MICROGREENS WEEKLY DIGEST

Nutrition | Science | News

TUESDAY, 28 OCTOBER 2025 VOL 2025 No.38

WHAT YOU MISSED THIS WEEK

Slovak researchers tested fenugreek microgreens against cancer cells. At higher concentrations, mitochondrial activity dropped to 30%. The phytochemicals—rutin, quercetin, p-coumaric acid—worked together to attack malignant cells.

Storage kills nutrition faster than you think. Broccoli, cabbage, beetroot, and red amaranth lost 17% of their protein in ten days. Chlorophyll dropped 20%. Eat them within five days or grow your own.

Tennessee expanded its Food Freedom Act. Small growers can now sell eggs, butter, cheese, yogurt, and prepared chicken without commercial licensing. Ten other states already did this. The regulatory tide's turning.

A Kentucky tobacco farm switched to shrimp and microgreens. The Fischer family grows 11 varieties year-round, selling twice weekly at farmers' markets. Controlled environment agriculture fills seasonal gaps.

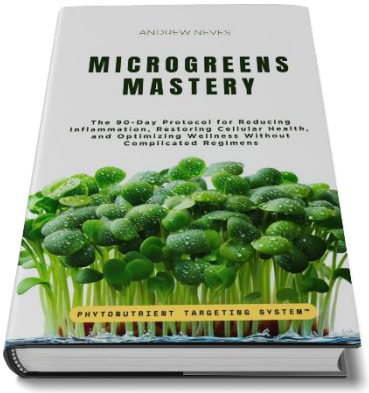
Indonesian students combined Spirulina and Chlorella with microgreens. Protein content nearly doubled. The 10-to-14-day cycle cuts bacterial contamination.

A Cape Town hotel turned juice pulp and coffee grounds into compost. That compost feeds their microgreens. The cycle repeats.

THE HIGHLIGHTS

- Fenugreek microgreens show anticancer potential in recent study
- Microgreens lose 17% protein in ten days
- Tennessee expands Food Freedom Act for growers
- Indonesian researchers boost nutrition using microalgae

MICROGREENS MASTERY



This microgreens guide teaches optimal variety selection for maximum nutrition. Science-based system targets wellness goals. Limited copies, November release.

Pre-Order Now

NUTRITION SCIENCE

Fenugreek Microgreens Show Anticancer Potential in Laboratory Study

Sixteen years ago, I was diagnosed with stage 2 prostate cancer. Scared, I decided I was going to fight and underwent experimental surgery. I returned to eating healthily, sleeping better, meditating, and moving more. Today, I am cancer-free, walk 3 miles a week, and my only pills are iron and vitamin D3 supplements, and lots of fenugreek and broccoli microgreens.

Back then, I didn't have hard science backing my microgreens habit. I just knew they made me feel better. Now we're getting that science. A 2025 study from Slovak researchers tested fenugreek microgreens against human adrenocortical carcinoma cells, and the results suggest my intuition wasn't wrong.

Cancer Cells Under Attack

The research team exposed H295R cancer cells to varying concentrations of fenugreek microgreen extract—from 10 to 1000 µg/mL—and watched what happened over 48 hours. At higher concentrations (300 and 1000 µg/mL), the cancer cells essentially shut down. Mitochondrial activity—the energy-producing function that keeps cells alive—dropped to 52% and 30% of normal levels respectively. Cell membrane integrity collapsed. Lysosomal activity, which cancer cells need for survival, plummeted.

Think of it like this: the fenugreek extract didn't just slow the cancer cells down. At those higher doses, it pulled the plug.

What's driving this effect? The researchers identified specific phytochemicals through HPLC analysis. Rutin topped the list at 496.26 mg/kg—a flavonoid known for its bioactive properties. Quercetin and p-coumaric acid showed up in meaningful amounts too. These compounds appear to work together, creating a synergistic punch against malignant cells.

The Antioxidant Advantage

Separate from its direct anticancer effects, fenugreek microgreens demonstrated powerful antioxidant capacity. Using two different assays (DPPH and ABTS), the researchers measured the extract's ability to neutralize reactive oxygen species—those cellular troublemakers linked to cancer development in the first place.

The ABTS assay revealed scavenging potential of 191.67 mg TEAC/g dry weight. More telling: at every dose tested, the extract reduced ROS generation in the cancer cells. Even the lowest concentration (10 µg/mL) cut ROS production by roughly 19%. The mid-range dose of 250 µg/mL dropped it by 41%.

