

Draft Report

**Experimental study to evaluate the efficacy of the adjuvant ACTIVATOR NT4,
mixed in solution with Copper oxychloride for reducing the effect of the rainfall runoff.**

| | Eurofins code | Maviem code | Officially recognised trial |
|----------------------------------|--|--------------------|------------------------------------|
| Study Code: | S24-105964 | | |
| Trial Code: | S24-105964-01 | | No |
| Testing Facility: | EUROFINS AGROSCIENCE SERVICES ITALY SRL Via XXV Aprile 8/2 – 8/3 Località Stiatico 40016 San Giorgio Di Piano (BO) ITALY | | |
| Program Manager: | Paolo Manzoli | | |
| Test Site: | EUROFINS AGROSCIENCE SERVICES ITALY SRL Via XXV Aprile 8/2 – 8/3 Località Stiatico 40016 San Giorgio Di Piano (BO) ITALY | | |
| Trial Responsible: | Paolo Manzoli | | |
| Sponsor: | Maviem S.r.l. Via Gianbattista Rota 17 25032 CHIARI (BS) ITALY | | |
| Sponsor's representative: | Nicandro Tonielli | | |

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History of Document

| Version | Changes to former version |
|---------|---------------------------|
| 1 | none |

| | |
|--|---|
| I confirm that the trial data is reliable and the work was performed according to Compliance Statement with respecting the relevant EPPO guidelines. | I, the undersigned have monitored this study, produced this report and confirm it is an accurate and faithful record of the results obtained. |
| <p>.....</p> <p>Date / Name (Trial Responsible)</p> <p>12 March 2025 / Paolo Manzoli</p> | <p>.....</p> <p>Date / Name (Program Manager)</p> <p>12 March 2025 / Paolo Manzoli</p> |

MATERIAL AND METHODS

In 2025 a representative plot trial was carried out to evaluate the quantitative evidence of ACTIVATOR NT4 when applied in mixture with copper oxychloride, simulating a standard maintenance application on lettuce in nursery.

ACTIVATOR NT4 is an anti-washout additive. Rainfall removes active substances from the surface of the plant, decreasing their concentration within plant tissues and reducing the effectiveness of treatments.

Another negative consequence is the fact that substances removed will reach "non-target organisms", soil and water, with consequent unnecessary environmental contamination.

The purpose of this Study is to show the functional and the effectiveness of the Product from a quantitative point of view, thanks to specific laboratory tests.

The test was placed at EAS Italy facility of Bologna-Italy.

The Study was set for a single application. Each Treatment was tested on a surface of 1.2 m² occupied by 6 nursery trays, each containing 15 X 9 = 135 little plants of lettuce ready for transplant.

Application consisted in a classic foliar spray, carried out with specific air compressed equipment; it was used a conventional flat nozzle AFC 015-110 working at 3.6 bar. Before application a complete calibration of the equipment was carried out so to calculate the output of the nozzle; this guaranteed about a correct distribution of the solutions (see technical details in Table). For this application it was applied a water volume corresponding to 200 L/ha, as requested.

The trial started on 5th March 2025 with application A, simulating a preventive application against fungal disease.

No problems were encountered during mixing or application of any of the product formulations under test.

Treatments applied are listed below:

| Trt No. | Treatment Name | Form Conc | Form Unit | Form Type | Lot Code | Rate Rate | Rate Unit | Appl Code |
|---------|--|-----------|-----------|-----------|--------------|-----------|-----------|-----------|
| 1 | UNTREATED CHECK | | | | | | | |
| 2 | COPRANTOL 30 WG -copper oxychloride | 30% | | WG | 16.07.19-698 | 175g/100L | | A |
| 3 | COPRANTOL 30 WG -copper oxychloride | 30% | | WG | 16.07.19-698 | 175g/100L | | A |
| 3 | ACTIVATOR NT4 -readymix | 2.5% | | L | | 200l/ha | | A |

For both Trt 2 and Trt 3 the solution was agitated for 5 minutes with specific agitator, before the application.

Two samples of solutions of Trt2 and Trt3 (1 L each) were stored for subsequent possible verifications (e.g. precipitation; see photos).

