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Industry Scandal: the Loss of Nutrients

Our Food Supply Under Attack

By Joseph Mercola, Ph.D.
Excerpts from an article published November 2, 2024 at www.mercola.com

Modern farming practices and seed hybridization have significantly reduced the nutritional content of fruits and vegetables over the past 60 years, with average declines of 16% for calcium, 27% for vitamin C and 50% for iron. The focus on higher yields, longer shelf life and visual appeal in crop development has led to a trade-off in nutrient density, particularly evident in hybrid tomatoes compared to heirloom varieties.

The evidence is clear: the food on our plates today is a shadow of what our grandparents ate. Not only has flavor been sacrificed on the altar of productivity and shelf-life, but critical vitamins and minerals have plummeted as well. This nutrient collapse has profound implications for public health that we're only beginning to understand.

The Extent of the Decline

According to the documentary *Industry Scandal: the Loss of Nutrients*,

Food crops today may look nutritious, but may be nutrient deficient because of hybridization and poor soil fertility.

"We discovered a little-known fact: fruit and vegetables have lost some of their vitamins and minerals. Take green beans for example: in 1960 they contained 65 mg of calcium for every 100 grams. In 2017 they contain no more than 48.5 mg. That's a quarter less calcium. The same thing for vitamin C — 19 mg at the time versus 13.6 mg."

These findings align with research conducted in the U.S. and U.K. American biochemist Donald Davis analyzed nutrient changes in 43 vegetables between 1950 and 1999, reaching similar conclusions. Davis' study found statistically significant declines in six nutrients: protein, calcium, phosphorus, iron, riboflavin, and vitamin C. The median declines ranged from 6% for protein to 38% for riboflavin (vitamin B2), and the researchers suggest that these declines are most likely explained by changes in cultivated varieties between 1950 and 1999. Specifically, they said there may be "trade-offs between crop yield and nutrient content" in the newer varieties.

See Many Health Risks, page 2

Live Close to Nature and Live Longer!

Besides, You Will Enjoy Life Even More

By Paul W. Syltie, Ph.D.

Growing up on the farm along a beautiful, forested river valley on the Northern Great Plains, I took it for granted that being out amongst the deer, ducks, cattle, elms, wild flowers, and bubbling rapids was an expected part of life. So pleasant and relaxing it was to shelter beneath the cottonwoods as distant thunder rumbled, or enjoy the warm sunlight on one's face while herding home the cows.

Those youthful days on the farm are long past, but I have often wondered if they have had a long-lasting, positive impact on my life as I recall those experiences.

Science has finally caught up to our assumptions and has confirmed what we have suspected all along: the creation has a remarkable influence on health. A book entitled *Your Brain On Nature* reveals that, "Scientific studies have shown that natural environments can have remarkable benefits for human health. Nature is able to promote positive emotions, and spending time outdoors has been associated with heightened physical and mental energy. Nature has also been found to have a positive effect on children who have been diagnosed with impulsivity, hyperactivity, and attention-deficit disor-

Drawing close to the natural world is a great help for a long and healthful life!

der."[1]

Biophilia — Humanity's Vital Bond With Nature

See People Have An Inborn, page 2

Many Health Risks From Deficient Foods

Continued from page 1

Why the Nutrient Collapse?

- ***Hybridization for higher yields***

Over the past 50 years, seed companies have focused on developing hybrid varieties that maximize yield and visual appeal. As Davis explains, "I think that most of these declines are caused by increases in yield. When yields go up, there's less nutrients per weight of the food. A lot of agricultural scientists may not know about how big these effects are. This is kind of embarrassing. They're always wanting to increase yield. "

This focus on quantity over quality has come at a steep nutritional cost. The tomato, for instance, has seen some of the largest nutrient declines — losing a quarter of its calcium and more than half of its vitamins.