This matters because oxidative stress fuels cancer progression. Compounds that can both attack existing cancer cells AND prevent the cellular damage that triggers malignancy offer dual protection.

Precision Matters

Here's the catch, and it's important: dose determines outcome. This isn't a situation where more is always better or where casual consumption guarantees results. The study showed that different concentrations triggered different cellular responses. Medical applications would require precise formulations, not just tossing fenugreek microgreens into your morning smoothie and hoping for the best.

That said, for home growers and health-conscious eaters, these findings support what traditional medicine has long suggested—fenugreek possesses genuine bioactive potential. Growing your own gives you access to these compounds at their freshest, most concentrated state. Harvest at 6 days (as the study's microgreens were), and you're capturing peak phytochemical density.

For commercial growers and retailers, this research opens doors. There's consumer appetite for functional foods backed by legitimate science. Fenugreek microgreens fit that bill.

What Comes Next

Let's be clear about limitations: this was an in vitro study. Test tubes aren't human bodies. We need clinical trials testing actual cancer patients. We need to understand bioavailability—how much of these compounds survive digestion and reach target tissues.

We need dosing protocols that translate laboratory concentrations into practical dietary amounts.

But the foundation is solid. The mechanisms are plausible. The phytochemical profile is documented.

This paper adds another brick to the growing wall of evidence that microgreens deserve serious attention as functional medicine.

For researchers, it maps out clear next steps. For growers and consumers, it validates what we've sensed intuitively—these tiny plants pack genuine biological power.

Source: Jambor, T., Zuscikova, L., Greifova, H., Goc, Z., Gren, A., Kovacik, A., Arvay, J., & Lukac, N. (2025). Determination of phytonutrients, antioxidant properties and in vitro effect of the microgreen Trigonella foenum-graecum L. on H295R carcinoma cells. 3 Biotech, 15(400). https://doi.org/10.1007/s13205-025-04578-x

HOME GROWING TIPS

Your Microgreens Lose Nutrients Every Single Day

Most people don't know this, but those microgreens sitting in your fridge? They're bleeding nutrition.

A recent study tracking broccoli, cabbage, beetroot, and red amaranth found protein dropped 17% in just ten days—chlorophyll fell 20%.

Think of it like a battery slowly dying.

Day one after harvest, you're getting premium fuel. Day seven? You're running on fumes.

The moisture creeping in doesn't help either. It invites degradation, not preservation.

Here's what matters: eat them within five days of harvest, or better yet, grow your own and cut them minutes before your meal.

Visit Microgreens World and get the definitive guides on growing.

WELCOME NEW MEMBERS

NAME	CITY	COUNTRY
Ana Santos	Carneirinho	Brazil
Ryan Grow	Gibsons	Canada
Amira Mohamed	Cairo	Egypt
Faustine Sechan	Lannilis	France
Anant Amolic		India
Anita Vijai Antony	Chennai	India
B.D. Mohapatra	Bhubaneshwar	India
K Binillal	Ernakulam	India
Likhita Chilvery	Hyderabad	India
Nagesh Dolas	Pohra	India
Ulises Martinez	Mérida	Mexico
Simon Denton	Casablanca	Morocco
Christine Kihoro	Nairobi	Nigeria
RGC Valdini	Barcelona	Spain
Amanda Musch	New Berlin	United States
Iris Ferrecchia	Boston	United States
Johanna Simeon	Colorado Springs	United States
Lance England	Midvale	United States
Linda Sayer	Joshua Tree	United States
P France	Belleville	United States
Pamela Steele	Hilton Head Island	United States
S Finklea	Austin	United States
Sandy Berggren		United States
Sanju Pramanik	Kolkata	United States
Teresa Hoople	Owensboro	United States

COMMUNITY CORNER

Food Laws Shift: Your Growing Opportunity

Tennessee just made it easier for small growers to sell perishable foods directly to customers.

HB 130 expanded the state's 2022 Food Freedom Act, allowing home-based producers to sell eggs, butter, hard cheeses, yogurt, and prepared chicken without commercial licensing or kitchen inspections. The catch? Sales must happen face-to-face with consumers.