Three hours after application, with the crop plants completely dry, it was simulated a rainfall over the lettuce trays corresponding to 10 mm rain, putting the trays into a plastic box (70 X 170 cm, see photos). Duration of rain simulation: 3 hours.

The day after, 6th March 2025, after 18 hours from application, they were collected foliar samples from each Treatment (phase S1; 100 g leaves, into labelled plastic bags); then all samples were sent to Laboratory Biochimie Lab S.r.l.

The analysis for the determination of the concentration of Copper Hydroxide will be determined by the analysis of the leaves of the plants in pot sprayed.

The control received only the simulated rain event and will give the natural level of metallic copper that could be detected by the analysis as well in the control treatment even without any copper application (this will define the starting point of the level of the a.i. for any copper application that can be applied at nursery level where the plants will be purchased).

| Trial S24-105964-01 Leaves | | | | | | | |
|----------------------------|----------|---------|--------------------------------|-----------|----------------|-------------|---------|
| Sampling code | Timing | Plot N° | Eurofins sample code (A=ship) | Commodity | Quantity (min) | Sample type | Storage |
| S1 | 18-24HAA | U1 | S24-105964-01-001A | Leaves | ≥ 200g | Residue | Ambient |
| | | 2 | S24-105964-01-003A | Leaves | ≥ 200g | Residue | Ambient |
| | | 3 | S24-105964-01-005A | Leaves | ≥ 200g | Residue | Ambient |

HAA=hours after application

U1: Untreated Samples

2: a.i. without Activator NT4

3: a.i. with Activator NT4

General Trial Information

Study Director: Paolo Manzoli

Title: Program Manager

Investigator: Paolo Manzoli

Title: Principal Investigator

Discipline: F fungicide

Status: F final

Reliability: 1 Usable data

Initiation Date: Mar-5-2025

Completion Date: Mar-12-2025

Trial Location

City: San Giorgio di Piano

State/Prov.: Bologna ITALY

Postal Code: 40016

Climate Zone: EPOMED EPPO Mediterranean

Latitude of LL Corner °: 44,619532 N

Longitude of LL Corner °: 11,3681174 E

Conducted Under GLP: No

Conducted Under GEP: No

Objectives:

- Efficacy of Activator NT4 in retain the active ingredient on leaf surface and for reducing the washout due to rain.
- Checking for Phytotoxicity effect of Activator NT1 on plant.

Conclusions:**Agronomist Summary:**

I conducted the trial following the Protocol requirements without deviation.

There is no specific precaution to consider for analysis of any plot and treatments, as I did not encounter any problems during trial conduction and particularly during mix preparation and application of the trial.

The crop was grown under normal agricultural practices (period of the year, maintenance, irrigation).

The crop was grown in an open field. The crop was cultivated in a favourable region to its development.

I did not observe any phytotoxicity or any other crop effect.

The crop developed homogeneously.

During the trial and for the area, weather conditions were normal.

The climatic conditions during the trial did not specifically influence target development.

Paolo Manzoli, 12 March 2025

Results and Conclusions:

Deviations from the protocol: none.

Special remarks/findings to interpret or explain specific issues/events during the trial: none.

Climatic conditions: the climatic conditions during the trial did not specifically influence the development of the Test.

Trial reliable: Yes.

Here below, summarized in Table 1, the results of analysis of collected leaves samples:

Table 1: Copper content of leaf samples

| Sample code | Copper mg/kg |
|-------------|--------------|
| U1-Leaves | 0,49 |
| T2-Leaves | 0,43 |
| T3-Leaves | 1 |

The clear difference of Copper content highlighted comparing results of Trt 2 (0.43 mg/kg) and Trt 3 (1.0 mg/kg) confirms the positive activity of Activator NT4. The tested Product guaranteed to be an anti-washout additive, showing more than the 50% of amount of metallic copper remaining in the leaves. The artificial rainfall carried out on the dry crop leaves, three hours after application, caused the almost complete washout of Copper oxychloride Product from surface of those organs.

