

WEEKLY DIGEST

WHY MOST MICROGREENS BUSINESSES FAIL (AND HOW TO MAKE SURE YOURS DOESN'T)

The **Microgreens Blueprint Business Series**: Practical and solution-focused. Designed to address the key pain points the community identified.

UPCOMING PENN STATE WEBINAR: MICROGREENS SEED SELECTION, ORIGIN, AND QUALITY

CREATIVE RECIPES: Truffle Cappelletti with Triple Microgreen Infusion
NUTRITION SCIENCE: Microgreens Deep Dive – The Latest Nutrition Science
CULTIVATION TECHNIQUES: Soil vs Hydroponics. What's the Best Way to Grow Microgreens

“Delivered to Your Inbox Every Monday,” your summary digest of the latest microgreens, urban, vertical farming, and new trends and exciting startup stories from around the world.



**UNLOCK MARKETING
SUCCESS FOR YOUR
MICROGREENS BUSINESS**

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Why Most Microgreens Businesses Fail (And How to Make Sure Yours Doesn't)

Vol. 2024 No. 41

Monday, November 11, 2024

Nutrition Science	I
Microgreens Deep Dive – The Latest Nutrition Science.....	I
Creative Recipes	4
Truffle Cappelletti with Triple Microgreen Infusion.....	4
Community News	6
Mumbai Restaurant Grows Its Own Microgreens.....	6
From Code to Crops.....	6
Discover Vitality in Organic Microgreens	7
Certified Naturally Grown's List of Winter Conferences.....	9
FEATURED ARTICLE	10
Why Most Microgreens Businesses Fail (And How to Make Sure Yours Doesn't)	10
Evidence-based Expertise	24
Do Microgreens Deserve Their Reputation as a Superfood?	24
Cultivation Techniques	25
Soil vs Hydroponics: What's the Best Way to Grow Microgreens.....	25
LED Grow Lights: The Future of Microgreen Cultivation	26
Microgreens: Seed Selection, Origin, and Quality	27
Emerging Industry News	28
BrightFresh Launches Microgreens Medley Exclusively at Costco.....	28
Cave-Based Vertical Farm Thrives in Norway	28
Commercial Best Practices	29
Sustainable Agriculture: Growing Microgreens Using Data Center Excess Heat.....	29
Insider Secrets: Using trends to maximize microgreen sales	31

The Microgreens Business Blueprint Series

Book 1: "The 30-Day Microgreens Startup Guide"

Subtitle: From Seed to First Sale: A Step-by-Step System for Launch

Theme Statement: A practical roadmap that takes new entrepreneurs from initial planning to first revenue in 30 days, focusing on minimal viable investment and maximum early success.

Book 2: "Profit-First Microgreens Production"

Subtitle: Maximizing Your Bottom Line Through Smart Operations

Theme Statement: A systematic approach to optimizing production efficiency and profitability, focused on space utilization, labor management, and cost control.

Book 3: "The Microgreens Marketing Machine"

Subtitle: Customer Acquisition & Retention Strategies That Work

Theme Statement: A comprehensive system for finding, keeping, and growing your customer base while maintaining profitable pricing structures.

Book 4: "Scale Your Microgreens Business"

Subtitle: Growth Strategies for Established Operations

Theme Statement: Advanced strategies for expanding your existing microgreens business while maintaining quality and profitability.

Book 5: "Technical Mastery: Advanced Microgreens Production"

Subtitle: Professional Growing Techniques for Consistent Quality

Theme Statement: Deep dive into the technical aspects of professional microgreens production, focusing on consistency, quality, and problem-solving.

I've designed this series to directly address the **key pain points** the community identified. It is practical and solution-focused. Each book serves a specific purpose in your microgreens business journey.

[Learn More](#)

MORE INFORMATION AT WWW.MICROGREENSWORLD.COM

Nutrition Science

Microgreens Deep Dive – The Latest Nutrition Science



Listen, I've been reviewing the latest research about microgreens, and the health benefits are pretty remarkable.

Let me break down the key scientific findings for you.

The **antioxidant levels** in these plants are extraordinary - we're talking up to **40 times**

higher concentrations than in mature plants.

For example, red cabbage microgreens have shown impressive results in cardiovascular health.

