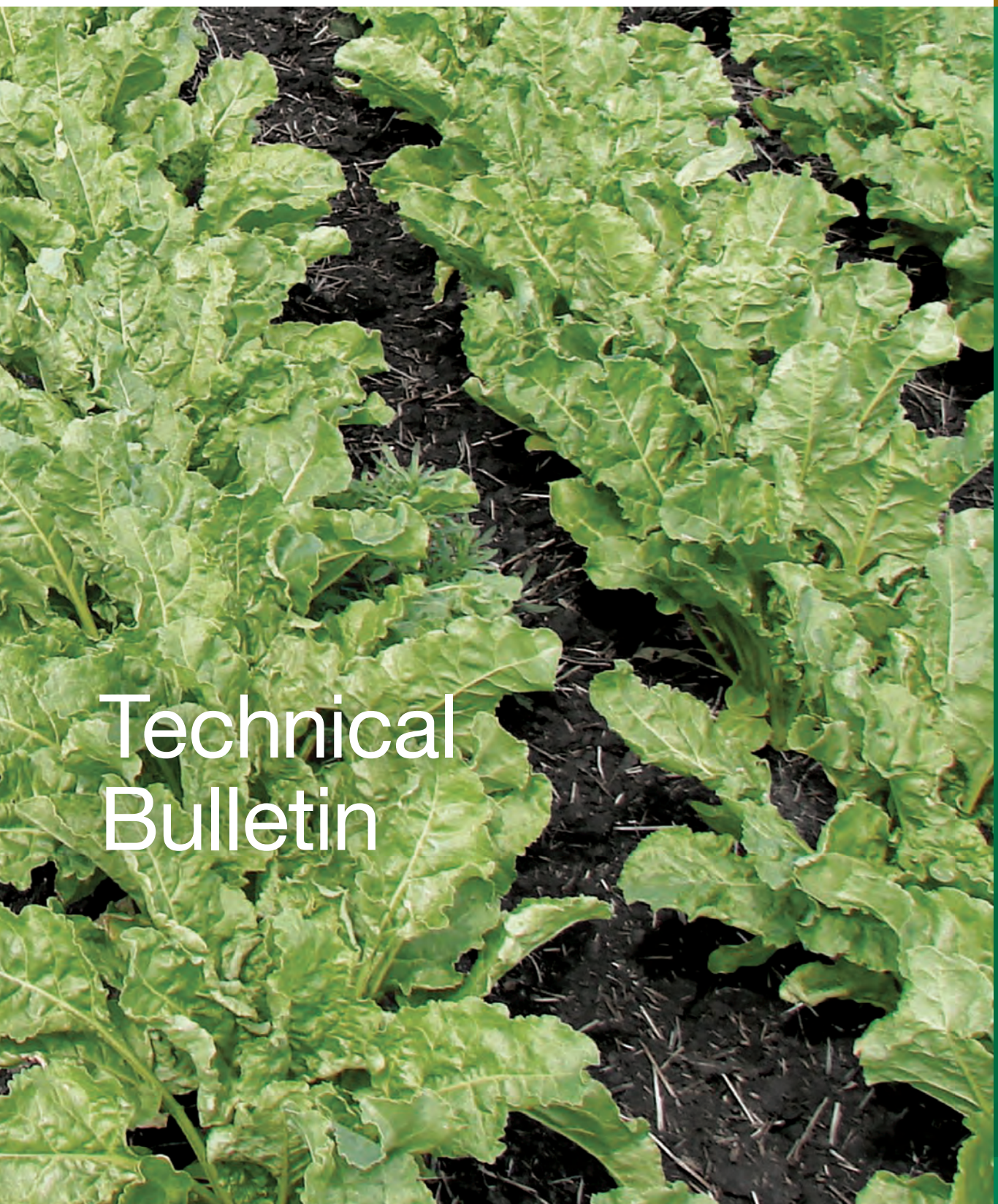
Clariva™ pn

syngenta®



Technical Bulletin

™

Protect Sugarbeet Genetics and Yield Potential

with Clariva™ pn Seed Treatment Nematicide

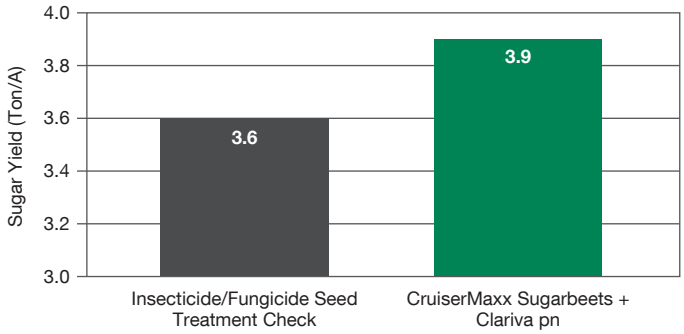
To maximize yield and quality, sugarbeet seeds need a strong, healthy start to maximize seed germination and stand establishment. When applied with CruiserMaxx Sugarbeets® seed treatment insecticide/fungicide combination of separately registered products, Clariva pn offers sugarbeet growers triple protection against seedling diseases, insects and sugarbeet cyst nematode (BCN). A complement to nematode tolerant varieties, Clariva pn delivers season-long activity against BCN through its unique mode of action, maximizing yield and profit potential.