Ten other states beat Tennessee to this punch. Wyoming launched the first Food Freedom Act back in 2015. North Dakota, Maine, Utah, Arkansas, Montana, Oklahoma, and Iowa followed. California opened the door for microenterprise home kitchens in 2018. Virginia joined in 2022, and Texas expanded its cottage food law this past September.

What does this mean for microgreens?

The regulatory tide is turning. Laws originally written for baked goods now cover perishable produce and prepared foods. Fresh greens sit right in that sweet spot—minimally processed, locally grown, nutrient-dense. As more states embrace direct-to-consumer models, small growers gain leverage.

Commercial operators can test new markets without expensive buildouts. Home growers can transition from hobby to side income. Health-focused buyers get access to ultra-fresh produce grown hours (not days) before purchase.

The movement matters because it rewrites how we think about food sales. States are choosing trust over bureaucracy, local relationships over universal regulation.

Microgreens growers who track these legal shifts position themselves ahead of the curve. Knowledge becomes the real competitive edge.

Source: Tennessee Lookout. (2025, September 25). *Tennessee Food Freedom Act gives opportunities to small farm operators*. https://tennesseelookout.com/2025/09/25/tennessee-food-freedom-act-gives-opportunities-to-small-farm-operators/

Grow Profits Beyond Traditional Farming

Tobacco fields don't pay what they used to. The Fischer family figured that out decades ago.

Their 1,000-acre Daviess County farm now runs shrimp pools alongside microgreens production—two revenue streams most row-crop farmers never consider. Kenny Fischer started the shift in the early 2000s when tobacco markets collapsed. His daughter Laura and son-in-law Quincy joined later, adding greenhouse lettuce and 11 microgreen varieties to the mix.

The Fischers tried aquaponics first. Fish and plants together sounded efficient. They scrapped it. Separate systems produced better quality on both sides—a lesson worth remembering when efficiency looks good on paper but fails in practice.

Their microgreens sell twice weekly at Owensboro Regional Farmers' Market. Laura notes that health-focused buyers pay premium prices for that concentration.

The real insight? Diversification isn't just survival. Pacific white shrimp live in heated pools in a converted barn. Microgreens grow under controlled conditions year-round. Neither crop depends on weather or traditional growing seasons. Kentucky State University partners with the operation, collecting water quality data that refines their process.

Small-scale commercial growers face similar challenges—finding post-harvest markets, managing seasonal gaps, competing with industrial operations. The Fischer model shows how controlled environment agriculture fills those gaps. Multiple crops, multiple markets, year-round income.

That's the shift happening across American farms right now.

Source: Staff Writer. (2025, October 21). Fischer Family Farm diversifies from tobacco to tilapia, shrimp, and greens. The Owensboro Times. https://www.owensborotimes.com/features/2025/10/fischer-family-farm-diversifies-from-tobacco-to-tilapia-shrimp-and-greens/

Why Researchers Are Growing Microgreens With Algae

Indonesian students just figured out how to make microgreens safer and more nutritious at the same time.

That's not something I expected to read on a Friday morning.

A team at Universitas Gadjah Mada combined Spirulina and Chlorella—two types of microalgae—with standard microgreens for their country's school meal program. Food poisoning cases kept popping up, so they tested whether algae could help. Turns out it did more than that.

The protein content nearly doubled. When they mixed dead Chlorella with the nutrient solution, protein levels hit 10.29 percent compared to just over 5 percent in regular microgreens. Live Spirulina boosted growth too—plants weighed almost four times more than the control group.

Here's what caught my attention: the whole process takes 10 to 14 days, and the controlled growing environment cuts down bacterial contamination.

That matters if you're selling at farmers' markets or supplying restaurants. One bad batch can wreck your reputation fast.

Commercial growers might want to watch this space. The research suggests microalgae help plants photosynthesize better, which means faster cycles and potentially higher yields.

For health-focused folks? You're getting more protein per bite without changing anything about how microgreens taste.

The team's supervisor pointed out that production stays simple and hygienic—closer to the end user means fresher product.

That's the kind of edge growers need right now.

Source: Agustina, I. "Students of UGM Develop Microalgae-Based Microgreens Innovation to Strengthen Free Meal Program." Universitas Gadjah Mada. October 17, 2025. https://ugm.ac.id/en/news/students-of-ugm-develop-microalgae-based-microgreens-innovation-to-strengthen-free-meal-program/.

