Dacogreen® 720

Weathershield

Superior Chlorothalonil formulation

- Sticks better
- Mixes Better
- Stores Better

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Dacogreen® WeatherShield® 720
At a Glance

Product Type:
Fungicide

Resistance group:
Group M5 Fungicide

Pack Sizes:
10L

Active Constituent:
720g/L chlorothaloni

Formulation:
Suspension concentrate

Mode of action:
Contact

Dacogreen® WeatherShield® 720 - The History & The Technology

1971

Colin Campbell (Chemicals) registers Daconil® 750WP. First for the industry - a broad spectrum fungicide with unique built in sticker. Becomes the basis for disease control.

Change of formulation from 750WP to 500SC liquid. Still with unique built in sticker. Users find it easier to measure and use.

1999

The strength is increased from 500g/L to 720g/L - with unique built in sticker.

2003

Name change to Campbell Dacogreen®. Formulation is still the same with 720g/L Chlorothalonil and unique built in sticker that has been the forefront in disease control. Turf managers welcome lower rate per 100m^2.

2009

Dacogreen WeatherShield is launched incorporating improved sticking capabilities over original Daocgreen and superior capabilities over generic chlorothalonil products.

"WeatherShield Technology™"

Dacogreen WeatherShield is a superior surfactant technology. This technology allows for:

- Improved sticking capability
- Smaller particle size that spreads evenly for turf protection
- Improved rainfastness over the original Dacogreen 720
- Superior rainfastness over generic chlorothalonil formulations

Dacogreen® WeatherShield® 720 - For use on

Disease Controlled	Rate per 100m^2
Dollar Spot	130mL-200mL
Brown Patch (*Rhizoctonia* sp)	
Grey Leaf Spot	240mL

Dacogreen® WeatherShield® 720 - Superior Quality Formulation

We undertook formulation quality and stability testing of Dacogreen WeatherShield against generic chlorothalonil products using accelerated stability technique.

The technique uses storage at 54°C for 2 weeks to simulate real time storage for 2 years.

This is required of all formulations with the APVMA as they need to show stability in the product for a 2 year period.

However, we went one step further as we wanted to test the products to their limit and ran the test @ 54°C for 4 weeks which would give growers confidence (if passed) that the product formulation would stay stable for longer than 2 years.

All shaded areas indicate product is not in specification from the FAO (Food and Agriculture Organisation of the United Nations) or our stringent parameters when no value for FAO exists.

These were the results.

Pourability Residue & Pourability Rinsed Residue

What is it?

After a set period of standing it is the amount of residue in the bottom of the bottle after pouring out the contents- the product is not shaken at all. Rinsed residue is the residue left after rinsing the container with water.

Why is it important?

The amount of the residue of active ingredient (ai) on the bottom of the container cannot be easily seen by the user and therefore and how much of the product cannot be used

Dacogreen has no worries as the improved stability means the product out of the bottle will be the same stated concentration.

Pourability Residue & Pourability Rinsed Residue- Readings were taken before and after Accelerated Stability 54°C @ 4 weeks

			720g/L Generic A		720g/L Generic B		500g/L Generic C	
initial	5.1	0.35	5.63	0.74	4.43	0.74	4.69	0.39
54°C @ 4 weeks	5.08	0.4	5.74	0.86	6.12	0.84	5.79	1.52

Results shaded in green mean are not within FAO or our stringent parameters

Viscosity

What is it?

The higher the number the more viscous the product is.

Why is it important?

Stability of formulation depends on particle size and the viscosity. The lower the viscosity the thinner the formulation appears and more chance of the product falling out in storage.

Dacogreen does not fall out in storage and you can be confident of consistent formulation even after long storage periods.

Viscosity - Readings were taken before and after Accelerated Stability 54°C @ 4 weeks

		720g/L Generic A	720g/L Generic B	500g/L Generic C
inital	17.6	12.46	9.54	10.11
54°C @ 4 weeks	16.27	12.73	9.16	2.47

Separation & Sedimentation

What is it

How much separation - how much liquid on top and how much sedimentation was on the bottom (measured via visual means and determined if significant or not)

Why is it important?

Although the particle fallout can be easily seen on the top of the products as a liquid layer you don't know what is on the bottom of the formulation. Possibly it could be unstable and may not go back into suspension if the percentage is too high. Dacogreen showed no significant issue with this.