Pasteuria nishizawae

Pasteuria nishizawae (P. nishizawae), the revolutionary nematicide active ingredient in Clariva pn, offers sugarbeet growers the following key benefits:

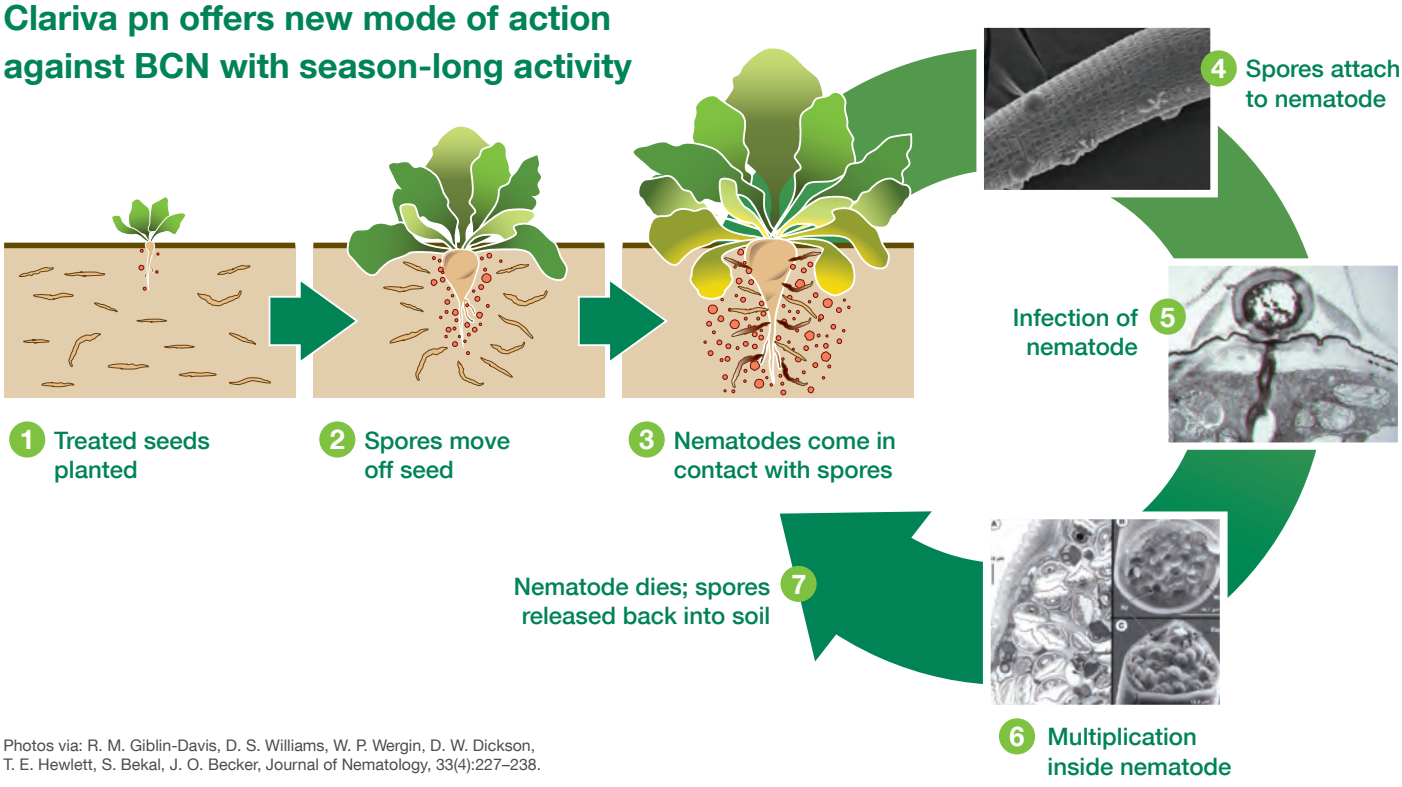
- **Delivers season-long** nematode activity via a unique mode of action
- **Provides millions of *P. nishizawae* spores lethal to nematodes**, which causes immediate infection upon contact and results in reduced reproduction and death
- **Complements** and **enhances variety tolerance** against BCN
- **Offers an excellent safety profile,** is highly stable and not susceptible to environmental degradation

