

# Ornamental Plants and Vegetable Conference 2024

The Ornamental Plant Conference was held for the 13th time, and the Vegetable Growers' Conference also celebrated its 10th anniversary this year. Over two full days, from 10.01.-11.01.2024 (Austria), everything revolved around working ecologically with biostimulants, residue-free gardening and the reduction of antimicrobial substances and pesticides. The event took place both online and at the company site in Pichl bei Wels and attracted more than 220 participants from Austria and abroad on each of the two seminar days – link - [Successful Multikraft Ornamental Plants & Vegetables Conference](#). This link provides a summary of the conference. On the following pages, a summary was created for each presentation. The presentations can be viewed on YouTube - [Robert Rotter - Pflanzenstärkung wirkt! Ergebnisse aus Versuch und Praxis](#).



The summary was created by Ag Plus Consultancy, Australia so that growers in Australia can view the stories and information presented at the conference

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## Plant strengthening works! Results from trials and practice

Robert Rotter

Robert Rotter discusses the benefits of plant strengthening through probiotic microorganisms. He highlights environmental challenges like climate change and biodiversity loss, emphasizing the importance of sustainable agriculture. Rotter presents research and trials demonstrating the effectiveness of alternative plant protection methods in enhancing plant resilience, improving chlorophyll content, and boosting yield quality in crops such as wine grapes and vegetables. He also underscores the need for shifting agricultural practices toward more sustainable approaches to ensure long-term environmental health.

The video highlights several experiments demonstrating the impact of plant strengthening using probiotic microorganisms. Here are some key trials:

1. **Wine Grape Trials in Italy** – A vineyard in Corneliano tested plant strengthening against conventional pesticide use. Despite conventional treatment, downy mildew was present, but the strengthened plants showed reduced disease pressure. They also had **higher chlorophyll levels**, indicating improved photosynthesis, and the wine produced contained **double the polyphenol levels**, enhancing flavor and quality.
2. **Basil Chlorophyll Experiment** – Trials compared different strengthening methods, including **fermented plant extracts like nettle and horsetail**, on basil plants. While a combination of treatments initially resulted in the highest chlorophyll levels, long-term, the **MK Blume treatment** maintained the most sustained chlorophyll boost.
3. **Vegetable Yield Enhancement** – Researchers at the **Zurich University of Applied Sciences** conducted tests on cucumbers using microbial treatments. The plants treated with **MK Start for root enhancement and MK Blume for foliage strengthening** produced **almost double the harvest** compared to untreated plants.
4. **Ornamental Plant Research** – Various trials on **lavender, roses, and cyclamen** examined plant resilience and bloom quality. Results showed improved root development, **higher disease resistance**, and **richer flower colors**, suggesting probiotic microorganisms contribute to healthier plants.

Each experiment reinforces that plant strengthening can lead to **more resilient crops, improved yield, and higher quality**—while reducing reliance on conventional pesticides.

Additional information not covered in the presentation:

### 1. Enhancing Soil Microbiome

- Beneficial microbes, such as lactic acid bacteria and yeasts, **colonize plant roots** and create a more diverse soil microbiome.



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- This microbial balance **suppresses harmful pathogens** by outcompeting them for nutrients and space.

## 2. Improving Nutrient Uptake

- Certain bacteria, like **Bacillus species**, break down organic matter and **convert nutrients into plant-accessible forms**.
- **Nitrogen-fixing bacteria**, such as *Rhizobium*, capture atmospheric nitrogen and supply it to plants.

## 3. Stimulating Plant Defenses

- Beneficial microbes activate **systemic resistance**, triggering plants to **produce defensive enzymes** that help fight off diseases.
- Some microorganisms, such as Trichoderma fungi, **induce the production of phytohormones**, leading to improved root development and stress tolerance.

## 4. Increasing Photosynthesis Efficiency

- Microbial treatments boost **chlorophyll production**, improving **light absorption and energy conversion** in plants.
- Plants treated with probiotic solutions often exhibit **greener, more robust foliage** due to enhanced photosynthesis.

## 5. Strengthening Cell Walls

- Some probiotics produce **bioactive compounds** that reinforce **plant cell walls**, making them more resistant to pathogens and environmental stress.
- This structural enhancement reduces **water loss and improves drought tolerance**.