In mouse studies, they significantly **lowered LDL cholesterol** and **reduced liver inflammation markers**.

That's particularly interesting because inflammation is a key factor in heart disease.

Speaking of specific compounds, broccoli microgreens are packed with **sulforaphane**, which is fascinating from a biochemical perspective.

When you cut or chew broccoli microgreens, an enzyme called **myrosinase** converts a compound called glucoraphanin into sulforaphane.

Here's the cool part - if you heat them briefly at 60-70°C for 5-10 minutes, you can increase sulforaphane production up to seven times.

That's because the heat treatment optimizes the enzymatic conversion process.

The vitamin content is remarkable, too.

For instance, sunflower microgreens contain **all eight essential amino acids**, plus vitamins A, B-complex, C, D, and E.

They're also rich in minerals like calcium, iron, magnesium, and zinc.

What makes this particularly significant is that these nutrients are highly concentrated in a very small serving size.

Let me tell you about some specific health impacts:

- *For diabetes management:* Several varieties contain compounds, including carotenoids, phenolic compounds, vitamins C and E, and minerals like selenium and zinc, all of which can help reduce oxidative stress and help regulate blood sugar levels.

Oxidative stress is a key factor in the development and progression of chronic diseases like diabetes.

The high fiber content also helps slow down glucose absorption.

- *For cancer prevention:* The glucosinolates found in Brassica family microgreens (like broccoli and cabbage) have shown anti-cancer properties in laboratory studies.

They work by triggering specific cellular pathways that help prevent cancer cell growth.

- *For heart health:* Beyond just lowering cholesterol, microgreens contain nitrates that can improve blood flow and reduce oxygen consumption during exercise.

This is particularly true for arugula microgreens.

Here's what's really interesting about absorption - these nutrients are often more

bioavailable in microgreens than in mature plants.

This is partly because the plants are harvested when their enzyme systems are at peak activity, making the nutrients more accessible to our digestive

This scientific review explores the antioxidant content and associated health benefits of microgreens, which are young vegetable seedlings harvested in their early growth stages. The authors discuss the various types of antioxidants found in microgreens, including **carotenoids, phenolic compounds, vitamins C and E, and trace minerals**, as well as factors that affect their levels, such as **cultivar, growing conditions, and post-harvest handling**. The review highlights the potential benefits of incorporating microgreens into the diet, including **improved cardiovascular health, reduced inflammation, and cancer prevention**. The authors also examine the potential applications of microgreens in the **culinary, health and wellness, agricultural, and foodservice industries**.

system.

The research also shows that timing matters.

For maximum health benefits, you'll want to consume them fresh - *ideally within a week of harvest when stored at 4°C.*

Some varieties, like radish, can last up to 21 days, but their nutrient content gradually decreases.

If you're looking to get the most health benefits, focus on varieties like:

- Red cabbage for cardiovascular health
- Broccoli for cancer-fighting compounds
- Sunflower for complete protein and B vitamins
- Garlic microgreens for immune support (they're rich in allicin)

The scientific consensus is clear - incorporating these into your diet could have significant health benefits.

However, they should be seen as part of a balanced diet rather than a miracle cure.

The research is still ongoing, particularly regarding optimal dosages for specific health conditions and the long-term effects of regular consumption.

Source: Trina Ekawati Tallei, Billy Johnson Kepel, Herlina Inneke Surjane Wungouw, Fahrul Nurkolis, Ahmad Akroman Adam, & None Fatimawali. (2023). A comprehensive review on the antioxidant activities and health benefits of microgreens: current insights and future perspectives. *International Journal of Food Science & Technology*, 59(1), 58–71. <https://doi.org/10.1111/ijfs.16805>

Creative Recipes

Truffle Cappelletti with Triple Microgreen Infusion



Inspired by Mumbai's innovative European-Italian fusion, this dish elevates traditional cappelletti by incorporating three powerhouse microgreens: broccoli, red cabbage, and sunflower.

The pasta is filled with a microgreen-ricotta mixture and served with a microgreen-infused truffle butter sauce.

