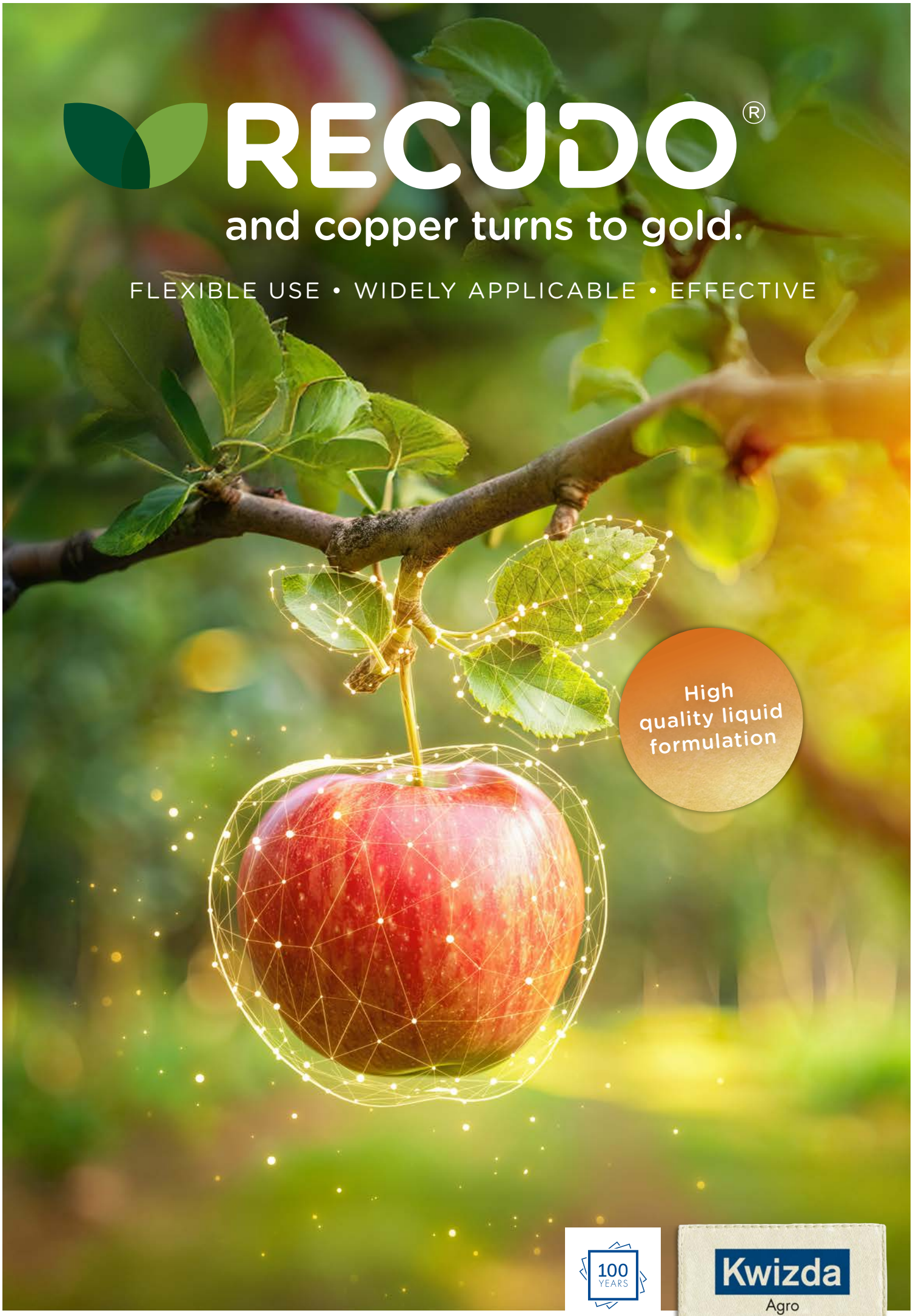

RECUDO®
and copper turns to gold.
FLEXIBLE USE • WIDELY APPLICABLE • EFFECTIVE
High quality liquid formulation
100 YEARS
Kwizda
Agro

PROTECTING SUGAR BEETS, GRAPES, AND APPLES

In the world of plant protection, copper-based fungicides have long been a cornerstone of crop defense.

