

Life Sciences Review

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**AGRICULTURAL
BIOTECHNOLOGY**
EDITION

RICHARD TUTTLE,
SUPPLY CHAIN
MANAGEMENT AND
DISTRIBUTION

TYLER TUTTLE,
CCO

KELLY TUTTLE,
PRESIDENT &
CHIEF EXECUTIVE
OFFICER

PHARMGRADE

**LEADING THE WAY FOR SUSTAINABLE
AGRICULTURE WITH PROBIOTIC SOLUTIONS**

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LEADING THE WAY FOR SUSTAINABLE AGRICULTURE WITH PROBIOTIC SOLUTIONS

COVER STORY

The U.S. is home to some of the most expansive and fertile farmlands that dot the country's rural landscape. To support the nation's large-scale food production goals, foster wealthier ecosystems, and ensure thriving soil fertility, sustainable farming practices have been gaining prominence over recent years. As environmental stewards, farmers are now pivoting from chemical inputs to effective multi-strain biofertilizers to succeed in their eco-friendly and sustainable agriculture initiatives.

As a staunch advocate of sustainable agriculture, Idaho-based Pharmgrade offers breakthrough, probiotic multi-strain biologicals to help farmers and farming corporations ensure superior soil health and increased fertility.

Pharmgrade's multi-strain biologicals have a clear advantage over single-strain inoculants that are comparatively ineffective in restoring biodiversity in the soil after repeated cultivation. Probiotic biologicals composed of beneficial consortia of bacillus, pseudomonas, and fungi significantly improve crop growth even under hostile growing conditions while enhancing and maintaining soil fertility.

"Instead of utilizing a single strain of microbes to fight a disease, we introduce a biodiverse broad spectrum of around 20 to 25 different strains of bacteria and fungi to replenish the beneficial microbiology in the soil," says Tyler Tuttle, Chief Commercial Officer of Pharmgrade.

Pharmgrade's cost-effective, concentrated eco-solutions can boost the yield of any cropping system,



KELLY TUTTLE,
PRESIDENT & CHIEF EXECUTIVE OFFICER

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With end users deriving the best value out of our products and distributors being happy with the profit margins, we can build on our business and grow it quickly

including trees, vines, traditional row crops, as well as cereal and grass applications, potatoes, wheatgrass, and alfalfa, enabling growers to achieve high ROI. The proprietary, research-backed blends combine pharmaceutical grade naturally occurring microbes with energy sources and metabolites to improve nutrient availability in the soil, fight diseases, stimulate plant growth, and reduce plant stress to improve crop quality.

How it all Began...

Pharmgrade’s multi-strain products are the culmination of years of research and innovation. Founded in Central Utah

by Kelly Tuttle in 1985, the company has



RICHARD TUTTLE,
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been uncovering newer ways to bestow growers with the benefits of organic fertilizers ever since its inception. Kelly’s deep-rooted experience in farming played a crucial role in laying the cornerstone of Pharmgrade.

Driven by a scientific mindset and intellectual curiosity, Kelly started looking for applications to restore biodiversity in the soil to increase crop yields by replenishing beneficial microbes on a large scale. In doing so, he led the Pharmgrade team to experiment with various methods like composting and liquid brewing and create products that were well-received in the market.

Fast forward to 2015, Pharmgrade had decided that a more scalable solution was needed than composting could

offer and had developed a comprehensive suite of products and expanded into most Western states. To deliver products to the agricultural fields in a timely manner, the company started working with wholesalers and retailers.

Today, Kelly serves as Pharmgrade’s Chief Science Officer, researching new organisms with the same vigor and developing novel products. He is strongly supported in his endeavors by Richard Tuttle, the Chief Operating Officer, who manages the backend logistics and breweries and oversees production. With Kelly, Tyler, and Richard at the helm, the family-owned business is positioned as a trusted partner for its customers by delivering only the best.

Making a Mark with Winning Products

Pharmgrade’s strong reputation in the industry stems from its appetite for innovation, enabling it to develop products marked by unsurpassed quality standards.

Pharmgrade’s flagship product, marketed under the labels EXPONENT and VITA, adds a whole new dimension to soil fertility. It is a microbial inoculum that improves nutrient availability, acts as a biocontrol agent, promotes plant growth, and reduces plant stress.

Pharmgrade’s DOMINATE is a highly concentrated soil probiotic that replaces harsh soil fumigants. DOMINATE has emerged as a disruptive technology in the row crop farming space due to its ability to produce phenomenal results as opposed to traditional chemicals that antibiotically sterilize the soil. The product dominates the soil with beneficial microorganisms through competitive exclusion to eliminate pathogens.

