MICROGREENS WEEKLY DIGEST

Nutrition | Science | News

TUESDAY, 07 OCTOBER 2025 VOL 2025 No.35

WHAT YOU MISSED THIS WEEK

Swiss chard microgreens dominated the bioaccessibility study this week. Researchers proved your body absorbs 33% more iron from Swiss chard than other varieties—real minerals, real absorption. Not just numbers on a label.

Chicago's Closed Loop Farms hit a milestone. Adam Pollack started with nine trays in his apartment. Now? Over 200 restaurants, 15 employees at $20/hour, year-round production. Ten years of proof that urban microgreens work.

Florida chef Brianne Oliveira quit searching for quality ingredients. She started growing them instead. Roots & Shoots now supplies chefs and health-focused consumers across South Florida with climate-controlled, nutrient-dense greens.

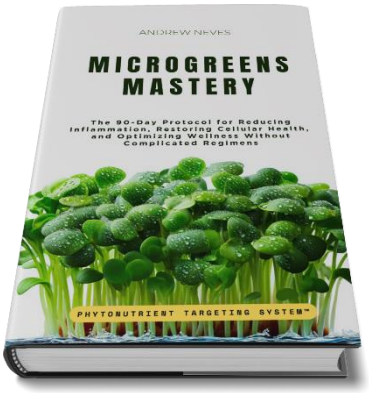
Newark high school students harvested red mustard microgreens, then cooked with them minutes later. Farm-to-table isn't just restaurants anymore—it's happening in cafeterias.

Microgreens jumped into skincare. Broccoli oil and sunflower extracts now power serums and shampoos. Same nutrients protecting your cells when eaten? They work topically too.

THE HIGHLIGHTS

- Swiss chard microgreens boost mineral absorption rates
- Medical students grow sunflower microgreens for $1.29
- Chicago farm serves 200 restaurants, started nine trays
- Microgreens revolutionize skincare with fresh plant juice

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

Swiss Chard Microgreens: Why Mineral Content Isn't Enough

Taking an iron supplement doesn't guarantee your body absorbs all that iron. Same goes for eating iron-rich foods. What matters isn't just what's in the food—it's what your digestive system can actually extract and use. Scientists call this "*bioaccessibility*," and a recent study on microgreens reveals why this concept changes everything about how we think about nutrition.

The Bioaccessibility Problem

Here's what most nutrition labels won't tell you: the mineral content listed on packaging represents what's in the food before you eat it. But your gastrointestinal tract doesn't absorb everything. Some minerals get trapped in the plant's cell structure. Others bind with compounds that make them unavailable to your body. The real question isn't "how much calcium is in this?" It's "how much calcium can my body actually use?"

Researchers at Italy's National Research Council decided to answer that question for three popular microgreens: chicory, Swiss chard, and black cabbage.

What the Study Measured

The team analyzed mineral profiles for calcium, potassium, magnesium, iron, zinc, copper, manganese, and several trace elements. Then they simulated human digestion—reproducing the temperature, pH levels, and digestive enzymes your stomach and intestines produce. This let them measure exactly how much of each mineral gets released during digestion.

The results? Swiss chard dominated across almost every category.

Swiss Chard Takes the Lead

Swiss chard microgreens contained higher levels of calcium (4,771 mg/kg), potassium (4,555 mg/kg), magnesium (1,053 mg/kg), iron (21.5 mg/kg), and zinc (9.0 mg/kg) compared to chicory and black cabbage. But raw content only tells part of the story.

When researchers tracked what happened during digestion, Swiss chard released significantly more boron (+104%), magnesium (+135%), and iron (+33%) than the other two species. Black cabbage released the most manganese. Chicory fell somewhere in the middle for most minerals.

Real-World Impact: RDA Coverage

Numbers on a lab report don't mean much until you connect them to daily nutrition. The study calculated how much of your Recommended Dietary Allowance (RDA) a single 30-gram serving provides.

One serving of Swiss chard microgreens delivers 34% of the RDA for manganese (women), 12.4% for copper, and 8.1% for iron (men). That's from less than two tablespoons of food. Compare this to chicory at 4.6% manganese or black cabbage at 4.0%—Swiss chard significantly outperforms both.

For magnesium, Swiss chard provides 9.8% of women's RDA versus 3.8% from chicory. The pattern holds across calcium, potassium, and zinc.

