



# Biologické prostředky v ochraně a výživě zeleniny



## Trianum-P

*Omezení houbových chorob*

## Biimore

*Zvýšení výnosu a kvality*

## Stimulus

*Stimulace, regenerace*

## RhizoVital C5

*Posílení růstu a odolnosti*

# Polní plodiny a zelenina



[www.biocont-profi.cz](http://www.biocont-profi.cz)



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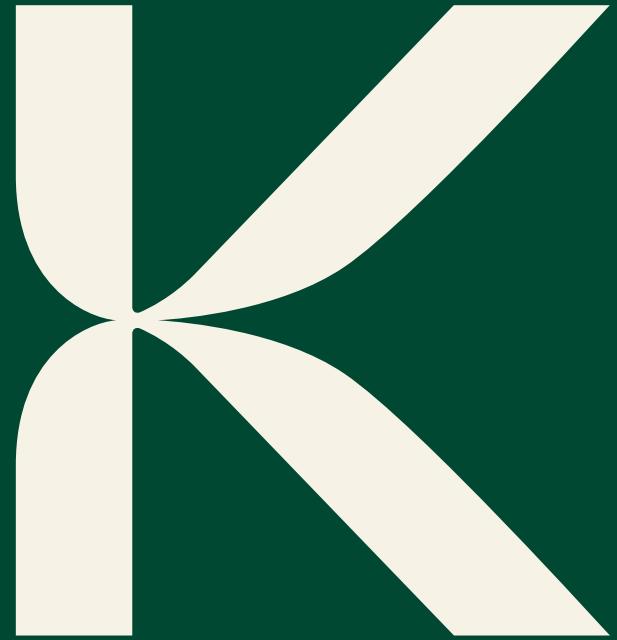
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Koppert