Recipe Information

- Prep Time: 45 minutes
- Cook Time: 15 minutes
- Category: Main Course
- Method: Fresh Pasta Making
- Cuisine: Modern Italian Fusion
- Yield: 4 servings

Ingredients

Pasta Dough:

- 2 cups "00" flour
- 3 large eggs
- 1/2 teaspoon salt

Filling:

- 1 cup ricotta cheese
- 1 cup broccoli microgreens (briefly heated at 65°C for maximum sulforaphane)
- 1/2 cup sunflower microgreens
- 1/4 cup Parmigiano-Reggiano
- Salt and pepper to taste

Sauce:

- 4 tablespoons unsalted butter
- 2 tablespoons truffle oil
- 1 cup red cabbage microgreens
- 1/4 cup pasta cooking water
- Shaved black truffle (optional)

Preparation

1. Heat water to 65°C and blanch broccoli microgreens for 7 minutes to maximize sulforaphane production
2. Make pasta dough, and let sit for 30 minutes
3. Blend filling ingredients until smooth
4. Roll pasta, form cappelletti
5. Cook in salted water for 3-4 minutes
6. Prepare sauce: melt butter, add truffle oil
7. Add pasta water to emulsify
8. Fold in red cabbage microgreens last minute

Plating

- Arrange cappelletti in a circular pattern in warmed, shallow black ceramic bowls.
- Pour truffle-microgreen sauce over pasta.
- Garnish with fresh sunflower microgreens, shaved truffle, and edible flowers.
- Finish with a light dusting of purple cabbage microgreen powder.

Benefits of Specific Microgreens

- Broccoli microgreens: Cancer-fighting sulforaphane, optimized by heat treatment
- Red cabbage microgreens: Cardiovascular support, reduces LDL cholesterol
- Sunflower microgreens: Complete protein, B vitamins, minerals

Community News

Mumbai Restaurant Grows Its Own Microgreens



A new European and Italian diner in Andheri, Mumbai, creatively combines culinary excellence with sustainability.

Chef Ameya Prachand's menu features innovative dishes like Chilli Jam Glazed Halloumi and Truffle Cappelletti, enhanced by cocktails and non-alcoholic beverages.

Notably, the restaurant **cultivates its own microgreens**, ensuring freshness and promoting eco-friendly dining.

The atmosphere, influenced by European aesthetics, adds to the

diner's appeal, offering a restorative and wholesome dining experience.

Source: Subhadrika Sen. (2024, November 5). This European and Italian diner is the newest hit-spot in Mumbai. *The New Indian Express*. Retrieved from <https://www.indulgexpress.com/food/mumbai/2024/Nov/05/this-european-and-italian-diner-is-the-newest-hit-spot-in-mumbai>

From Code to Crops



Santhosh Kumar, a tech enthusiast turned hydroponic farmer, offers valuable insights for other microgreens growers venturing into agritech.

His journey from terrace farming to creating a tech-driven hydroponic system in Thiruvananthapuram exemplifies how microcomputers and open-source software can transform traditional agricultural practices.

By utilizing sensors to monitor temperature, humidity, and other critical growth parameters, Santhosh's system enables real-time data analysis and remote farm management, optimizing plant growth conditions.

This approach not only saves time through automation but also maximizes resource efficiency.

He reported that he saves up to 80% of water compared to conventional farming methods.

Santhosh's initiative underscores the potential of hydroponics in urban settings, emphasizing the importance of technical knowledge to overcome initial setup challenges.

By sharing his experiences via a [YouTube channel](#) and designing accessible systems, he aims to bridge the knowledge gap and inspire others to adopt sustainable practices in microgreen cultivation.

Source: Chouhan, H. (2024, November 8). From Code to Crops: How One Techie Is Changing Farming in Thiruvananthapuram. The Better India. Retrieved from <https://thebetterindia.com/stories/>

Discover Vitality in Organic Microgreens



Tanja Dworschak-Fleischmann recently received the SAGAFLOr Award for her innovative concept in the vegetables/herbs/fruit category.

Her company, [Bioland KräuterGut](#), is a leader in organic potted herbs in Southern Germany and has expanded into microgreens through its FrankenGreens brand.

The company produces about 6.5 million organic herb pots and 10 million organic cress pots

yearly, highlighting its significant production capability.