In essence, these probiotic microorganisms create a **more resilient plant** by optimizing nutrient absorption, boosting defenses, and improving overall plant metabolism. The video's experiments demonstrate these effects in various crops, showing measurable increases in yield, chlorophyll levels, and disease resistance.

## Plant strengthening works! Results from trials and practice

**Florian Berger**

The video by Florian Berger discusses plant strengthening techniques and their impact in both experiments and practical applications. It highlights the benefits of using Multikraft products for plant health, reducing chemical pesticide use, and improving root development, stress resistance, and overall crop quality. Various examples from different growers showcase



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improved plant vitality and disease prevention, with notable success in cold fogging methods for distributing beneficial microorganisms efficiently.

The video highlights several key techniques for plant strengthening, particularly using Multikraft products. These techniques focus on improving root development, stress resistance, and overall crop health while reducing reliance on chemical pesticides. Some of the main methods discussed include:

- **Cold Fogging:** Efficient distribution of beneficial microorganisms in greenhouses to enhance plant vitality and disease prevention.
- **Regular Water Treatment:** Consistent application of treated water to support healthy plant growth.
- **Leaf Applications:** Spraying solutions directly onto leaves to improve nutrient uptake and resistance.
- **Preventative Treatments:** Applying plant-strengthening products early to reduce potential disease outbreaks.
- **Soil Treatments:** Enriching soil microbiology to boost root development and nutrient absorption.

Additional information not covered in the video:

**Cold fogging** is a technique used to distribute beneficial microorganisms evenly throughout a greenhouse or growing area. It involves creating a fine mist of plant-strengthening solutions, which can effectively reach all parts of a plant, including leaf undersides and hard-to-reach areas. Here are its main advantages:

- **Improved Microbial Coverage:** The mist spreads beneficial microorganisms uniformly, helping to enhance plant health and disease resistance.
- **Reduced Water Usage:** Unlike traditional spraying methods, cold fogging requires significantly less water, making it more efficient.
- **Better Environmental Conditions:** The technique helps create a stable microenvironment, improving nutrient uptake and plant vigor.
- **Lower Labor Costs:** Since the fog is distributed automatically, it reduces the need for manual application.
- **Minimized Chemical Use:** Cold fogging can replace or reduce chemical treatments, leading to safer and more sustainable plant care.

## The Multikraft system in the cold fogging process, bed plants, balcony plants, and potted herbs

Franz Korting

The video discusses the application of the Multikraft system in cold fogging for ornamental and potted plants. Franz Korting presents findings from experiments with this method, explaining how effective microorganisms are regularly applied through fogging to improve plant health.

He describes the benefits of cold fogging, including reduced labor compared to traditional spraying and improved distribution of treatments. However, he also notes challenges, such as ensuring consistent deposition on plants. The experiments examined different plant types and treatment strategies, finding that cold fogging generally promoted plant development, increased biomass, and enhanced flowering time.

Additional tests explored plant resistance against common issues like mildew, with mixed results. Korting emphasizes the importance of fine-tuning application techniques, such as nozzle size and timing, to optimize effectiveness. Overall, the research highlights cold fogging as a promising method for plant strengthening, with ongoing studies aimed at refining its use.

Would you like a more detailed breakdown of specific findings?

What specific treatment strategies were tested?

The experiments tested several different treatment strategies using cold fogging to improve plant health. These strategies included:

- **Standard Spraying:** Applying effective microorganisms (EM) with a 5% concentration weekly via conventional spraying.
- **Cold Fogging with EM:** Using the cold fogging method to distribute EM, initially with reduced water amounts, later adjusted to reach approximately 5% concentration.
- **Cold Fogging with Bio-Stimulants:** Adding natural bio-stimulants to cold fogging, such as:
  - Shift (a cytokinin product to promote branching and compact growth)
  - Lok Saa (a salicylic acid formulation to enhance plant disease resistance)
  - Phyloton (an amino acid supplement for growth support)

The research aimed to compare these approaches in terms of plant development, biomass increase, and flowering time. Some additional strategies were also explored to assess plant resistance against mildew and other common issues.

