

MICROGREENS WEEKLY DIGEST

Nutrition | Science | News

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WHAT YOU MISSED THIS WEEK

Red cabbage microgreens pack six times more vitamin C than mature plants. Cilantro microgreens deliver 39 times the beta-carotene. Scientists examined how compounds like sulforaphane and glucosinolates might interfere with cancer cell division and inflammation—but they still don't fully understand how these mechanisms work in humans. The nutritional profile alone justifies eating them.

Bottom watering produced 91.35g fresh weight in Tuscan kale—nearly double the control group. Roots access nutrients directly while top growth stays dry, preventing mold.

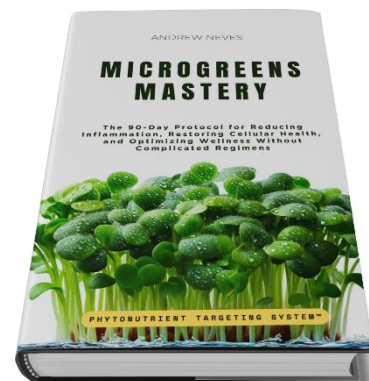
Ryan Arcand in Edmonton built a 600-square-foot basement grow room supplying both his restaurant and cheese shop. Joni Albers runs 6,000 square feet in California, supplying Michelin-starred restaurants. Lisa Jensen expanded beyond Friday farmers markets to year-round direct sales.

A German study showed 22% of prediabetics reversed their condition without losing weight. Where your body stores fat matters more than total weight. Microgreens like broccoli, radish, and kale support the exact mechanisms that improve insulin sensitivity and blood sugar regulation.

THE HIGHLIGHTS

- Red cabbage: six times the vitamin C
- Bottom watering nearly doubles microgreens fresh weight
- 6,000 square feet supplies LA Michelin restaurants
- Kazakhstan crew grows microgreens in space simulator

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

Microgreens Pack a Nutritional Punch Science Is Just Beginning to Understand

Red cabbage microgreens contain six times more vitamin C than their full-grown counterparts. Broccoli microgreens deliver concentrated doses of cancer-fighting compounds. Radish microgreens offer mineral content that leaves mature radishes in the dust.

These aren't marketing claims—they're findings from a recent comprehensive research review that examined microgreens as [potential tools for managing chronic disease](#). The results challenge what we think we know about vegetable nutrition.

The research team analyzed nutrient profiles across dozens of microgreen varieties, comparing them directly to mature vegetables. The patterns were striking. Cilantro microgreens packed 11.7 mg of beta-carotene per 100g fresh weight—roughly 39 times more than mature cilantro. Garnet amaranth microgreens reached vitamin K levels of 4.1 µg/g, fulfilling daily requirements with minimal servings.

Minerals told a similar story. Lettuce microgreens exceeded their mature versions in calcium, magnesium, iron, manganese, zinc, and molybdenum. Radish daikon microgreens led in phosphorus content. Wasabi microgreens topped potassium charts. Tests confirmed these young plants were free from heavy metal contamination—a safety bonus for regular consumers.

But nutritional density only hints at microgreens' potential health impact.

The research examined how bioactive compounds in microgreens might interact with disease processes. Red cabbage and broccoli microgreens contain glucosinolates—sulfur-based compounds that break down into isothiocyanates. Think of isothiocyanates as cellular clean-up crews. They trigger reactive oxygen species production while depleting glutathione reserves in cancer cells, essentially disrupting the cell's energy factory until division stops. Laboratory studies using colon cancer cells showed this effect directly.

Sulforaphane, abundant in broccoli microgreens, activates Nrf2—a master switch for cellular defense systems. When Nrf2 turns on, cells produce antioxidant enzymes and detoxification proteins.



This cascade protects against oxidative stress and helps explain cardiovascular benefits observed in preliminary studies.

Inflammation represents another target. Compounds in microgreens appear to interfere with NF- κ B, a protein complex that controls inflammatory gene expression. Blocking NF- κ B reduces production of pro-inflammatory messengers like TNF- α and various interleukins. Red cabbage microgreens demonstrated this effect in mice fed high-fat diets, lowering inflammatory markers in liver tissue.