- ***The quest for eternal shelf life.***

Perhaps the most egregious example of sacrificing nutrition for commercial gain is the development of the "long shelf life" tomato. In the 1970s and 1980s, Israeli researchers created a hybrid tomato that decays much more slowly after being picked. While this innovation reduced waste and revolutionized the global tomato market, it came with serious downsides. As Haim Rabinowitch, professor emeritus at The Hebrew University of Jerusalem, one of the developers, admits:

"The genes for ripening inhibition carry with them some negative traits. For instance, flavor deteriorates and we [have] less nutrients. But I didn't know because we never measured it. Only later in the '90s and the early 2000s, we started looking into the quality traits. I offered a project like that to many seed companies. I even gave it a name. I called it 'ACE' tomato. Why ACE? Vitamins A, C and E, and I said it will be a much healthier tomato. We don't have it in supermarkets, this variety. The industries, they don't care."

Control by Four Companies

The push for hybrid seeds is being driven by a handful of multinational corporations that dominate the global seed market. Just four companies — Bayer (formerly Monsanto), Corteva (formerly DuPont), Syngenta, and Limagrain — control two-thirds of all seeds sold worldwide. This concentration of power has serious implications:

1. Loss of biodiversity. As uniform hybrid varieties replace traditional seeds, we're losing genetic diversity at an alarming rate. The Food and Agriculture Organization (FAO) of the United Nations reports that 75% of global agrobiodiversity has been lost due to the adoption of "improved" varieties.

2. Farmer dependence. Hybrid seeds don't reproduce true-to-type, forcing farmers to buy new seeds each year. This creates a cycle of dependence on seed companies.

3. Skyrocketing seed prices. Some tomato seed varieties now sell for up to $450,000 per kilogram — more than double the price of gold.

The path to truly healthy food isn't through further industrialization or genetic modification. Instead, we must look to the wisdom of traditional farming methods, embrace biodiversity, and prioritize nutrient density.

4. Exploitative labor practices. To keep costs down, seed production is often outsourced to developing countries where child labor and below-minimum wage payments are common.

The Health Implications

The health implications of this nutrient collapse in our food supply are immense. Notice the following:

1. Increased risk of nutrient deficiencies. As fruits and vegetables contain fewer vitamins and minerals, it becomes harder to meet your nutritional needs through diet alone. This may contribute to the rise in deficiencies, particularly for magnesium and trace elements.

2. Reduced antioxidant intake. The dramatic drop in vitamin C, lycopene, and polyphenols means we're getting far fewer protective antioxidants from our produce. This could increase vulnerability to oxidative stress and chronic diseases.

3. Link to rising chronic disease. While many factors contribute to the increase in chronic diseases like heart disease and diabetes, the depletion of protective nutrients in our food supply plays a role.

4. Hidden hunger. Even people eating what appears to be a healthy diet rich in fruits and vegetables are getting far fewer nutrients than they realize. This "hidden hunger" greatly affects health.

5. Increased reliance on supplements. As food becomes less nutritious, more people will turn to dietary supplements to meet their nutritional needs. While supplements have their place, they're not a perfect replacement for nutrients obtained from whole foods.

Protecting Your Nutrient Intake

The loss of nutrients in our food supply is a silent crisis that demands urgent attention. By understanding the problem and taking action — both in our personal choices and by advocating for systemic change — we can work toward a future where our food nourishes us as nature intended.

The path to truly healthy food isn't through further industrialization or genetic modification. Instead, we must look to the wisdom of traditional farming methods, embrace biodiversity, and prioritize nutrient density. Our health, and the health of future generations, depends on it. Do the following:

- Choose heirloom and open-pollinated varieties when possible. These often have higher nutrient levels and better flavor than hybrid varieties.
- Grow your own. Even a small garden or a few containers provide incredibly nutritious produce.
- Support local farmers and farmers markets. Small-scale producers are more likely to grow nutrient-dense crops.
- Opt for organic. While not a guarantee of higher nutrients, organic produce is less likely to contain harmful pesticide residues.
- Eat a diverse diet. Don't rely on just a few fruits and vegetables. Incorporate a wide variety to ensure you're getting a broad spectrum of nutrients.
- Consider targeted supplementation. While whole foods should be the foundation of your diet, high-quality supplements can help. ❐