The Oxalate Catch

Swiss chard has one weakness: oxalates. These naturally occurring compounds bind with calcium, strontium, and zinc to form insoluble salts your body can't absorb. The study found only 7% of calcium in Swiss chard became bioaccessible during digestion, compared to higher percentages in chicory and black cabbage.

This doesn't make Swiss chard less valuable. It means pairing it with varied microgreens creates a more complete mineral profile. No single food should carry your entire nutritional load.

The Copper Surprise

All three species showed 100% copper bioaccessibility. Every bit of copper in these microgreens became available during digestion—a remarkable finding that matches similar results in tomatoes and lettuce.

Manganese sat at the opposite end, with only 15% bioaccessibility across all species.

Safety Confirmed

Heavy metals like cadmium, chromium, nickel, and lead weren't detected in any samples. Soilless growing systems—where these microgreens were produced—minimize contamination risks when growers control inputs like water, fertilizer, and substrate.

Growing Your Own Nutrition

Swiss chard microgreens pack serious nutritional value into small portions. They're easy to grow at home or in commercial operations, ready to harvest in about ten days. Understanding bioaccessibility helps you choose species that deliver minerals your body can actually use.

Ready to grow? Swiss chard microgreens combine high mineral content with strong bioaccessibility—making them one of the most nutritionally efficient foods you can produce.

Source: D'Imperio, M., Parente, A., & Serio, F. (2024). Exploring mineral profiles and their bioaccessibility of chicory, Swiss chard, and black cabbage microgreens. *Future Foods*, *10*, 100519. https://doi.org/10.1016/j.fufo.2024.100519

HOME GROWING TIPS

Start Growing Microgreens This Week

Researchers at Drexel University cracked something interesting: 94 medical students grew sunflower microgreens at home for just $1.29 per kit.

No gardening experience needed. The setup takes minutes—soil, seeds, water, a weight on top for two days, then light. Harvest ready in 8 days.

The study showed participants boosted their nutrition awareness and actually ate what they grew. Tacos, sandwiches, salads—real meals. No fancy equipment, no outdoor space required.

Want to try it yourself? Grab a simple grow kit from Microgreens World and follow the same protocol the study used.

Your windowsill becomes a food source faster than you'd think. Fresh, nutrient-dense greens in one week. That's it.

WELCOME NEW MEMBERS

NAME	CITY	COUNTRY
Kathleen Gagnon	Nicolet	Canada
Vikas Kumawathaha	Dehli	India
Roberta Kupfer	Johannesburg	South Africa
Melissa Palmer	Houston	USA
Mel Walker	Palmdale	USA
Doug	Richmond Hill	Canada
David Miller	Princeton	USA
Jamila	Santa Rosa	USA
Jennifer Lewis	Houston	USA
Sassy	Santa Clarita	USA
Dancing Gardens	Indianapolis	USA
John Louis Ducos	Makati	Phillipines
Melisa Pullins	Ben Wheeler	USA
Lois	Fargo	USA
Aindrias	Dublin	Ireland
Deepa Rammons	Brunswick	Georgia
Kathleen Gale		
TANIA PACHECO		Brasil
Deepa P k		India
Brian Arnst	Sugar Land	USA
Vera Harris	Munich	Germany
Paulo Thyagothe	Fortaleza	Brazil
Chocolate	Baltimore	USA

MICROGREENS WORLD
NUTRITION | SCIENCE | TRENDS

COMMUNITY CORNER

Chicago's Microgreens Success: Your Opportunity Awaits

Adam Pollack started with nine trays of microgreens in his Logan Square apartment back in 2015. A burned-out chef who wanted to learn farming, he picked microgreens for one simple reason—they need minimal space, little money up front, and grow fast.

Ten years later? Closed Loop Farms serves over 200 restaurants across Chicago, employs 15 people at $20 an hour with benefits, and operates year-round from The Plant in Back of the Yards.

The path wasn't fancy. Pollack scored free land in Humboldt Park through a community housing program. His first commercial space at The Plant cost $75 monthly for a 10-by-15-foot room. Then COVID hit. With 100% restaurant sales, the farm had to pivot hard—launching a website and direct-to-consumer model literally overnight.