Other positive effect of Activator NT4 is the persistence of miscibility of the copper-based Product in the water solution, without recording precipitation to the bottom for 48 hours (see photos).

No Phytotoxicity effects recorded on the crop until the day after application.

Paolo Manzoli, 12 March 2025

Contacts

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Role:SPONSR sponsor

Sponsor:Nicandro Tonielli

Organization:Maviem Srl

Address 1:Via Gianbattista Rota 17

Country:ITA Italy

City:25032 CHIARI (BS)

Crop Description

Crop 1:C LACSA Lactuca sativa

Lettuce

BBCH Scale:BPOM

Stage Scale:BBCH

Variety: Poplar (Nunhems)

Row Spacing:5 cm

Planting Rate: 135 P/tray

Spacing within Row:5 cm

Site and Design

Site Type:Nursery

Experimental Unit:1 PLOT plot

Treated Plot Area:1.2 m2

Tillage Type:CONTIL conventional-till

Replications:1

Treatments:3

Plots:3

Study Design: Not replicated

Soil

Certified peat substrate

| Application Description | |
|---------------------------------|------------|
| | A |
| Date | Mar-5-2025 |
| Start Time | 12:00 |
| Stop Time | 12:15 |
| Interval to Prev. Appl. | - |
| Method | SPRAY |
| Timing | PREVEN |
| Placement | FOLIAR |
| Air Temperature Start, Stop | 12; 12 C |
| % Relative Humidity Start, Stop | 51; 51 |
| Wind Velocity+Dir. Start | 0,0 MPS; |
| Wet Leaves (Y/N) | N; no |
| Soil Temperature | 11,5 C |
| Soil Moisture | SLIWET |
| % Cloud Cover | 0 |
| Water pH | 7.4 |
| Water Temperature | 17.3 C |
| First Moisture Occurred On | Mar-5-2025 |
| Time to First Moisture | 3,0 HOURS |
| Amount of First Moisture | 10,0 mm |

| Crop Stage At Each Application | |
|--------------------------------|-------------|
| | A |
| Crop 1 Code, BBCH Scale | LACSA; BPOM |
| Stage Majority, Percent | 13; 70 |
| Stage Minimum, Percent | 12; 30 |
| Stage Maximum, Percent | 13; 70 |
| Height Average | 10 cm |
| Total Canopy Height | 11 cm |

| Application Equipment | |
|-----------------------------|-------------------------|
| | A |
| Equipment Type | Knapsack air compressed |
| Operation Pressure | 3.6 BAR |
| Nozzle Model | AFC 015 110 |
| Nozzle Type | FLAT FAN |
| Nr. of nozzles | 1 |
| Nozzle Spacing | - |
| % Coverage | 100 |
| Row Sides Applied | 1 |
| Ground Speed | 0,68 MPS |
| Application Amount | 200 L/ha |
| Mix Size | 2000 ml |
| Deviation of spray solution | + 1.11% |

Photos



Photo – 1 crop (Lettuce Var. Poplar, ready for transplanting)



Photo - 2 equipment: air compressed, canister for mixture, pressure gauge, Nozzle (one of the two nozzles in photo was closed)