Indole-3-carbinol from cruciferous microgreens shows promise in **hormone-dependent cancers**. Research indicates it can suppress estrogen receptor signaling in breast cancer cells while potentially activating enzymes that metabolize cancer-causing compounds. Flavonoids like quercetin and kaempferol in various microgreens inhibit COX-2, an enzyme driving inflammation and linked to cancer progression.

Here's what makes this fascinating: **scientists don't fully understand *how* these mechanisms translate to human health outcomes**. The pathways exist. Lab studies and animal models show effects. But the precise interactions—how microgreens influence gut bacteria, how bioavailability changes with different preparations, how compounds work synergistically—remain partially mapped territory.

This uncertainty shouldn't discourage consumption. The nutritional profile alone justifies including microgreens in regular eating patterns. Vitamins, minerals, and antioxidants in concentrated form offer clear benefits. The potential disease-prevention mechanisms add promising layers.

The research highlighted practical advantages too. Microgreens require 158-236 times less water than field-grown vegetables for equivalent nutrition. Growth cycles of 7-21 days mean rapid production. No pesticides necessary. Anyone with a sunny windowsill can grow varieties like radish, broccoli, or sunflower.

The knowledge gaps actually point toward opportunity. [Scientists need rigorous human trials examining specific health outcomes.](#)

Researchers should investigate optimal harvest timing, storage methods, and preparation techniques that preserve bioactive compounds. More work mapping variety-specific nutrient profiles would help consumers and growers make informed choices.

For now, microgreens represent a nutrient-dense food category with theoretical mechanisms supporting disease prevention. Incorporating them into meals provides measurable nutritional benefits. Growing them at home offers fresh produce year-round with minimal resources. The science continues evolving, but the practical case for microgreens already stands on solid ground.

Source: Rizvi, A., Sharma, M., & Saxena, S. (2022). Microgreens: A next generation nutraceutical for multiple disease management and health promotion. *Genetic Resources and Crop Evolution*, 70, 1-23. <https://doi.org/10.1007/s10722-022-01506-3>

HOME GROWING TIPS

Bottom Watering: What Most Growers Miss Entirely

I've been advocating bottom watering microgreens since 2017. Here is more proof.

Researchers at Central Luzon State University tested four watering methods on Tuscan kale microgreens. **Bottom watering produced 91.35g fresh weight**—nearly double the control group's 16.43g. Stem length hit **10.94 cm** versus 7.47 cm with no nutrients.

Most growing guides gloss over bottom watering or skip it entirely. They don't explain why it works. Here's why: roots access nutrients directly while top growth stays dry, preventing mold. Consumer taste tests scored bottom-watered microgreens at **7.35 (like moderately)** for overall acceptability.

Want the complete system? [Visit Microgreens World](#) and get the definitive guide on growing.

WELCOME NEW MEMBERS

NAME	CITY	COUNTRY
Gonde Marchie	Rio Cuarto	Argentina
John Robinson		Australia
Dr. Galli	Hamilton	Canada
M Opanah	Toronto	Canada
Upad Hayayom	Dehli	India
Sanjay	Dehli	India
Banu Priyanga	Periyakulam	India
Lavanya Chocos	Mamallapuram	India
Mr. Kactinos	Chennai	India
Soma Sagar	Delhi	India
Nature's Package	Meru	Kenya
Golden Rose	Lagos	Nigeria
Padmasara Hellowell		United Kingdom
Gareth Lucken		United Kingdom
Michael Twiggs	Seattle	United States
A Bumhip	Greenville	United States
Kathie Roberston	Columbus	United States
Tracy	Gillette	United States
Tina V Glynn	Hammond	United States
Joyti	Nashville	United States
Patrick Straley	Johnson	United States
Alan Smith		United States
Tammy Habiger		United States
Melissa Jeffs		United States
Mark Donohue		United States

COMMUNITY CORNER



Edmonton Restaurant Owner's Integrated Microgreens Business

Ryan Arcand didn't just open a restaurant. He built something smarter.

When the Edmonton entrepreneur launched [Lovesong restaurant](#) and [Tiny's Cheese Shop](#) near his [Iconoclast café](#), he installed a 600-square-foot basement grow room. The space produces microgreens sold through both businesses—retail packs at the cheese shop, garnishes and marinades at the restaurant.

"The idea of doing microgreens is pragmatic," Arcand told Taproot. Germination to harvest takes 10 to 14 days. Margins work. Nutritional density is high.