The new FrankenGreens line, featuring six organic varieties, aims to enhance meals with its rich vitamin, nutrient, and antioxidant content.

This product targets nutrition-conscious individuals, chefs, and those who prioritize organic, vegan, and locally sourced foods.

Additionally, Dworschak-Fleischmann assures the product's long-term availability through robust customer relationships and significant production volumes.

The introduction of organic sunflowers, peas, and lupins marks a novel move in the convenience food sector.

Source: Dworschak-Fleischmann, T. (2024, October 30). "Our organic microgreens offer healthy food accents for every meal." *Freshplaza.com*.
<https://www.freshplaza.com/north-america/article/9673367/our-organic-microgreens-offer-healthy-food-accents-for-every-meal/>



Certified Naturally Grown's List of Winter Conferences



**Certified
Naturally Grown**

Conference season is about to be in full swing! Farm conferences are a wonderful way to learn and connect with growers in a vibrant regional context. Below is a short list of conferences aligned with CNG's sustainable farming ethos.

Make sure to tag us in your conference photos @cngfarming!

November 2-3, 2024 – Durham, NC	Carolina Farm Stewardship Association (CFSA)
November 15-16, 2024 – Vancouver, WA	Tilth Alliance Conference
December 17-19, 2024 – Manchester, NH	New England Vegetable and Fruit Conference (NEVF)
January 10-12, 2025 – Roanoke, VA	Virginia Association for Biological Farming Conference (VABF)
January 17-18, 2025 – Silver Spring, MD	Future Harvest

January 23-25, 2025 – Frankfort, KY	Organic Association of Kentucky Annual Farming Conference (OAK)
January 24-25, 2025 – Montrose, CO	Western Co. Health, Food & Farm Forum
January 29th-February 1st, 2025 – Hot Springs, AR	Arkansas Grown Conference & Expo
February 4-6, 2025 – Atlanta, GA	SOWTH
February 5-7, 2025 – Lancaster, PA	PASA Sustainable Agriculture Conference
February 13-15, 2025 – Newark, Ohio	Ohio Ecological Food and Farming Association Conference
February 15, 2025 – Burlington, VT	Northeast Organic Farming Association of Vermont (NOFAVT)

Source: Certified Naturally Grown. (2024, October 2). Certified Naturally Grown's List of Winter Conferences.

<https://www.naturallygrown.org/certified-naturally-grows-list-of-winter-conferences/>

FEATURED ARTICLE

Why Most Microgreens Businesses Fail (And How to Make Sure Yours Doesn't)



You've likely seen the alluring social media posts: *pristine trays of vibrant microgreens promising substantial profits from a simple home operation.*

While it's true that microgreens can be profitable, this oversimplified narrative has led countless entrepreneurs to failure.

The reality is that nearly half of **microgreens businesses** don't **survive their first year**, but not for the reasons you might think.

It's not just about becoming proficient in **growing techniques** or **finding customers**—it's about understanding the **critical business systems** that separate thriving operations from those that quietly disappear.

Let's investigate what really determines success in this competitive market.

The Hidden Truth About the Microgreens Gold Rush



While the **\$1.4 billion market** and **12.2% CAGR** seem attractive, success demands mastering **multiple business roles** - *from production planning to sales.*

Nearly half of new microgreens ventures fail within their first year despite minimal startup costs.

Poor operational efficiency and inadequate business planning often lead to burnout as entrepreneurs struggle with production management and market variability.

Success in the **microgreens industry** isn't about growing expertise alone - *it's about being a **better business strategist.***

Understanding **market trends** and maintaining strong **customer engagement** separates sustainable ventures from struggling ones.

You'll need to master **operational demands** beyond cultivation, including financial management and effective branding.

Those who succeed combine efficient systems with continuous adaptation to market demands.

The Three Fatal Mistakes of New Microgreens Entrepreneurs

Independence in entrepreneurship can be a double-edged sword, particularly in the **microgreens industry**, where isolation leads to costly setbacks.

Successful entrepreneurs recognize that **mentorship** and **networking** provide access to invaluable industry insights and shared resources.

Whether through **grower associations** or industry forums, these connections help establish **efficient systems** and respond effectively to **market demands**.

Launching without **established systems** is like building without blueprints.

