

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 10 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 Defoliant.

Defoliant Applications

Cotton is harvested either by hand or mechanically. In Australia all harvesting is done mechanically whereas in some other countries (eg India) the vast majority of harvesting is done by hand.

In countries where cotton is harvested mechanically, a key to maximizing its value is to minimize contamination by foreign matter such as leaves. To help achieve this, harvest aids (agricultural chemicals) are used which promote rapid and complete shedding of leaves by the cotton plant prior to harvesting. These products are commonly referred to as defoliant.

When **HASTEN** is mixed with certain defoliant 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 defoliant as water evaporates from spray droplets. It will also increase the penetration of systemic defoliant through a plant's epicuticular waxy surface leading to enhanced defoliation. It is this dual action of surfactant and esterified oil which makes **HASTEN** a very effective adjuvant with certain defoliation programs.

TRIAL 1

Cotton Defoliation - Texas USA 2002

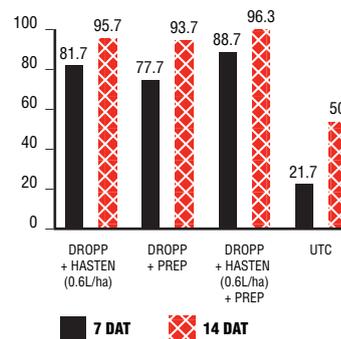
Defoliant:

DROPP* 50 WP (500g/kg Thidiazuron)
- 112g/ha

PREP* (720g/L Ethephon) - 1.2L/ha

Spray Rate: 100L/ha

Applied at 30% Bolls Open
% Defoliation



TRIAL 2

Cotton Defoliation

- Queensland Australia 2004

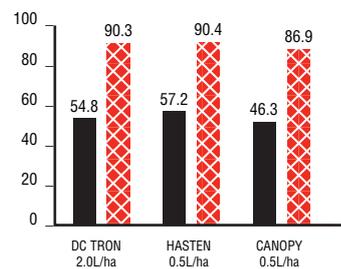
Defoliant:

DROPP* Ultra (120g/L Thidiazuron,
60g/L Diuron)

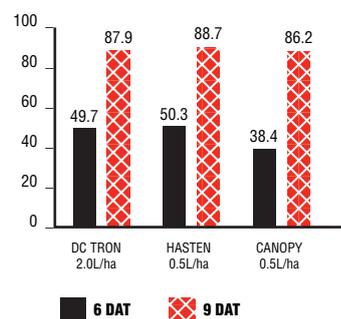
ETHEPHON* 720 (720g/L Ethephon)

Spray Rate: 90L/ha

Applied at 67% Bolls Open
% Defoliation Using DROPP Ultra
(200ml/ha)



% Defoliation Using DROPP Ultra
(150ml/ha) + ETHEPHON (1.0L/ha)



Defoliant
Applications

Testing and Evaluation

HASTEN is a non-ionic formulation which makes it compatible with most defoliant. In fact, **HASTEN** has been in use for over 10 years with defoliant around the world and has been found to be physically compatible with major defoliant 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 defoliation programs.

Commercial Use

HASTEN is successfully used by farmers in many different countries around the world with a diverse range of agricultural products including defoliant. In Australia and the USA, where **HASTEN** has been available commercially for over 10 years, **HASTEN** is recognised as a leading adjuvant by farmers, distributors and lifescience companies.

HASTEN is endorsed by Bayer Cropscience for use with its defoliant products **DROPP*** and **DROPP*-ULTRA** and by eChem with its defoliant products **Thi-Ultra** and **Thiadiazuron 500**

Suggestions for Use

HASTEN may be used in place of non-ionic surfactants or crop oil concentrates when permitted by defoliant labels. When using **DROPP® Ultra** in Australia, use **HASTEN** at 0.5 Litres per hectare. We recommend that a compatibility test be conducted before using **HASTEN** with other defoliant on a large scale.

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 Fungicides. Please visit our web site at www.vicchem.com to also access Label and MSDS information.

General Specifications

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

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The logo for Victorian Chemicals features the word "VICTORIAN" in a white, serif font above the word "CHEMICALS" in a bold, red, sans-serif font. Both words are set against a red rectangular background.

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