The different treatment strategies had varied effects on plant growth and disease resistance. Here's a breakdown:



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1. **Cold Fogging with Effective Microorganisms (EM)** – This method generally promoted plant development, leading to increased biomass and earlier flowering. However, deposition inconsistencies meant some plants received less treatment.
2. **Cold Fogging with Bio-Stimulants** – The addition of cytokinin-based products improved branching and compact growth, while salicylic acid formulations enhanced disease resistance. The results varied depending on plant type, with some benefiting more than others.
3. **Standard Spraying of EM** – Weekly spraying at a 5% concentration led to steady plant health improvements but required more labor than fogging.
4. **Cold Fogging with Additional Treatments** – Some tests included extra applications of amino acid supplements and plant stress regulators, which had mixed results in promoting compact growth and strengthening resistance to mildew.

In general, cold fogging was found to be an effective method for improving plant vigor and flowering time, though optimization of application techniques—such as nozzle size and timing—was necessary to enhance consistency and minimize treatment losses.

## Multikraft System for Pesticide Reduction – A Practical Report

Magnus Herter

The video is a presentation by Magnus Herter on the use of the Multikraft system for reducing pesticide use in horticulture. He introduces his business, a large-scale plant production facility in Germany, and explains how he transitioned to using Multikraft products to improve crop health and reduce reliance on chemical treatments.

Herter details his experience with various plant cultures, including vegetables, flowers, and ornamental plants, highlighting the benefits of using Multikraft solutions for strengthening plants and minimizing disease outbreaks. He shares specific case studies where applying Multikraft products led to improved germination rates, better plant growth, and lower pest infestations.

Throughout the presentation, he discusses his trial-and-error process, the impact on different crops, and adjustments made to optimize results. He also mentions challenges and learning experiences, such as refining application methods and balancing chemical treatments where necessary. Overall, he advocates for a more sustainable approach to plant cultivation using the Multikraft system.

Would you like more details on any specific part?

What exactly is the Multikraft system?



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The **Multikraft system** is a **microbial-based approach** to improving plant health, soil quality, and environmental sustainability. It relies on **beneficial microorganisms** to create a regenerative and balanced ecosystem, reducing the need for chemical pesticides and fertilizers.

#### How It Works:

- **Microbial Products:** The system uses probiotic bacteria and fungi to enhance soil and plant health. These microbes help suppress harmful processes like rotting and mold formation.
- **Fermented Plant Extracts:** Ingredients like **garlic, chili, nettle, and horsetail** are fermented to strengthen plants and improve resistance to pests and diseases.
- **Soil & Leaf Treatments:** Specialized products like **MK Soil** and **MK Foliar** improve nutrient uptake and plant resilience.
- **Sustainable Agriculture:** By fostering a healthy microbiome, the system supports **organic farming, horticulture, and animal husbandry**.

Magnus Herter shared several case studies in his presentation on the **Multikraft system**. Here are some key examples:

- **Paprika Germination:** Initially, his team faced poor germination rates with paprika seeds. After treating the seeds with **ceramic powder and MK Start**, the germination rate improved from **under 80% to 95-98%**.
- **Horned Violets (Viola cornuta):** The plants developed **exceptionally strong root systems**, with roots spreading across the entire growing surface—something they had never seen before.
- **Ranunculus (Buttercups):** Previously, mildew was a recurring issue. After switching to **weekly Multikraft treatments**, mildew was no longer a problem.
- **Carnations:** The Multikraft system led to **better branching and stronger growth**, reducing the need for chemical treatments.
- **Tomatoes:** A trial using **MK Leaf, Terrafert Blatt, and Schachtelhalm** resulted in **stronger, more compact plants**, though some varieties responded better than others.
- **Hortensia (Hydrangeas):** While Multikraft improved plant health, some chemical treatments were still necessary for optimal results.
- **Edible Crops (Cucumbers, Peppers, Strawberries):** Multikraft applications **reduced pest infestations**, improved plant resilience, and enhanced fruit quality.

Herter emphasized that **consistent application** was key to success, and while some crops required additional interventions, the overall reduction in pesticide use was significant.



## Peat-Free Substrates and the Multikraft System – A Success Story

Siegfried Dumbky

The video features Siegfried Dumbky discussing peat-free substrates and the Multikraft system, highlighting their success story. He talks about the transition to environmentally sustainable gardening practices, reducing pesticide use significantly, and the benefits of using organic substrates. Dumbky emphasizes the importance of gradual changes, adapting fertilization strategies, and overcoming challenges such as managing soil moisture and pests. He also discusses how these methods prepare plants for consumers who may not have access to peat-based soils. The talk underscores both the ecological and economic advantages of peat-free cultivation.