People Have An Inborn Nature Connection

Continued from page 2

Our connection to nature is right there in our DNA, imprinted from birth, which is the essence of the *biophilia hypothesis*, meaning "love of nature." We might say that our first parents, Adam and Eve, were given that innate love of being amongst the fruitful trees and animals when He "planted a garden eastward in Eden, and there He put the man He had formed."[2]

Healers within various medical systems — especially in India and China — have long advocated nature exposure as a form of medicine. In these healing systems the mountains, plants, trees, and bodies of water within natural settings are considered to be filled with health-enhancing energy. In fact, the Roman philosopher Cornelius Celsus stated that "Walking in gardens, exposure to rooms filled with light, staying close to water, and other nature-based activities were effective components of standardized plans to improve mental health and sleep."[3]

The Problem of Cities

Here in North America, where cities expanded rapidly in the 1900s, medical doctors began to prescribe nature exposure as a means of reducing stress and improving mental outlook. A researcher into these effects, Roger Ulrich, at Michigan State University, found that residents around Ann Arbor often skipped the expressway and took the long and scenic route out of the city, sacrificing time and gas for the peace and pleasantness of the countryside.

Ulrich continued his research into the ability of nature to influence stress physiology by evaluating heart, skin, and muscle. Using 120 undergraduate students who watched a stressful video, followed by another video of either a city or natural scenery, his measurements proved that

The beauty and energy of rushing water encourages healthful living and long life.

those who watched natural scenery recovered more rapidly from the stress induced by the first video.[4]

Early American naturalists like John Muir and Henry David Thoreau, who pioneered the national park system in the United States, touted the great value of people getting out into the natural world to relieve the stresses of city life. Thoreau described nature as a calming tonic and creativity booster, a place where "my nerves are steadied, my senses and my mind do their office."

Modern civilization, with its hurried pace, cell phones, television, and racing traffic have contributed to the mental health problems experienced by countless people through overstimulation, noise, smoke, and stench. The natural world is the antidote.

Chelsea Harvey, in her article summarizing a long-term Harvard study involving over 100,000 female registered nurses, revealed that, using satellite data to assess the amount of green vegetation surrounding each person's home, the people living in the greenest places within 800 feet of their home had a 12% lower mortality rate.[5]

Greater alpha wave activity in the brain and elevated serotonin production accompany closeness to nature. Your health will in many ways benefit by drawing close to the natural world. ❒

References

1. E. Selhub and A. Logan, *Your Brain On Nature*, Collins, 2012.
2. Genesis 2:8.
3. See 1.
4. See 1.
5. C. Harvey, Why living around nature could make you live longer, *Washington Post*, April 19, 2016.

Raoul Francé, a Founder of Organics

By Paul W. Syltie, Ph.D.

Adapted from www.willbrinton.substack.com, May 14, 2025.

Perhaps we should not be too dogmatic in accepting Sir Albert Howard as the sole iconic founder of modern organic agriculture. Raoul Francé, with his wife Annie, could easily be considered founders of organic farming, albeit across a German language barrier. The Francé's employed very different rhetorical styles and scientific philosophy leading to an alternate legacy for organics in the German-speaking world.

Raoul Francé (1874–1943), writing within the German-speaking sphere, took a far less bureaucratic approach than did Howard. His work in soil biology and the edaphon (the totality of soil life) placed biological complexity and observation at the center of agricultural reform. Unlike Howard, Francé was not affiliated with colonial administration, and his focus was on understanding soil as a living system, work that anticipated microbial ecology. His writings were infused with a different kind of ethos, grounded in deep observation and philosophical and empirical engagement with nature.

Francé developed a prolific and multifaceted body of work that extended across microbiology, soil ecology, systems theory, art, and philosophy. As the founder of what later came to be known as soil ecology or edaphology, Francé was not primarily a bureaucratic figure but rather a biocentric thinker whose approach to agriculture emerged from an intense observation of soil life and its systemic interrelations.