- You need **comprehensive tracking** for sales and production to prevent overgrowing or stockouts.
- **Financial literacy** must guide pricing strategy, while **time management protocols** maximize efficiency in daily operations.
- **Marketing strategies** should leverage social media and email campaigns to build a strong customer base.

While many focus on **yield numbers**, success hinges on **pricing strategy** and **profit margin analysis**.

Critical factors include **labor costs**, **overhead expenses**, and **product waste**.

Strong **customer engagement** guarantees consistent sales over sporadic market attendance.

A failed startup in **Portland** ignored market signals, overproducing without confirmed buyers.

In contrast, a successful entrepreneur in **Seattle**, Farmbox Greens, succeeded through **meticulous tracking**, aligning production with pre-orders, and building strong chef relationships.

As Seattle's first indoor vertical farm, their success stemmed from **strategic planning** and **disciplined financial management**.

Why Traditional Business Advice Doesn't Work for Microgreens



When starting a **microgreens business**, **traditional business advice** fails to address the unique intersection of **perishable production** and specialized market demands.

Success requires mastering both **optimized growing systems** and strategies specific to **premium, fresh-harvested products**.

The **microgreens industry** demands excellence in **market differentiation** through **consistent production scalability**.

Flexible distribution strategies are essential to navigate unpredictable sales patterns.

Your pricing must reflect **intensive labor costs** while maintaining competitiveness through effective **value communication** and **production efficiency**.

Microgreens entrepreneurs face challenges different from **conventional crop cycles**.

Success requires **custom pricing models** for rapid turnover, refined **operational efficiency metrics**, and **daily maintenance protocols**.

Niche marketing and **customer engagement** trump traditional distribution channels.

Transitioning to **profitable microgreens production** demands a **mindset shift**.

Success requires aligning with **market demand**, implementing **production efficiency measures**, and conducting thorough **market research** to develop effective **pricing strategies** for a **sustainable business model**.

The Success Triangle: Production, Profit, and Sales

Your microgreens business success depends on three interconnected pillars:

- **production efficiency,**
- **profit optimization,** and
- **sales effectiveness.**

Synchronizing growing capacity with **market demand** while maintaining healthy margins creates a **sustainable business model**.

The **Success Triangle** - production, profit, and sales - must work in harmony.

Resource optimization and **pricing strategies** form your foundation, while **marketing techniques** complete the framework. This systematic approach strengthens your position in the **competitive microgreens market**.

Missing any **Success Triangle** component triggers a domino effect.

Poor **production alignment** with **market demand** leads to waste, while weak **pricing calculations** drain resources despite strong sales.

Sustainable operations require continuous refinement of **customer education programs** and subscription models.

Market leaders demonstrate **Success Triangle** mastery for **sustainable business growth**.

Great Northern Microgreens: Based in the Twin Cities, Minnesota, Great Northern Microgreens is an urban farm that grows and sells fresh, nutrient-packed microgreens to the local community through farmers markets.

They also offer home grow kits and seeds for sprouting.

Gangsta Greens: Located in Bridgeport, Connecticut, Gangsta Greens brings fresh, organic microgreens to local grocers, restaurants, and tables.

They focus on providing high-quality ingredients by delivering a superior product that is cost-effective and enjoys a longer shelf life.

Piedmont Microgreens, based in North Carolina, specializes in sustainably grown, fresh microgreens, supplying local restaurants, markets, and consumers.

Known for their commitment to quality, they use organic practices to deliver nutrient-dense greens with exceptional flavor, serving as a reliable source of fresh produce for the Piedmont community.

The Hidden Advantages of Starting Small



Smaller **microgreens operations** often achieve better **profit margins** and **product quality** through controlled growing processes.

Starting with limited production allows you to build a **loyal customer base** while maintaining high-**quality standards**.

Despite assumed **economies of scale**, smaller operations demonstrate **superior performance**.

Lower overhead enables **agile pricing strategies** and focused **niche markets**.

Advantages include maintaining **product freshness**, building **stronger customer relationships**, and achieving **sustainable growth** through personalized service.

Starting small in your **microgreens business** allows for perfecting **operational efficiency** while minimizing risks.

This approach enables deeper **customer engagement** and builds a **loyal local following**.