Siegfried Dumbky reduced pesticide use by transitioning to the **Multikraft system**, which focuses on strengthening plant health naturally. This system allowed him to cut **chemical pesticide usage down to nearly 5%**. Here's how he did it:

- **Using beneficial microbes:** He incorporated **Keramikpulver (ceramic powder)** into the soil, creating a habitat for beneficial bacteria that support plant resilience.
- **Natural fertilization:** Instead of synthetic fertilizers, he opted for **organic materials** like **compost, coconut coir, wood fibers, and bio-based nutrients**.
- **Strategic irrigation:** He adjusted water management practices to **reduce plant stress**, making them less susceptible to pests.
- **Biological pest control:** To combat **fungal diseases and pests**, he applied **Multikraft-based solutions**, including natural ingredients like **garlic and chili extracts**.

Additional information not included in presentation:

Examples of peat free substrates

There are several sustainable alternatives to peat-based substrates, including:

- **Coco by-products** – such as coconut coir, which provides good aeration and water retention.
- **Wood fibres** – lightweight and biodegradable, offering a renewable option.
- **Composted bark** – improves soil structure and nutrient availability.
- **Green compost** – a nutrient-rich alternative made from decomposed organic matter.

These materials help reduce environmental impact while maintaining effective plant growth. Would you like recommendations on which substrate works best for specific plants?



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## Our successful transition to organic production in potted herbs

Oliver Krebs

The video features Oliver Krebs discussing the successful transition of his business to organic production for potted herbs. He explains the history and development of the company, detailing its move from conventional to organic farming within a year. Krebs outlines the steps taken, including soil preparation, plant nutrition adjustments, and greenhouse modifications. He also describes collaborations with industry partners and the use of innovative techniques like cold nebulization for plant care. Overall, the video presents a detailed journey of adapting to organic standards and the challenges faced along the way.

Oliver Krebs' transition to organic farming involved meticulous **soil preparation** and **plant nutrition** adjustments. The soil was prepared by reducing reliance on artificial chemicals, incorporating organic matter, and stimulating biological activity. This process included using compost, green manure crops, and microbial preparations to enhance soil fertility. The transition followed three phases: **adjustment**, where chemical inputs were minimized; **comfort**, where biological activity increased and nutrients became more available; and **maintenance**, where long-term soil health was sustained.

For **plant nutrition**, Krebs replaced mineral fertilizers with organic alternatives, such as **DCM organic fertilizers** and **biological stimulants**. These were applied through irrigation systems to ensure consistent nutrient delivery. Additionally, **cold nebulization** was introduced to improve plant health by distributing beneficial microorganisms evenly across crops. This method helped strengthen plant resilience and optimize nutrient absorption<sup>3</sup>.

Oliver Krebs made several **modifications** to his greenhouse to support organic farming. He installed **double energy screens** to improve insulation and reduce energy consumption. Additionally, he integrated a **cold nebulization system**, which distributes beneficial microorganisms evenly across crops, enhancing plant health and resilience. The greenhouse was also equipped with **assimilation lighting** to optimize plant growth conditions.

To further align with organic standards, Krebs transitioned to **biogas heating**, reducing reliance on conventional energy sources. He also implemented a **spray system** for plant propagation, ensuring efficient nutrient delivery. These changes helped create a more sustainable and controlled environment for organic herb cultivation.

Additional information:

**Assimilation lighting** is a technique used in greenhouses to supplement natural sunlight and optimize plant growth. It involves the use of artificial light sources, such as **LEDs or high-pressure sodium lamps**, to provide plants with the necessary wavelengths for **photosynthesis**.

This lighting system is particularly useful in regions with limited natural sunlight or during seasons when daylight hours are shorter. By strategically placing lights and adjusting their

intensity, growers can **enhance plant development, increase yields, and improve energy efficiency.**

**Cold nebulization** is a technique used in organic farming to distribute beneficial microorganisms and nutrients evenly across crops. It involves **micronizing liquid solutions** into fine particles, which are then dispersed in the air without heat. This method ensures **efficient absorption** by plants while minimizing waste and environmental impact.