His "Doctrine of Life" was a holistic and ecological understanding of the soil, centered on the edaphon, an expression he famously coined, the complex community of soil organisms. This view was both scientific and philosophical, merging empirical research with a moral appeal for harmony with nature. ❒

15-Minute Soils Course

Lesson 61: A Closer Look At Soil Bacteria

In Lesson 60 we examined soil fungi. This lesson will focus on soil bacteria, tiny cells that are only about 4/100,000 of an inch (1 um) in diameter.

Soil bacteria are essential to soil and plant functions, and proliferate primarily along root surfaces where the energy from root exudates is released. A teaspoon of productive soil contains about 100 million to 1 billion bacteria, giving a mass about equal to a cow per acre.

Bacteria can be classified in several ways:

1. Shape. Rod, spherical, or spiral-shaped.

2. Aerobic or anaerobic. Aerobic bacteria require oxygen to survive, whereas anaerobes do not. Pathogens usually prefer low-oxygen conditions and will outcompete aerobes in these conditions. Aerobes are the most common types in agricultural soils and decompose organic compounds; these include *Aerobacter,* and also *Streptomyces*, a genus of actinomycetes which gives soil its "earthy" smell.

3. Gram negative or gram positive. When stained, the smallest bacteria are usually gram negative and are sensitive to drought stress, whereas gram positive bacteria are much larger and have thicker cell walls that are negatively charged. They resist drought better.

4. Autotrophic or heterotrophic. Autotrophs such as cyanobacteria and algae are photosynthetic and directly fix CO_2 from the atmosphere. Heterotrophs obtain their carbon from the soil environment or the cell they inhabit. *Arthrobacter* is one example.

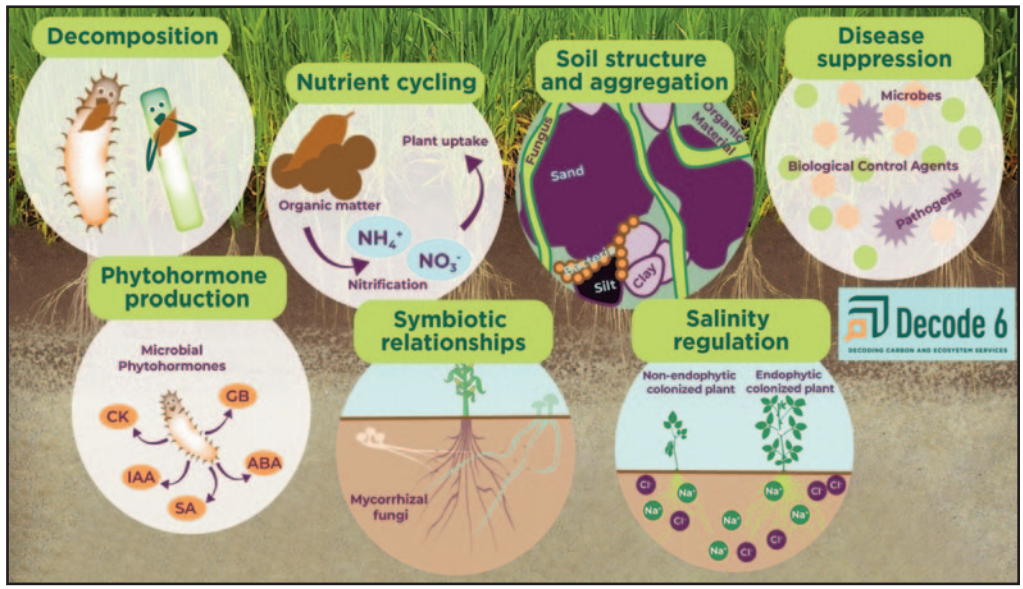
Functional Groups of Soil Bacteria

There are many functions that bacteria perform in soils. Here are some of the main ones.

1. Organic matter decomposition. Fresh residues from leaves and roots, or added manure or compost, are broken down by various soil bacterial types. The humic substances created are extremely critical for the building and maintenance of soil fertility, and contribute to the nutrient-holding power of the soil through added cation exchange capacity (CEC). The clay and silt fraction may produce a CEC of perhaps 15 to 30 meq/100 grams of soil, while organic matter can yield up 300 meq/100 grams of soil.

