



INTERVIEW

Tim Damico, Certis USA

By Joe Kertzman, Managing Editor, *Badger Common Tater*

NAME: Tim Damico

TITLE: Executive vice president—
North America

COMPANY: Certis USA

LOCATION: Columbia, MD

HOMETOWN: Turtle Creek, PA

YEARS IN PRESENT POSITION: 10 years

PREVIOUS EMPLOYMENT: Thermo Trilogi (now Certis USA), Great Salt Lake Minerals (now Compass Minerals), Ciba-Geigy (now Syngenta) and Southern States Coop

SCHOOLING: B.S. degree in horticulture, Pennsylvania State University

ACTIVITIES/ORGANIZATIONS: Biological Products Industry Alliance (BPIA) Board member and committee chair, and Sacred Heart Church

FAMILY: Wife, Andrea, and one married daughter, Kaylee Haupt

HOBBIES: Landscaping, golf, kayaking, searching for sea glass and watching Penn State sports

An early leader in the development of biological and botanical pesticides in the mid-1990's, Certis USA manufactures and distributes a broad line of biopesticide products for the specialty agriculture, horticulture, and home and garden markets.

The predecessor of Certis USA was Thermo Trilogi Corporation, a company created in the '90s through a consolidation of several pioneering biopesticide companies, including Grace Biopesticides of W.R. Grace & Co., AgriDyne, Biosys, Crop Genetics, and the Bt (*Bacillus thuringiensis*) businesses from Sandoz, Ciba-Geigy and Ecogen.

"In 2001, Mitsui & Co. of Japan acquired Thermo Trilogi and renamed it Certis USA," explains Tim Damico, Certis USA's executive vice president—North America. "Certis USA's management team members came from the various predecessor companies and all have been working in the biopesticide industry for more than 20 years. Our team has exceptionally deep experience and expertise in biopesticides."

What exactly are biological and botanical pesticides, and how do they work? Biopesticides are certain types of pesticides derived from natural materials, such as plants, microorganisms and specific minerals. They are usually inherently less toxic than conventional synthetic pesticides, thus they pose fewer risks

to the environment and non-target organisms (including humans).

Biopesticides are regulated by a separate division of the U.S. Environmental Protection Agency (EPA) than the one that regulates conventional pesticides. Biopesticides fall into two broad categories:

- *Biochemical pesticides* are naturally occurring substances that control pests by non-toxic mechanisms. Examples include botanical extracts, such as essential oils that repel or deter feeding by insects,

Above: Tim Damico, executive vice president—North America of Certis USA, is based at the company headquarters in Columbia, Maryland. The predecessor of Certis USA was Thermo Trilogi Corporation, a company created in the 1990s through a consolidation of several pioneering biopesticide companies.

and sex pheromones that are used for insect mating disruption.

- **Microbial pesticides** contain microorganisms (bacteria, fungi, viruses or protozoa) as the active ingredients. They may work by causing a lethal infection of insect or nematode pests, by competing with root-infesting pathogenic fungi for space and nutrients, by producing biochemicals that kill pests or plant-pathogenic microbes, or by triggering a plant's immune response to make it more resistant to pests and diseases.

The most well-known example of a microbial biopesticide is *Bacillus thuringiensis* (Bt)—a bacteria that produces proteins, which, in turn, destroy the digestive tracts of certain caterpillars, beetles and mosquito larvae.

What are neem extracts, and how do they fit into the picture? Neem (*Azadirachta indica*) is a tree native to South Asia that has been known for centuries to have medicinal and pesticidal properties. The olive-like fruit produces oil-rich seeds that contain high concentrations of complex biochemicals known collectively as limonoids.

The most prevalent of these, azadirachtin, is a chemical mimic of a key insect hormone (ecdysone) that regulates the process of metamorphosis. Azadirachtin, therefore, acts as a botanical insect growth regulator (IGR), disrupting the development of immature insects.

Other limonoids in neem oil also act as feeding deterrents or repellents and may inhibit germination of fungal spores.

Specific to potato and vegetable growing, Certis USA offers such products as Double Nickel biofungicide, MeloCon bionematicide, PFR-97 bioinsecticide, Trident Colorado potato beetle biolarvicide and LifeGard biological plant activator, to name a few. Does the company



manufacture all of them, and if so, where and how? With the exception of MeloCon nematicide, Certis USA manufactures all of these products at its own plant in Wasco, California.

All products are made by liquid fermentation under controlled conditions to optimize yield. Once the fermentation is harvested, it undergoes a series of downstream processes that result in the end product, either a liquid or a granular form that can be mixed with liquid.

The MeloCon bionematicide technology is owned by Bayer Environmental Sciences and is sold by Certis USA under a special licensing and distribution agreement in the United States. MeloCon is also a fermented product.