Turn Your Waste Into Growing Gold

A Cape Town hotel quietly figured out something most of us overlook.

They take juice pulp, coffee grounds, and vegetable scraps—stuff that normally hits the trash—and turn it into compost. That compost feeds their microgreens. Those microgreens end up on plates. The cycle repeats.

Head Chef Chad Blows wasn't chasing headlines. He was solving a problem. Microgreens are tough to source consistently. They arrive wilted, expensive, or not at all. So his team started growing them on-site.

Within three months, the project's expected to break even. More importantly, it created a job and gave his chefs something they didn't know they needed: a reason to slow down and reconnect with what they're cooking.

Here's what matters for you. Whether you're juicing at home or running a small-scale operation, you already have the raw materials. Your kitchen waste isn't waste—it's potential. The composting process isn't complicated. Organic matter breaks down, microbes do their work, and you get nutrient-dense soil that grows faster, healthier greens.

For commercial growers, the math is simple. Fresher product. Lower transport costs. Better margins. For health-focused eaters, it's about knowing exactly what you're putting in your body.

The system feeds itself. You just need to start.

Ready to build your own closed-loop system? Check out starter kits, quality seeds, and step-by-step guides at www.microgreensworld.com. Your windowsill could be doing more work than you think.

Source: Daily Maverick. (2025, October 24). The story beneath the garnish. https://www.dailymaverick.co.za/article/2025-10-24-the-story-beneath-the-garnish/

CREATIVE RECIPES

Fenugreek's Ancient Journey

When archaeologists found charred fenugreek seeds in Iraq dating back to 4000 BC, they stumbled onto one of humanity's oldest culinary relationships.

Ancient Egyptians used these small golden seeds in their embalming rituals—they even tucked some into King Tut's tomb.

Romans called it "Greek hay" because they fed it to livestock.

But here's what gets me: while Europeans were using it for animals, Indians were building an entire culinary tradition around it.

Fast forward three millennia. India's Harappan civilization was already trading fenugreek by 2000 BC.

Today, Rajasthan produces most of the world's supply. Persian cooks toss the fresh leaves into ghormeh sabzi. Yemeni Jews prepare frothy hilba for Rosh Hashanah. Turkish chefs coat their pastirma with it.

Six thousand years later, fenugreek's still going strong.

Ghormeh Sabzi with Fenugreek Microgreens

Ghormeh sabzi sits at the heart of Persian cooking.

Families have passed down this herb stew for centuries—some say it originated in the Sassanian Empire around 400 AD. The name literally means "braised herbs," and that's exactly what it is: mountains of fresh greens slow-cooked with kidney beans, dried lime, and lamb until everything melds into something bigger than the sum of its parts.

Traditional recipes call for fenugreek leaves, parsley, and cilantro. I'm keeping that foundation but amplifying the fenugreek component with microgreens.

Their concentrated flavor means you can add serious depth without overwhelming the dish.

The result?

A deeply flavored stew that honors tradition while giving you a fresh take on an ancient recipe.

1

Recipe Information

Prep Time: *25 minutes*
Cook Time: *2 hours 15 minutes*
Category: *Main Dish*
Method: *Braising*
Cuisine: *Persian*
Yield: *4 servings*

2 Ingredients

Protein & Base

- 1 lb lamb shoulder or beef chuck, cut into 1-inch cubes
- 2 tablespoons ghee (or olive oil)
- 1 large yellow onion, finely diced
- 4 cloves garlic, minced
- 1½ cups cooked kidney beans (or one 15-oz can, drained)
- 3 cups lamb stock (or beef stock)

Herbs & Greens

- 2 cups fresh parsley, roughly chopped
- 2 cups fresh cilantro, roughly chopped
- 1 cup fresh fenugreek leaves (or ½ cup dried)
- 3 cups fenugreek microgreens, divided
- 4 scallions, chopped

Aromatics & Spices

- 3 Persian dried limes (limoo omani), pierced with a fork
- 1 teaspoon ground turmeric
- ½ teaspoon ground black pepper
- 1½ teaspoons sea salt
- 2 tablespoons fresh lime juice

For Serving

- 1 cup fenugreek microgreens (reserved)
- Basmati rice
- Plain yogurt (optional)

3 Preparation

Step 1: Brown the Meat

1. Heat ghee in a heavy-bottomed pot over medium-high heat.
2. Season lamb cubes with salt and pepper.
3. Brown them in batches—don't crowd the pan. You want a good sear, not steam. Takes about 3 minutes per side.
4. Pull them out and set aside.