2. Soil aggregate building. Soil bacteria, along with fungi and other microbes, secrete various mucigels and polysaccharides that glue together clay, silt, and sand particles, creating the structural units that are so critical for air and water movement through the soil, for water holding capacity, and for plant roots to be able to more easily grow into the soil mass.

3. Nutrient storage and supply. Bacteria break down organic residues, releasing nutrient elements in available form for plant uptake. They also tie up soluble elements in their mem-

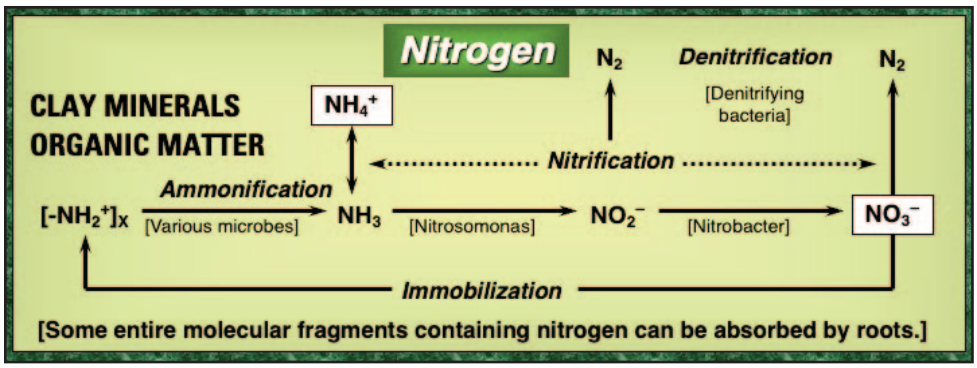


Soil bacteria play a pivotal role in the functioning of virtually all soil processes. (Figure courtesy of Decode 6, the American Society of Agronomy.)

15-Minute Soils Course

branes to reduce leaching loss.

4. Atmospheric nitrogen fixation. Free-living bacteria in the genera *Azotobacter*, *Azospirillum*, and *Clostridium* fix nitrogen into the soil, while mutualistic bacteria of the *Rhizobium* genus fix nitrogen symbiotically through root nodule formation.



The nitrogen economy of soils and plants is summarized here, with ammonification, nitrification, and immobilization (denitrification) all tied to bacterial activity in the soil.

5. Nitrogen conversions. During the nitrification process, nitrifying bacteria convert ammonia (NH_4^+) to nitrite (NO_2^-), and then to nitrate (NO_3^-). The protozoa and nematodes in the soil will consume bacteria and fungi, and then excrete ammonia to enable nitrification. Under anaerobic conditions as found in waterlogged or compacted soil, or within soil microaggregates, denitrifying bacteria will convert nitrate to N_2 or N_2O, which are gasses and will be lost to the atmosphere. Up to 60% of available soil nitrogen can be lost in saturated soils due to this activity.

6. Influence on pathogens and beneficials. When a plant is in some way compromised and weakened, certain bacterial strains will attack the tissues, a sort of "nature's cleanup crew." In the rhizosphere of healthy plants, certain bacteria will produce antibiotics that protect the roots from diseases, while outcompeting the pathogens for nutrients and habitat. *Streptomyces* produce more than 50 different antibiotics!

7. **Lithotrophic activity.** These "chemoautotrophs" get their energy from elements other than carbon, such as nitrogen or sulfur, and bacteria such as sulfur-oxidizing bacteria will make more sulfur available.

