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Biologicals M&A Boom Begins To Bear Fruit

October 2, 2016, by Jackie Pucci, Managing Editor for Farm Chemicals International magazine, a Meister Media Worldwide publication.

There's a widely held belief in the crop protection world that when multinationals dived into the biologicals space it legitimized the industry.

"Companies that weren't in the biopesticide industry before are seeing growth, and they want to get involved. You see that energy at industry events," says Rick Melnick, Valent BioScience's Global Marketing and Brand Manager.

"And when businesses grow," Melnick adds, "they have more money to spend on R&D."

The M&A biologicals boom of the past few years "has affected R&D to a great extent," says Juergen Huff, who heads the Functional Crop Care Business for BASF, which acquired U.S. biological seed treatment firm

Becker Underwood for \$1.02 billion in late 2012.

To illustrate, he offers some examples of new products BASF is launching to growers worldwide, including its foliar biofungicide Serifel. BASF used existing formulation technology to reduce use rates for the product by increasing spore counts — the "active ingredient" in biological terms, Huff explains. The company has also made "great progress" in its foliar bioinsecticide research.

"Shelf life is increasing, stability is increasing and we are increasing the number of living organisms in these (biological) products," Huff tells CropLife® magazine. "It's a very nice and productive marriage between the pipelines that came out of the smaller players and the ideas that went in at an early stage of the advanced research that you find in the big R&D companies in agriculture."

Higher investments in R&D from companies like Bayer CropScience, Novozymes and Monsanto BioAg, and BASF have accelerated product development, "particularly field trials and also screening for discovery of new microbes," says Pam Marrone, CEO and Founder of Marrone Bio Innovations. Marrone says her company continues to invest heavily in R&D to support formulation and process enhancements of its existing products, Grandevo, Venerate, and Regalia, and move ahead its pipeline.

A Japanese Pioneer

When it comes to timing and foresight, Sumitomo Chemical Co. perhaps beat all of them, and it has reaped the benefits. The Japanese giant shrugged off the once prevailing view of biologicals as a dubious "replacement" for synthetic chemicals and snapped up Abbott Laboratories' Ag Specialties business, which became Valent BioSciences, in 2000 — a decade before its competitors began their M&A blitz.

From the moment Valent opened the doors to its Osage, IA, biorationals facility in June 2014 — the largest of its kind in the world — it instantly went into overdrive trying to keep up with unforeseen huge demand. The \$146-million plant supplies the majority of the biorational leader’s products derived from fermentation. The company is now “looking seriously” at expanding into biofungicides, Melnick says.

“The industry is very receptive to the notion of biopesticides now. Before it was either-or (conventional chemistries or biopesticides), but they were never intended to work that way. They work together in a program and each has an important role,” he says.

Today, co-developing biologicals and conventional products with the goal of bringing solutions to the market that work together is a given. “That’s a key change you’ll see in the next five years, with (biological acquisitions by) Bayer, Syngenta, BASF ... They are bringing a complete portfolio of solutions to the grower,” adds Melnick.

One of the products that emerged since the BASF-Becker Underwood integration is Xanthion, an in-furrow fungicide for corn that is a chemical-biofungicide combo.

Still Room to Grow

The \$2-billion biopesticide market is outperforming nearly every other segment in ag with an estimated compounded annual growth rate at 17%, fueled by tougher regulatory and MRL standards, and a constant appetite for new modes of action on the back of weed resistance and neonicotinoid bans.

Sara Olson, Analyst with Lux Research in Boston, MA, says that the major agrochemical companies’ internal R&D spending for biologicals is “not so impressive as their acquisition and open innovation spends,” but in any case, they are finally taking a serious look at developing biologicals for crop protection.

It is still early for biologicals in terms of legitimate market attention from major players, Olson points out. Whereas the vast majority of conventional agrochemicals come from six major companies, it takes nearly 60 biopesticide companies to make a majority of biologicals today. This is due in part to the relative youth of the industry, but also due to the significantly lower barriers to entry for biological crop protection compared to conventional.

“With typical R&D budgets for biopesticides near 10% that of a conventional synthetic, it’s no wonder smaller companies are still able to compete with the majors,” she says.

Another factor in strengthening biological pipelines: Consumer demand for organics. Sales of organic food and non-food products in the U.S. alone hit a record \$39.1 billion in 2014, up 11.3% from the previous year, according to the Organic Trade Association. Organic sales now near a 5%-share of the total food market.

“The organic industry would not be able to grow at that rate without biopesticides, there is no doubt about that,” Melnick, who also chairs the Biopesticide Industry Alliance, says. “As the organic industry has grown, we see a ton of growers that are producing both conventional and organics. A byproduct of that is that growers gained experience with biopesticides and they’ve found ways to incorporate them into conventional acreage as well. It’s a global phenomenon.”