

2023 CLS Quicksheet

CLS Fungicide Program BMP's

- **Start early** with an EBDC alone (application zero) when the leaves between rows are 4 inches apart. This is proven to be important for both tolerant and susceptible varieties.
- Use a **spray volume of 20 to 25 gpa** (5 to 7 gpa for aerial applications).
- Utilize nozzle selection, pressure, and adjuvants to achieve **optimal coverage**.
 - A medium droplet size will provide the best coverage in the most situations (200-350 microns).
- Make fungicide applications on a **10 to 12 day** interval for traditional varieties, unless environmental conditions dictate otherwise.
 - CLS DIV's will begin posting in June when CLS may become active:
<https://www.smbosc.com/agronomy/AgronomyDefault>
- Strobilurins (Headline, Priaxor, etc.), benzimidazoles (Topsin), and SDHI fungicide products are not considered effective tank mix partners.
- Do not tank mix fungicides and glyphosate.
- Consult labels before tank-mixing fungicides with other crop protection products.
- Always follow the label for application instructions and restrictions.

Traditional Fungicide Program

0. EBDC Alone
1. Proline or Minerva/Domark + EBDC
2. Tin + EBDC
3. Lucento (Topguard) or Enable + EBDC
4. Tin + EBDC
5. Inspire XT or Provysol + EBDC
6. EBDC + Copper

HCT Fungicide Program

0. EBDC Alone
1. Proline or Minerva/Domark + EBDC
2. Skip
3. EBDC + Copper
4. Skip
5. Inspire XT or Provysol + EBDC
6. Skip

- Small plot research and field observations show that application zero provides significantly better control than fungicide programs that started later. Delaying the onset of disease is critical.
- New molecular resistance testing show cross resistance between Inspire XT and Provysol, but also between Proline and Minerva/Domark. Only one product from each of these groups should be used in a season.
- Resistance testing also shows that if the population is resistant to the Inspire/Provysol group, there is a 67% chance that that same population will be resistant to the Proline/Minerva group.
- If the majority of shareholders at SMBOSC follow the same fungicide program, it increases our ability to take advantage of the resistance profile of the CLS population and use the products that will be the most effective.
- Resistance levels to tin fungicides are extremely high. We need to reduce the use of these products if we want them to be effective in the future.
- **Please follow the fungicide program as shown above!**
- Dr. Wyatt from the UDSA in Fargo gave a great presentation that explains the resistance testing that was conducted . Following this link to view that presentation: <http://www.smbosc.com/agronomy/AgronomyDefault>

Triazole Products	Rate/Acre	REI	PHI	Tin Products	Rate/Acre	REI	PHI
Domark	6.9 oz	12hrs	14 days	Super Tin 4L	8 oz	48hrs	7 days
Minerva	13 oz	12hrs	14 days	Agri Tin Flowable	8 oz	48hrs	7 days
Proline 480 SC	5.7 oz	12hrs	7 days				
Provysol	5 oz	12hrs	7 days	*Do not exceed 24 oz/A of Super Tin 4L/Agri Tin Flowable per season.			
Inspire XT	7 oz	12hrs	21 days				
Enable 2F	8 oz	12hrs	14 days				
Topguard	14 oz	12hrs	21 days				

*Cross resistance has been documented between Proline and Minerva/Domark products and also between Inspire XT and Provysol. Only use one product from each of these groups in a season.

Premixed Products	Rate	REI	PHI
Veltyma Provysol+Headline	10 oz	12hrs	7 days
Brixen Minerva+Azoxystrobin	21 oz	12hrs	14 days
Acropolis Minerva+T-Methyl	32 oz	24hrs	21 days
Lucento Topguard+SDHI	5.5 oz	12hrs	21 days
Delaro Proline+Trifloxystrobin	11 oz	12hrs	21 days
REGEV Inspire+TTO	8.5 oz	12 hrs	7 days

*Premixed fungicide products may not contain two effective modes of action (most do not). If these products are used, they should be tank mixed with an EBDC.

**Be aware of which triazole is in the premix so that these are applied in the appropriate order in the fungicide program, and we are not applying more than one triazole from a resistance group per season.

***Delaro does not contain a full rate of Proline.

EBDC Products	Rate/Acre	REI	PHI
Manzate Max	1.6 qts	24hrs	14 days
Manzate Pro-Stick	2 lbs	24hrs	14 days
Dithane M45	2 lbs	24hrs	14 days
Dithane F-45	1.6 qts	24hrs	14 days
Koverall	2 lbs	24hrs	14 days
Penncozeb 80WP	2 lbs	24hrs	14 days
Penncozeb 75DF	2 lbs	24hrs	14 days

*There may be other EBDC products available for use in sugar beets. Follow label instructions.

Copper Products	Rate/Acre	REI	PHI
Badge SC	2 pts	48hrs	0 day
Badge X2	2 lbs	48hrs	0 day
Champion	1.25 lbs	48hrs	0 day
Champ 2 Flowable	2 pts	48hrs	0 day
Cuprofix Ultra	2 lbs	48hrs	0 day
Kocide 3000	1.25 lbs	48hrs	0 day

*There may be other copper products available for use in sugar beets. Follow label instructions.

*Do not apply glyphosate within 7 to 10 days of a copper product as this may cause phytotoxicity.

The information contained in this quicksheet is meant to provide options for a CLS fungicide program for your operation in 2023. However, it can not provide all the details for every application. **Consult your agriculturalist and the product label.**

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Agricultural Department
Southern Minnesota
Beet Sugar Cooperative