Encourage Bacterial Activity

It is imperative that farmers optimize the soil environment to encourage bacterial activity to speed organic residue breakdown, build strong soil structure, and make nutrients readily available. This can be done through minimizing tillage to insure that structural units are not ruptured, and that microbial communities are maintained. Bacteria are only one major group of microbes that inhabit soils; we must not forget the fungi — especially mycorrhizal fungi — protozoa, mites, nematodes, springtails, and other larger organisms such as earthworms and ants, which all are designed to work harmoniously in a properly managed soil. ❐

See How Much You Learned

1. Soil bacteria are critical for a. building structure, b. breaking down residues, c. making nutrients available, d. destroying tilth.
2. Bacteria that live off organic substrates are called _____ bacteria.
3. The vast majority of bacterial activity in soils occurs in the exudates of root surfaces. T or F.
4. A common symbiotic bacteria that produces nodules in legume roots is _____.
5. During nitrification, ammonium is converted to nitrate. T or F.
6. We can encourage proper bacterial action by a. limiting tillage, b. returning crop residues regularly, c. compacting the soil, d. applying biostimulants.
7. Streptomyces bacteria help protect crops by producing as many as 50 _____.

Answers: 1. a, b, c; 2. heterotrophic; 3. T; 4. Rhizobium; 5. T; 6. a, b, d; 7. antibiotics.

Some Useful Proverbs From the Farm

"Don't count your chickens before they're hatched."

Never assume success before it actually happens. In farming as in life, there are many uncertainties.

When a hen lays eggs, a farmer might be tempted to count those eggs as chickens already. But the truth is, not every egg will hatch successfully. In the wider context of life, the phrase warns against taking success for granted before it has been fully realized. It reminds us of the many variables and uncertainties that come into play in any situation.

"Make hay while the sun shines."

Take advantage of good conditions while you can. Opportunities may not last forever.

Haymaking is heavily dependent on dry conditions. After mowing the grass, farmers need about three clear, sunny days for the cut vegetation to dry out and become hay. If the hay is baled too soon, while it's still moist, it could spoil. Consequently, farmers must seize the opportunity provided by dry, sunny weather to make their hay. We should make good use of opportunities and favorable conditions while they last.

"Don't look a gift horse in the mouth."

Be grateful for what you have and don't find fault with something given freely.

The age and health of a horse were determined by examining its teeth. However, to inspect the mouth of a horse that was given as a gift was considered ungracious, as it implied suspicion or dissatisfaction with the gift. This idiom teaches us to accept gifts, opportunities, or even compliments with gratitude, without being overly critical.

"Life is simpler when you plow around the stump."

Sometimes it's easier to avoid problems than to confront them directly.

On a farm, when a farmer encounters a stubborn stump in the field, it might be much easier and less time-consuming to simply plow around it, rather than trying to remove it completely. It suggests that sometimes the best course of action is not to confront problems or obstacles head-on. Instead, it may be wiser, more efficient, or less stressful to find a way around them, to adapt our path rather than wasting energy on immovable obstacles.

"Good fences make good neighbors."

Clear boundaries lead to harmonious relationships.

This proverb highlights the importance of clearly defined boundaries in maintaining harmonious relationships. In the context of rural life, a well-maintained fence ensures that each farmer's livestock stay within his own property, preventing potential disputes over damage or trespassing. For people, the physical, emotional, and mental limits we set protect us from being manipulated and used.

"The rooster may crow but the hen delivers the goods."

Those who make the most noise aren't always the most productive.

In a chicken coop it's usually the rooster that makes the most noise. However, despite his vocal presence and splashy feathers, it's the hen that quietly lays the eggs, providing a tangible, valuable product. This saying suggests that those who talk the most or the loudest aren't always the ones who produce the most valuable results. ❒

Environmental Impacts of Pesticides

By Gauri Sharma

Although pesticides can enhance agricultural productivity in the short term, their long-term effects can undermine the sustainability of farming practices.

Over-reliance on chemical pesticides can lead to the development of resistant pest populations. As pests evolve resistance, farmers may need to apply increasingly toxic chemicals or higher doses, creating a vicious cycle that exacerbates the problem. This can lead to a scenario where the effectiveness of pesticides diminishes, prompting farmers to seek even more harmful alternatives.

The use of pesticides on crops carries with it serious consequences for the environment, and genuine health risks.