RECUDO® is a copper oxychloride fungicide for sugar beet, grape, and apple growers.

It offers powerful disease control, making it an excellent tank mix partner for both conventional and organic farming.

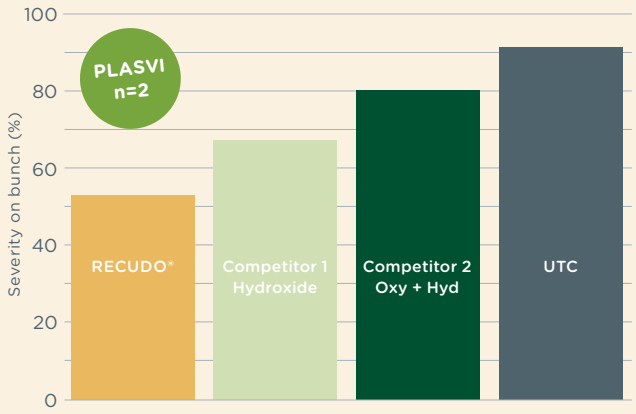
For growers, RECUDO® means:
- Effective crop protection
- Flexible use with multiple application options
- A high-quality liquid formulation for easy handling

OUTPERFORMS COMPETITORS

RECUDO® delivers superior disease control against downy mildew (*Plasmopara viticola*) compared to leading competitors. At identical copper application rates, RECUDO® significantly reduces disease severity on grape bunches.

All products used at RECUDO® pure copper content (275 g/ha LWA)

Source: Kwizda Agro internal trials (2024, 2 x Germany)



FURTHER BENEFITS

RECUDO® offers a unique combination of low copper content and superior formulation quality. It provides effective crop protection while addressing environmental concerns and regulatory pressure. RECUDO® is designed to meet the evolving needs of modern agriculture across sugar beet, grape, and apple cultivation.

Low dose champion
RECUDO® delivers powerful protection with a low registered rate of copper metal, reducing environmental impact while maintaining efficacy.

Versatile defender
Effective against a wide range of pathogens in sugar beet, grape, and apple, RECUDO® offers broad-spectrum protection.

Superior coverage
With its fine particle size, RECUDO® ensures better leaf and fruit coverage.

Organic-friendly option
Approved for use in organic farming, RECUDO® provides a powerful tool for both conventional and organic growers.

Rapid spread, maximum effect
RECUDO®'s low surface tension allows each droplet to spread quickly and evenly, creating a homogeneous protective layer.

Resistance breaker
As a multi-site fungicide, RECUDO® is an excellent tank mix partner, helping manage resistance and prolonging the life of other active ingredients.

RECUDO®

APPLICATION RECOMMENDATIONS IN ORGANIC AND CONVENTIONAL FARMING*



BBCH 31–49

Interval: 7–21 days

Max. 5 sprays

Rate: 1.25 L/ha
(mix with chemicals),
2 L/ha (solo)



BBCH 15–85

Interval: 5–10 days

Max. 14 sprays

Rate: 1 L/ha LWA



BBCH 13–61/69–76

Interval: 5–10 days

Max. 14 sprays

Rate: 1 L/ha LWA
Do not apply during flowering!

*Country specific – depending on registration!