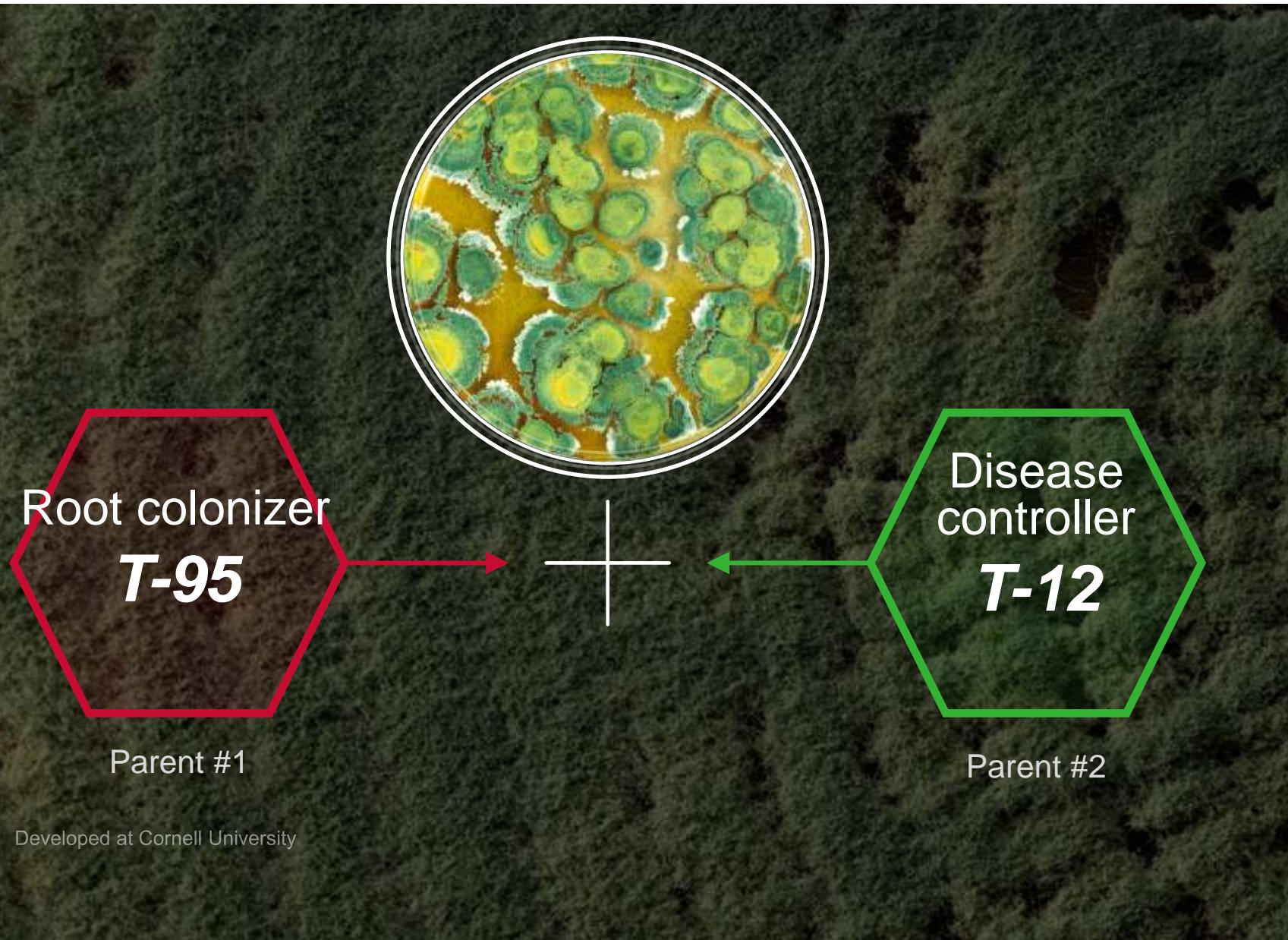


# *Trianum*

## Mode of Action

- Competition for space
- Competition for nutrients
- Mycoparasitism
- It solubilizes phosphates and micronutrients.

# UNIQUE HYBRID STRAIN



## STRAIN TRIANUM

- Strain T-22, extensively studied
- Fusant of two complementary strains
- Result: a competitive root colonizer with effective disease control



