

Biological Boom: Businesses Explore Ways to Take Advantage of the Rush to Adopt Sustainable Solutions



By Dan Jacobs (<https://www.croplife.com/author/jacobs/>)

October 29, 2021

“The current state of biological products is best summarized as ‘on fire,’” says Bodie Kitchel, **Biodyne** (<https://biodyne-usa.com/>), BW Fusion National Director of Agronomy. “So many companies are getting into the mix, traditional chemical companies and venture capital startups; the biological realm as a whole might be the fastest growing segment in agriculture right now.”

The excitement around biological products is understandable for anyone that’s been paying attention to that part of the ag industry.



One key advantage to biologicals as part of a regular IPM program is their ability to tank-mix and rotate with other biological products and conventional chemistries, making applications efficient and, in instances, even synergistic. Photo Courtesy: Certis Biologicals

“Biologicals are full of potential, both the products themselves and the state of the biologicals industry as a whole,” says Chris Judd, Global Vice President of Marketing, **Certis** (<https://www.certisbio.com/>). “Bio-based solutions are the tools that many growers need right now, not only to protect their crops and their investments, but also to address some of the biggest issues they face right now, like resistance and changing consumer preferences.”

For manufacturers and retailers, the growth of these products can translate into sales and increased profits.

“The biological and biostimulant categories are growing rapidly. Ag retailers and growers are looking for supplier partners to help guide them to the products with modes of action that best fits their portfolio or operational needs,” says Dr. Karl Wyant, Vice President of Ag Science, **Heliae** (<https://phycoterra.com/>). “Companies that have made investments in basic product characterization (e.g., rates and timings), compatibility, and mode of action studies will prove themselves out to be key partners moving forward. Heliae Agriculture has invested significant dollars and has over 13 years of research and development dedicated to commercializing a sustainable portfolio of products that promotes healthy soil and healthy profits.”

Perhaps once a buzzword, sustainability has crossed into a new realm. These products work as advertised, have the science to back up manufacturers’ claims, and deliver on their environmental promises.



A loader at the AZOMITE source mine releases material into the transport truck before hauling from the mine to the plant. Photo Courtesy of Azomite

“Biologicals are a quickly evolving and important part of the marketplace as growers rely more heavily on solutions that draw from or replicate, nature’s own processes,” says Jim Phillips, President and CEO, **AZOMITE Mineral Products Inc** (<https://azomite.com/>). “This is a dramatic shift and is just one more indicator of the industry’s focus on being great stewards of the environment and is an additional benefit of the ongoing effort for sustainability in agriculture.”

Market Drivers

“The biggest driving force right now is sustainability, and pro farmer efficiency, doing more with less,” Kitchel says. “The biggest resistance among growers and retailer is truly the lack of understanding from my perspective. You don’t know what you don’t know.”

Sustainability is certainly one issue driving biological product growth, but there are many others.

“There are a number of factors that range from regulatory shifts, to heightened consciousness of environmental concerns from consumers,” Phillips says. “Of course, the ultimate driver is the ever-present need to improve quality and yield and feed a growing population worldwide. Biologicals can play a role in all of these areas.”

Traditional chemicals are leaving (or being forced out of the market) and fewer of those products are coming to market than they did in the past. Biologicals can be one solution.

“Ag retailers are looking for new products that will provide new and differentiated modes of action in the field,” Wyant says. “Product compatibility is key as ag retail seeks to add new components to existing blends. Growers are looking for new products to help improve their crop yield and quality, all while minimizing interruption to existing field logistics. Perceived ag retail/grower disinterest is related to the category growing quickly with many new products being launched into the market today. Many of the products do not have a clearly defined mode of action or do not fit within the broader production system.”

According to Certis’ Judd, giving the constraints imposed on traditional crop inputs, biologicals provide retailers and their customers choices.

“In some ways, growers, retailers and distributors are attracted to biologicals as a choice for them in an overall landscape where the number of choices is being reduced,” he says. “Through resistance, regulatory and even social pressures, growers are losing some of the tools that they’ve relied upon for their whole careers. For them, biologicals offer more choice whether they are growing organic or conventional acreage.”

According to Mike Allan, Certis’ Vice-President, North America, the increased interest in organic offerings has help drive biological solutions.

“The trend toward more organic production is leading to the increase in biological adoption. The majority of our portfolio of bio-based solutions are approved for use in organic agriculture, though they are widely used on conventional acres as well. Our products are proven and reliable, with years of research and expertise in usage behind them. For organic producers, our solutions are an easy choice to protect their crops effectively while maintaining the strict organic standards.”

Opportunities

“There are considerable opportunities in matching product compatibility to proven crop production programs,” Wyant says. “New biological/biostimulant products that can add a new mode of action to existing practices are in a prime position to move ahead. The PhycoTerra branded products (Conventional, Organic, Seed Treatment) are popular due to their excellent compatibility with crop and seed inputs, along with the unique mode of action the products deliver to the field by feeding the dormant native microbes in the soil or around the seed.”