Photo - 3 Application



Photo – 4 Rainfall simulation

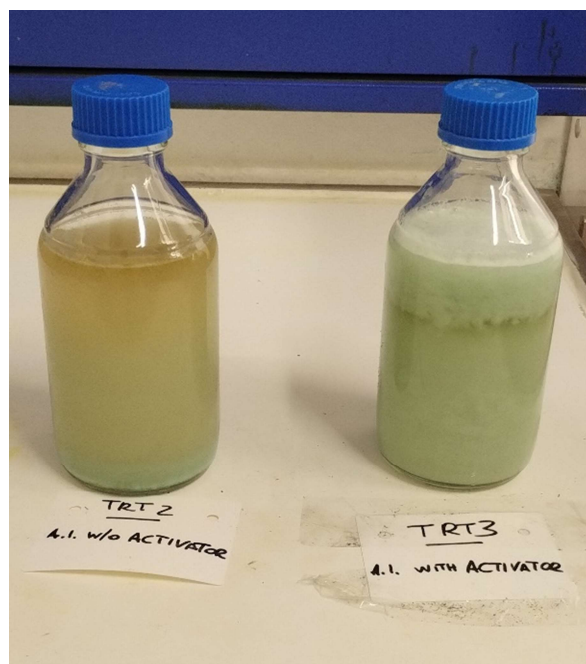


Photo – 5 Copper solubility after 12h



Photo – 6 Copper solubility after 48h

Raw data: Lab Analysis



RAPPORTO DI PROVA N°: 2505880.001 DEL 11/03/2025
CAMPIONE N°: 2505880.001

Spett.

Eurofins Agrosience Services Italy Srl
 Via XXV Aprile 8/2, 8/3
 40016 San Giorgio di Piano (BO)

DATI RELATIVI AL CAMPIONE

Dati identificativi: Leaves - U1 - Sample: S24-105964-02-001A
 Campionamento a cura di: cliente
 Data prelievo: 06/03/2025
 Trasporto effettuato da: personale tecnico Biochemie Lab S.r.l. (PO 20 rev 6 del 01.12.21, escluso dall'accreditamento ACCREDIA)
 Data Ricezione: 07/03/2025 - Ora Ricezione: 09:30:00
 T° ricevimento (°C): Ambiente
 Data accettazione: 07/03/2025

RISULTATI ANALITICI

Data inizio analisi: 07/03/2025

| Parametro | UM | Risultato | Incertezza | Note |
|--------------------|-------|-----------|------------|------|
| Metodo | | | | |
| Rame | mg/kg | 0.49 | ±0.17 | |
| MP 006 rev 18 2024 | | | | |

Data fine analisi: 11/03/2025



RAPPORTO DI PROVA N°: 2505880.003 DEL 11/03/2025
CAMPIONE N°: 2505880.003

Spett.
Eurofins Agrosience Services Italy Srl
 Via XXV Aprile 8/2, 8/3
 40016 San Giorgio di Piano (BO)

DATI RELATIVI AL CAMPIONE

Dati identificativi: Leaves - 2 - Sample: S24-105964-02-003A
 Campionamento a cura di: cliente
 Data prelievo: 06/03/2025
 Trasporto effettuato da: personale tecnico Biochemie Lab S.r.l. (PO 20 rev 6 del 01.12.21, escluso dall'accreditamento ACCREDIA)
 Data Ricezione: 07/03/2025 - Ora Ricezione: 09:30:00
 T° ricevimento (°C): Ambiente
 Data accettazione: 07/03/2025

RISULTATI ANALITICI

Data inizio analisi: 07/03/2025

| Parametro Metodo | UM | Risultato | Incertezza | Note |
|----------------------------|-------|-----------|------------|------|
| Rame MP 006 rev 18 2024 | mg/kg | 0.43 | ±0.16 | |

Data fine analisi: 11/03/2025



LAB N° 0195 L

RAPPORTO DI PROVA N°: 2505880.005 DEL 11/03/2025
CAMPIONE N°: 2505880.005

Spett.

Eurofins Agrosience Services Italy Srl
 Via XXV Aprile 8/2, 8/3
 40016 San Giorgio di Piano (BO)

DATI RELATIVI AL CAMPIONE

Dati identificativi: Leaves - 3 - Sample: S24-105964-02-005A

Campionamento a cura di: cliente

Data prelievo: 06/03/2025

Trasporto effettuato da: personale tecnico Biochemie Lab S.r.l. (PO 20 rev 6 del 01.12.21, escluso dall'accreditamento ACCREDIA)

Data Ricezione: 07/03/2025 - Ora Ricezione: 09:30:00

T° ricevimento (°C): Ambiente

Data accettazione: 07/03/2025

RISULTATI ANALITICI

Data inizio analisi: 07/03/2025

| Parametro Metodo | UM | Risultato | Incertezza | Note |
|----------------------------|-------|-----------|------------|------|
| Rame MP 006 rev 18 2024 | mg/kg | 1.0 | ±0.3 | |

Data fine analisi: 11/03/2025