# TRIANUM

*Trichoderma harzianum* T22

TRIANUM-P

*T. harzianum* T22:  $1 \times 10^9$  cfu/gr

Wettable granules

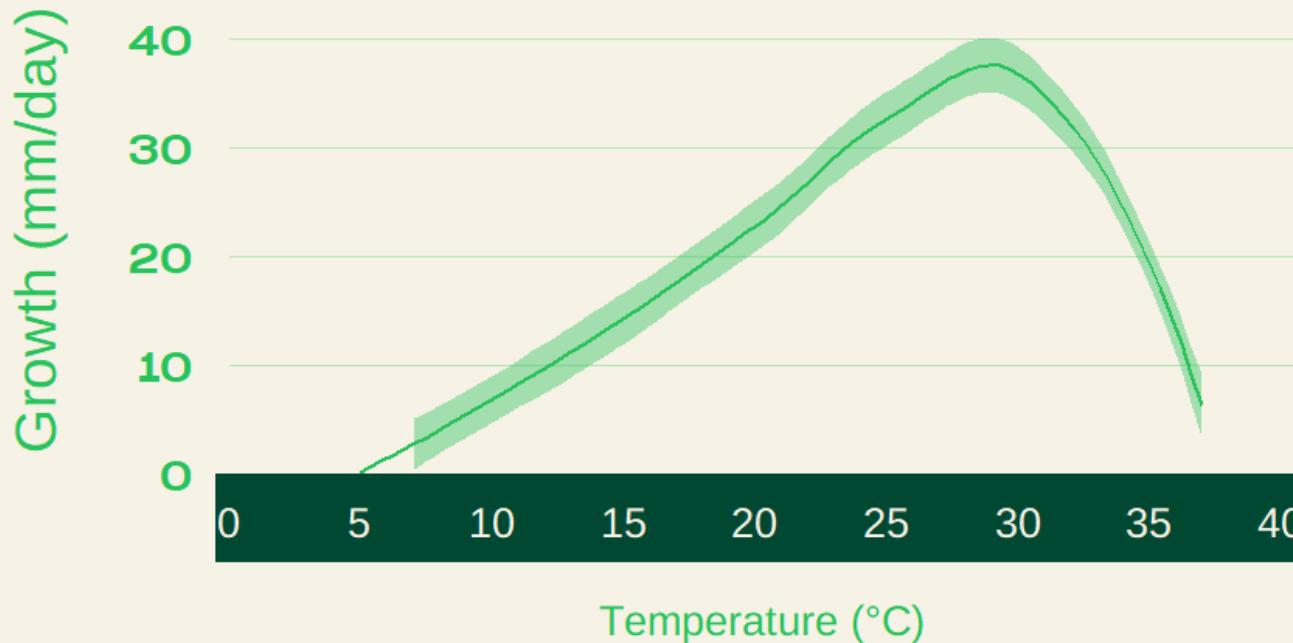
TRIANUM-WG

*T. harzianum* T22:  $1.5 \times 10^8$  cfu/gr

Microgranules

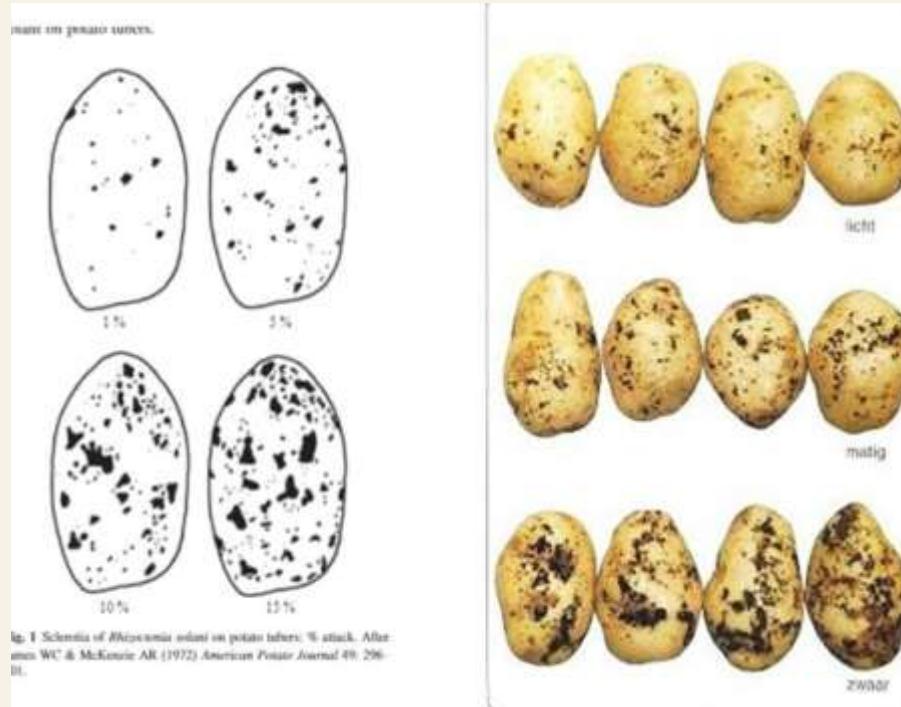