As an alternative to chemical fertilizers, DOMINATE is one hundred percent organic and highly economical. The product reduces the application of chemical fertilizers to potato crop systems by as much as 80 percent.

Pharmgrade demonstrated the potential of DOMINATE to the fullest when it helped one of the largest potato growers in Idaho. The client was contracted with a major French fry producer to supply a certain quantity of blocky potatoes, but they discovered that the soil was unsuitable for producing this specific variety. The Pharmgrade team came to the rescue and applied DOMINATE on the client’s field just a month before the planting to rev up the soil biologically. As a result, the client could successfully reap, on average, 510 bags of 6 to 12 ounce-sized good, blocky potatoes per acre. Without using chemicals and soil fumigants, the client realized greater profits, and McCain was impressed with the harvest.

Pharmgrade Nitros—a nitrogen-fixing bacteria solution—pulls the maximum quantity of nitrogen out of the air and makes it available to plants. With Nitros, the company provides growers with an organic nitrogen source and helps them drive down costs as they don’t have to rely on chemical nitrogen fertilizers. Equally impressive is Pharmgrade Exponent, a multivitamin-like approach for plants that invigorates soil fertility and plant growth.

Pharmgrade’s products increase nutrient availability, feed and sustain microbes in the soil, regulate plant growth, and reduce abiotic stress through four mechanisms.

By solubilizing phosphates in the soil and converting them into a form that plants can easily absorb, Pharmgrade’s biofertilizers drastically improve nutrient availability for crops.

On the other hand, biocontrol involves the elimination of disease-causing organisms through direct predation by introducing microbes secreting antibiotics in the soil or introducing enough good bacteria or fungi to starve the pathogens.

Through a symbiotic relationship between the microorganisms and plants, Pharmgrade stimulates the release of essential growth hormones in plants to regulate growth and improve overall crop health.

At the same time, reduction of salt, drought, wind, and heat stress on crops (abiotic stress) leads to higher quality products and increased profitability for cultivators.

Customer-Centricity at the Core

The key to Pharmgrade’s success is its grower-centric model. The company’s solutions fit within the farmers’ existing logistics, be it for a few hundred acres of land or a massive thousand-acres corporate farm. Pharmgrade has engineered ways to help growers protect and

store its products and organisms in a dormant state and apply them by mixing them in a tank with fertilizers currently in use.

Customers can apply Pharmgrade products through liquid injection at the time of planting, spray them with other fertilizers ready for application, or apply them through injector pumps during irrigation. In this way, growers get both fertilizer and biological boost in the same package delivered close to the seed. When mixed with water and sprayed on crops, the products fight diseases affecting the leaf canopy on a crop. Growers are seeing about 25 percent better germination with the application of Pharmgrade products.

Partnership with Valley Agronomics—Pharmgrade’s Competitive Advantage

Pharmgrade works with reputable agricultural retailers and distributors to bring its products to its customers. The company has partnered with Valley Agronomics—a leading supplier

of agricultural inputs—to market VALLEY BIOS, which by volume must be among the highest selling biological products on the market today. Pharmgrade sells its products to Valley at a wholesale price and delegates its sales representatives to train the certified crop advisors or field men at Valley on how to market and sell VALLEY BIOS products to end-users.

“With end users deriving the best value out of our products and distributors being happy with the profit margins, we can build on our business and grow it quickly,” remarks Tyler. An enduring partnership with a high-growth company like Valley acts as a key business enabler for Pharmgrade. By pairing its expertise with Valley’s thought leadership, Pharmgrade is geared to hit newer business milestones.

Paving the Path for a Successful Future

What steers Pharmgrade ahead of its competitors is its team of exceptionally talented, hard-working professionals with an appetite for excellence. Partnerships with fertilizer suppliers and retailers like Valley Agronomics and Mid Valley Agricultural Services also play a key role here.

With sights set on expansion, Pharmgrade is focusing on adding new distribution partners to cater to large growers in that region. The company is also looking to wet its feet in the cannabis industry, as its products are highly effective for fully organic cannabis cultivation. It also aims to build new breweries in California and Washington within the next few years.

With a steadfast commitment to providing future generations with healthy, sustainable soils, Pharmgrade continues to do what it does the best—research and develop breakthrough probiotic agricultural solutions. [US](#)

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