Managing Sugarbeet Diseases in 2018

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Disease factors and concerns

- Weather
  - Environmental conditions translate into disease development
- Diagnosis
  - Accurate disease identification is essential to effective treatment
- Yield losses
  - Protecting your bottom line
- Treatment
  - Choosing the best option while managing cost
- Resistance management
  - Controlling disease with limited treatment options

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Cercospora leaf spot

- Spores overwinter on infected beet leaves and crop residue
- Spread by wind and water
- Identified by small, circular spots with dark borders and tiny black dots in the center
- Decreases sugarbeet yields by up to 30%

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The bottom-line effect of Cercospora leaf spot on sugarbeets

Yield
26
tons/A

CLS incidence
20%

Yield Loss

5.2 tons/A

at
$42/
ton

Profit Loss

$218

Per Acre

Powdery mildew

- Spread by wind
- Germination increases with humidity
- Identified initially by small, scattered, circular mats, evolving to a dusty white appearance as disease progresses
- Disease is recurring and pervasive, resulting in recoverable white sugar (RWS) losses of 30% - 35%

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Management opportunities

- Integrated Pest Management (IPM)
  - Multi-pronged approach to disease management provides more opportunities to address problems
- Rotation
  - Minimizes pathogen problems
- Variety choice and seed treatments
  - Essential to IPM, but alone, does not provide complete control
- Treatment
  - Highly effective, fast-acting, affordable chemicals are available
- Disease prediction models based on current weather conditions

SIPCAM AGRO
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A proven fungicide portfolio

- Minerva®
  - Tetraconazole
  - Rate: 13 fl. oz./A
- Minerva® Duo
  - Tetraconazole + triphenyltin hydroxide
  - Rate: 16 fl. oz./A
- Brixen™
  - Tetraconazole + azoxystrobin
  - Rate: 19 – 21 oz./A

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Minerva® fungicide

- Ideal for first foliar fungicide spray
- Contains tetraconazole
  - Premier triazole for sugarbeet disease management
- Minerva is cost-effective, to achieve maximum ROI

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Minerva® is fast and lasting

- Fast-acting tetraconazole
  - Quickly absorbed and redistributed through the plant for maximum disease protection
- Long-lasting disease protection
  - Product pools in crown, extending protection to new growth up to two weeks

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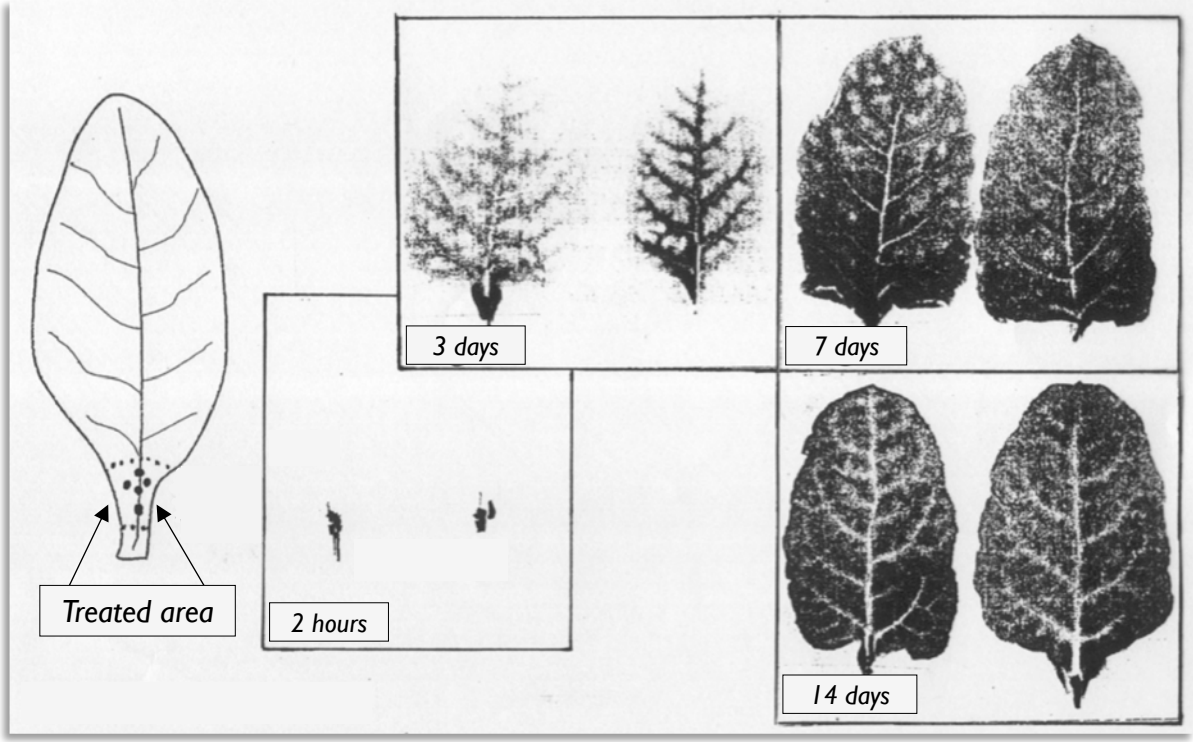
Minerva® is fast and lasting

Minerva® fungicide distributes quickly throughout the plant to provide fast, long-lasting disease control.



