



# IN GOOD COMPANY

Mycorrhiza for your plants

RESEARCH AND TECHNOLOGY  
FOR THE PLANTS OF OUR WORLD





WELCOME,

I am delighted that you are interested in our fungi and their benefits for plants.

We at Inoq develop mycorrhizal products for strong plants and healthy soil, for better plant growth with increased rooting and vigour.

Check out what is suitable for your needs and get in touch with us - we thrive on mastering new challenges.

Carolin Schneider

Owner and managing director INOQ



# MYCORRHIZA FOR YOUR PLANTS

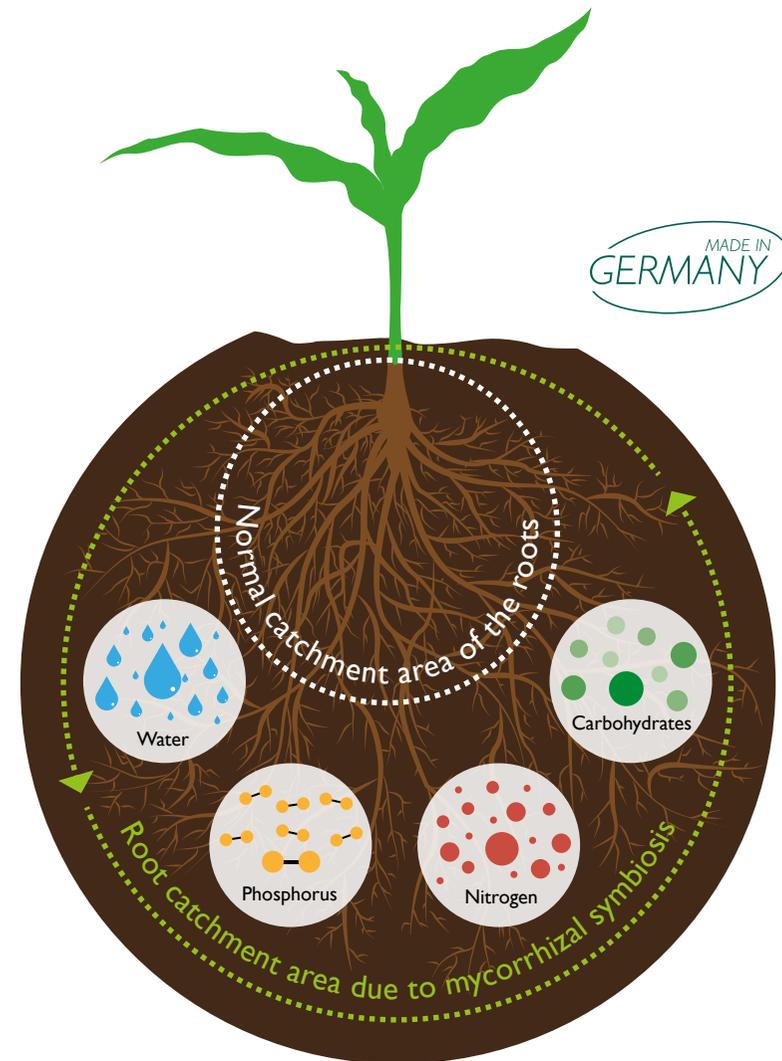
Mycorrhiza is a symbiotic association of plants and fungi in the soil.

Their benefits are becoming increasingly important because conventional plant substrates do not contain mycorrhiza and many areas have an impoverished soil life that cannot provide plants with sustainable vitality.

Fungi supply the plant with nutrients (phosphorus, nitrogen) and make water more readily available. In return, the fungi receive vital carbohydrates from the plant.

This symbiosis strongly stimulates root growth, the plant flowers abundantly and becomes more tolerant to diseases and pests, and more resilient to bad weather and soil conditions.

Mycorrhizal fungi also improve the soil structure. Their hyphal networks increase the aggregation of the soil. This is particularly important for green areas with slope inclination (elevated sites, dykes, roofs) and for erosion control.



# RESEARCH AND QUALITY



INOQ bridges the gap between research and application in horticulture, agriculture and forestry.

We produce in Germany with extensive quality control, which guarantees a high-quality product for your special field of application.