Does each product have a specific disease, pest or fungal target, and can you give me a brief rundown of what those that apply to potato and vegetable growing do? Each of the products does have a specific target.

continued on pg. 10

NELSON'S
VEGETABLE
STORAGE
SYSTEMS INC.

N7158 6TH DRIVE P.O. BOX 215
PLAINFIELD, WI 54966
OFFICE: (715) 335-6660
FAX: (715) 335-6661

KEEP ON TRACK WITH OUR



SPROUT INHIBITORS AND DISINFECTANTS

STORAGE VENTILATION

- COMPUTERIZED CONTROL PANELS
- HUMIDIFICATION
- REFRIGERATION

SPROUT INHIBITING

- NEW & ALTERNATIVE METHODS
- **SMART BLOCK APPLICATIONS**
- CIPC, CLOVE OIL APPLICATIONS

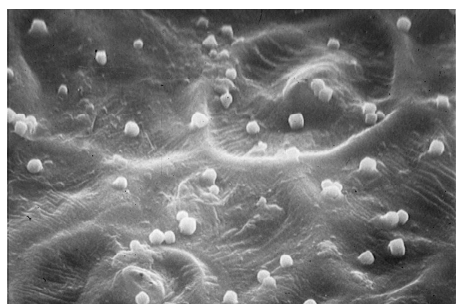
AGRI-VENTILATION SALES AND SERVICE

24 HR. EMERG. SERVICE



LifeGard biological plant activator triggers the plant's immune system to fend off economically damaging potato and vegetable diseases, such as early and late blight and white mold. For growers, LifeGard is an economical alternative to their standard fungicides or can be used as a rotational partner to improve disease control.

Double Nickel biofungicide is normally applied in-furrow, primarily to control soil-borne diseases, such as *Rhizoctonia* and *Pythium* in potato and vegetable crops.



Melocon is a nematicide that controls more than 15 species of nematodes, including root-knot species, sting and cyst nematodes.

Two insecticide options include PFR-97 and Trident. Trident is a Bt (*Bacillus thuringiensis* variation of *tenebreonis*) that specifically controls Colorado potato beetle larvae and adults.

Many growers are using Trident in resistant management programs, since its mode of action is unique in comparison to traditional options. PFR-97 is a fungus that controls several piercing/sucking insects, such as whiteflies, aphids, mites and the potato psyllid that causes Zebra Chip.

Do Certis USA products complement or replace traditional products, and why? Depending on the crop and pest, the biopesticides I've mentioned can be used as stand-alone products or used to complement a pest control program.

MeloCon is used as a stand-alone for

nematode control and has effectively replaced oxamyl during its shortage. Carrot growers routinely use MeloCon as a stand-alone, and it has become the standard in some carrot growing regions.

Double Nickel for soil disease control is another product that is routinely used as a stand-alone in-furrow treatment for *Rhizoctonia* control. Unique features, such as multiple modes of action, root colonization and crop safety, make any of these products an ideal choice for any vegetable grower.

PFR-97, Trident and LifeGard will traditionally be used in integrated programs to complement and improve results. Although LifeGard can be used as a stand-alone in some crop protection programs, it is often added to improve the overall control of early and late blight in potatoes and other crops.

What work is done at Certis USA's fermentation facility in California, and how does fermentation fit into the biopesticide equation?

In our plant in California, we use fermentation technology to produce various kinds of bacteria and fungi and formulate them into biopesticides. For botanical products, we have a dedicated extraction plant in India that processes neem seeds and other botanical products.

Thirty of Certis USA's products are OMRI-listed and organically approved. Are most used organically or conventionally for agriculture crops, and why? Many people have this perception that our business is all about servicing the organic

Above: Certis USA products include, from left to right, SoilGard Microbial Fungicide, Trident Bt Bioinsecticide, LifeGard (the first biological plant activator) and MeloCon Bionematicide.

Left: *Helicoverpa armigera* worm (healthy above, dead below in the top image) is shown on beans controlled by Certis USA's baculovirus Gemstar—an aqueous suspension concentrate insecticidal virus that infects and kills larvae of *Heliothis* and *Helicoverpa*. Worm pests are susceptible to the insecticidal virus, but beneficial insects, wildlife and work crews are not. Below the first image is a scanning electron micrograph of baculovirus protein crystals called occlusion bodies (OBs) that virally infect worm pests. Photos courtesy of Mike Dimock, Ph.D.

markets. Just the opposite is true. I estimate that more than 85 percent of our OMRI-listed products are used in conventional agriculture. The reasons are numerous.

The primary reason is that the products are effective in controlling certain insects and diseases. As I mentioned earlier, many of these products like MeloCon and Double Nickel are becoming standards in certain regions of the country.