# TRIANUM® is growing in a wide range of temperatures

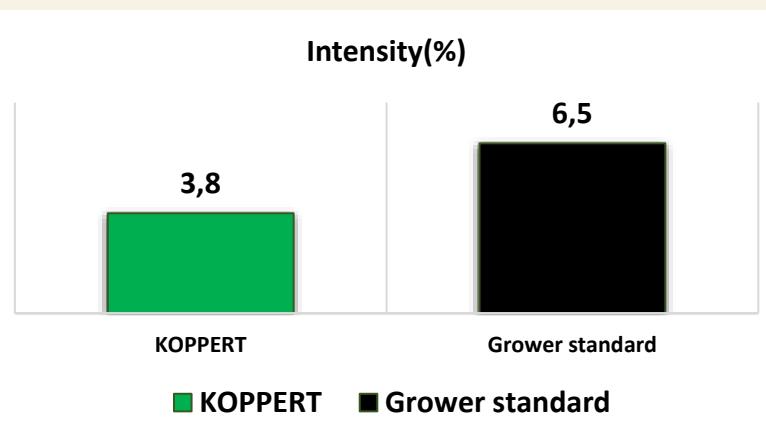
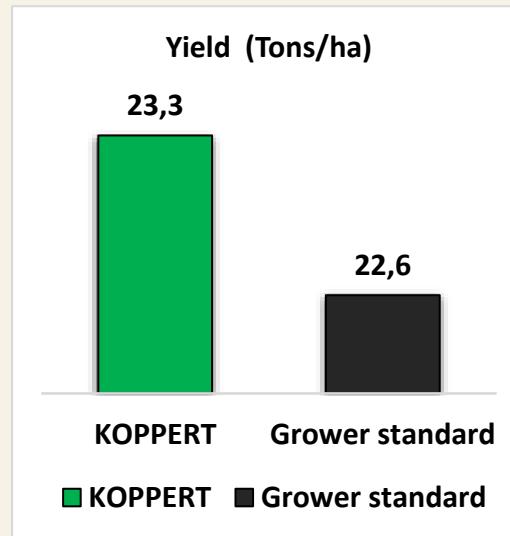
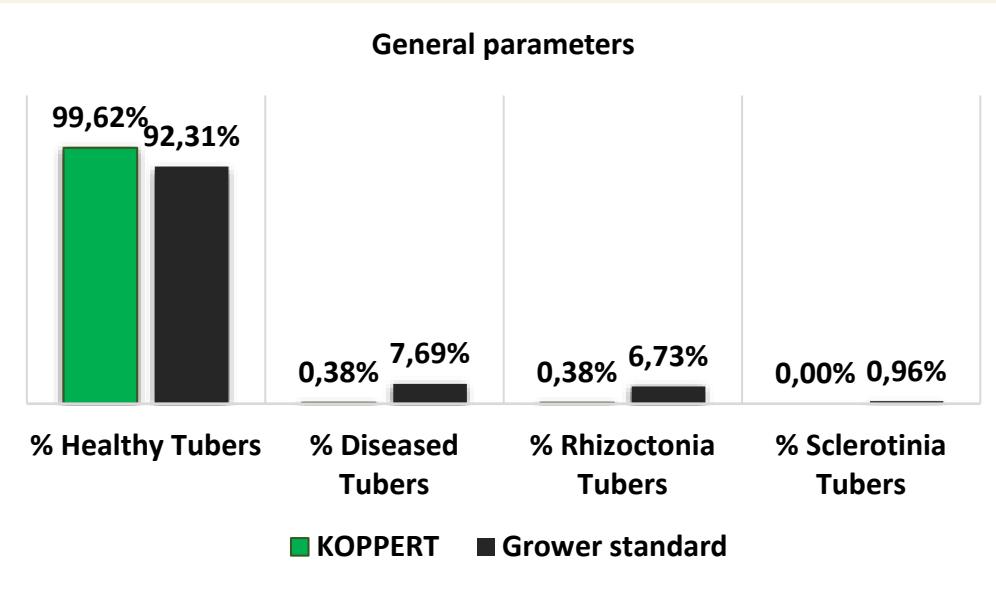


- TRIANUM® grows within a temperature range of 10-37°C
- The optimum temperature range lies between 24°C and 33°C