That crisis became growth. Closed Loop now grows 20 microgreen varieties in The Plant's basement. Their Big Leaf mix, created for a single chef's request, turned into a bestseller.

For health-conscious eaters, this matters. Urban farms mean fresher greens with shorter supply chains. You get better nutrition, better flavor.

For aspiring commercial growers, this story proves something bigger. Cities need local food. The market exists. Starting small works—if you commit to quality and adapt when needed.

The microgreens industry isn't saturated. It's just getting started. Need growing tools? Check out trusted products at Microgreens World.

Your spare room or garage could be next.

Source: Shames, L. (2025, September 29). How Closed Loop Farms became a microgreens empire in Chicago. *Block Club Chicago*. https://blockclubchicago.org/2025/09/29/how-closed-loop-farms-became-a-microgreens-empire-in-chicago/

Florida Chef's Microgreens Gamble Pays Off

Brianne Oliveira spent years in professional kitchens searching for one thing—ingredients that matched her standards. Fresh meant everything. Flavor couldn't be compromised. But supply chains failed her too often.

So she stopped searching and started growing.

Roots & Shoots Microgreen Farm in Coral Springs wasn't born from burnout or career crisis. It came from a chef who got tired of settling for whatever showed up from distributors. She wanted control over quality, freshness, and flavor. The only way to get that? Grow it herself.

Florida's climate creates year-round growing potential other regions can't match. But Oliveira went a step further—building a climate-controlled indoor operation using vertical farming tech. No weather surprises. No seasonal gaps. Just consistent production of nutrient-dense microgreens and edible flowers.

The mission shifted from feeding her own restaurants to supplying chefs, health-conscious home cooks, and market vendors across South Florida. Local food systems need local growers.

For people focused on nutrition, this matters. Microgreens deliver 4 to 40 times more vitamins and antioxidants than mature vegetables. They fight chronic disease naturally. Heart health, cancer prevention—the research backs it up.

For potential commercial growers, Oliveira's path shows something different than most startup stories. She didn't need farming experience. She needed standards and willingness to learn.

You don't need a farming degree. You need commitment to quality. Check out proven growing tools at Microgreens World.

Start small. Grow with purpose.

Source: TapInto Coral Springs. (n.d.). Coral Springs chef-turned-farmer launches Roots & Shoots Microgreen Farm. https://www.tapinto.net/towns/coral-springs/articles/coral-springs-chef-turned-farmer-launches-roots-shoots-microgreen-farm

Beyond Salads: Microgreens Enter Skincare Revolution

Cosmetics companies spent years chasing plant-based ingredients with real performance. They found something better than extracts—fresh microgreen juice.

Harke, a UK ingredients distributor, now offers three distinct microgreen-based personal care lines. The science behind them matters. Broccoli microgreens contain 40 times more antioxidants than mature broccoli. Those same compounds protecting your cells when eaten? They work topically too—fighting UV damage, boosting collagen, reducing inflammation.

ICSC's Cosmosil® range uses Precision Climate Farming—controlled environments with 80% less water, zero pesticides, renewable energy. Their broccoli oil protects skin from environmental stress. Sunflower microgreens deliver concentrated fatty acids for moisture. Clinical trials on broccoli sprout exosomes showed 32% increase in collagen production and 19.6% better hydration.

Carrubba grows their own microgreens on USA farms, juicing kale, beet, and cilantro for haircare formulations that strengthen follicles and balance scalp health.

For people focused on clean beauty, this shift matters. The same nutrients powering your salads now power serums and shampoos—without synthetic chemicals.

For commercial growers, the opportunity runs deeper. Cosmetics manufacturers need reliable suppliers of precision-grown microgreens. The market keeps expanding. B2B contracts with skincare companies pay different margins than farmers markets.

Want to understand microgreen formulations for personal care? Check out the professional guide to microgreens formulations at Microgreens World.

New markets open when you know the science.

Source: Harke UK & Ireland. (n.d.). *Precision-grown microgreens for high-performance personal care*. https://harke.co.uk/precision-grown-microgreens-for-high-performance-personal-care/ .

High Schoolers Prove Anyone Can Farm

Newark Vocational High School students harvested red mustard greens they grew themselves, then cooked ceviche baskets and ribeye nests with those same greens minutes later. From seed to plate in their own building.