Measured growth supports **effective risk management** and promotes **sustainable growth** through proven systems.

Achieving **extraordinary success** from **humble beginnings** requires focusing on **strategic growth** and **local partnerships**.

Target **niche markets** while maintaining quality over quantity.

Build strong branding through sustainability practices, utilize personal connections, and keep overhead low to develop a **dedicated customer base**.

Beyond Growing: The Business Systems That Matter

While mastering **microgreens cultivation** is essential, success depends on implementing **structured processes** for sales, marketing, and operations.

Strong business frameworks prevent **operational bottlenecks** while optimizing **customer relationships**.

Aspiring microgreens entrepreneurs discover that cultivation methods are only half the equation.

Success requires understanding market trends, customer education, and financial tracking.

A thriving enterprise demands excellence in:

- Sales and marketing prowess
- Financial management skills

- Operational efficiency

Robust operational systems must include **systematic waste tracking**, **sales efficiency**, and strategic **pricing strategy**.

Strategic marketing outreach and regular **financial review sessions** ensure **long-term growth and profitability**.

A **profitable microgreens business** requires implementing frameworks for **operational efficiency**, **financial tracking**, and **marketing strategies**.

Focus on **production scheduling** and **customer engagement** to achieve **sustainable growth**.

Your 30-Day Roadmap to Success



The Microgreens Business Blueprint Series provides a systematic 30-day approach to transforming growing expertise into a **profitable business venture**.

Success depends on implementing **proven systems** that accelerate your **path to profitability**.

The Microgreens Business Blueprint Series

Book 1: "The 30-Day Microgreens Startup Guide"

Subtitle: From Seed to First Sale: A Step-by-Step System for Launch

Theme Statement: A practical roadmap that takes new entrepreneurs from initial planning to first revenue in 30 days, focusing on minimal viable investment and maximum early success.

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Book 5: "Technical Mastery: Advanced Microgreens Production"

Subtitle: Professional Growing Techniques for Consistent Quality

Theme Statement: Deep dive into the technical aspects of professional microgreens production, focusing on consistency, quality, and problem-solving.

Building a profitable microgreens business requires a systematic approach.

Our 30-day roadmap transforms your entrepreneurial mindset through the following:

1. **Market Research** and Branding
2. **Financial Tracking** and Management
3. **Operational Excellence**

The **30-day plan** begins with **market analysis** to identify customer segments.

Weekly goals focus on **production techniques**, branding, and **financial planning**.

Implement **customer engagement initiatives** to build a **sustainable business model**.

Ready to **transform your microgreens passion** into a **thriving business**?

Master **sustainable practices** and **effective marketing strategies** through:

- Weeks 1-2: Growing techniques and financials
- Week 3: Marketing and partnerships
- Week 4: **Customer retention** systems

Access our roadmap to build **profitable, sustainable businesses**.

Conclusion

Starting a successful microgreens business isn't about chasing quick profits - it's about building sustainable systems.

You'll need to excel in **production efficiency**, develop strong **pricing strategies**, and create reliable sales channels.

Focus on starting small, perfecting your processes, and scaling methodically.

By avoiding common pitfalls and treating your venture as a serious business rather than a hobby, you'll position yourself for **long-term success** in the microgreens market.

Research

Arvin Joshua Barlongo, & Maria Fatima Mercado. (2024). Introducing Microgreens to Pinggang Pinoy: Prospects in Cultivation, Marketability, and Indigenous Crops Utilization. 8, 35–61. <https://doi.org/10.62960/dmmmsu.v8i.40>

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Medical Disclaimer

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After years of cultivating microgreens, I compiled my knowledge into a comprehensive beginner's guide titled "**Children of the Soil.**"



**Transform Your Home into
a Nutrient-Packed
Superfood Haven**

Your 9-Day Blueprint to Microgreen Mastery

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Evidence-based Expertise

Do Microgreens Deserve Their Reputation as a Superfood?



The article explores research on microgreens and mature vegetables, focusing on their nutritional differences and potential health benefits.

Microgreens, which are more mature than sprouts but younger than baby greens, are posited to have enhanced nutritional profiles compared to fully-grown vegetables.

Researchers at the USDA and the University of Maryland found that both microgreen and mature vegetables can limit

weight gain, as evidenced in studies conducted on mice.