Also, growers are using Certis USA products for management of pesticide residues that are monitored through MRL's (Maximum Residue Limits). Most, if not all, products are residue exempt, which provides maximum export flexibility to the grower when managing pesticide residues.

Right: At Certis USA's fermentation facility in Wasco, California, various kinds of bacteria and fungi are produced and then formulated into biopesticides.



Most of the products in our portfolio permit early entry into the field, such as a 4-hour REI (Restricted Entry Interval) and zero days to harvest or PHI (Pre-Harvest Interval).

The ability to implement a resistance management strategy also ranks high

with growers. The modes of action of biopesticides are not only unique, but some products, such as Double Nickel, also provide multiple modes of action. These reasons and many others are creating the demand for Certis USA's biopesticides.

continued on pg. 12

BIG IRON

EQUIPMENT, INC.

Clean Used Equipment

2014 Mayo Model 255 Collector	\$29,000
1998 Spudnik Model 995 72" Sizer	\$48,000
Spudnik Even Flow Holding Tubs	\$50,000
2007 Spudnik Model 6140 4-Row Windrower	\$32,000
1999 Lenco 4-Row Windrowers	\$40,000
1996 Gallenberg 34" 4-Row Harvester	\$110,000
2007 Spudnik Model 6400 4-Row Harvester	\$40,000
Custom 72" Eliminator	\$25,000

NEW! Big Iron's groundbreaking cryogenic
COLD IRON PROCESSING
increases the wear resistance and durability of your metal
and plastic equipment and parts while also relieving
residual stresses. Call us at (715) 345-7039.

Customizing equipment to fit your needs!

New & Used Sales • Service • Repair



2016 SPUDNIK MODEL 9560
36" 6-Row Vine Chopper – \$30,000



1994 LENCO MODEL RSPAH
65" 4-row Air-Head Harvester – \$95,000



SPUDNIK/CUSTOM
Portable Multiseed Table – \$56,000



1999 SPUDNIK MODEL 990
72" Eliminator/Sizer – \$48,000



Check out our used equipment at www.bigironequipment.com
2731 Maple Drive • Plover, WI 54467 • 715-344-3401 • Toll Free: 1-888-696-4019



Why would or should commercial potato and vegetable growers at least consider biological and botanical products in the first place, as opposed to strictly chemical?

In addition to the reasons I've stated, biopesticides provide a high level of worker safety, fewer posting requirements, they are soft on the environment, and they preserve beneficial insects and pollinators.

Lastly, biopesticides appeal to the customer, whether it be a packer, producer or consumer who is seeking produce that is planted, grown and harvested in an environmentally friendly manner.

According to the website, Certis USA exports products to more than 50 countries worldwide, and is actually owned by Mitsui & Co., a trading, investment and services firm. Why and how has the business grown to such a global enterprise? Bt is probably the oldest biopesticide that has been used for more than 50 years. We have been exporting Bt to many countries and have lately expanded our exports to include other new products we have developed.

Exports are a significant part of our business, and we are proud to export made-in-USA products.



Whether you name specific farming operations or not, who are your customers in Wisconsin and the Midwest?

Certis USA typically sells to the traditional network of distributors and retailers who service the potato and vegetable markets in the Wisconsin and Midwest regions. Allied Coop, CPS Plainfield and Wilbur-Ellis in Almond, Wisconsin are at least three customers in this region who supply our products.

What products are they incorporating into their farms and why? Specifically for potatoes and specialty crops?

Trident for Colorado potato beetle control is top-of-mind for many growers, since their traditional products are no longer as effective. They are seeking alternatives that can provide a resistance management strategy.

LifeGard will be added to early and late blight fungicide control programs to improve overall disease control in potatoes. White mold is another target for LifeGard.

How are the products typically applied? The products are applied similar to other conventional products. Since Double Nickel and MeloCon target soil disease and nematodes, they are routinely applied in-furrow at planting. To

extend control throughout the season, the grower may augment with an in-season application by direct sprays and/or through some form of irrigation.

PFR-97, LifeGard and Trident are used as foliar sprays in traditional application equipment to control their respective pests. Preventive applications and/or applications made during early development of the pests works best.

Do you have field representatives who help growers undertake a program that suits their needs? Here in Wisconsin and the Midwest?

Certis USA has two field representatives hired to specifically service the Great Lakes and Upper Midwest.

Anne Webster is located in Michigan and services the Great Lakes region, including Wisconsin. Chelsey Sitzmann is our

Left: Certis USA's Trident biological insecticide is a Bt (*Bacillus thuringiensis* variation of *tenebreonis*) that specifically controls Colorado potato beetle larvae (shown) and adults.