But here's where his model gets interesting: Arcand uses the restaurant as insurance. Fresh microgreens have a short shelf life. If retail sales lag, Lovesong absorbs the product. The same strategy applies to fresh cheeses—anything that doesn't sell at Tiny's appears on restaurant menus.

For health-conscious consumers, Arcand offers meal kits designed for busy parents. Tetra packs of microgreens pair with fresh dough, locally-sourced meats, and cheese. Clean ingredients. Fast prep.

Arcand's betting that economic downturns shift dining habits. People eat out less. Home entertaining increases. His businesses feed both trends—restaurant dining when budgets allow, take-home options when they don't.

The model spreads risk across three revenue streams while maintaining quality. For commercial growers considering retail expansion, Arcand's integrated approach shows how multiple outlets protect against the volatility of selling fresh produce.

Source: Yeo, S. (2025, October 10). Iconoclast owner adds Lovesong and Tiny's Cheese Shop. Taproot Edmonton. <https://edmonton.taproot.news/news/2025/10/10/iconoclast-owner-adds-lovesong-and-tinys-cheese-shop>



How 6,000 Square Feet Supplies LA Restaurants

Joni Albers runs [Hungry Gardens Urban Farm](#) from 6,000 square feet of greenhouse space in Sun Valley, California. That's roughly the size of a small house. From there, she supplies microgreens and edible flowers to some of Los Angeles' top restaurants, including Michelin-starred CUT by Wolfgang Puck.

The math works because microgreens grow fast and command premium prices. Harvest cycles run seven to 45 days depending on variety. Albers grows in shallow soil-filled trays stacked on greenhouse tables. Every available inch produces something.

Drew Rosenberg, CUT's executive chef, switched to Albers after years of having microgreens shipped from elsewhere. "The difference in flavor is night and day," he says. He orders standing favorites like Japanese kinome and Cantaloupe Micro while rotating in new varieties as Albers experiments.

Two-thirds of Albers' sales go directly to LA restaurants. The other third moves through distributors serving Orange County, Las Vegas, and San Diego. Most restaurant clients maintain standing orders but adjust as menus change. Anything that doesn't sell gets donated to families at a local pediatric hospital.

The business model includes a second revenue stream. Albers builds custom gardens and farms for organizations, restaurants, and homeowners. She also keeps a small apiary producing limited-batch honey.

Six thousand square feet. Multiple revenue channels. Direct access to high-end buyers willing to pay for same-day harvest.

Picture your own version of this setup, scaled to whatever space you can access.

Source: DuBois, L. (2025, Summer). Big impact in a small package. California Bountiful. <https://www.californiabountiful.com/magazine-features/magazine-issues/summer-2025/big-impact-in-a-small-package/>



Small Market Vendor Expands Beyond Fridays

Lisa Jensen started selling microgreens at the Chewelah Farmers Market this year. Every Friday from May through October, she sets up her booth in the city park. People stop by. They taste test different varieties. Some buy for the nutrition. Others just like the flavor.

But Fridays weren't enough.

Jensen runs Loon Lake Microgreens from her property near Chewelah, Washington. Her setup produces year-round, but the farmers market only operates seasonally. That gap between October and May? Lost revenue. Customers asking where to find her products during winter? No good answer.

So she's expanding beyond the market. Jensen now takes orders directly at 509-644-0080 or loonlakemicrogreens@gmail.com. Same products. Same quality. No waiting for Friday to roll around.

Her microgreens sell to three groups: health-focused eaters who want the vitamin density, chefs looking for variety in taste and texture, and regular customers who discovered them through taste testing at her booth.

Jensen also runs a second business from the same booth. Natural Treasures sells handmade goat milk soap using the cold process method. Two products. One location. Double the reason for customers to stop by.

The farmers market taught her what sells. Taste testing showed her which varieties people actually buy versus which ones they skip. Direct feedback. Real-time market research. Now she's taking what worked on Fridays and running it year-round.

Picture your own seasonal operation making that same shift.

Source: Chewelah Farmers Market. (2025, September 25). Spotlight on Chewelah Farmers Market: Loon Lake Microgreens [Press release]. *Chewelah Independent*.
<https://www.chewelahindependent.com/news/spotlight-on-chewelah->



Kazakhstan Crew Grows Microgreens in Capsule

Three researchers spent ten days locked inside a spacecraft simulator in Astana, Kazakhstan. They couldn't leave. They couldn't talk to anyone outside. They had limited space and controlled conditions.

