



Controlling CLS: Application Techniques

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During the 2016 season it is estimated that SMBSC lost in excess of \$30 million due to cercospora leaf spot. This is approximately \$250-300 per acre! CLS fungicides are not systemic, so thorough leaf coverage is essential. With a high inoculum load this season and increasing fungicide resistance it is very important to follow these recommendations for the best disease control now and in the future.

Ground Applications

- Fine droplet size for thorough coverage is critical!
- 20 gallons of water per acre
- 100 psi
- Hollow cone or flat fan nozzles
 - Do not use spray nozzles designated for glyphosate or growth regulator products as these produce coarse size droplets.

Aerial Applications

- 5 gallons of water per acre
- Make sure to cover any areas missed by the aerial application with a ground sprayer.
 - Around building sites, tree lines, power lines, or other areas difficult for aerial applications.

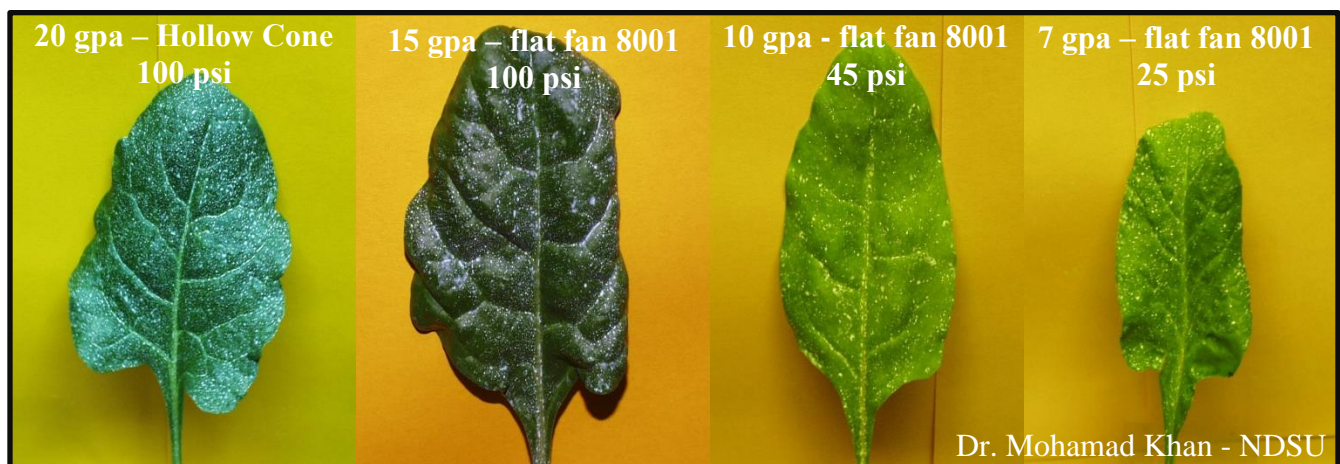


Fig. 1: The pictures above show the importance of high spray volume and pressure for proper coverage of leaves. Note how the increased volume and pressure provides more thorough leaf coverage.

Fungicide Tank Mixes

- Provide a second mode of action. This will decrease selection pressure and delay fungicide resistance.
- Make sure spray booms and lines are adequately flushed between fields or sprayer loads.
- Mixing order is important and is dependent upon product formulation. In the absence of specific mixing instructions provided by the label use the A.P.P.L.E.S. method (Zollinger, 2017):
 - Agitate
 - Powders soluble (dry fertilizers, SG, SP)
 - Powders dry (DF, WDG, WP)
 - Liquid flowables and suspensions (ASC, F, ME, SC, SE)
 - Emulsifiable concentrates (EC, EW, OD)
 - Solutions (S, SL)
- It is important to have each ingredient uniformly mixed in the tank before adding the next ingredient.

Glyphosate

- Apply glyphosate 7-10 days prior to canopy.
- **Do not tank mix glyphosate with the fungicide application.**
 - CLS fungicides must be applied with a high water volume and high spray pressure to obtain a fine droplet size necessary for adequate spray coverage.
 - Best management practices indicate that glyphosate should be applied at a low volume rate and low spray pressure to acquire coarse droplet size.
 - Tank mixing these products will reduce the spray coverage on the leaf surface and reduce disease control as a result. Something we cannot afford to do!
 - Do not apply glyphosate within 7 days of an application of a copper fungicide as leaf burn will likely occur.

Information Credit:

Mark Bloomquist – Director of Research

Cody Groen – Production Agronomist

Zollinger, Rich. 2017 North Dakota Weed Control Guide.

2017. North Dakota State University. p. 75.