In Oliver Krebs' greenhouse, cold nebulization was introduced to improve plant health by delivering **biological stimulants** directly to the crops. The system operates during nighttime hours to maximize effectiveness while avoiding interference with daily operations. By using **compressed air or ultrasonic technology**, the nebulization process creates a mist that spreads uniformly, enhancing plant resilience and optimizing nutrient uptake.

This approach is particularly useful in **organic farming**, as it reduces the need for chemical treatments while promoting **natural plant defenses**. Would you like to explore how different nebulization techniques compare?

## Reduced pesticide use, enhanced product quality – thanks to Multikraft

**Torsten Kühne**

This video features Torsten Kühne discussing his experiences with reducing pesticide use while improving product quality through the use of Multikraft products in horticulture. He shares insights from his gardening business, describing its evolution over generations, operational changes, and the adoption of plant-strengthening strategies. Kühne explains how microbial-based treatments like MK Start and MK Boden have helped maintain plant health, significantly lowering chemical pesticide use. He also highlights successful adaptations, such as increasing plant density without compromising quality and the benefits of plant vitality in retail settings.

Torsten Kühne's successful adaptations include optimizing plant density and improving plant vitality for retail settings. He discovered that increasing plant density—placing more plants per square meter—was feasible without compromising quality due to the benefits of plant-strengthening techniques. With enhanced microbial treatments, plants maintained health and avoided common stress symptoms such as yellowing leaves, allowing for easier management and reduced maintenance.

For example, in the case of poinsettias, he was able to increase the number of plants per square meter from 12–13 to 20–22. Despite industry skepticism, this approach worked well due to the improved stress resistance and overall health of the plants. Similarly, strengthened plants in

retail spaces, such as shopping malls with poor lighting conditions, retained their vitality much longer than expected, highlighting the effectiveness of the new strategies.

Additional information:

Certainly! The microbial treatments used in Torsten Kühne's horticultural approach focus on enhancing plant health and reducing chemical pesticide use. Two key products in his system are **MK Start** and **MK Boden**.

- **MK Start** is a biostimulant designed to improve soil and substrate biology. It contains beneficial microorganisms such as **lactic acid bacteria, photosynthetic bacteria, and yeast**, which help boost root development, improve nutrient absorption, and enhance plant resilience. It is applied after sowing, during propagation, and after transplanting young plants.
- **MK Boden** is another microbial-based treatment that supports soil health by fostering beneficial microbial activity. It helps regulate soil conditions, making nutrients more available to plants and improving their overall vitality.

These treatments contribute to **stronger root systems, better stress resistance, and reduced reliance on chemical pesticides**, allowing plants to thrive even in challenging environments.

## Plant strengthening works! Results from trials and practice

Robert Rotter

This presentation features Robert Rotter discussing the effectiveness of plant strengthening based on experiments and practical applications. He covers challenges like climate change and biodiversity loss, emphasizing the need for sustainable agricultural practices. He highlights trials involving probiotics and plant-strengthening methods, showing positive effects on crop resilience, soil health, and pest resistance. The video includes findings from various studies, such as improved chlorophyll levels in treated plants and enhanced growth in vineyards and vegetable crops. The key takeaway is that strengthening plants through microbiological methods can lead to healthier, more sustainable farming practices. Let me know if you need more details!

The presentation references multiple studies and experiments related to plant strengthening. Some key references include:

- **Corneliano Prosecco Production Study:** A vineyard trial in Corneliano examining the effects of plant-strengthening techniques on grape quality and polyphenol content.
- **Züricher Hochschule for Applied Sciences – Cucumber Trial:** A study investigating the impact of microbiological plant strengthening on cucumber yield.



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- **Global 2000 Ecological Plant Protection Trials:** A collaboration assessing the reduction of pesticides using alternative plant protection methods in herb and ornamental plant cultivation.
- **Experiments on Soil Microbiology:** Trials exploring the role of microbial soil treatments in improving plant resilience and health.
- **Photosynthesis and Chlorophyll Analysis:** Studies measuring chlorophyll levels in various crops to understand the impact of plant-strengthening treatments.

These studies collectively demonstrate the positive effects of microbiological plant-strengthening methods on crop growth, resilience, and quality. Let me know if you'd like more details!