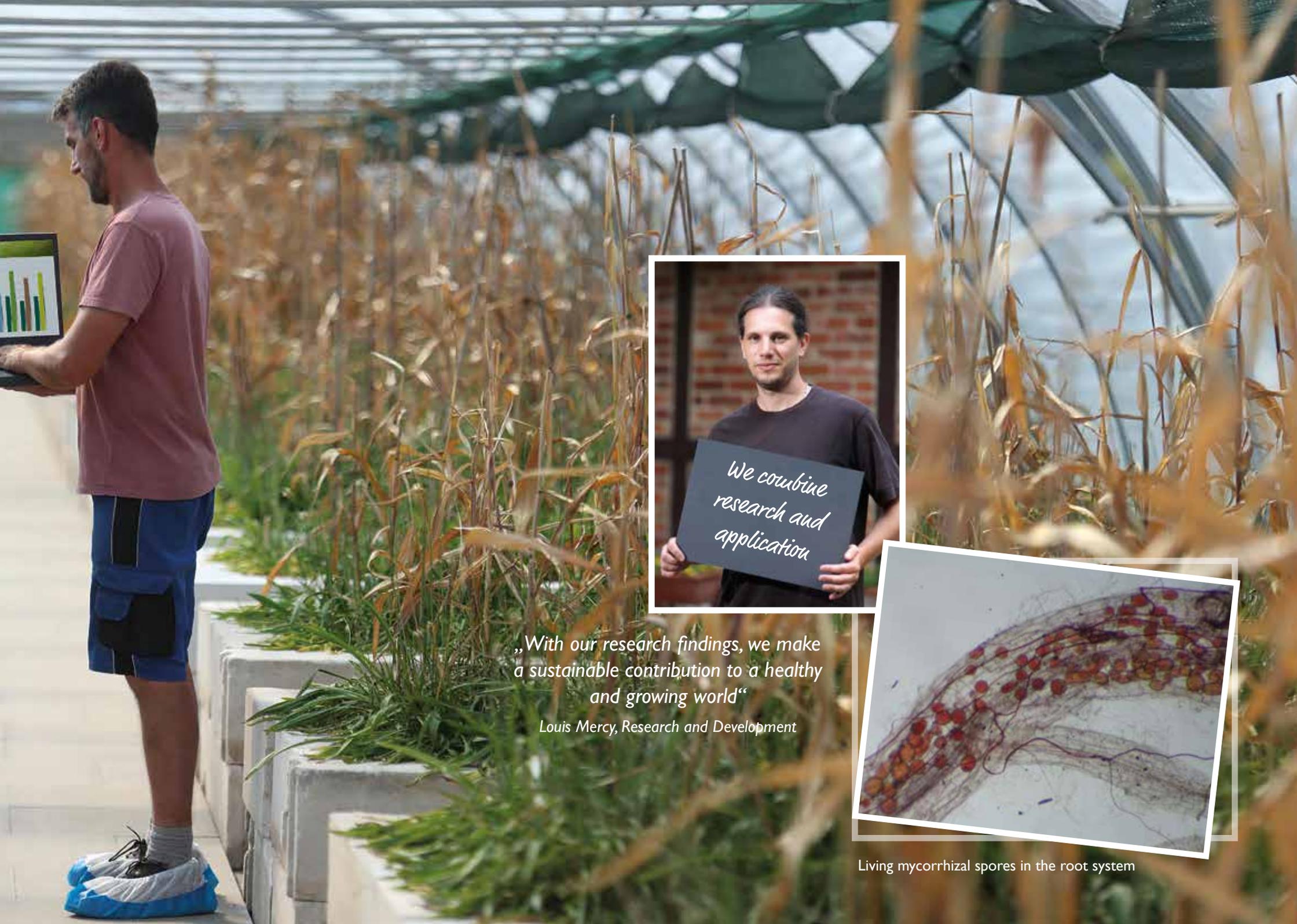
To this end, we are involved in national and international research projects and associations. We are a member of the German and European committees for the standardisation of biostimulants according to EU legislation.

In our micro and molecular biology laboratory, we can carry out root and soil analyses for you. Our scientific and technical staff will be happy to consider your specific requirements and advise you on product selection and application.