Additionally, the impact on soil health is a critical concern. Pesticides can disrupt the delicate balance of soil microorganisms that are essential for nutrient cycling and maintaining soil fertility. Healthy soil is vital for sustainable agriculture; its degradation can lead to decreased crop yields over time, requiring farmers to use more fertilizers and chemicals to compensate for lost productivity. This not only increases costs for farmers but also contributes to further environmental degradation through nutrient runoff and soil erosion. Smallholder farmers may face increased costs due to the need for more inputs, and the economic burden can lead to a cycle of debt and poverty, particularly in developing countries where access to alternative pest management strategies is limited.

The environmental impact, human health risks, and agricultural sustainability issues associated with pesticide use highlight the need for a re-evaluation of pest management practices. Exploring alternative methods, such as integrated pest management (IPM), organic farming, and biological controls can help mitigate these problems while ensuring food security and protecting both human and environmental health. ❒

www.earth.org — January 13, 2025

Plant Biostimulants to Lessen Abiotic Stress

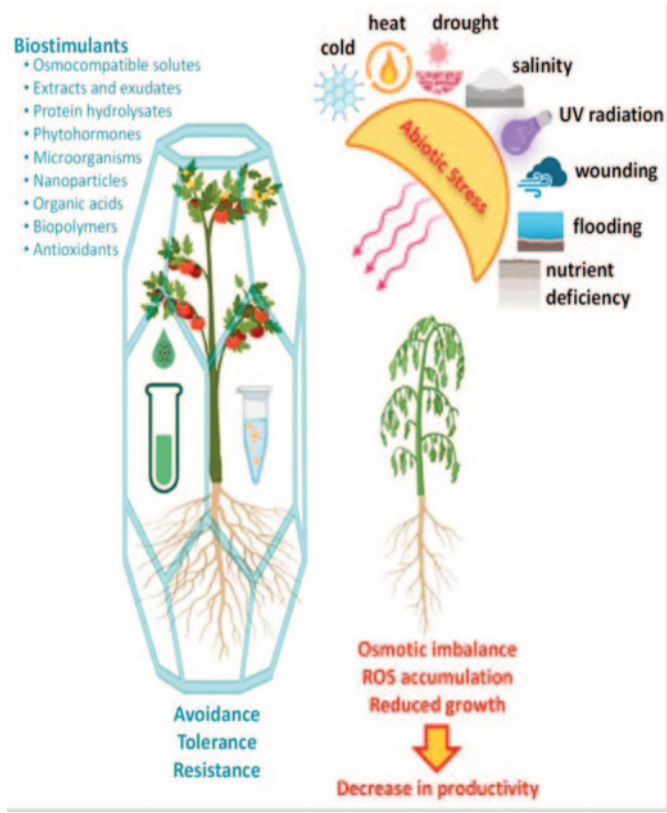
By L. Di Sario, P. Boeri, J. Matus, and G. Pizzio

Int J Mol Sci. 26(3):1129,Jan. 28, 2025.

In light of the increasing challenges posed by abiotic stressors and the urgent need for sustainable agriculture solutions, biostimulants are emerging as a powerful tool for enhancing crop resilience and productivity. These versatile substances, encompassing a wide variety of organic compounds and microbial formulations, offer a diverse array of applications that contribute to agricultural sustainability. Biostimulants play a pivotal role in hormonal regulation, antioxidant defenses, and metabolic adjustments, thereby exerting a multifaceted influence on plant physiology. Whether addressing drought, salinity, extreme temperatures, or nutrient deficiencies, biostimulants demonstrate remarkable potential to ameliorate these stressors and promote sustainable crop production. To fully harness their potential, a holistic and interdisciplinary approach to the optimization of biostimulants is essential. This includes tailoring formulations to specific crops and environmental conditions, integrating their use into precision farming practices, and developing innovative application methods. Continued research and technological advancements will be instrumental in realizing the full promise of biostimulants as key components of resilient and environmentally sustainable agricultural systems. As we look to the future, biostimulants are positioned to play a transformative role in shaping the next generation of global agricultural practices.