Step 2: Build the Flavor Base

5. Lower heat to medium. Toss in the diced onion.
6. Cook until soft and golden, about 8 minutes.
7. Add garlic and turmeric.
8. Stir for 30 seconds until fragrant.
9. Return the browned meat to the pot.

Step 3: Add the Greens—First Wave

10. Here's where things get interesting. Dump in your parsley, cilantro, fresh fenugreek leaves, scallions, and 2 cups of the fenugreek microgreens. Yes, 2 full cups.

3 Preparation (Cont'd)

11. Stir everything together and let it wilt down for about 5 minutes. The microgreens will shrink significantly—that's what you want.

Step 4: The Long Simmer

12. Pour in the stock.
13. Drop in those pierced dried limes.
14. Bring everything to a boil, then knock the heat down to low.
15. Cover and let it simmer for 90 minutes. Stir occasionally. The herbs will darken. That's traditional.

Step 5: Add Beans and Second Wave of Microgreens

16. Stir in the kidney beans and another cup of fenugreek microgreens.
17. Cover again. Simmer for 30 more minutes. The stew should be thick, rich, and dark green. If it looks too soupy, remove the lid and let it reduce for 10 minutes.

Step 6: Finish

18. Taste. Adjust salt. Add fresh lime juice. The acid brightens everything up. Let it rest off the heat for 10 minutes before serving.

4 Plating

Serve ghormeh sabzi over a generous mound of steamed basmati rice. Ladle the stew right on top—don't be shy.

Grab that last cup of fresh fenugreek microgreens and scatter them across the top. They add a peppery bite and visual contrast.

A dollop of plain yogurt on the side cuts through the richness. Traditionally, you'd serve this family-style with the rice on a platter and the stew in a separate bowl. Everyone takes what they want. Works perfectly either way.

5 Benefits of Fenugreek Microgreens for Health

Fenugreek microgreens contain compounds that help regulate blood sugar levels and improve insulin sensitivity (Basch et al., 2003).

They're packed with vitamin C, iron, and beta-carotene. The vitamin C helps your body absorb that iron better—nature's built-in assist.

The distinctive maple-like flavor?

That comes from a compound called sotolone. Microgreens give you that sweetness without the bitterness of mature leaves. Women have used fenugreek for centuries to support lactation.

The science backs this traditional wisdom. If you're nursing, check with your healthcare provider first.

IN THE NEWS

Grow Your Omegas

I used to think omega-3s meant fish or pills. Turns out, plants have been holding out on us. Research from the National Center for Complementary and Integrative Health shows omega-3 fatty acids support heart health, reduce triglycerides by about 15 percent, and may help with inflammation and joint pain.

Studies involving over 160,000 people found that omega-3s slightly reduced the risk of coronary events and death from heart disease. The catch? Studies keep showing that whole foods outperform supplements. **Your body processes real food better.**

Here's where microgreens enter the conversation. The **plant-based omega-3 (ALA)** comes from flax, chia, walnuts, and several leafy greens. Many of these grow beautifully as microgreens—**flax, chia, mustard greens, kale, purslane, and arugula** all pack ALA in concentrated amounts.

When you grow microgreens, you're getting nutrients at their peak. Harvest them young. Add them to smoothies, salads, or sandwiches. The flavor's milder than that of mature plants, but the nutritional density? Higher.

Your windowsill could provide fresh omega-3-rich greens in 7 to 10 days. No pills. No fishy aftertaste. No unpleasant side effects like bad breath or heartburn come with supplements. Just tiny plants doing what they've always done—feeding us well.

Want to learn which microgreens deliver specific nutrients? Check out our detailed growing guides at the **Microgreens World bookstore**.

Source: National Center for Complementary and Integrative Health. (2024). Omega-3 supplements: What you need to know. https://www.nccih.nih.gov/health/omega3-supplements-what-you-need-to-know

GET IN TOUCH

PHONE:
+1 256.269.4205

EMAIL:
marketing@microgreensworld.com

WEBSITE:
www.microgreensworld.com

INSTAGRAM:
@microgreens.world

ADDRESS:
P. O. BOX 580
DECATUR, GEORGIA 30031
MBS Publishing Designs