# RHIZOCTONIA and SCLEROTINIA on Potato



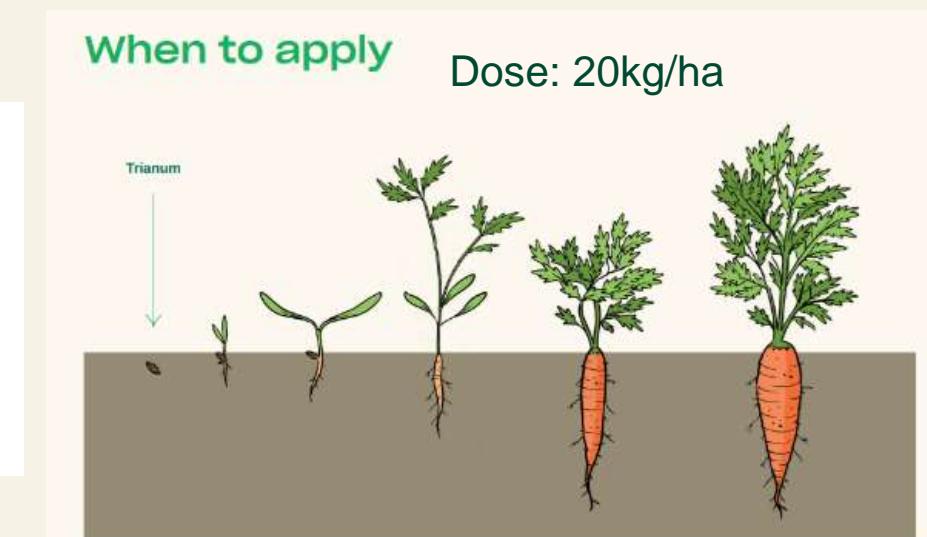
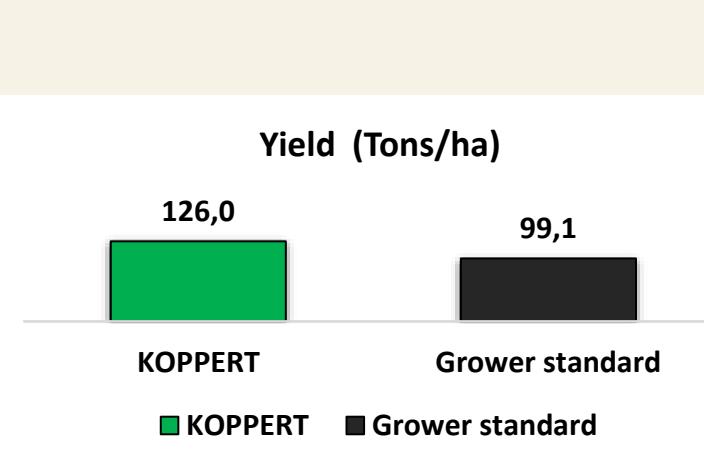
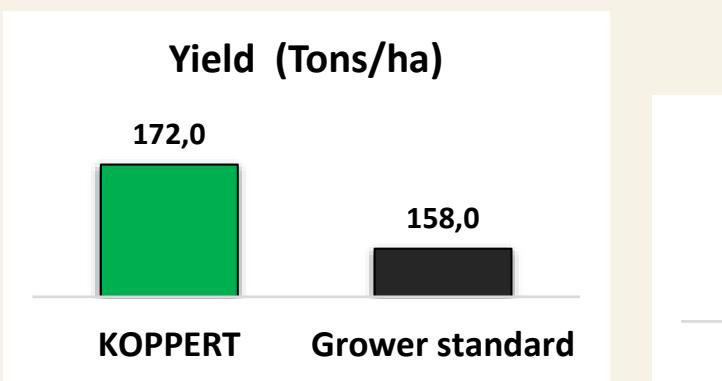