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Minerva® is flexible

- Flexible
  - Ground and aerial application, aerial application with low volume of water (3 gal/A)
  - Fits in all tank mix programs recommended by universities and sugar companies
  - Excellent tank mix partner with other pesticides, including Mancozeb, TPTH, Copper, Glyphosate
  - Rainfall resistant

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Minerva® is powerful

- Powerful
  - Provides preventative, curative, systemic activity
- Proven
  - In field trials, Minerva demonstrates excellent control of Cercospora leaf spot, powdery mildew and ramularia — and presents no risk of crop injury
  - Minerva fits with the 2018 sugarbeet production recommendations* from Southern Minnesota Beet Sugar Cooperative, Michigan Sugar, and American Crystal Sugar

*2018 recommendations from MinnDak, Sidney Sugars, and Western Sugar have not yet been released

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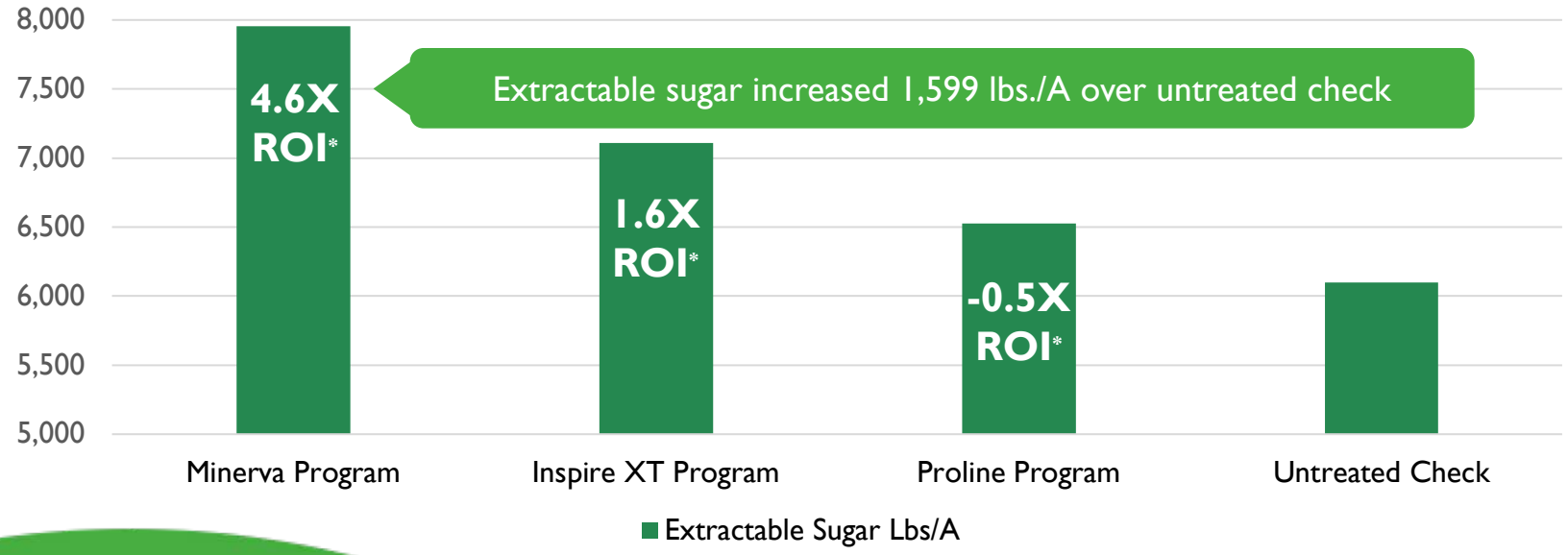
Minerva® is proven