Photo: Production of mycorrhizal fungi shortly before harvest





*„With our research findings, we make a sustainable contribution to a healthy and growing world“*

*Louis Mercy, Research and Development*



Living mycorrhizal spores in the root system

SUITABLE FOR

FARMERS

FERTILIZER AND SUBSTRATE  
MANUFACTURERS

SEED COATERS

RESEARCH

BIOSTIMULANT FORMULATORS

PROMOTING  
ROOT PENETRATION

IMPROVED  
DROUGHT STRESS TOLERANCE

REDUCTION OF FERTILISER ADDED



# AGRICULTURE

## INOQ ADVANTAGE

*„Our field tests have shown:  
both the application in the field,  
as well as the seed coating lead to  
excellent results. Every user can match  
them to his/her machines.“*

*Hans-Joachim Heermann,  
Head of field cultivation and field tests*



By the year 2030 we are projected to be 9 billion people in the world. There is a considerable increase in society's demands for healthy nutrition (quantity, free of pollutants, varied, affordable). With the intensification of agriculture, a soil management adapted to the respective location and soil conditions is increasingly gaining in importance. This primarily refers to the maintenance and strengthening of soil fertility as the basis for sustainable agriculture.

INOQ ADVANTAGE with mycorrhizal fungi is a highly concentrated inoculum in a new formulation (concentrate, pellets, powder). It can be mixed individually with different carrier substances and, when applied, improves the air, water and nutrient balance in the soil.

INOQ Advantage is listed in the operating resources list of FiBL Germany.



Reference: BestPass project, field test

# RECULTIVATION



„In urban greening, plants can have a particularly difficult time. With mycorrhiza they stay vital.“

Imke Hutter, Management



At INOQ we are constantly working on innovative, high quality products for ecologically sensible plant cultivation systems. With our research cooperations, we are involved in international projects for the restoration of heavy metal and salt-loaded areas. Please also get in touch with us for special applications such as tree restoration, landfill greening, industrial wasteland, roadside greenery. If you decide on a different substrate for your specific application, we will be happy to advise you.

INOQ AGRI is characterised by good flowability. This mycorrhizal product is preferred especially on slopes because it provides good adhesion and allows soil particles to aggregate through fungal adhesive.



INOQ AGRI is listed in the operating resources list of FiBL Germany.

Reference: Hydroseeder, Switzerland, Otto Hauenstein Company

PROMOTION OF BETTER COVERAGE  
INCREASE IN GROWTH AND SURVIVAL RATES  
INCREASED TOLERANCE TO POLLUTANTS

with Mycorrhiza

without Mycorrhiza

Reference:  
Gotthard Tunnel greening project  
Geoverde AG

SUITABLE FOR

RECUITIVATION

EROSION CONTROL

HYDROSEEDING

EMBANKMENT PROTECTION

SOIL AGGREGATION

# TREE PLANTING/RESTORATION



IMPROVED  
SOIL LIFE

VITALIZATION

Especially under unfavourable soil conditions, living microorganisms can promote root development and plant growth. This type of soil improvement is being increasingly used and can promote the vitality of the plant. In this manner, it can also better cope with critical situations – such as drought stress or transplant shock.

Woody plants should be mycorrhized at an early stage during the cultivation phase and thus become strengthened. According to FLL guidelines (Landscape Research, Development and Construction Society), the use of mycorrhizal fungi is recommended for tree planting. The soil structure is improved by mycorrhiza and their helper bacteria.



*„The forest is living climate protection, it lets us relax and breathe deeply again.“*