Clariva pn Sugar Yield Advantage
Plots with High Nematode Pressure



2014 Syngenta trials in CO, ID and NE.
Average of four trials.
Nematode tolerant varieties.

Clariva pn offers new mode of action against BCN with season-long activity



Photos via: R. M. Giblin-Davis, D. S. Williams, W. P. Wergin, D. W. Dickson, T. E. Hewlett, S. Bekal, J. O. Becker, Journal of Nematology, 33(4):227–238.

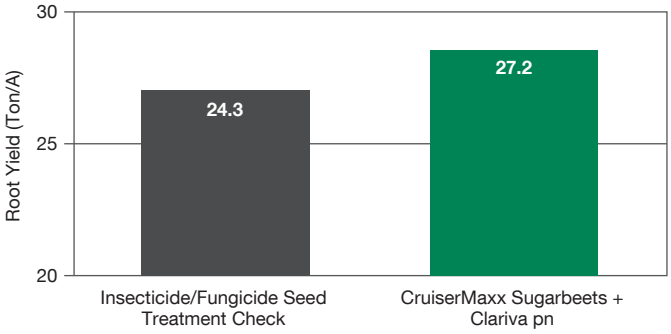
A Complement to BCN-tolerant Varieties

BCN-tolerant varieties do not completely eliminate BCN feeding and reproduction, and alone may not be enough to offset BCN's impact on sugarbeet yield. The prudent use of tolerant varieties is necessary, as continual use may increase the likelihood that the BCN population will adapt to the sugarbeets source of BCN-resistance, allowing increased levels of BCN reproduction. Clariva pn combined with nematode tolerant varieties could prove to be an important strategy to help maintain their effectiveness.

According to the 2014 Michigan Sugarbeet Reach Sugarbeet Cyst Nematode Management Guide[1], 31 percent of Michigan fields surveyed in 2012-2013 by the Michigan Sugar Company had detectable levels of BCN. Yield loss in heavily infested fields can be as much as 15 tons per acre. In fields with low BCN populations and no visible foliar damage, yield loss may still be two to four tons per acre.

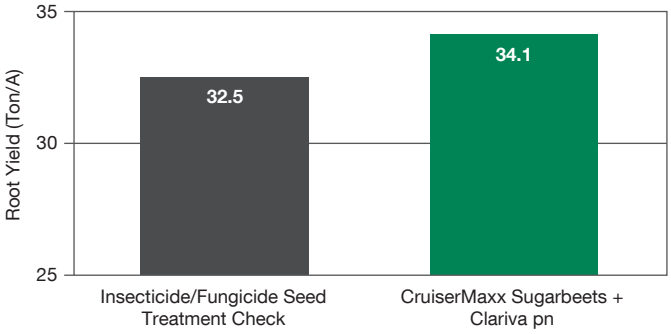
[1] See the Michigan Sugarbeet Reach Sugarbeet Cyst Nematode Management Guide at http://www.michigansugar.com/wp-content/uploads/2014/02/2014-Sugarbeet-Cyst-Nematode-Management-Guide.pdf, for more information about sugarbeet cyst nematodes.

Clariva pn Root Yield Advantage
Plots with High Nematode Pressure



2014 Syngenta trials in CO, ID and NE.
Average of four trials.
Nematode tolerant varieties.

Clariva pn Root Yield Advantage
Plots with Confirmed Nematode Presence



2014 Syngenta trials in CO and MI.
Average of nine trials.
Nematode tolerant varieties.

Clariva pn plus CruiserMaxx Sugarbeets produced a yield increase as high as 12 percent beet tons per acre when applied on nematode-tolerant varieties in fields with high BCN pressure versus a check with only insecticide/fungicide seed treatment.

Clariva pn Small Plot Field Trial Performance

2014 Syngenta private contractor trial, Colorado.

GS 405.75101

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