The **Corneliano Prosecco Production Study** examined the effects of plant-strengthening techniques on grape quality and wine characteristics. Some key findings include:

- **Improved Chlorophyll Levels:** Treated vines showed higher chlorophyll content, indicating enhanced photosynthesis and plant vitality.
- **Reduced Disease Pressure:** Grapes and leaves in the strengthened variant exhibited lower disease incidence compared to conventionally treated vines.
- **Higher Polyphenol Content:** The Prosecco produced from treated vines had **more than double** the polyphenol levels, contributing to richer flavors and aromas.
- **Altered Mineral Composition:** The study found increased levels of **iron, calcium, and potassium**, while **copper and zinc** were significantly lower in the treated variant.
- **Enhanced Wine Quality:** The strengthened vines produced Prosecco with improved sensory characteristics, suggesting potential benefits for winemakers.

These findings highlight the potential of microbiological plant-strengthening methods in viticulture.

The **Züricher Hochschule for Applied Sciences – Cucumber Trial** focused on evaluating plant-strengthening techniques for cucumber cultivation. Some key findings include:

- **Increased Yield:** The trial showed that cucumbers treated with microbiological strengthening methods had nearly **double the fruit yield** compared to untreated plants.
- **Enhanced Disease Resistance:** The strengthened plants exhibited **lower susceptibility to mildew**, contributing to healthier crops.
- **Improved Root Development:** Treated cucumbers demonstrated **stronger root systems**, leading to better nutrient uptake and overall plant resilience.

- **Higher Photosynthesis Activity:** The study measured **chlorophyll levels**, indicating improved photosynthesis efficiency in treated plants.
- **Potential for Sustainable Cultivation:** The findings suggest that microbiological plant-strengthening techniques could reduce reliance on chemical treatments while maintaining high productivity.

These results highlight the promising impact of microbiological strengthening on cucumber growth and resilience. You can explore more details [here](#).

In Robert Rotter's presentation, **photosynthesis and chlorophyll analysis** were key topics in evaluating plant-strengthening techniques. He highlighted how chlorophyll fluorescence measurements can indicate plant vitality and stress resistance. Some key points from his discussion include:

- **Chlorophyll as a Photosynthesis Indicator:** Higher chlorophyll levels suggest improved photosynthetic efficiency, leading to better plant growth and resilience.
- **Effects of Microbiological Treatments:** Trials showed that plants treated with microbiological strengthening methods exhibited **higher chlorophyll content**, indicating enhanced photosynthesis.
- **Correlation with Disease Resistance:** Plants with increased chlorophyll levels demonstrated **lower disease pressure**, suggesting a link between plant health and microbiological treatments.
- **Experimental Findings:** In vineyard trials, chlorophyll fluorescence analysis revealed that treated vines maintained **higher photosynthetic activity**, even under environmental stress.

These insights reinforce the importance of microbiological plant-strengthening techniques in sustainable agriculture.

## Plant strengthening works! Results from trials and practice

Lukas Puchinger

The video features Lukas Puchinger discussing plant strengthening techniques, sharing results from experiments and practical applications. He talks about his experience working with Multikraft, his background in agriculture, and various methods for improving soil and plant health using effective microorganisms. He covers the Dominance Principle, the benefits of MK Boden for soil conditioning, and specific treatments for different crops, including potatoes, maize, and tomatoes. He also discusses biostimulants that enhance plant resilience, growth, and nutrient absorption while reducing disease and pest issues. The presentation includes real-world examples, research findings, and best practices for optimizing plant health in agriculture.



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The video highlights several successful plant treatments using Multikraft products and techniques. Here are some key examples:

1. **MK Boden for Soil Conditioning:** This product was used to improve soil health and structure. In trials with vegetable crops, applying MK Boden helped increase humus content, enhance water retention, and suppress soil-borne pathogens like Fusarium.
2. **MK Start for Root Development:** Farmers who incorporated MK Start into their seed slit treatment reported faster germination and stronger root systems. For example, a potato farm in Austria saw a yield increase of 4.5 tons per hectare by using MK Start combined with MK Gemüse.
3. **MK Gemüse for Foliar Treatment:** This was applied to various crops like tomatoes, zucchini, and lettuce to strengthen plant resilience. In Switzerland, zucchini plants treated with MK Gemüse showed no mildew, even in challenging weather conditions.
4. **MK Wein for Vine Health:** In vineyards, MK Wein treatments contributed to reduced disease pressure and healthier grape yields. One study in Austria showed up to a 70% reduction in conventional plant protection treatments when integrating MK Wein.
5. **Soybean Yield Increase:** A soybean farm in Burgenland, Austria, applied MK Start in the seed slit along with foliar sprays of MK Blatt and Multikal, resulting in an increased yield of 1.2 tons per hectare.