One of their assignments? Growing microgreens without soil.

The SANA-1 project ran from October 1-10, 2025. The all-female crew worked six-hour days conducting cognitive tests, assembling equipment, and running experiments. Growing microgreens was part of their scientific workload.

Space research demands methods that work under pressure. No soil. Limited water. Controlled temperature. Every square inch matters when you're confined to a capsule.

If soilless microgreens growing works there, it works anywhere.

Commercial growers already know hydroponic and aeroponic systems produce results. But space agencies don't test methods that fail. They test what survives extreme conditions. The fact that microgreens made it onto the SANA-1 task list says something about the method's reliability.

For health-focused eaters, space programs validate what nutritionists have known for years. Microgreens pack nutrition into small packages. They grow fast. They don't need traditional farming infrastructure.

The crew completed their isolation on October 10th. They walked out with certificates and data. The microgreens they grew weren't just experiments. They were proof that soilless systems work when resources are tight and space is limited.

Picture your own controlled-environment setup. Smaller than a spacecraft simulator. Same principles. Same results.

Source: Qazinform News Agency. (2025, October 10). All-female SANA-1 crew completes isolation experiment in Astana.
<https://qazinform.com/news/all-female-sana-1-crew-completes-isolation-experiment-in-astana-0b2a18>

CREATIVE RECIPES



Tendrils Through Time

Pea shoots weren't always food.

For thousands of years, people ate dried peas for survival—boiled into purees during medieval famines. Fresh peas themselves were considered poisonous until after the Norman Conquest.

The Hmong people of southwestern China saw something different. They harvested those delicate tendrils young and created "dou miao"—a dish that would travel across centuries.

When restrictions forced Hmong families to migrate into Southeast Asia during the 1700s, pea shoots went with them. The tender greens became part of their culinary identity—stir-fried with garlic, tossed in soups, mixed into spring rolls.

In the 1970s, Hmong refugees brought this tradition to America's Pacific Northwest. What was once considered too precious to harvest regularly in East Asia suddenly appeared in farmers markets.

One community's everyday vegetable became everyone's springtime delicacy.



Wok-Tossed Pea Shoots with Garlic (Dou Miao)

When I first saw pea shoot microgreens—those tiny seedlings harvested at just 10 days old—I wondered if they'd survive a hot wok.

Turns out, they do. But barely.

The Hmong tradition of dou miao inspired this adaptation, but microgreens need a gentler touch than their mature counterparts.

These baby shoots pack concentrated nutrition into leaves no bigger than your thumbnail. They taste sweeter, grassier, more intense. The key? Flash cooking.

You're talking 30 seconds max in the wok. Any longer and you've got mush. What emerges is something between a vegetable and an herb—delicate tendrils that still have bite, coated in garlic-infused oil.

This isn't garnish. It's dinner, served over rice with maybe some seared tofu on the side.

1

Recipe Information

Prep Time: *8 minutes*

Cook Time: *1 minute*

Category: *Main Vegetable Dish*

Method: *Flash stir-fry*

Cuisine: *Hmong/Chinese-inspired*

Yield: *4 servings*



2

Ingredients

- 8 ounces pea shoot microgreens (about 8 cups loosely packed), roots trimmed
- 2 tablespoons neutral oil (grapeseed or peanut)
- 4 cloves garlic, very thinly sliced
- 2 teaspoons Shaoxing wine
- 1 teaspoon oyster sauce
- ¼ teaspoon sugar
- Pinch of white pepper
- ½ teaspoon sea salt
- 1 teaspoon sesame oil
- ½ teaspoon toasted sesame seeds (optional garnish)

3

Preparation

Step 1: Handle Your Microgreens Gently

1. Rinse the pea shoot microgreens in cold water.
2. Spin them completely dry or pat with paper towels.
3. Wet microgreens steam instead of sear.
4. Trim any remaining seed hulls if needed.

Step 2: Get Everything Ready

5. Slice garlic paper-thin.
6. Mix your Shaoxing wine, oyster sauce, sugar, white pepper, and salt in a small bowl.
7. Have your sesame oil within reach. Once you start cooking, there's no time to hunt for ingredients.

Step 3: Heat Your Wok (But Not Too Hot)

8. Medium-high heat here, not screaming hot. Microgreens are delicate.
9. Add the neutral oil and swirl to coat.
10. Heat for about 60 seconds.