SUPERIOR FORMULATION

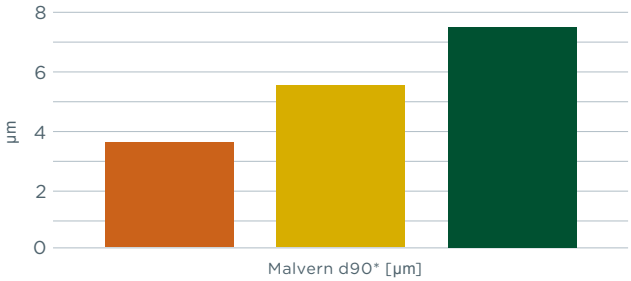
KWIZDA AGRO IS FORMULATION CHAMPION

The efficacy of the active ingredient in disease control is crucial, but it is not enough on its own. Particle size and surface tension also play an important role in optimal plant protection. The right combination of these properties results in uniform wetting of the sprayed plant parts, thus maximizing the product‘s potential.

RECUDO®’s high-quality formulation delivers measurable performance advantages. Studies confirm superior results compared to competitors across the three key efficacy factors: particle size, surface tension, and droplet distribution.

PARTICLE SIZE

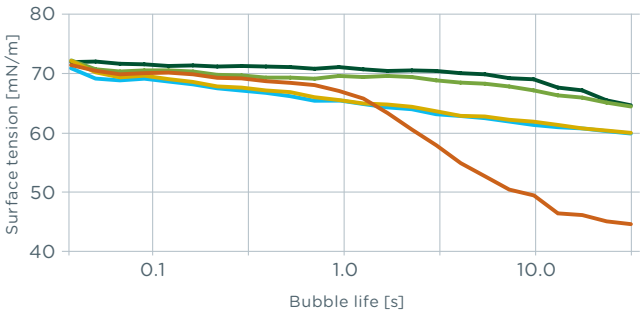
Smaller particle size is beneficial to product efficacy, contributing to even coverage of the sprayed parts. Particle size distribution of copper-based products was measured using MALVERN laser diffraction.



*90 % of the particles are smaller than the size displayed in the diagram

SURFACE TENSION

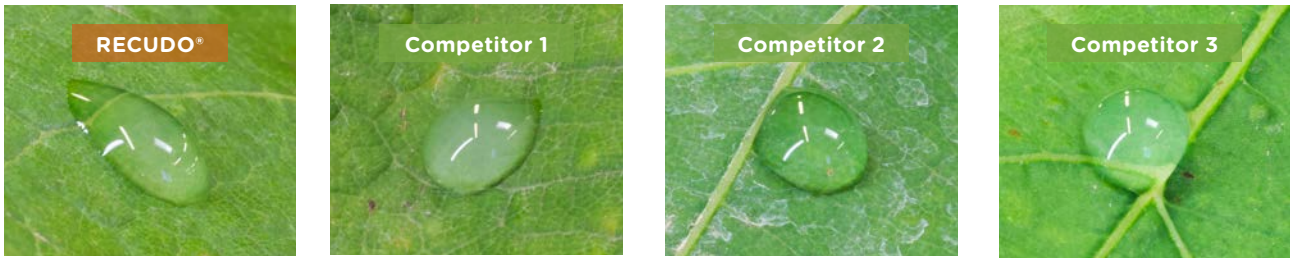
Surface tension measurements were conducted under laboratory conditions to compare several copper-based products. RECUDO® demonstrates the lowest surface tension.



RECUDO® Competitor 1 (SC) Competitor 2 (WG) Competitor 3 (WG) Control (Water)

ACTUAL DROPLET SPREAD

The droplet coverage patterns of copper-based products, applied at their recommended label concentrations on grapevine leaves, demonstrate significant variations in surface distribution. **RECUDO®** spreads best on the treated leaf for optimal coverage and protection.



Source: Kwizda Agro internal trials

INSIDE KWIZDA AGRO'S FORMULATION AND PROCESS DEVELOPMENT DEPARTMENT

Andreas Rauch, Kwizda Agro's Head of Formulation and Process Development, on the development of the RECUDO® formulation



What is special about Kwizda Agro's RECUDO® formulation?