These examples demonstrate how Multikraft's biostimulants and effective microorganism treatments optimize plant health, improve disease resistance, and enhance yields in various agricultural applications.

## From a Production Nursery to a Retail Gardening Business – A Success Story.

**Markus Dorner**

This presentation tells the story of Markus Dorner and his journey from a production-focused nursery to a successful retail gardening business. Initially, his business in Vienna had to relocate due to space constraints. Over time, Dorner's nursery evolved from producing a few key crops for wholesale to cultivating over 100 different varieties, shifting towards direct consumer sales. Financial difficulties and changing market conditions led to innovative approaches in retail, including optimized space usage, automated irrigation, and improved production methods. Dorner also emphasizes sustainable practices, such as reducing chemical treatments by using effective microorganisms in cultivation.



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Markus Dorner integrated several sustainable practices into his gardening business, focusing on reducing chemical use, improving irrigation, and optimizing resource efficiency.

One key change was the **reduction of chemical treatments**—Dorner began using effective microorganisms (EM) in cultivation, minimizing synthetic pesticides and fertilizers. This shift not only improved plant health but also contributed to a more natural growing environment.

He also prioritized **automated irrigation systems** to conserve water and reduce waste. By implementing precise watering techniques, Dorner was able to optimize moisture distribution, ensuring plants received just the right amount of hydration.

Additionally, his business adopted **innovative space usage and production methods**, streamlining operations to maximize efficiency while minimizing environmental impact.

These adjustments allowed Dorner's nursery to maintain high-quality plant production while embracing more eco-friendly techniques.

## 4 Years of the Multikraft System in Viticulture

Christian Wally

The presentation by Christian Wally discussed his four-year experience using the Multikraft system in viticulture. He shares insights on transitioning to organic farming, the impact on soil health, and the benefits observed in grape cultivation. He emphasizes the importance of maintaining a healthy soil ecosystem, implementing cover crops, and using biological treatments to enhance plant resilience. Wally also touches on vineyard management strategies, including spraying techniques, fertilization, and how the system has influenced the taste and quality of the wine produced. Let me know if you need more details!

Christian Wally's vineyard management strategies with the Multikraft system focused on enhancing soil health, plant resilience, and sustainable cultivation. Here are some key approaches he implemented:

- **Soil Health & Cover Crops:** He emphasized maintaining a healthy soil ecosystem by using cover crops to improve soil structure and nutrient availability.
- **Biological Treatments:** Wally applied biological treatments, including probiotics and natural stimulants, to strengthen plant defenses and improve grape quality.
- **Spraying Techniques:** He used specific spraying methods, such as MK Soil and MK Wine applications, to support vine growth and disease resistance.
- **Reduced Synthetic Inputs:** His approach minimized the use of synthetic fertilizers and pesticides, relying instead on natural solutions to promote vineyard sustainability.

- **Improved Nutrient Absorption:** The Multikraft system helped increase nutrient uptake, leading to better grape yield and quality<sup>2</sup>.

Christian Wally used the Multikraft system to treat and prevent various vineyard diseases, particularly **downy mildew (Peronospora)** and **powdery mildew**. These diseases can severely impact grape yield and quality, but his approach focused on strengthening the vines' natural defences through biological treatments and soil health improvements.

Christian Wally's use of the Multikraft system led to a **significant reduction in pesticide use**, aligning with broader trends in sustainable viticulture. While exact figures for his vineyard aren't explicitly stated, similar applications of Multikraft's biostimulants in Australian viticulture have resulted in **drastic reductions in fungicide and pesticide use**, alongside **yield increases of up to 35%**.

## Successful prevention of Fusarium fungal diseases with the Multikraft system

Rasmus Moth

This presentation features Rasmus Moth discussing effective prevention of Fusarium fungal diseases using the Multikraft system. He shares his background in horticulture and his experience working with Multikraft products. Throughout the presentation, he emphasizes the importance of soil health, plant strength, and regenerative production methods. He showcases comparisons between chemical treatments and Multikraft treatments, highlighting the benefits of microbial biodiversity in improving plant resistance and overall quality. Several practical trials and experiments are shown, demonstrating increased root health, better yields, and improved plant vitality with the use of Multikraft products.