Inspired Growing partnered with Newark Public Schools to install indoor aeroponic farms in 13 district schools. The Culinary Arts Academy students at Newark Vocational learned sustainable agriculture while solving a real problem—fresh produce access in their community.

Superintendent Roger León called it "growing opportunity, not just food." Students gained hands-on experience in nutrition, technology, and entrepreneurship. They learned the science behind vertical farming. They mastered the practice of cultivation. Then they served what they grew to school officials and district leaders.

The model works. Aeroponic systems require minimal space, no soil, and deliver harvests in weeks instead of months. Students who've never farmed before now understand growth cycles, nutrient management, and food systems.

For people focused on fresh food access, this matters. When students grow food in their schools, communities get healthier produce with zero transportation miles. Farm-to-table isn't a restaurant trend anymore—it's happening in cafeterias.

For commercial growers eyeing workforce development, the opportunity runs deeper. Schools need partners who understand farming operations. These students become trained workers or potential entrepreneurs. Educational programs create pathways into agriculture careers.

Want to support farm-to-school programs? Share books about sustainable growing at Microgreens World Books. Communities thrive when students learn to feed themselves.

Source: Newark Public Schools. (2025, October 2). *Newark Vocational High School hosts "Farm-to-Table First Harvest" with Inspired Growing*. https://www.nps.k12.nj.us/press-releases/newark-vocational-high-school-hosts-farm-to-table-first-harvest-with-inspired-growing/

CREATIVE RECIPES

Swiss Chard Origins

Swiss chard descended from *wild sea beet plants* growing along Mediterranean coastlines, with its origins traced to Sicily.

Ancient Greeks and Romans cultivated chard for both culinary and medicinal uses.

Aristotle referenced red-stalked varieties around 350 BCE, and the Babylonian Talmud praised its health benefits.

The name "chard" comes from 14th-century French "carde," linked to cardoon. "Swiss" was added in 19th-century seed catalogs to distinguish it from French spinach, though Switzerland isn't its homeland.

Swiss settlers brought chard to America in 1806. It gained popularity in Philadelphia before spreading nationwide after the Civil War.

Early cooks used young leaves raw. By the 1800s, chefs separated thick midribs and cooked them like asparagus, while leaves were boiled or sautéed.

Traditional European dishes include Croatian stews, Swiss capuns, and French tourte de blettes.

Sicilian Pan-Seared Chicken with Double Swiss Chard

This Mediterranean main course honors Swiss chard's Sicilian roots with a two-stage approach that ancient cooks would recognize.

Mature chard gets sautéed with garlic and white wine, while tender microgreens get folded in twice—once during cooking for their mineral-rich bite, and again fresh at the end. The technique mirrors how 19th-century chefs treated chard stems and leaves separately, but here we're using different life stages of the same plant.

Pan-seared chicken thighs rest on a bed of wilted greens, soaking up lemony pan juices.

The research shows Swiss chard microgreens pack 100% bioaccessible copper and significant iron, magnesium, and manganese—nutrients your body can actually absorb and use.

Pair both plant stages together and you're getting minerals at different concentrations and absorption rates.

1

Recipe Information

Prep Time*: 15 minutes*
Cook Time*: 30 minutes*
Category: *Main Course*
Method: *Sautéed*
Cuisine: *Mediterranean (Sicilian-inspired)*
Yield*: 2 servings*

2 Ingredients

Protein

- 2 bone-in, skin-on chicken thighs (6-8 oz each)
- Salt and black pepper
- 2 tablespoons olive oil

Chard Components

- 6 large mature Swiss chard leaves with stems (about 8 oz)
- 2 packed oz. Swiss chard microgreens (divided: 1 oz for cooking, 1 oz fresh)

Aromatics & Finishing

4 garlic cloves, thinly sliced

⅓ cup dry white wine

Juice of 1 lemon (about 3 tablespoons)

2 tablespoons unsalted butter

Red pepper flakes (pinch)

Extra virgin olive oil for drizzling

3 Preparation

Step 1: Prep the Chard

1. Separate mature chard stems from leaves.
2. Chop stems into ½-inch pieces.
3. Tear leaves into large pieces. Keep separate.
4. Rinse microgreens gently and pat completely dry.