*Franziska Gätjens,  
Consulting and sales*



WITHOUT and WITH Mycorrhiza

SUITABLE FOR

TREE NURSERIES

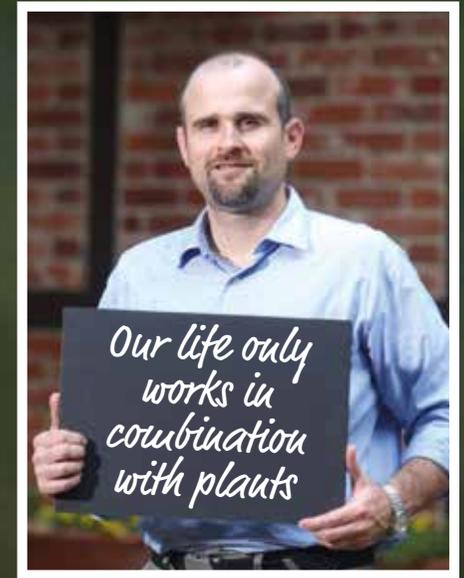
FOREST TREE NURSERIES

CONTAINER NURSERIES

AFFORESTATION

TREE MAINTENANCE

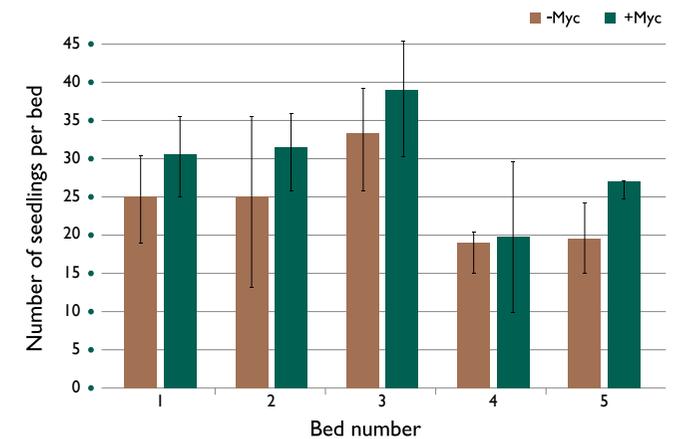
# INCREASING THE HUMUS CONTENT



*„To preserve nature is our goal. In this way, we are providing subsequent generations with a future worth living.“*

*Miguel Arato, Business Innovation*

**Comparison field sowing of fir trees**





IMPROVED  
ROOTING OF CUTTINGS

INCREASE IN  
ABUNDANT FLOWERING

IMPROVED  
DROUGHT STRESS TOLERANCE

SUITABLE FOR

RHODODENDRON PRODUCERS

AZALEAS

BLUEBERRIES

CALLUNA

CONTAINER PLANTS

# ERICACEOUS PLANTS



We have developed INOQ Rhodazo for the cultivation and vitalization of ericaceous plants. It can be mixed well with all soils and thus the benefits are many and varied. This product ensures improved water retention, better soil structure and increases the humus content.

„The use of ericoid mycorrhizal preparations is very promising due to the significant differences compared to untreated plants. Their application appears meaningful particularly for a faster and more uniform growth of young plants in the nursery.“

*Dr. Mareile Zunker and Harald Schneller, LTZ Augustenberg*



Mycorrhiza on Calluna

*„I would say: a green thumb is all about attention and expertise“*

*Bea Ceipek, Technical Assistance*



*„Careful work is the first priority  
in our production, because we lay  
the foundation for the quality  
of the products.“*

*Alexander Thamm, Production*



SUITABLE FOR

LANDSCAPE GARDENERS

PLANT PRODUCERS

NURSERIES

CITY GREENERS

PRIVATE GARDENS

INCREASE IN VITALITY

HIGH WATER  
RETENTION CAPACITY

IMPROVEMENT  
OF THE SOIL STRUCTURE

# GARDENING & LANDSCAPING

## INOQ SPECIAL

Horticulture and landscaping are becoming more and more important, but they are often caught between the conflicting priorities of customer requirements and feasibility. The customer wants his plans and ideas to be implemented professionally, the horticulturalist/landscaper has the claim to design vital gardens, parks or green spaces in a sustainable manner. In any case, it is important to create the best conditions for the plants – with mycorrhiza.

SPECIAL increases the flowering abundance and growth of plants. It increases resistance to pests and diseases. This substrate can be mixed well with all soils and increases the humus content during application.



Balcony flowers: left without and right with mycorrhiza  
Reference: ASB Grünland Helmut Aurenz GmbH

SUPPRESSION OF  
UNWANTED GRASS SPECIES

SUPPORT FOR BETTER COVERAGE

REDUCTION OF FERTILISER APPLICATION



Andrea Rathje,  
Head of Production



*„A well-groomed green is pleasing  
to every eye. And we'll help right  
from the start.“*

Andrea Jeschke,  
Technical Assistance, Microbiology Laboratory

# GOLF & SPORTS GROUND CONSTRUCTION



The manufacturers of turf rolls and the operators of sports facilities are faced with special challenges because the user makes high demands on this turf. It should be sturdy and resilient, growing slowly and densely so that weeds are prevented from spreading. It must be able to withstand longer periods of drought and still look green and vital even with low fertilization.



Benefits of mycorrhiza in situations of drought stress

Our SPRINT mixture improves the tolerance of the lawn to drought stress, promotes root formation and improves the air balance in the soil. The mixture has good flowability and can be applied by machine.