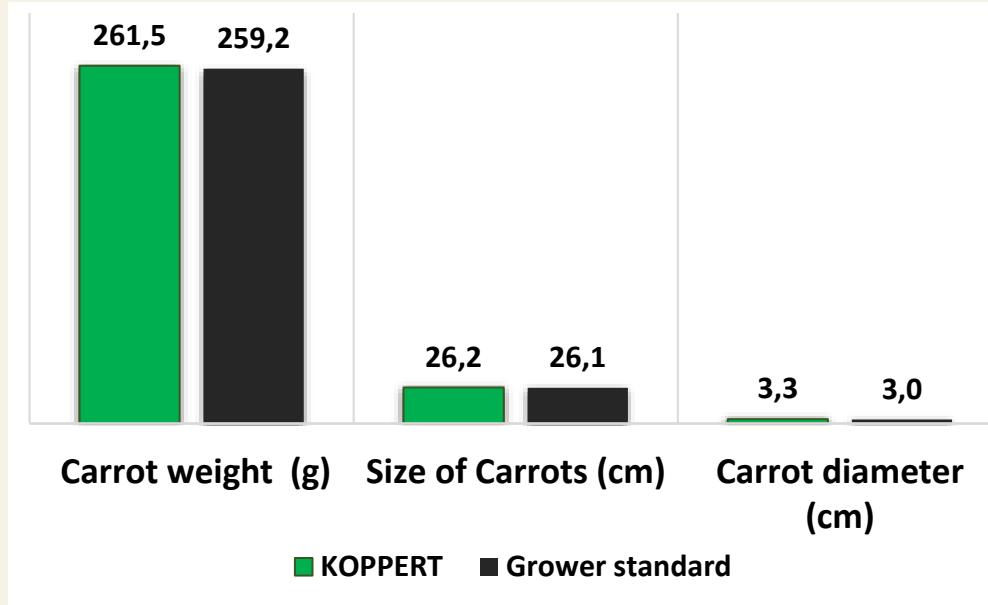
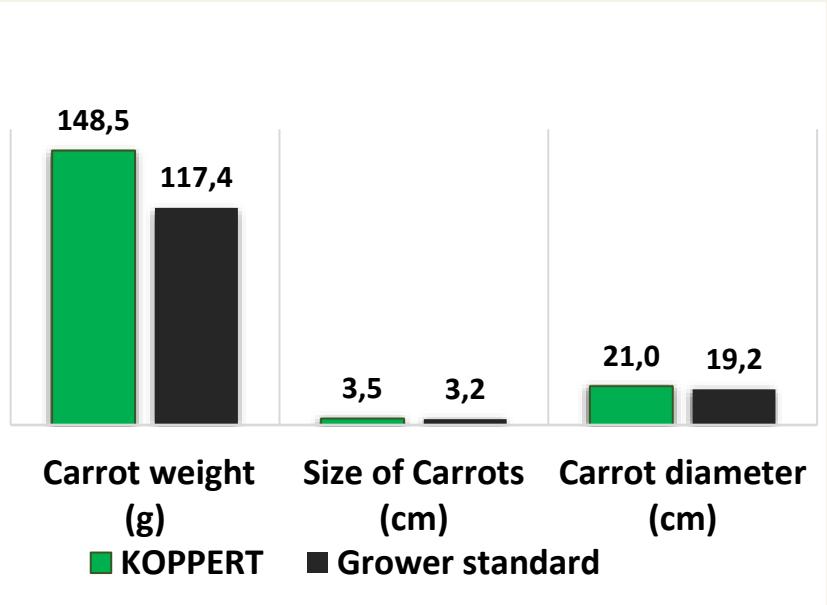
# Trianum vs Soil disease result in Potato