Southern Minnesota Beet Sugar Cooperative

2015 Cercospora leaf spot trial
Raymond, MN



Minerva Program: 1st Application: Minerva (13 oz./A); 2nd Application: Super Tin (8 oz./A) + Manzate (1.5 lb./A); 3rd Application: Headline (9 oz./A)
Inspire XT Program: 1st Application: Inspire XT (7 oz./A); 2nd Application: Super Tin (8 oz./A) + Manzate (1.5 lb./A); 3rd Application: Headline (9 oz./A)
Proline Program: 1st Application: Proline (5.77 oz./A); 2nd Application: Super Tin (8 oz./A) + Manzate (1.5 lb./A); 3rd Application: Headline (9 oz./A)

**ROI calculation based on 2017 program price average*

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Minerva® Duo fungicide

- A winning combination of two powerful active ingredients
  - Tetraconazole and triphenyltin hydroxide
- Ready to go formulation
  - Versatile pre-mix delivers preventative and curative activity
- Multi-site action
  - Unique formulation reduces the risk of fungicide resistance

SIPCAM AGRO
USA, INC.

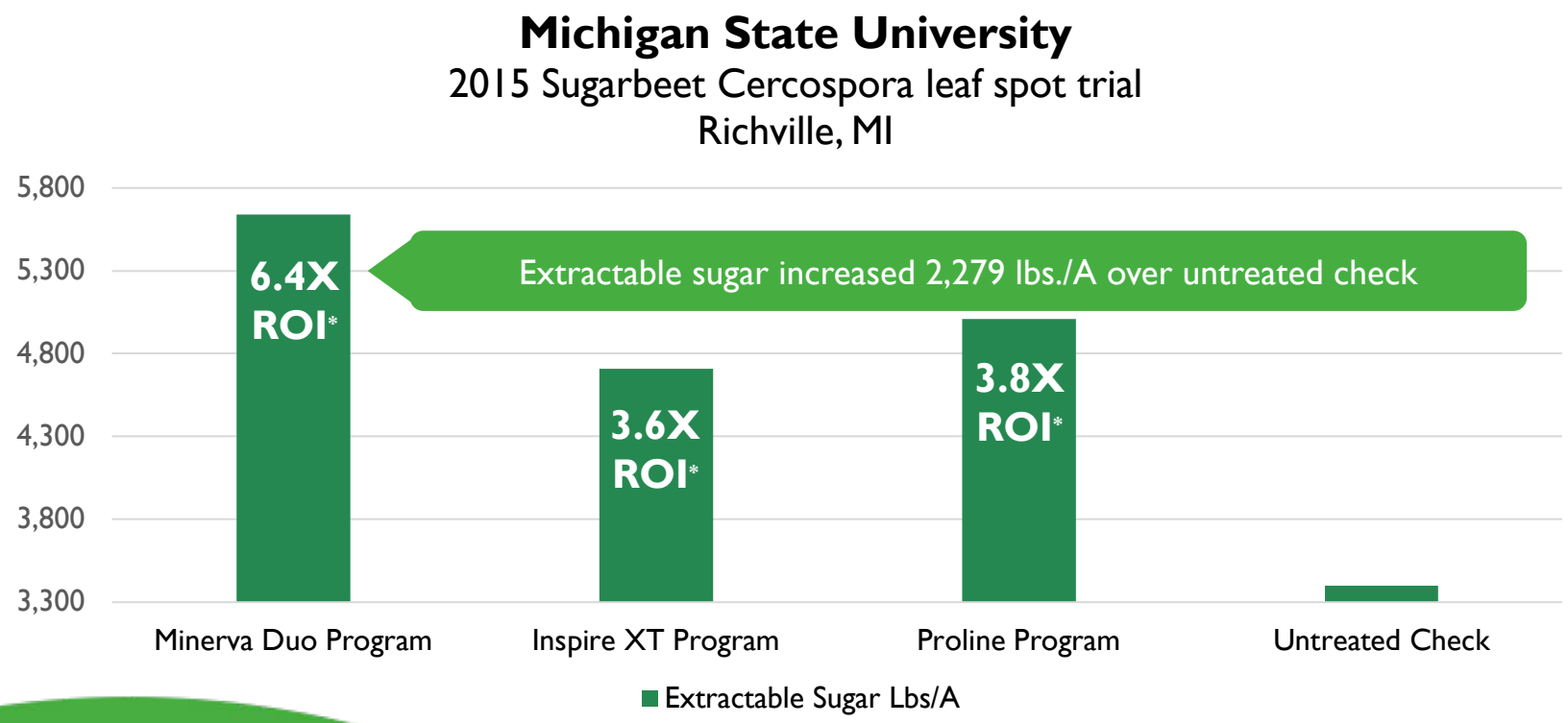
Minerva® Duo is powerful

- Best ROI according to 2017 Michigan Research Report
  - Boosts extractable sugar *and* yields
- Outperforms competitors
- Minerva Duo fits with the 2018 sugarbeet production recommendations* from Michigan Sugar and American Crystal

*2018 recommendations from MinnDak, Sidney Sugars, and Western Sugar have not yet been released

SIPCAM AGRO USA, INC.