These findings were presented at the American Chemical Society Fall 2023 hybrid meeting.

The research suggests that microgreens are richer in glucosinolates and sulfur-containing compounds, which might offer cancer protection.

The study also indicates that consumption of kale, regardless of maturity, can increase the diversity of gut bacteria. However, microgreens had a more pronounced effect.

The researchers, led by Thomas Wang, noted the need for further investigation to determine if similar benefits can be observed in humans.

This could inform dietary choices for individuals seeking health benefits but who may dislike certain flavors traditionally associated with these vegetables.

Potential medical implications include the use of microgreens in weight management and cancer prevention, warranting more clinical research.

Source: Smith, S. (2024, November 4). Superfood can limit weight gain. Get Surrey.
<https://www.getsurrey.co.uk/news/health/superfood-can-limit-weight-gain-30294258>

Cultivation Techniques

Soil vs Hydroponics: What's the Best Way to Grow Microgreens

The Food Institute video titled "FI Spotlight – Soil vs Hydroponics: What's the Best Way to Grow Microgreens" explores the increasing demand

for microgreens in the food and beverage industry.

Microgreens, known for their high nutrient content, are becoming a popular addition to restaurant menus.

The video delves into two primary cultivation methods: soil-based and hydroponic systems, both of which are part of controlled environment agriculture.

Featuring insights from two farmers, the discussion covers the growing techniques and the market potential of microgreens, emphasizing their impact on local communities.

This video is particularly useful for restaurant owners and food service professionals seeking innovation.

The production team, including Susan Choi, Brittany Borer, and Liz Muentes, provides this information through engaging multimedia content.

Source: Borer, B. (2024, November 4). FI Spotlight – Soil vs Hydroponics: What's the Best Way to Grow Microgreens. *The Food Institute*.

<https://foodinstitute.com/video/fi-spotlight-soil-vs-hydroponics-whats-the-best-way-to-grow-microgreens/>

LED Grow Lights: The Future of Microgreen Cultivation



The implementation of continuous LED lighting (LED-CL) presents **significant advantages for growers of Brassicaceae microgreens**, such as arugula, broccoli, mizuna, and radish.

By employing Continuous Lighting (CL) using LED Grow Lights instead of traditional fluorescent alternatives, growers can achieve enhanced growth, higher yields, and improved nutritional profiles.

The study reports that a 24-hour photoperiod under LEDs **enhances fresh and dry weights, accelerates leaf emergence, and increases photosynthetic activity** thanks to optimal PAR levels.

While there was a noted reduction in total chlorophyll for certain varieties, an increase in chlorophyll a/b and carotenoid-to-chlorophyll ratios was observed.

Additionally, **LED-CL increases anthocyanins and flavonoids**, potentially boosting the microgreens' health benefits.

Despite the mild oxidative stress observed, plants bolster their antioxidative defenses, indicating resilience under these conditions.

Overall, utilizing LED-CL for microgreens can promote economic efficiency and superior crop quality.

Source: Shibaeva, Tatjana G., et al. "Continuous LED Lighting Enhances Yield and Nutritional Value of Four Genotypes of Brassicaceae Microgreens." *Plants*, vol. 11, no. 2, 10 Jan. 2022, p. 176, <https://doi.org/10.3390/plants11020176>.

Microgreens: Seed Selection, Origin, and Quality



REGISTER

Explore seed selection and quality in microgreens production and discover key strategies to boost germination, crop success, and market potential.

- Gain insight into common seed quality challenges,

such as low germination rates and poor vigor, and explore strategies to overcome these issues effectively.

- Implement critical quality checks when sourcing seeds from various suppliers to maintain high standards and ensure crop success.
- Develop a comprehensive approach to seed quality management, incorporating regular assessments and adjustments to improve production outcomes.

Participants in this free, one-hour webinar will engage in discussions centered on the origins and selection of microgreens.

Penn State Extension
VIRTUAL LIVE WEBINAR
November 21, 2024
12:00 – 1:00 PM EST

REGISTER

Emerging Industry News

BrightFresh Launches Microgreens Medley Exclusively at Costco



The exclusive launch of BrightFresh® Microgreens' Supergreens Micro Medley™ at 43 Costco locations in Southern California illustrates significant business and trend implications for the microgreens industry.