Step 2: Season and Sear Chicken

5. Pat chicken thighs dry.
6. Season both sides generously with salt and pepper.
7. Heat 2 tablespoons olive oil in a large skillet over medium-high heat.
8. Once shimmering, place chicken skin-side down. Don't touch it.
9. Let it sear 6-7 minutes until skin turns deep golden and releases easily.
10. Flip, cook another 5-6 minutes until internal temp hits 165°F.
11. Transfer to a plate, tent with foil.

Step 3: Build the Chard Base

12. Pour off all but 1 tablespoon fat from the skillet.
13. Reduce heat to medium.
14. Add chard stems and a pinch of salt.
15. Sauté 3-4 minutes until they start softening.
16. Toss in garlic and red pepper flakes, cook 1 minute until fragrant.

3 Preparation (Cont'd)

Step 4: Wilt the Greens

17. Pour in white wine, scraping up browned bits.
18. Let it bubble 2 minutes.
19. Add mature chard leaves by the handful, tossing as they wilt. Takes about 3 minutes total.
20. Once leaves collapse, fold in 1 cup of microgreens. They'll wilt in 30 seconds.
21. Squeeze in half the lemon juice.

Step 5: Finish the Dish

22. Nestle chicken thighs back into the pan, skin-side up, along with any resting juices.
23. Swirl in butter until melted.
24. Let everything heat through for 2 minutes.
25. Kill the heat.
26. Squeeze remaining lemon juice over everything.

4 Plating

Divide the wilted chard mixture between two shallow bowls, creating a bed for the chicken.

Place one thigh on each mound of greens. Drizzle the pan juices over the top.

Pile the remaining 1 cup of fresh microgreens directly on and around the chicken—these stay raw, providing textural contrast and a peppery bite.

Finish with a drizzle of good olive oil and a crack of black pepper.

5 Benefits of Swiss chard Microgreens for Health

Swiss chard microgreens deliver concentrated minerals your body can access. Copper has 100% bioaccessibility—every bit gets released during digestion. Iron bioaccessibility in Swiss chard reaches 33% higher than other varieties, while magnesium jumps 135% during the digestive process.

A single 30-gram serving provides 12.4% of daily copper needs, 8.1% of iron for men, and 9.8% of magnesium for women. **Young cotyledon leaves contain these minerals without the tougher cell walls of mature plants, making nutrient extraction easier for your gut.** Cooking microgreens (as we do with half here) may break down oxalates that bind calcium and zinc, improving absorption.

IN THE NEWS

Feed Your Eyes

About 1.8 billion people worldwide deal with presbyopia—that age-related condition where reading menus and text messages gets harder. A recent study presented at the European Society of Cataract and Refractive Surgeons conference tested new eye drops combining pilocarpine and diclofenac on 766 participants. Results? Everyone treated gained functional near vision. People with mild to intermediate presbyopia achieved normal near vision, eliminating reading glasses.

The effects lasted up to 2 years. Not a quick fix—sustained improvement.

But here's what matters about aging eyes. Medical solutions address symptoms. Nutrition tackles root causes. Your eyes need lutein and zeaxanthin—compounds concentrated in kale, broccoli, and red cabbage microgreens. Vitamin A from sunflower and radish microgreens feeds the retina what it craves.

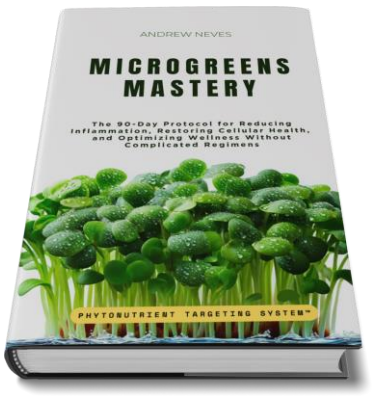
Eye drops help people read again. That's significant. But why wait for problems when you can build resilient tissue now?

A handful of microgreens each day delivers more protective compounds than mature vegetables. Your macula—the part of your eye handling detailed vision—accumulates these nutrients over time.

Want to dig deeper into eye health and microgreens? Check out our guides at the bookstore, including the microgreens and eye health book designed specifically for vision support.

Your future self will thank you.

Source: Medical News Today. (n.d.). *Aging: Daily eyedrops could restore vision loss from presbyopia*. Retrieved October 5, 2025, from https://www.medicalnewstoday.com/articles/near-vision-loss-aging-may-be-remedied-new-eye-drops-presbyopia



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.

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