



# **WETCIT**

## ADJUVANT

EUROPE, RUSSIA, MIDDLE EAST & NORTH AFRICA



**ORO AGRI**  
A member of the Omnia Group



## WETCIT AS ADJUVANT

In various independent trials it has been proven that the efficacy of commonly used insecticides, miticides and fungicides can be optimized through the use of **WETCIT** as wetting agent.

Addition of **WETCIT** effectively reduces the surface tension of spray water. This significantly improves coverage and spreading of spray droplets on the target surface.

➔ [Figure 1](#)

The product assists with coverage of spray material into difficult-to-reach areas. Improved product distribution in the dense canopies will ensure better wetting of branches where scale populations often hide. The same applies to areas where mealy bug can be difficult to reach.

**OROWET** technology improves knockdown of pesticides through improved:

- Wetting of the waxy exoskeleton of insects.
- Wetting of hydrophobic external mycelia and spores of fungi.
- Penetration of insecticides into the respiratory openings and protective membranes of insects.

The use of **WETCIT** in spray mixes optimizes efficacy of contact herbicides (e.g. paraquat) and systemic products (e.g. MCPA and glyphosate) that are absorbed through foliage. This does not apply where weeds have become resistant to the herbicide. More uniform and effective weed control is observed where difficult-to-control weeds occur.

The efficacy of glyphosate is affected by pH and hardness (dissolved salts) in the spray water. If circumstances such as these require that a buffer or ammonium sulphate must be used, the water conditioning agent should be added first, followed by the herbicide and then **WETCIT** last of all.

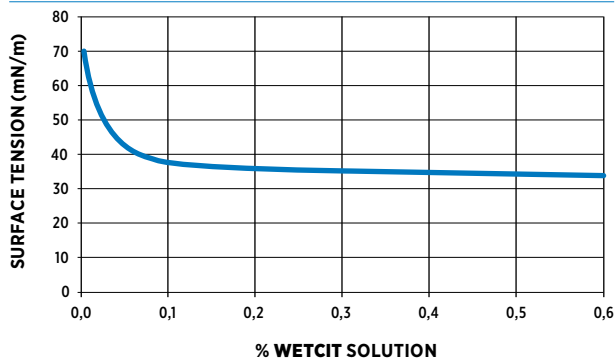
Addition of **WETCIT** to tank mixes prevents build-up of spray residues in tanks and spray equipment. It will prevent clogging of nozzles and therefore improve efficacy of application.

FIGURE 1

### Surface tension of water

after dilution of different **WETCIT** concentrations

IN DISTILLED WATER AT 25° C



## Content and source of raw materials

The product contains a blend of natural plant derived extracts with bio-degradable wetting agents. This combination of components, collectively known as **OROWET** technology, is patented in various countries worldwide. This technology is unique and differentiates **WETCIT** from other adjuvants, giving the product a new mode of action, highly effective spreading properties and penetrating properties depending on the rate of application.

Plant-derived oils have lipophilic (fat-loving) properties and are well known for their ability to penetrate and adhere to waxy substances. When they are used in combination with wetting agents at relatively low rates, like with a **WETCIT** recommendation, the plant-derived oils play a supporting role and assist with the wetting of waxy surfaces.

Only bio-degradable wetting agents are used. No NPE (nonylphenol ethoxylate) components are included. The manufacturing process has a very low environmental impact and low energy consumption. Using **WETCIT** poses very little risk to the environment or the spray operator. The product is degraded naturally in the environment.



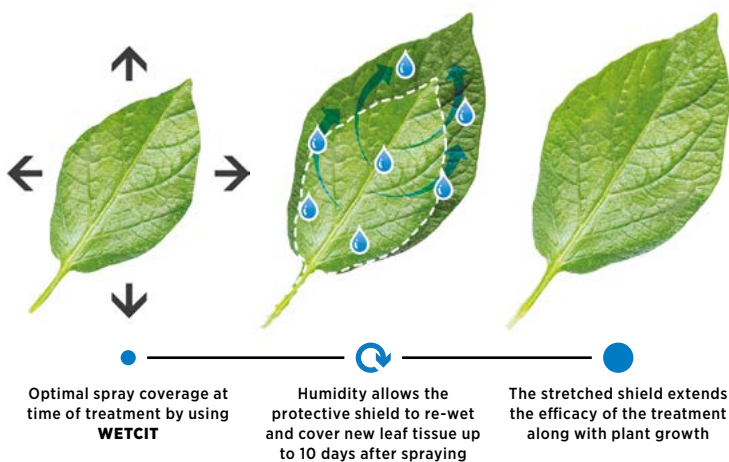
## RE-WETTING ABILITY

**WETCIT** has a unique characteristic associated with its mode of action which differentiates it from other adjuvants, called its *re-wetting ability*. **WETCIT** is able to maintain a lowered water surface tension on hydrophobic surfaces for a period of 5 to 10 days after spraying. This unique ability enables subsequent sprays during that period to benefit from better spreading functionality and more even distribution of treatments even if **WETCIT** is not used in that spray.