How effectively a pesticide's active ingredient fights pests is crucial, but not enough alone. In the development of the RECUDO® formulation we paid particular attention to active ingredient's particle size, surface tension and droplet spread. The proper combination of active ingredient and adjuvants results in even coverage of the sprayed plant parts, maximizing the potential of the product.

Why is particle size of the active ingredient so important?

A well-defined, optimized particle size distribution is beneficial for product efficacy and contributes to uniform coverage of the sprayed plant parts. Our laboratory tests show that we have an advantage here.

Is there anything a farmer needs to bear in mind when using the product? Are additional adjuvants recommended by Kwizda Agro?

The formulation was developed in such a way that nothing needs to be added for the standard application. The topic of rainfastness, for example, is relevant for farmers. Nothing more needs to be done here, either. The formulation contains a natural polymer that enhances rainfastness.

Any other aspect of the formulation you would like to mention?

Biologists found that upon release onto the leaf, copper ions can be partially neutralized by extracellular siderophoric molecules produced by the pathogen, preventing them from interacting with the pathogen. Our formulation is designed to optimize delivery, maximizing the amount of copper ions reaching the target pathogen. This makes RECUDO® highly effective at lower dose rates.



Kwizda Agro has a long-standing tradition in formulation development. We have developed and produced formulations for our own products since 1978 and also for our industry partners.



FAQ

What products can RECUDO® be mixed with?

RECUDO® is physically miscible with most commonly used plant protection products. A small-scale compatibility test on the culture/variety is recommended when using a new mixture with RECUDO®. Take care to respect the label of any potential mixture partner and to follow specific advice if relevant.

Can we expect label extensions for RECUDO®?

Yes, we are currently working on broadening the label for use on other crops to provide best solutions for growers.



Can RECUDO® also be used in organic agriculture?

Yes, the active ingredient copper is categorized as organic and therefore allowed in organic farming, under European Union Regulation (EU) 2018/848.

Was sustainability considered in developing RECUDO®'s formulation?

RECUDO® features a modern formulation with carefully selected additives that ensure excellent coverage and rainfastness. These formulation components are sourced from sustainable materials and are biodegradable, making RECUDO® an environmentally conscious choice.

Is there a difference between copper oxychloride and copper hydroxide?

Copper oxychloride particles in RECUDO® are relatively insoluble versus other copper salts used as fungicides. As such, they tend to show longer-lasting action on target diseases.





PRODUCT FACTS

Active substance	275 g/L copper metal (Cu^{2+}) from copper oxychloride
Mode of action	Multi-site contact action
Crops	Sugar beets, grapes, apples
Diseases	Cercospora leaf spot *(Cercospora beticola)* Downy mildew *(Plasmopara viticola)* Apple scab *(Venturia inaequalis)*
Application period	Sugar beets: BBCH 31 (beginning of crop cover) – 49 (root has reached harvestable size) Grapes: BBCH 15 (5th leaves unfolded) – BBCH 85 (softening of fruit) Apples: BBCH 13 (3rd leaves unfolded) – 61 (start of flowering) BBCH 69 (end of flowering) – 76 (fruit about 60% final size)
Application rate	1 L/10,000 LWA (grapes and apples), 1–2 L/ha (sugar beets)
Pre-harvest interval	Grapes, apples 21 days, sugar beets 14 days
Formulation	Suspension concentrate (SC)
Container size	5 L
Key benefits	• A copper-based fungicide containing copper oxychloride. • Our liquid formulation ensures thorough and even coverage across all sprayed surfaces. • Copper, with its multi-site action, serves as the perfect partner in any anti-resistance spray program. • It grands effective preventive action to combat the main diseases of several crops.

RECUDO®

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FLEXIBLE USE • WIDELY APPLICABLE • EFFECTIVE

Low dose champion, superior coverage

Resistance breaker, versatile defender

Rapid spread, maximum effect

Future-proof solution, organic-friendly option

Kwizda Agro