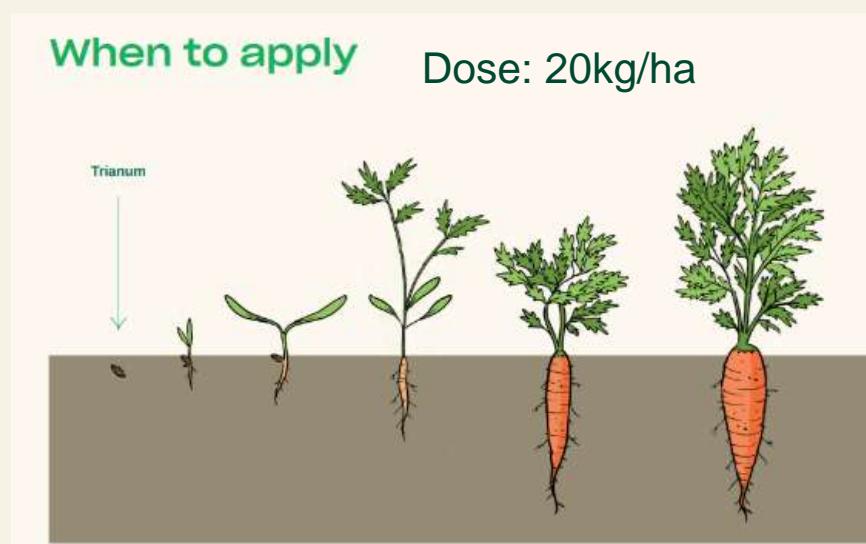
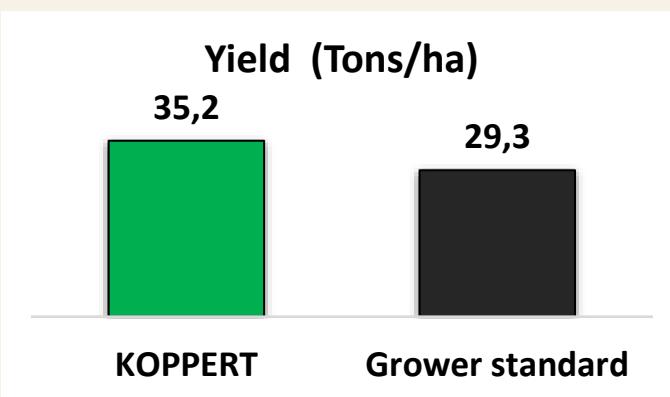
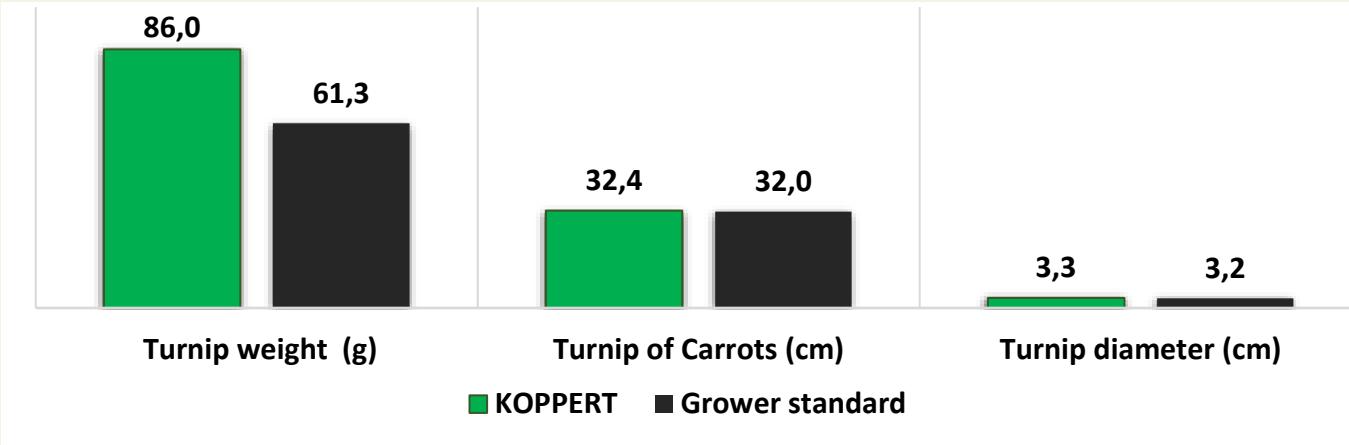
# PYTHIUM on Carrots