Rasmus Moth compared chemical treatments with the Multikraft system, showcasing notable differences in plant health and resistance. Here are a few key comparisons:

- **Root Health:** Roses treated with Multikraft had visibly cleaner, whiter roots, whereas chemically treated ones often appeared darker and less healthy.
- **Disease Resistance:** In Schlumbergera plants, he highlighted how traditional chemical treatments didn't fully prevent rot issues, whereas Multikraft-treated plants showed better recovery and resilience.
- **Growth & Vitality:** He showed side-by-side comparisons where Multikraft-treated plants had stronger, healthier leaves, more uniform growth, and increased photosynthesis efficiency.
- **Carrot Trials:** Multikraft treatments resulted in more uniform carrots, with fewer extremely small ones compared to untreated or chemically treated ones.

- **Biodiversity Approach:** He emphasized that chemical solutions remove "supporting microbes," whereas the Multikraft system boosts microbial biodiversity, fostering long-term plant strength instead of temporary solutions.

## Comparative analysis of viticulture with MK Wine, phosphoric acid, and KE Plant

Ilyas Ülker

The video is a presentation by Ilyas Ülker, a student studying viticulture, on his comparative analysis of different approaches to plant protection in organic wine farming. His study explores the effectiveness of MK Wine, phosphoric acid, and KE Plant in preventing fungal diseases in vineyards, particularly the false mildew.

Ülker discusses the current challenges in organic viticulture, including the reliance on copper-based treatments, which have environmental downsides. He tested alternative treatments and measured their effectiveness in reducing plant disease. His findings suggest that phosphoric acid treatments are crucial for minimizing copper use while maintaining sustainable and productive vineyards.

The presentation includes details about the experimental setup, results, and insights into how alternative plant protection methods could shape the future of organic winemaking.

Additional information not presented to help understand treatments.

**MK Wine** is a plant-strengthening product used in organic viticulture. It contains beneficial microorganisms that help improve soil health and plant resilience, reducing the need for synthetic fungicides. The idea behind MK Wine is to create a balanced microbial environment that supports vine health and enhances natural disease resistance.

**Phosphoric acid**, on the other hand, is a registered fungicide with post-infection capabilities, particularly for controlling downy mildew in grapevines. It works systemically, meaning it is absorbed by the plant and helps protect it from within. However, its use in organic viticulture is debated because it does not naturally occur in the environment. Some organic growers advocate for its inclusion to reduce reliance on copper-based treatments, which can accumulate in the soil and negatively impact ecosystems.

**KE Plant** is a plant aid designed to strengthen vines and improve their resistance to diseases in viticulture. It works by activating the plant's natural defense mechanisms, helping it combat fungal infections and other stressors. The product contains biologically active compounds derived from herbs, which stimulate biochemical messenger substances within the plant. This process enhances the vine's ability to fend off pathogens naturally. KE Plant is often used in

combination with **KE Mineral**, a zeolite-based supplement that supports plant metabolism and improves soil health ([KE-plant in viticulture - ke-lab-coms Webseite!](#)).

### Trial results

Treatments did help reduce disease, but their effectiveness varied. The study found that **phosphoric acid** was particularly effective in minimizing fungal infections, supporting the idea that it could be a valuable tool in reducing reliance on copper-based treatments. **MK Wein** and **KE Plant** also showed promise, but their results were more dependent on environmental conditions and vineyard location. Interestingly, the untreated vines had significantly higher disease levels, reinforcing the importance of plant protection strategies. The vineyard's heterogeneity also played a role, with shaded areas experiencing more severe infections.

The environmental conditions during the study played a significant role in disease development and treatment effectiveness. The vineyard experienced **initial rainfall**, which triggered the first fungal infections. This was followed by a **dry period in May and June**, which temporarily slowed disease progression. However, **heavy rainfall in July and August** led to secondary infections, particularly in shaded areas of the vineyard where airflow was limited. These variations in weather influenced how well each treatment performed. For example, **MK Wein** showed more consistent results across different vineyard sections, while **KE Plant** was more effective in areas with better exposure to sunlight and airflow. **Phosphoric acid** remained the most reliable treatment, particularly in controlling downy mildew.