Optimizing Biostimulants for Sustainable Crop Production

The future of biostimulant research and application lies in their seamless integration into precision agriculture practices. By leveraging advanced technologies such as remote sensing, drones, and data analytics, it is possible to enable targeted and site-specific applications of biostimulants. This approach not only optimizes resource utilization but also enhances the efficacy of these substances while minimizing environmental impact.



As our understanding of the underlying mechanisms of biostimulant mechanisms action continues to evolve, new opportunities are emerging to tailor formulations to the specific requirements of different crops and environmental contexts. Customized biostimulant blends, combining synergistic organic and microbial components, have the potential to maximize their benefits and address unique challenges faced by diverse agricultural systems. However, despite the recognized potential of biostimulants, they remain a "black box" in terms of fully understanding the complexities of their mechanisms of action. Future research must focus on elucidating the mechanisms by which these biostimulants enhance plant performance, thereby enabling the development of more targeted formulations. ❒

Statement of Purpose

Vital Earth Resources is a for-profit private corporation dedicated to the development, production, and sale of top-quality, ecologically sound horticultural and agricultural products. *The Vital Earth News* is a periodic publication of Vital Earth Resources to inform customers and other interested parties about our products and programs, and to educate our readership on critical issues facing growers today and in the future.

For further information ...

Stay tuned to our website for the next edition of *The Vital Earth News*! You can find current and back issues at *vitalearth.com/vernews,* and keep up to date with the latest information, product news, and announcements at *vitalearth.com/newsandevents*. If you are interested in purchasing our products, or for other correspondence, please email us at *info@vitalearth.com*.

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Thank you! The Team at Vital Earth Resources, Inc.

Avocado and Lettuce Trials in Chile Prove Highly Effective

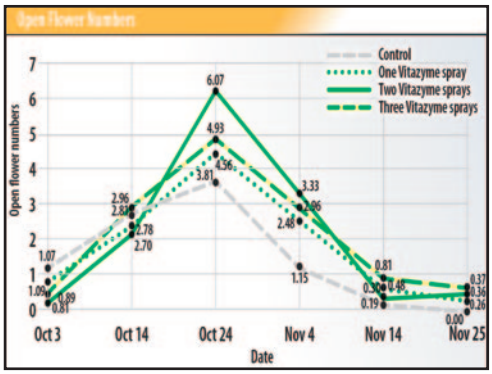
Both avocados and lettuce performed very well in Chile, with trials conducted in Santiago and Valparaiso in 2024. The results below speak for themselves.

AVOCADOS

The number of open blossoms increased with all three Vitazyme applications, 1.5 liters/ha spaced one week apart, on October 24, especially with two sprays. This result shows an acceleration of fruit production. The weight per fruit also increased the most with two Vitazyme applications by about 19 grams. Moreover, the percentage of large fruit was enhanced by all three applications, by an amazing 64% with two applications.

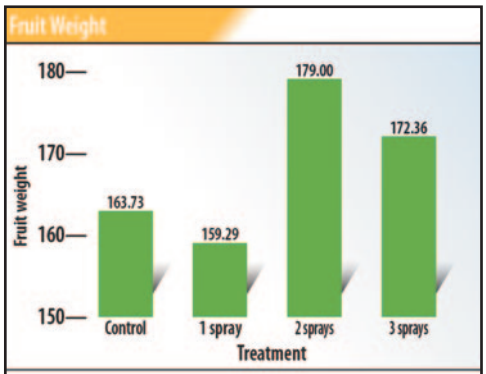
LETTUCE

Lettuce received 0.5 liter/ha at five dates spaced about one week apart. Evaluations of the heads from the control and treated heads showed remarkable differences, the head grade for the Vitazyme treated lettuce being 230% greater for Grade 1 heads, and with a 39% reduction in unmarketable heads.



Change in lettuce head quality with Vitazyme

Grade 1	+230%
Grade 2	-45%
Unmarketable	-39%



Change in large fruit with Vitazyme

One Vitazyme spray	+23%
Two Vitazyme sprays	+64%
Three Vitazyme sprays	+27%