SUITABLE FOR

TURF-ROLL MANUFACTURERS

TURF-ROLL PROCESSORS

LAWN SCHOOLS

NEW SEEDING/CARE

# ROOF GREENING



Everyone who has to do with roof greening knows that special importance must be placed on the choice of suitable plants and substrates, due to the difficult accessibility in later maintenance processes.

By using our TOP mixture, adverse weather conditions are better tolerated and resistance to pests and diseases is increased. The carrier material is peat-free and coarse-grained with a high water retention capacity and therefore sustainably improves the air balance in the soil or substrate.



**CONTROL:**  
Substrate  
100 % expanded clay  
without aggregates



**WITH MYCORRHIZA:**  
Substrate  
100 % expanded clay  
with 80 g/m<sup>2</sup> mykoVerde,  
Otto Hauenstein Samen AG,  
Switzerland



*Ute Wieneke-Schulze,  
Consulting and Sales*

SUITABLE FOR

PRODUCERS  
OF ROOF GREENING PLANTS

ROOF GREENING COMPANIES

SUBSTRATE MANUFACTURERS

HORTICULTURE AND LANDSCAPING

REDUCTION OF DROUGHT STRESS  
PARTICULARLY LIGHT SUBSTRATE  
INCREASE IN THE GROWTH RATE



# PRODUCT REVIEW

## APPLICATION

(NOT APPLICABLE FOR ADVANTAGE FAMILY)



### Placement in the planting hole

- Up to 12 cm pots = 10 – 20 ml/plant
- To 10 L tub = up to 100 ml/plant
- To 15 cm ø root ball = 20 ml/plant
- To 40 cm ø root ball = up to 100 ml/plant
- Baled material over 40 cm ø = 100 – 300 ml/plant

### Existing plantings

- Planting holes = up to 100 ml/plant
- Per 10 cm stem ø = 3 x 100 ml

### Mix with Substrate

- Sowing = 1 % – 5 %
- Plant production = 5 % – 10 %

### Mix with Seeds

- 10 – 20 ml / 1.000 seeds

### Mix with Fertiliser

- 12 – 15 L/t

### Mix with sowing in new plants

- Up to 100 ml/m<sup>2</sup>

### Surface application

- Up to 100 ml/m<sup>2</sup>

### Transplantation bed

- Up to 100 ml/m furrow

## ADVANTAGE

Product family

	Concentrated powder	Powder	Pellets
<b>Application</b>	Mixture of biostimulants, fertilizers and substrates	Greenhouse and field growth	Mixtures for greenhouse and field
<b>Substrate</b>	–	Clay Minerals	Clay Minerals
<b>Output materials: Living microorganisms</b> Native tribes, contains no genetically modified organisms (GMO)	Arbuscular Mycorrhizal fungi: <i>Rhizoglyphus irregularis</i> <i>Funneliformis mosseae</i> <i>Funneliformis caledonium</i>	Arbuscular Mycorrhizal fungi: <i>Rhizoglyphus irregularis</i> <i>Funneliformis mosseae</i> <i>Funneliformis caledonium</i>	Arbuscular Mycorrhizal fungi: <i>Rhizoglyphus irregularis</i> <i>Funneliformis mosseae</i> <i>Funneliformis caledonium</i>
<b>Mycorrhiza Units per ml</b>	min. 45.000	4.500*	4.500*
<b>Mycorrhiza impact (enhancement of growth [%] in standard test)</b>	65 +/- 5	65 +/- 5	65 +/- 5
<b>Specific weight [g/L]</b>	375 – 500	375 – 500	900 – 1.000
<b>Packaging size</b>	20 ml, 50 ml, 100 ml, 500 ml, 1 Litre	1 Litre, 5 Litres, 10 Litres, 25 Litres	10 Litres, 25 Litres, 1.000 Litres

\*A higher mycorrhizal concentration is possible if requested by the customer.

Surface application: Please contact us for additional recommendations for your specific applications.  
All products have a shelf life of 2 years when stored in a dry and dark place between 4° C and 15° C.  
INOQ ADVANTAGE and AGRI are listed in the operational supplement list of FiBL Germany.