Right: PFR-97, LifeGard and Trident are used as foliar sprays in traditional application equipment to control their respective pests. Rodney Griffin of Allied Cooperative operates a red Case 3330 to spray a field in Adams County, Wisconsin, in June 2016. *Photo courtesy of Kathy Kuss, Allied Cooperative*

newest representative who we added six months ago. She is based in Fargo, North Dakota and covers the Upper Midwest.

In addition to Anne and Chelsey, these regions are supported by two of our field development managers who provide technical support and guide our university research trials.

Are biopesticides, botanical pesticides and bio-insecticides taking market share from traditional fertilizer, pesticide and fungicide companies, or at least making inroads, and why? There is no doubt that the biopesticide sector is rapidly expanding. Various sources of market data indicate that the worldwide biopesticide market is growing at about 15 percent annually.

The traditional chemical sector also continues to grow at a 2-3 percent rate, so it appears that biopesticides are being used to complement traditional programs or are used in highly specialized cropping systems to meet certain needs of the grower.

From the retailer's perspective, it is creating a new category for their business similar to seed and seed treatment, liquid fertilizer, soil-mapping and custom application.

Are your goals the same as your competitors, and what are they?

Our goal is to be a reliable, quality supplier of biological products to help growers and to support

sustainable agriculture.

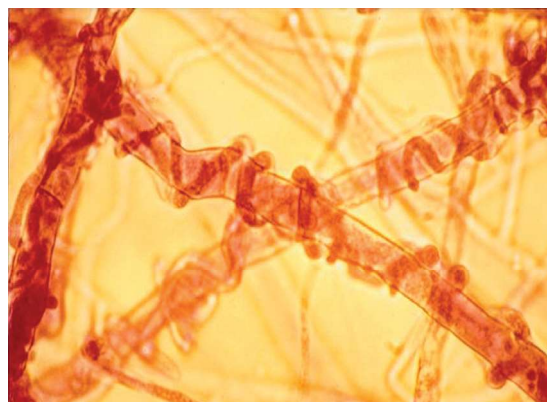
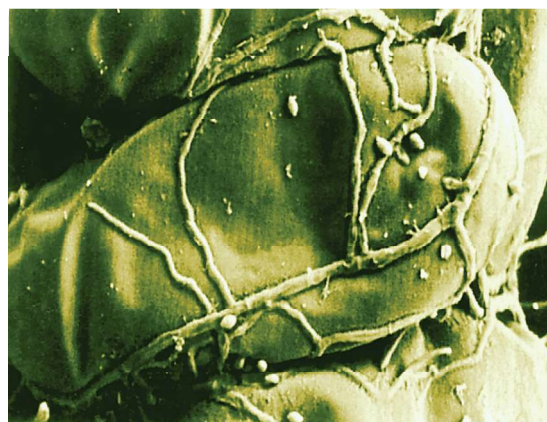
What does the future hold for biological products, such as those offered by Certis USA? Certis USA foresees a very bright future for the biological products that we produce, as well as other biopesticides.

Growers of all types of crops are seeing the value of biological products and are systematically incorporating them into their conventional programs. The future will bring us the proverbial "melting pot," where biologicals and traditional chemistries will unite to complement one another.

What new products can growers expect in the future? This year, we are introducing LifeGard, the first biological plant activator. This unique technology was originally developed by Dr. Barry Jacobsen at Montana State University.

LifeGard follows our introduction of Double Nickel a few years ago, which is a technology from Japan. We have a rich pipeline and will continue to bring out new products in the coming years.

Those products will include combinations of different microbial strains that will control an expanded spectrum of plant diseases. Also, we expect to introduce new formulations of current biopesticides that address the unique needs of certain crop markets. **BC'T**



Top: The active ingredient of MeloCon is a fungus shown here engulfing nematode eggs. Tim Damico says, "The MeloCon spores germinate and penetrate the nematode, killing it by feeding on the nematode's body contents. MeloCon is brutal to nematodes and highly effective." *Photo courtesy of R. Holland, Macquarie University, Australia*

Bottom: A photomicrograph shows *Trichoderma virens* (the active ingredient of SoilGard) parasitizing the fungus *Rhizoctonia solani* (which causes black scurf in potatoes and infects many other crops). Tim Damico says, "When you apply SoilGard to your soil, you are, in effect, creating a battlefield of fungi versus fungi." *Photo courtesy of the U.S. Department of Agriculture*

Ron's
Refrigeration
& Air Conditioning, Inc.
1-800-236-0005 • www.ronsrefrigeration.com
24 Hour Emergency Service

YOUR ONE CALL STORAGE SOLUTION

Computerized Control Systems
Refrigeration • Humidification • Ozone
Electrical Design & Installation
Potatoes • Onions
Sprout Inhibiting
Sprout Nip® • Amplify® • Shield®