Further, because the re-wetting ability of **WETCIT** maintains a lowered surface tension, the formation of water droplets on leaves, fruits and bark after wet conditions (rain, irrigation, morning dew) is inhibited, leaving instead a thin film of water which evaporates quickly. The faster and more efficient drying of the canopy makes conditions for fungus development less favourable and helps to maintain fruits and vegetables of better quality.

Another benefit of the re-wetting ability of **WETCIT** is shown in coverage treatments, such as copper, mancozeb or sulphur, which are not mobile and which tend to protect only the tissues which were contacted at the time of spraying. As the leaf or fruit grows, it would normally grow out of the protective shield. However, because of the lowered surface tension caused by **WETCIT**, even the moisture from normal atmospheric humidity will allow the shield to re-wet and stretch to cover new growth. Thus, the re-wetting ability of **WETCIT** promotes better plant protection during the time of the functionality of the PPP partner and protects new vegetable tissues formed during that time.

The re-wetting ability of **WETCIT** is directly related to the type of leaf and the duration of this ability is related to weather conditions, sprays and irrigations that may remove it from the leaves.



## MODE OF ACTION

**WETCIT** effectively reduces surface tension of water and improves spreading into difficult to reach places. The knockdown action of pesticides is also optimized by **WETCIT** due to improvement of pesticide contact with waxy and chitin protecting layers of insects and external hydrophobic structures of fungi.

### → **WETCIT AND USE OF APPLICATION EQUIPMENT**

The product **WETCIT** is suitable for use in various application techniques, for example:

Full cover tractor application, low volume concentrated spray, pivot, aerial application, back-pack, etc.



## SECONDARY EFFECTS

Use of **WETCIT** will cause drying (desiccation) of plant cells that were damaged by insect activity or fungal infections. Desiccation of these cells will further prevent the development of the insect or disease, for example the wounds caused by egg laying of leaf miners.

Furthermore, desiccation of these cells will prevent secondary infections from fungi that usually take place through these wounds.

Honey-dew that is secreted by insects such as aphids or mealy bug is dried out by **WETCIT** in the spray mix. The honey-dew then becomes less attractive for ants.

Sooty mould, that would normally develop on honey-dew, may affect the aesthetic appearance of fruit. With the use of **WETCIT**, sooty mould dries out and becomes flaky, making it easier to remove during the packing process, thereby improving fruit finish.

The regular use of **WETCIT** prevents repercussions of secondary pests such as mites, which can be a problem when certain other adjuvants are used.

Plant surfaces treated with **WETCIT** will be re-wetted if dew or light rain occurs after treatment. This will prevent the formation of large droplets and speed up drying time. Re-wetting also assists with re-distribution of chemicals on the plant surface.

## Comparative properties of various types of adjuvants

\* AT RECOMMENDED FIELD RATE

PRODUCT	SPREADING AND COVERAGE	PURPOSE OF USE	MODE OF ACTION	SECONDARY EFFECT ON PEST CONTROL
<b>WETCIT</b>	★★★	Spreading and optimized efficacy of pesticides at 100 ml or higher	Improved spreading and contact with protective waxy layers	Prevents secondary pests
Mineral oil	★	Optimized efficacy of pesticides	Smothering of insects	None
Silicone spreader	★★★ (★★)*	Spreading only	Improved spreading of pesticides ( <i>Poor spreading</i> )*	Because of the impact on beneficial insects it may lead to secondary pest problems
Standard non-ionic wetter	★★	Wetting only	Improves spreading of pesticides	None
Water conditioner	★	Improved water quality	Prevent break down in alkaline water and/or binding to salts	None
Sticker	★	Improves rain fastness	Reduces wash-off during rain or overhead irrigation	None

**WETCIT** is registered as an adjuvant and will improve spreading, coverage and even penetrating properties of spray droplets on plant surfaces.



## USE RECOMMENDATIONS

### → READ THE LABEL CAREFULLY

As a general wetter, use **WETCIT** at 25 - 50 ml per 100l.  
Use 100 - 300 ml per 100l (0,1 - 0,3 %) for optimizing efficacy of pesticides.

The higher rate should be used where:

- High insect or disease populations are prevalent.
- Relatively low water volumes are used.
- Hydrophobic (waxy) or hairy plant surfaces or insects with waxy secretions need to be sprayed.
- The product is used with non-selective herbicides.

Application of **WETCIT** may be made in various ways, for example: high volume mistblower, low volume concentrated spray, pivot, aerial application, backpack, etc. When applying by aeroplane, for example on cereals, a rate of 120ml/ha is recommended.

Always add **WETCIT** last to the tank mixture when the tank is nearly full, to prevent excessive foaming.

Old spray residues in spray tanks may be dissolved by **WETCIT**. This could result in slight crop or leaf damage. It is recommended that a good tank cleaner is used prior to application with **WETCIT**. Read the **ORO AGRI** Crop Guidelines for more specific guidelines on your crop.