Separation & Sedimentation- Readings were taken before and after Accelerated Stability 54°C @ 4 weeks

		720g/L Generic A	720g/L Generic B	500g/L Generic C
Separation % 54°C @ 4 weeks	2.44	3.23	4.03	6.51
Sedimentation 54°C @ 4 weeks	Not significant	Not significant	Significant issue	Significant issue

Results shaded in green red mean are not within FAO or our stringent parameters

Wet Sieve

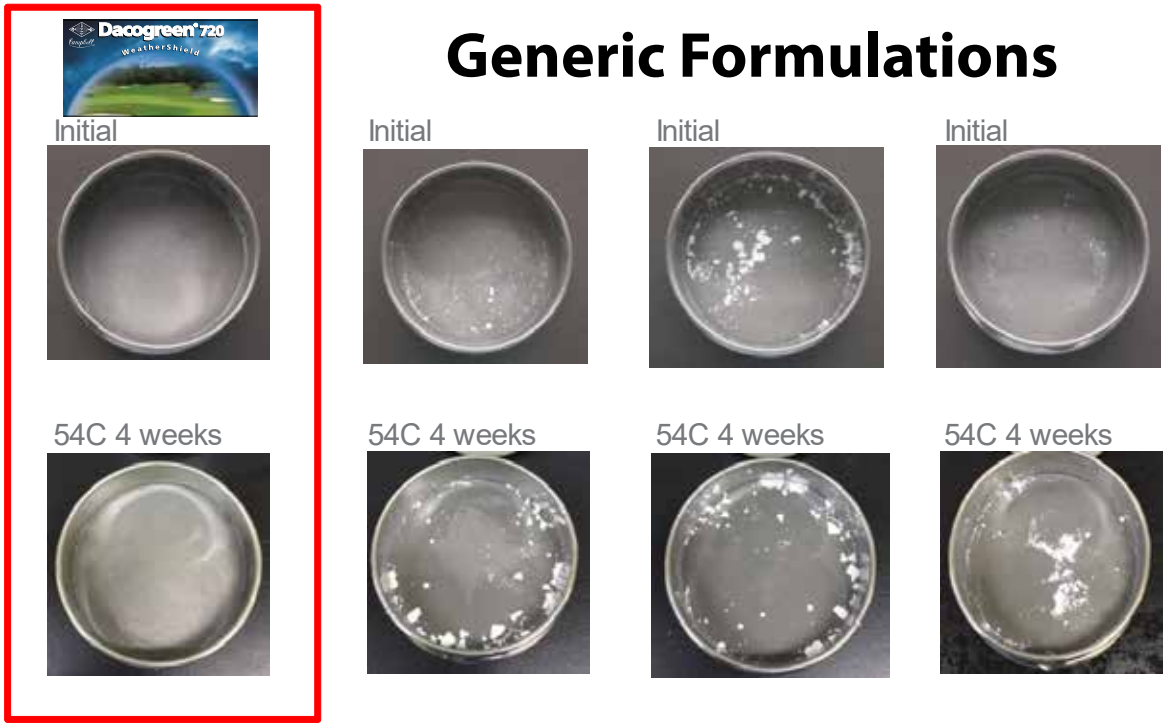
What is it

This measures the percentage of the formulation that cannot be dispersed, by dispersing the product in water and pouring through a 75 micron screen.

Why is it important?

What does not move through the 75 micron screen may block filters and nozzles of your spray equipment.

Dacogreen shows no aggregation and does not block sprayers compared to generic formulations. Note pictures below before and after the storage test.
That is what we are seeing on this test before storage simulation and after simulation



Surface Tension

What is it

How the product spreads over the surface of the leaf/plant.

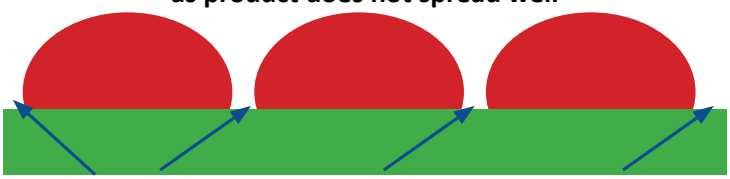
Why is it important?

You want the product to be able to spread by itself. A high surface tension means the droplet stays as a droplet and doesn't spread across the leaf and leads to less efficacy as there are untreated areas. Dacogreen spreads well and covers the plant totally rather than have gaps as illustrated.

Generic Product

Dacogreen WeatherShield surface covered - no chance possible infection

Generic product possible infection points as product does not spread well



Dacogreen® WeatherShield® 720 - Is WeatherShield technology real or just marketing

WeatherShield is a significant improvement in formulation over our original Dacogreen 720SC and also as you will see below, WeatherShield technology is superior to the most common generic chlorothalonil formulations.

