Case Study:

How **ProBio**® **gopure**® saved more than 17 million units of Swiss Chard from bacterial leaf spot and complete crop failure

June 2015

germains® seed technology

We Maximize Nature's Potential™

Situation

Bacterial Leaf Spot easily spreads throughout vegetable fields by the wind, water or other modes and can result in a complete loss of productive plants.

Located in California's Central Valley, one of the largest organic baby leaf green vegetable growers in the United States had more than 100,000 pounds of Swiss chard seed contaminated with the seed-borne bacterial disease commonly known as Bacterial Leaf Spot or BLS (*Pseudomonas syringae pv. Aptata*). Even in a short 30-day production cycle, the grower was plagued with the rapidly developing disease throughout the field. Their baby leaf crop was being devastated by the rapid spread of BLS that resulted in complete crop loss. Combating this disease is especially problematic for organic baby leaf vegetable growers.

Solution

Innovation through collaboration

Rather than discard or sell the contaminated seed at a greatly reduced cost, the industry leading grower decided to contact Germains Seed Technology to consult with their team of seed technology experts for a solution. In partnership, Germains' Research and Development Team collaborated with the customer to formulate an effective certified organic disinfection process known today as **ProBio® gopure®**. This unique process is proven to significantly reduce *Pseudomonas syringae pv.aptata* in Swiss chard and beet seeds, and *Pseudomonas syringae pv.coriandricola* in coriander seeds. **ProBio® gopure®** may also contribute to reducing the transfer of pathogenic organisms onto other crops and the field.

The consequences of lost crops due to Bacterial Leaf Spot is real for seed and vegetable producers. The results can be financially devastating and extremely challenging to manage in the field.

Result

Organic power to combat bacterial disease

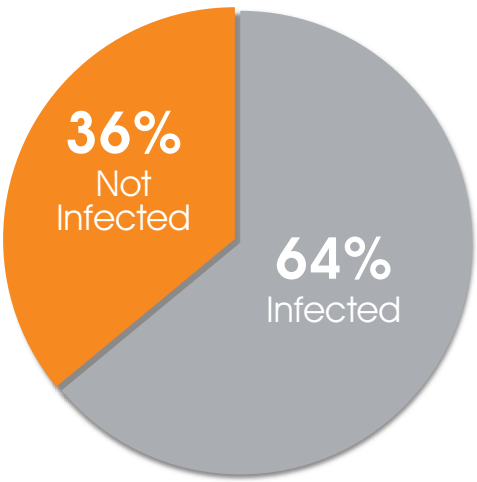
The organic grower has now disinfected over 650,000 pounds of Swiss chard seed with **ProBio® gopure®** over the last two years and continues to use Germains' proprietary process on all of their Swiss chard seed planted in their fields as well as the seed they sell to other growers. By starting disease control before even planting or selling the seeds, this grower has found **ProBio® gopure®** to be an affordable preventive measure. Germains is now offering this innovative solution to both organic and conventional growers throughout North America and Mexico.

Going Forward

Disease pressure on the rise

Our customer is not the only grower challenged with controlling BLS. According to 2015 market research and customer intelligence, an estimated 64% of the Swiss chard, red beet, and coriander seed produced in the United States is infected with Bacterial Leaf Spot. Approximately 80% of the BLS infection occurs in Washington and Oregon, due to moist environmental conditions. The infection rate is a fluid percentage since crop harvest and testing vary throughout the year. Growers from Canada to California to Mexico have trialed and use **ProBio® gopure®** saving thousands of acres of baby leaf Swiss chard, red beets and coriander crops while helping to deliver more revenue to the bottom line.

> "The grower expressed that without a solution, they had two choices: sell the infected seed inventory at a very reduced price or simply destroy it."
>
> **Bobby Garcia,**
> Sales Account Manager
> Germains Seed Technology



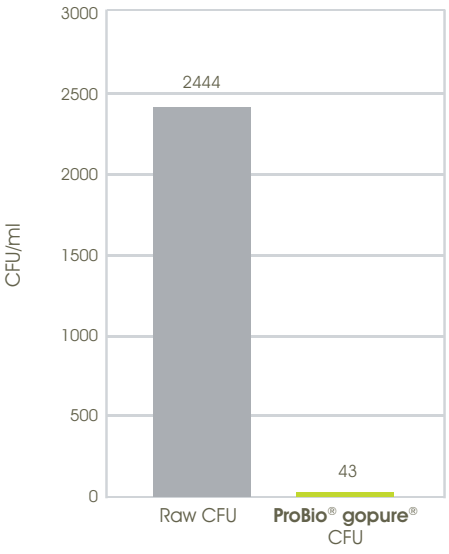
Caption below:
Chart reflects BLS data gathered through market research and customer intelligence regarding

Proven Results ProBio® gopure®

ProBio® gopure® is a new certified organic process developed by Germains Seed Technology to remove seed-borne pathogens such as *Pseudomonas syringae pv.aptata* from Swiss chard and beet seeds, and *Pseudomonas syringae pv.coriandricola* from coriander seeds. An innovative solution, **ProBio® gopure®** may also help to reduce transfer of pathogenic organisms onto other crops and into the field.

Red Beet - *Pseudomonas syringae pv. aptata*

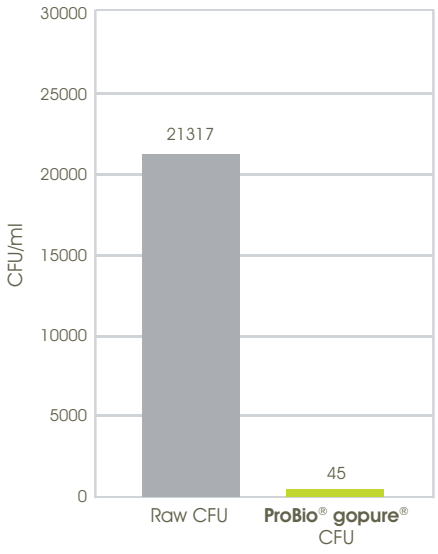
(30,000 seeds tested)



Average of 10 red beet lots

Swiss Chard - *Pseudomonas syringae pv. aptata*

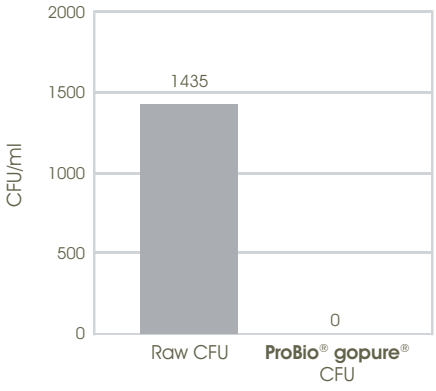
(30,000 seeds tested)



Average of 47 swiss chard lots

Coriander - *Pseudomonas syringae pv. coriandricola*

(30,000 seeds tested)



Average of 10 coriander lots

Find Out More

Trial **ProBio® gopure®** and start benefiting from clean seed, today.

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germains® seed technology

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