## WATER VOLUME

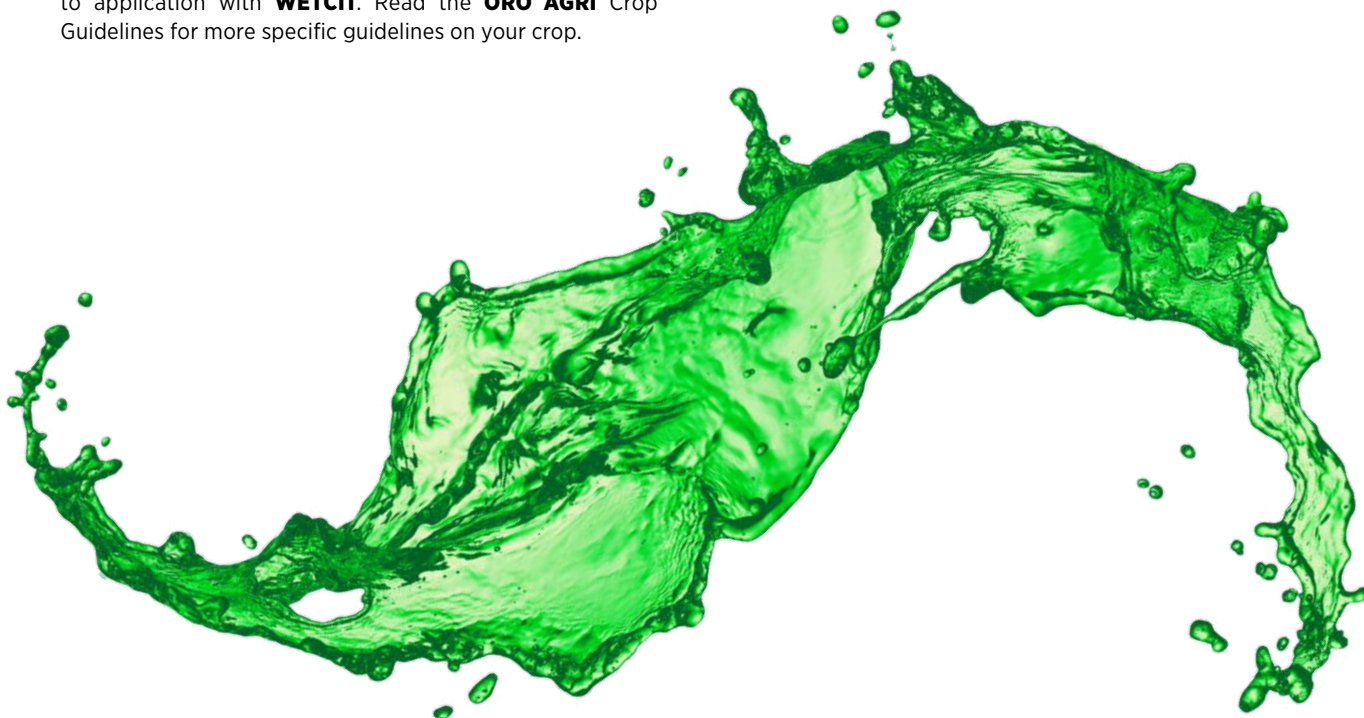
Use the normal water volume as planned for the specific growth stage of the crop.

Where low water volume is applied, as with herbicides or fungicides (e.g. on cereals) at approximately 100l/ha, it will be advisable to use the higher rate of **WETCIT** (300ml/100l).

The use of **WETCIT** is well suited for higher water volume applications. This was proven in many efficacy trials and commercial applications. Remember to always follow instructions on the labels of products that will be in the mixture with **WETCIT**.

Where a high water volume is used in season, e.g. on citrus, a maximum rate of 100-200 ml/100l **WETCIT** should be applied as adjuvant. If excessive run-off is experienced, calibrate to lower volumes as needed.

On surfaces that are difficult to wet, for example on the bark of deciduous fruit and grapevines during dormant applications, an adjuvant rate of 100-300ml/100l can be used with high volume applications aimed at mealy bug or scale. In this case, the higher rate is to be considered where high infestation levels occurred during the previous season.



### USE RESTRICTIONS

- Use **WETCIT** with caution during the growing season when fruit is present on Table grapes, Pears, Pomegranates or Persimmons since ringburn may occur on these fruit. Application pre-bloom or post-harvest may be done as recommended by your advisor.
- Use caution when using **WETCIT** with sulphur containing products during high temperature conditions. The addition of **WETCIT** may amplify the potential phytotoxicity of sulphur in cases where the crop is known to be sensitive to sulphur burn.
- Do not apply **WETCIT** with copper containing products during flowering or any other copper sensitive stage of the crop, or where the pH of the spray water is lower than 7.
- Trials are regularly being done in combination with new pest and disease control products on various crops. Contact your representative for the latest information.



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Due to cultivar and climatic differences **ORO AGRI** suggest you always test on small scale first to ensure your results are similar to studies portrayed in this brochure.

V08-2018-ENG

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