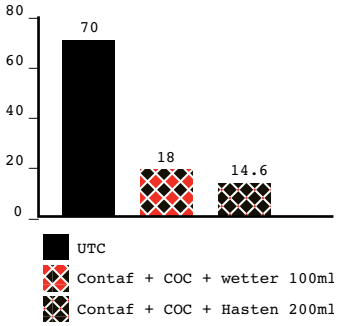


TRIAL 2

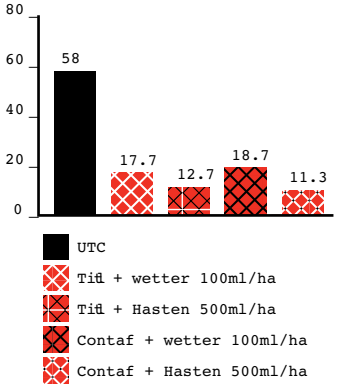
Blister Blight Control in Tea - India

Fungicides:
CONTAF* 5E (50g/L Hexaconazole) - 200ml/ha
COPPEROXYCHLORIDE (COC) - 200g/ha
TILT* 25EC (250g/L Propiconazole) - 125ml/ha
Spray Rate: 200 L/ha

2004 Season: 12 Applications over 120 days
% Blister Blight Incidence
- Average of 9 Assessments



2002 Season: 11 Applications over 126 days
% Blister Blight Incidence
- Average of 10 Assessments



Testing and Evaluation

HASTEN is a non-ionic formulation which makes it compatible with most fungicides. In fact, **HASTEN** has been in use for over 20 years with fungicides around the world and has been found to be physically compatible with major fungicide products.

HASTEN has been tested and evaluated by universities, lifescience companies, research organizations and independent researchers over many years. It has been established that **HASTEN** is a very effective adjuvant for improving the performance of certain fungicides. **HASTEN** has been shown to be softer on certain beneficial insects than either wetting agent or mineral oil based adjuvant products when used at typical label usage rates.

Commercial Use

HASTEN is successfully used by farmers in many different countries around the world with a diverse range of agricultural products including fungicides. In Australia and the USA where **HASTEN** has been available commercially for over 20 years, **HASTEN** is recognised as a leading adjuvant by farmers, distributors and lifescience companies. In Asia where climatic conditions often require higher and more frequent dosages of fungicides for effective fungal control, the use of **HASTEN** as a key spray adjuvant with fungicides continues to increase.

Suggestions for Use

HASTEN may be used in place of non-ionic surfactants or crop oil concentrates when permitted by fungicide labels.

Typically, **HASTEN** is added to the spray tank at a concentration of 0.5-1.0% when spray volumes are between 50-100 Litres per hectare. In situations where the agricultural practice is to use a higher volume than 100 Litres per hectare, **HASTEN** is typically used at 0.5-1.0 Litres per hectare.

The Company

Victorian Chemical Company is committed to providing quality products and professional and friendly service, that our customers can confidently rely on to add value to their businesses. In order to achieve this goal we will continue to develop, our understanding of our customer's requirements, the operations of our company and our technical expertise.

General Information

The information contained in this bulletin is of a general nature. Further information is available regarding **HASTEN'S** use with Herbicides, Insecticides and Defoliants. Please visit our web site at www.vicchem.com to access Label and MSDS information.

General Specifications

Appearance	Bright Clear Liquid
Specific Gravity (20ºC)	0.9 g/ml
Colour	10 Gardner Max

Always strictly follow label instructions before use
**Third Party Trademark*

Victorian Chemical Company Pty. Limited
83 Maffra Street, Coolaroo, Victoria 3048, Australia
Telephone: (03) 9301 7000 Facsimile: (03) 9309 7966
Website: www.vicchem.com Email: products@vicchem.com

VICCHEM
The Right Chemistry

100718