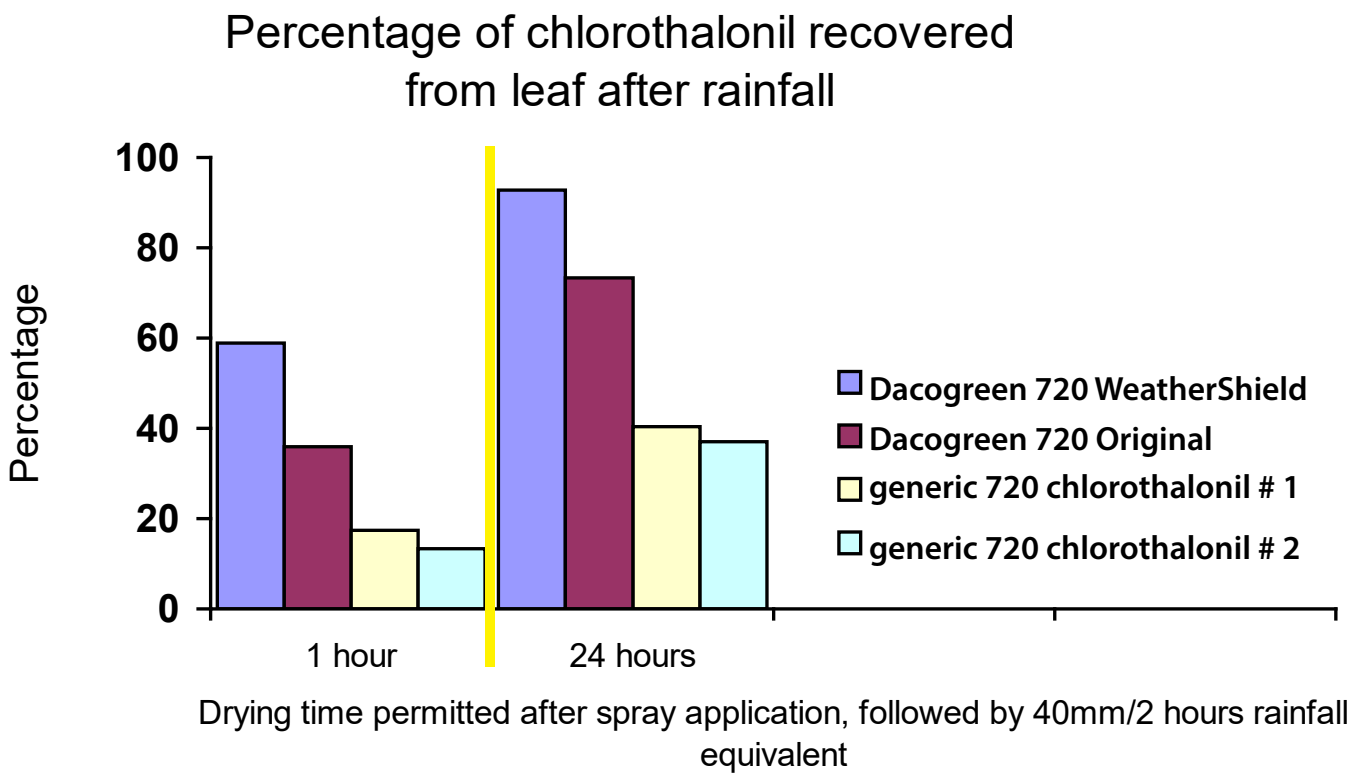
The Proof

A trial was conducted on cucumbers to observe coverage and rainfastness of the following chlorothalonil based products:

- Dacogreen 720 SC (Dacogreen original formulation)
- Dacogreen 720 WeatherShield
- generic 720 chlorothalonil #1
- generic 720 chlorothalonil #2

Cucumbers were chosen as the results could be measured more easily. These are the same principals being applied in turf. Three replicates were performed for each product
Trial 1 measured the retention of chlorothalonil after simulated rainfall of 40mm of rain over a 2 hour period 1 hour after application. Note that with this trial the leaves of the plants were not totally dry before rainfall occurred due to slow drying conditions.

Trial 2 measured the retention of chlorothalonil after simulated rainfall of 40mm of rain over a 2 hour period 24 hours after application. In this instance the leaf of the plant was totally dry before rainfall occurred.



In both trials Dacogreen WeatherShield and Dacogreen original out performed generic chlorothalonil products easily for retention of product with more than double the retention. This enables you to be confident that Dacogreen WeatherShield will still give you the results desired even with the onset of rain soon after application.

Superior product equates to superior results
Performance that is unmatched

@campbellturf

@campbellchemicals

Trial 1- 1 hour after application the leaf (leaves were not totally dry) received 40mm rainfall over 2 hours

Before Rainfall

generic chlorothalonil

After Rainfall

generic chlorothalonil

These pictures correspond to each trial showing Dacogreen WeatherShield vs. generic chlorothalonil. Dacogreen WeatherShield retains more chlorothalonil residues on the leaf both visibility and analytically than the other treatments.

Trial 2- 24 hours after application the leaf (leaves were totally dry) received 40mm rainfall over 2 hours

Before Rainfall

Generic Chlorothalonil

After Rainfall

Generic Chlorothalonil

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