Targeting Costco's customer base, this initiative emphasizes a strategic alliance to enhance distribution and consumer accessibility, tapping into health-conscious trends.

The emphasis on nutrition and versatility highlights a market

shift towards premium, wholesome products.

BrightFresh's move also reflects a competitive strategy to expand its significant market share, which stands at nearly **40% in the U.S. microgreens market**, leveraging.

Costco's expansive reach to drive growth and consumer engagement in premium produce.

Source: Packer, P. (2024, November 5).

BrightFresh® Microgreens launches exclusive Supergreens Micro Medley™ at Costco; Shelby Rodich shares. *AndNowUKnow*.

<https://andnowuknow.com>

Cave-Based Vertical Farm Thrives in Norway



The article explores commercial benefits and marketing insights

for microgreens farmers, focusing on [Gruvegrønt](#), a vertical farm in a cave near Oslo, Norway.

It emphasizes energy efficiency due to the cave's natural insulation, minimizing heating costs and providing a stable growing environment.

Direct supply to local restaurants allows Gruvegrønt to meet specific chef needs, enhancing freshness and reducing waste.

The farm's modular system, supplied by [Avisomo](#), allows flexibility in crop production, accommodating diverse demands such as high-end mushrooms.

This adaptability helps maintain competitive pricing while aligning production with restaurant demand fluctuations.

The challenges include managing humidity within the cave and competing with larger distributors.

Future retail market entry is considered, potentially requiring changes in operations to meet broader consumer expectations.

Source: Halabi, R., & Afshar, P. (2024). Norway: "Growing out of a cave is a unique selling point restaurants seem to love." VerticalFarmDaily.com. <https://www.verticalfarmdaily.com/article/9676081/norway-growing-out-of-a-cave-is-a-unique-selling-point-restaurants-seem-to-love/>

Commercial Best Practices

Sustainable Agriculture: Growing Microgreens Using Data Center Excess Heat



The article discusses atNorth's collaboration with AgTech startup Hringvarmi to explore

the use of excess heat for growing microgreens, as reported by Rowley.

atNorth, a provider of high-performance computing services, is expanding its data centers in Iceland, emphasizing sustainable practices.

In partnership with Hringvarmi, they aim to utilize surplus heat from their data centers, installed in Akureyri, to foster microgreen growth through a prototype module.

This initiative, named “Data into dinner,” is conducted alongside [Rækta Microfarm](#) and seeks to impact Iceland's local agriculture by reducing dependency on imported produce.

The project aligns with atNorth's commitment to sustainability and supports Iceland's circular economy through innovative resource utilization.

This approach not only maximizes energy efficiency but also underscores how data centers can contribute to agricultural innovation and environmental conservation.

Source: Rowley, S. (2024, November 12). atNorth announces data centre expansion in Iceland. Retrieved from <https://dcnmagazine.com/data-centres/atnorth-announces-data-centre-expansion-in-iceland/>

A promotional banner for Eden Brothers. On the left, the Eden Brothers logo features a stylized illustration of various plants and flowers above the text "EDEN Brothers®". To the right of the logo, the text "BIG SALE" is written in large, bold, green letters. Below this, "10% OFF 2000+ SEEDS & BULBS" is written in white. An orange button with the text "SHOP NOW" in white is positioned below the discount text. The background of the banner is a dark wood texture, and on the right side, there is a photograph of fresh produce including a green cucumber, a yellow flower, and a basket of small orange and red tomatoes.

EDEN Brothers®

BIG SALE

10% OFF 2000+ SEEDS & BULBS

SHOP NOW

Insider Secrets: Using trends to maximize microgreen sales

In this interactive workshop, dive deep into the strategies and tools to scale microgreens businesses by leveraging current consumer trends in sustainability and health-conscious eating.

Source: Microgreen Workshop. (2024, November 4). *Microgreens workshop: Maximizing sales through current trends* [Video]. YouTube. <https://youtube.com/watch?v=5PyKcu7GkP4>



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Brought to you by **Doc Green**, Andrew Neves' personally trained AI assistant. "You may ask me anything about microgreens."

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