Step 4: Flash-Cook the Garlic

11. Add sliced garlic.
12. Stir for 10-15 seconds until fragrant. Don't let it brown—just wake it up.

Step 5: Add Microgreens Immediately

13. Dump in all your pea shoot microgreens at once.
14. Toss constantly with tongs or a spatula.
15. Work fast. The greens should barely wilt—you want them softened but still holding their structure.
16. Cook for 20-30 seconds, total.

3

Preparation (Cont'd)

Step 6: Season and Finish

17. Pour in your sauce mixture.
18. Toss for another 10 seconds.
19. Kill the heat.
20. Drizzle sesame oil over everything.
21. One final toss..

Step 7: Plate Right Away

22. Transfer immediately to your serving dish. Microgreens keep cooking from residual heat, so don't let them sit in the wok.

4

Plating

Mound the microgreens on a shallow serving bowl or platter.

Let them pile naturally—microgreens look best when they're not overthought.

Scatter garlic slices throughout.

Sprinkle toasted sesame seeds on top if you're using them.

Serve family-style alongside steamed jasmine rice.

The microgreens should look vibrant green, slightly glossy, with tender stems that still have some spring to them.

5

Benefits of Pea shoot Microgreens for Health

Per 100-gram serving, pea shoot microgreens deliver 50% of your daily vitamin C, plus 10% iron and 43% vitamin A (Santos et al., 2014).

They contain 3 grams of fiber and phytoestrogens like coumestrol, studied for reducing gastric cancer risk.

The carotenoids beta-carotene, lutein, and zeaxanthin protect against macular degeneration and cataracts.

Vitamin C supports immune function and iron absorption, while the fiber maintains gut health

With just 35 calories per serving, pea shoots pack flavonoids and polyphenols that provide antioxidant protection without caloric density.

IN THE NEWS

Reversing Prediabetes Naturally

A German study just flipped everything we thought we knew about preventing Type 2 diabetes. Turns out, *where* your body stores fat matters way more than how much you weigh.

Researchers tracked 234 people with prediabetes who didn't lose weight—some even gained a few pounds. Yet 22% reversed their condition anyway. The secret? Their bodies stored new fat under the skin instead of around organs. Think of it like choosing a safe storage unit over piling boxes in your living room—same stuff, different location, totally different outcome.

Here's what shocked scientists: these folks improved both insulin sensitivity (how well cells use sugar) and insulin secretion (how much insulin the pancreas makes). They also boosted GLP-1 sensitivity—the hormone that tells your body "we're full, stop eating."

The payoff? A 71% lower chance of developing diabetes over the next decade.

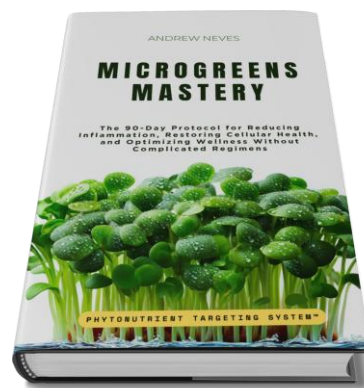
What does this mean for your plate? Microgreens pack the exact nutrients that support these mechanisms. Broccoli microgreens deliver sulforaphane for insulin sensitivity. Radish microgreens regulate blood sugar spikes. Kale microgreens boost adiponectin—the hormone that improves how your body handles glucose.

You don't need to lose weight to reverse prediabetes. You need to feed your cells the right fuel.

Ready to learn which microgreens work best for your blood sugar?

Check out our evidence-based guides at the [Microgreens World bookstore](#).

Source: Sandforth, A., Vazquez Arreola, et al. (2025). Prevention of type 2 diabetes through prediabetes remission without weight loss. *Nature Medicine*, 31(10), 3330–3340. <https://doi.org/10.1038/s41591-025-03944-9>



Tired of nutrition confusion? Stop treating microgreens like random garnish. This 90-day protocol teaches you which specific varieties target your inflammatory concerns—backed by real science. You'll learn to pinpoint your needs, source quality greens, prepare them correctly, and track measurable improvements. No vague wellness promises. Just the PACT Framework that transforms scattered nutritional efforts into strategic cellular health. Finally, evidence-based guidance that actually works for your unique body.

PRE-ORDER NOW

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