Minerva® Duo is proven



Minerva Duo Program: 1st Application: Minerva Duo (16 oz./A); 2nd Application: Super Tin (8 oz./A) + Manzate (1.5 lb./A); 3rd Application: Headline (9 oz./A)
Inspire XT Program: 1st Application: Inspire XT (7 oz./A)); 2nd Application: Super Tin (8 oz./A) + Manzate (1.5 lb./A); 3rd Application: Headline (9 oz./A)
Proline Program: 1st Application: Proline (5.77 oz./A); 2nd Application: Super Tin (8 oz./A) + Manzate (1.5 lb./A); 3rd Application: Headline (9 oz./A)

ROI calculation based on 2017 program price average

SIPCAM AGRO USA, INC.

New Brixen™ fungicide

- Premium fungicide with broad-spectrum disease control
- Two powerful ingredients in single formulation
  - Tetraconazole and Azoxystrobin
- Preventative and curative fungicide with system properties
- Controls Cercospora leaf spot, powdery mildew, and ramularia
- Proven through field trials

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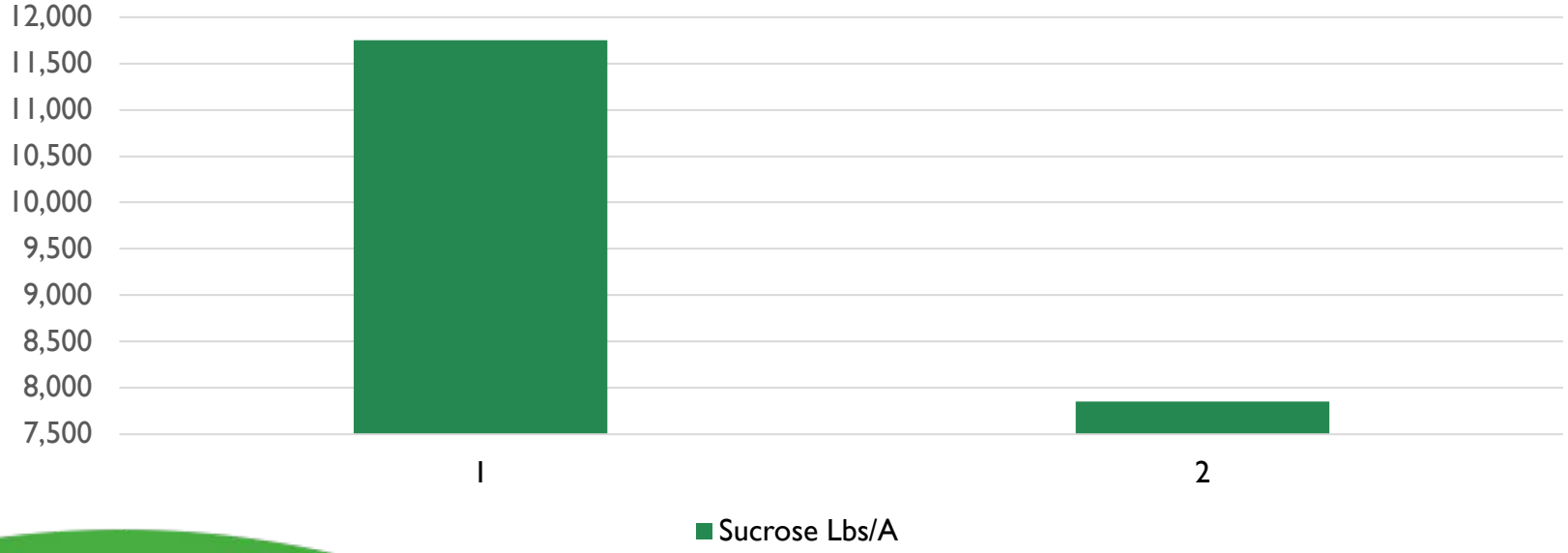
Brixen™ is proven

North Dakota State University
2017 Sugarbeet Cercospora leaf spot trial
Foxhome, MN



1. Brixen 21 oz./A; Minerva Duo 16 oz./A; SuperTin 8oz. + Koverall 1.5 lb./A
2. Untreated Check

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About Sipcam Agro USA

Honest answers. Better Choices. Bigger Yields.

- Extensive portfolio
- Proven track record
- Budget friendly
- Innovative

You never quit. Neither do we.

Questions? Call 877-898-9514, or email customerservice@sipcamagro.com.

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