For AZOMITE’s Phillips suggests, every challenge is an opportunity.

“The last couple of years have exposed a number of challenges for the industry,” he says. “As usual those challenges are opportunities if we can find suitable solutions. One example is the changes in climate and weather patterns. Addressing the underlying challenges, such as drought, will present significant opportunities in the future. The ongoing movement towards controlled environment agriculture has the potential to enhance supply chain logistics and the way products are produced. In general, innovating solutions for quality and quantity crop production in the face of nature’s obstacles will be a continuing theme.”

The more retailers and growers understand about the soil biome, the more popular these products will become.

“The biggest opportunity in biologicals is the opportunity to educate and help growers understand that for years we’ve neglected the biological aspect of our soils and the opportunity to work with growers to see what happens to their efficiencies when biology is incorporated in the program,” Biodyne’s Kitchel says.

Even with the rapid growth and increased insight into the nature of these natural products, there is still much to learn.

“The growth of biologicals over the past decade has been staggering and there is still so much room for development,” Certis’ Allan says. “Adoption rates globally are behind those of North America, but those growers, especially in Europe, are facing more severe regulatory pressures than in the U.S. Over the coming years, we expect those growers will turn more to biologicals because they need reliable, proven tools to protect their crops that also meet the strict regulatory guidelines.

“In the U.S., we have seen significant usage of biologicals in the specialty crops markets while the row crop segment has relied more upon traditional synthetic chemistries,” he continues. “We now are beginning to see a shift in that sector, with both conventional and crops utilizing biological solutions and growers needing diversity in their IPM programs.”

Obstacles

Even with the growing interest in biological products (and in some cases because of it), there are some questions facing the market segment.

“Reputation management is key for this product category. Unfortunately, many companies in the biological/biostimulant space have not made substantial investments into understanding how their products work or how they will interact with other ag inputs (e.g., fertilizer, insecticide/fungicide seed treatments, etc.),” Wyant says. “This lack of focused investment has hurt the overall reputation of the biological/biostimulant segment due to wide variability in performance, clogged

tanks, poor shelf life, etc. of these products. Companies like Heliae Agriculture that have made significant investments into understanding how our technology fits into crop production programs will have to lead the way in regaining product trust in this space.”

Growers are notorious for their “wait-and-see” approach to new offerings. To overcome that requires evidence and knowledge.

“Education is a challenge that we face each day, both in new adoption and with growers who are still inexperienced with biologicals,” Judd says. “Biologicals are not synthetic chemistries. While they are different, they are still strong, reliable tools that growers can depend on to protect their livelihoods and also the environments in which they grow. At Certis Biologicals, education is the backbone of how we serve our channel partners and our end-use customers. It’s why we have one of the most experienced sales and field development teams in the business and it’s why we continue to strengthen that team with new positions, new expertise, and new ways of thinking. It’s also why we are investing in new educational tools and resources to help provide an additional source of information for growers and distribution and retail partners.”

Biodyne’s Kitchel shares another concern. There is money to be made, and that draws both new and old players into the market. That has the potential to throw a wrinkle or two.

“The biggest threat to the biological market is the sheer volume of companies coming in,” says Biodyne’s Kitchel. “Biology is the new sexy thing to talk about within crop production, but with all of these companies coming in, if they aren’t managing grower expectations the biological segment as a whole can get a major black eye.”

Regulatory Update

“Regulatory changes are expected to shake things up,” Heliae’s Wyant says. “Products that have been making plant health claims will likely have a challenging pathway moving forward if forced to register as a plant growth regulator (PGR). This will add considerable expense and time to new product launches once the regulatory dust settles but, on the other hand, could bring some clarity the category needs.

“A clear pathway towards approval for unique modes of action (e.g., soil microbial food) and new official product categories would provide substantial benefits for suppliers in this space,” Wyant continues. “As it stands, many products are placed in either the soil amendment or fertilizer categories, which completely obscures the actual mode of action and makes it difficult for growers to differentiate among available products.

It’s certainly not just growers and retailers that have shown an interest in biological products.

“As the use of biologicals in food production grow, so do their regulatory scrutiny,” says Certis’ Judd. “We see the regulatory framework for biologicals gaining more clarity globally, and we welcome this. “Biologicals face the same rigorous testing by regulatory agencies as traditional chemistries and, while we support testing and we stand behind the safety and efficacy of our products, we believe that a more tailored approach is necessary if we are going to be able to continue bringing new products to the market to meet the rising demand for them. It’s time for regulatory bodies to diversify the yardsticks by which agriculture crop inputs are measured.”

Manufacturers’ Role

For Biodyne’s Kitchel it’s about managing expectations. “We must understand that when dealing with living microbes there are conditions that affect the success or failure of these products,” he says. “It’s not as simple as put biology in get X out. It’s a complicated system. At Biodyne we are proud in the fact that we are an education company that isolates, formulates, and ferments 100% non-pathogenic microbes. But for us it all starts with education first.”

Wary growers know what they’re getting when it comes to traditional crop inputs. When it comes to newer solutions efficacy is just important (if not more so) than the environmental benefits these products offer.