# AGRI

# FOREST

# RHODAZO

# SPECIAL

# SPRINT

# TOP

Recultivation, Mixed with seeds, Mixed with fertiliser	Tree cultivation, tree planting, and restoration	Garden and landscaping especially for Ericaceae	Garden and landscaping, Plant production, Recultivation	Golf and Sport Greens	Roof greening, Garden and landscaping, Recultivation
Vermiculite	Peat substrate	Peat substrate	Peat substrate	Sand	Expanded clay
Arbuscular Mycorrhizal fungi: <i>Rhizoglo mus irregulare</i> <i>Funneliformis mosseae</i> <i>Funneliformis caledonium</i>	Ectomycorrhizal fungi Arbuscular Mycorrhizal fungi: <i>Rhizoglo mus irregulare</i> <i>Funneliformis mosseae</i> <i>Funneliformis caledonium</i>	Ericoid mycorrhizal fungi: <i>Rhizoscyphus ericae</i>	Arbuscular Mycorrhizal fungi: <i>Rhizoglo mus irregulare</i> <i>Funneliformis mosseae</i> <i>Funneliformis caledonium</i>	Arbuscular Mycorrhizal fungi: <i>Rhizoglo mus irregulare</i> <i>Funneliformis mosseae</i> <i>Funneliformis caledonium</i>	Arbuscular Mycorrhizal fungi: <i>Rhizoglo mus irregulare</i> <i>Funneliformis mosseae</i> <i>Funneliformis caledonium</i>
145	60	–	145	145	145
47 +/- 8	24 +/- 5 Ectomycorrhiza 32 +/- 8 Endomycorrhiza	24 +/- 6	54 +/- 8	64 +/- 5	48 +/- 5
350 – 480	300 – 450	170 – 300	300 – 450	1.300 – 1.900	330 – 450
5 Litres, 10 Litres, 25 Litres, 1.000 Litres	1 Litre, 5 Litres, 10 Litres, 25 Litres, 1.000 Litres	1 Litre, 5 Litres, 10 Litres, 25 Litres, 1.000 Litres	10 Litres, 25 Litres, 1.000 Litres	10 Litres, 300 Litre	1 Litre, 5 Litres, 10 Litres, 25 Litres, 1.000 Litres

### Our packaging sizes



1 Litre Bucket



5 Litres Bucket



10 Litres Bucket



25 Litres Paper sack



1.000 Litres Big bag

**All products have been tested for compatibility with fungicides.**

Health and safety information: No special precaution necessary.  
Avoid breathing or ingestion. Absence of  
phytopathogens proven (DNA multiscan®)  
Material Safety Data Sheet available.

# INNOVATION SERVICES FOR PROFESSIONALS

## SCOPE



Provision of mycorrhizal inoculum and technical advice in the development of special mixtures for:

- Seed coating
- Fertilizer manufacturers
- Substrate manufacturers
- Biostimulant producers
- Other special treatments for soil and plants



Laboratory, greenhouse and field tests of mycorrhizal mixtures and formulations. The analyses include:

- Product compatibility
- Dosage recommendations
- Colonization rate
- Reaction and effect of the plants
- Stress tolerance
- etc.



Development of tailor-made mycorrhizal formulations (private label). Processing, mixing and packaging services available.

## OUR VALUE PROPOSITION FOR YOUR COMPANY

- Strict quality control to ensure the effectiveness of the product, the vitality of spores and the absence of phytopathogens
- A high quality product at a competitive price
- Sound technical and scientific background with access to a large network of scientists to support our product development process
  - Research cooperation with over 60 renowned universities and private companies from all over the world
  - More than 45 scientific publications in internationally recognized journals and at conferences
  - Research and innovation experience with more than 25 European and international projects (EU H2020, Eurostars and others)

## INFRASTRUCTURE

- Microbiology laboratory for the examination of soil and root samples, as well as for the investigation of specific growth-promoting properties of microorganisms with spectrophotometer (spectrophotometric measurements of e.g. DNA, RNA, enzyme activities, optical density of bacteria cultures etc.)
- Molecular biology laboratory for the identification of microorganisms (PCR, electrophoresis, gel documentation, incubation rotator)
- Greenhouses (1,800 m<sup>2</sup> of foil tunnel) and 16.5 hectares of agricultural test areas and plant production
- Production plants for the development and processing of mycorrhizal formulations with different carrier materials
- Specialized scientific staff to support the product development process of our customers



USE BENEFICIAL MICRO-ORGANISMS  
FOR PLANTS IN AN INNOVATIVE  
WAY TO ENABLE SUSTAINABLE LIFE  
ON EARTH





# INOQ TEAM

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