# Trianum vs Soil diseases in Carrots



# Trianum vs Soil diseases in Parsnip

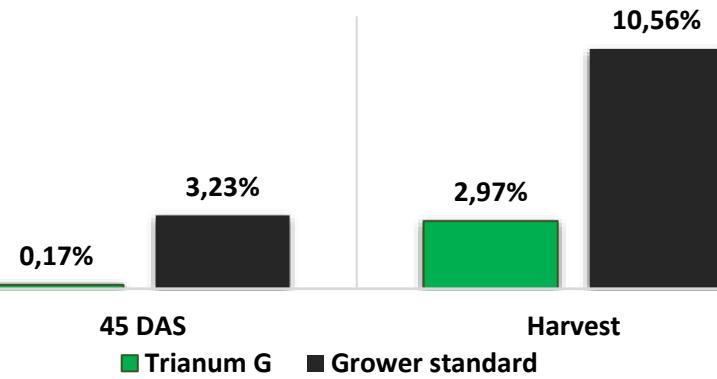


# FUSARIUM on Onions

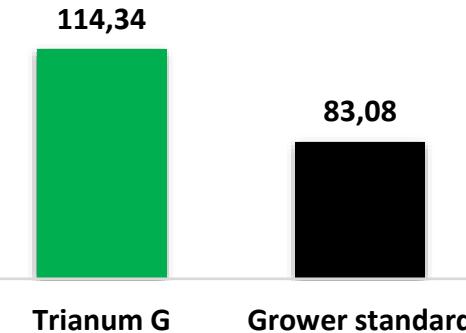


# Trianum vs Soil diseases in Onions

% of Plant losses at 45 DAS and Harvest

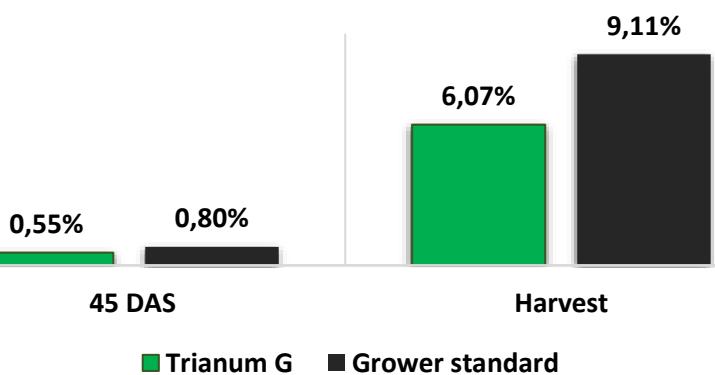


Tons/ha

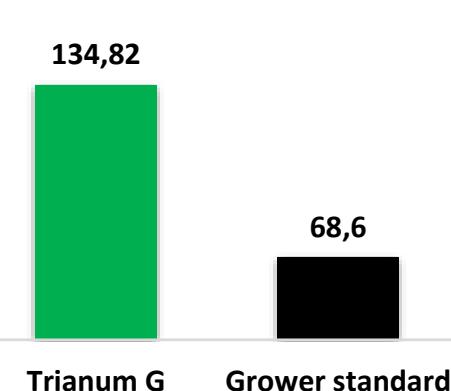


Location 1

% of Plant losses at 45 DAS and Harvest

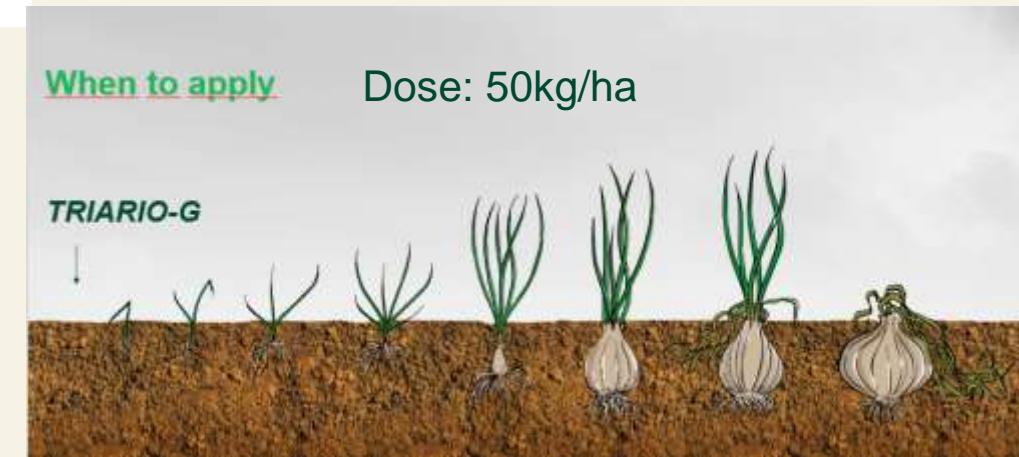


Tons/ha



When to apply

Dose: 50kg/ha



Location 2

# TRIANUM: Experiences in Hungary

KOPPERT HUNGARY 2024

Outcomes:

- ✓ Better root and higher emergence ratio
- ✓ Improves early plant development because of the quick germination
- ✓ Control of several soil born pathogens (*Fusarium*, *Sclerotinia*, *Rhizotonia* and *Pythium*).

Average efficacy :70-90%

- ✓ Yield increase around 15% up to the crop and grower standard technology



# WHY TO USE TRIANUM

- Able to control multiple soil-born pathogens at once
- Can also promote plant growth and uniformity
- As efficient as chemical fungicides
- Among the most concentrated Trichoderma-based bio-fungicides in the market
- Can be used in a wide range of conditions  
→ make sure to use it when its chances are good!
- No risk of resistance
- IPM friendly; allowed in organic agriculture
- Safe for the users and the environment
- No MRL (Maximum Residue Level) e minimum pre-harvest interval



# WHY TO USE TRIANUM

## *Benefits in Carrots*

- Yield increase
- Root disease control;

Pythium (cavity spot)

Rhizoctonia (wortelrot)

Alternaria (radicina)

Chalaropsis (thilavioides)

Thielaviopsis (basicola)

Rhexocercosporidium (carotae)

Acrothecium (carotae)

Mycocentrospora (acerina)



## *Benefits in Potato*

- Yield increase
- Root disease control;

Rhizoctonia

Alternaria



## *Benefits in Onions*

- Yield increase
- Root disease control;

Fuzarium

Alternaria (radicina)

# CONDITIONS FOR SUCCESS

1. Use preventively, before the pathogen can attack the crop
2. Start from beginning of crop cycle
3. Apply the product as close as possible to the root system / seed
4. Repeate applications during crop cycle to increase efficacy
5. Begin application when T° of soil reach 8-10°C
6. Use dosages advised by local lables and Koppert consultants



K  
Koppert

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with Nature**