“It is imperative that we do our homework and make sure that we have done the necessary work and testing before a product goes to market,” says AZOMITE’s Phillips. “Products must perform as advertised so the entire segment doesn’t get a ‘black eye.’ Having done all the necessary legwork, research, development and testing cycles reduces hesitancy in the end user. Our goal should be for our products to be easily incorporated into the industry with known performance improvements.”

To get the same result as their traditional counterparts, the application process for biological products is often more involved.

“Education is a key component as this segment of the market matures,” Wyant says. “Suppliers need to help ag retail and growers best understand how their product fits their operations and help them best understand what benefit the product mode of action provides. Education will help growers adopt these innovative agricultural practices and encourage product stewardship so ag retail and grower goals can be best matched to the product active ingredient.”

Besides helping those down the supply chain better understand the value of biological products, manufacturers must ensure they don’t become complacent.

“As manufacturers and distributors of biologicals, we believe that the best support we can provide the industry is to work toward its successful future,” says Certis’ Allan. “We believe this comes in the form of leading efforts to provide education for retailers, distributors, and growers about biologicals and their benefits. At Certis, we are working on developing new tools and resources for growers to enhance education about usage and adoption. Also, we believe that we cannot rest on the products and manufacturing infrastructure we have now, but we need to continuously invest in new technologies and new innovations. Robust development of new active ingredients and new formulations for products and new manufacturing technologies are a cornerstone for a strong future.”

A Look Ahead

“It will continue to go up and to the right with continued growth,” AZOMITE’s Phillips says. “It’s a part of the overall sustainable movement that isn’t going anywhere. There has always been a special stewardship in agriculture and new tools will continue to be developed to support it. Biologicals are a welcome part of supporting this continuing trend.”

One can imagine that the feeling around biological products matches the early days when mass-produced chemical first entered the market.

“If the industry continues on this growth trajectory, it will be a future with limitless potential, Allan says. “At Certis Biologicals, we are most encouraged that our future is beginning to be built on more sustainable practices. Because biologicals are from nature, they can be a part of that future in a way that other products cannot. We have been working toward this kind of future for more than two decades and we are energized in our efforts by the support we are receiving by end-use consumers of food and fiber and by the growth of the industry.

“I am confident that this space will continue to grow, but the landscape will look much different,” he continues. “As it stands now, the landscape is cluttered. Ag retail and customers are confused about how to move forward. In five to 10 years, I expect the demand from the field and a tighter regulatory environment will help separate the contenders from the pretenders. Those suppliers with active research and development teams, robust product innovation pipelines, and a commitment to solid agronomic principles will win in this category.”

Biodyne’s Kitchel offers a simple-to-understand (though perhaps harder-to-execute) road map to that “winning.”

“My challenge to growers and retailers that are looking to start utilizing biologicals is simply ask questions, and have a goal in mind,” he says. “To best know how to get the most out of your biological investment, you need to have a clear path in your mind as to what you’re looking to accomplish with them.”

SUBSCRIBE TODAY FOR

CropLife News



The nation's brand leader in ag retail communication.

© 2021 Meister Media Worldwide

[Crop Inputs \(https://www.croplife.com/crop-inputs/\)](https://www.croplife.com/crop-inputs/) | [IRON \(https://www.croplife.com/iron/\)](https://www.croplife.com/iron/) |
[Management \(https://www.croplife.com/management/\)](https://www.croplife.com/management/) | [CropLife 100 \(https://www.croplife.com/croplife-top-100/\)](https://www.croplife.com/croplife-top-100/) |
[Webinars \(https://www.croplife.com/webinars/\)](https://www.croplife.com/webinars/) | [Special Reports \(https://www.croplife.com/special-reports/\)](https://www.croplife.com/special-reports/) |
[Subscribe \(https://www.croplife.com/subscribe/\)](https://www.croplife.com/subscribe/) | [Advertise \(https://www.croplife.com/advertise/\)](https://www.croplife.com/advertise/) |
[Contact Us \(https://www.croplife.com/contact/\)](https://www.croplife.com/contact/) | [About \(https://www.croplife.com/about/\)](https://www.croplife.com/about/) |
[Terms of Use \(https://www.meistermedia.com/policies/terms-of-use/\)](https://www.meistermedia.com/policies/terms-of-use/) |
[Privacy Policy \(https://www.meistermedia.com/policies/user-agreement-and-privacy-policy/\)](https://www.meistermedia.com/policies/user-agreement-and-privacy-policy/) |
[Reprint Permissions \(https://www.meistermedia.com/policies/reprint/\)](https://www.meistermedia.com/policies/reprint/) |
[Meister Media Worldwide \(https://www.meistermedia.com\)](https://www.meistermedia.com/) |
[Meister Custom Marketing \(https://www.meistermedia.com/meister-custom-marketing/\)](https://www.meistermedia.com/meister-custom-marketing/) |
[Log In \(https://www.croplife.com/login/\)](https://www.croplife.com/login/)