

CLS Ag Beet Series

February 19th, 2025

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Why are we spraying CR+ this many times?

Dr. Nate Wyatt (USDA-ARS) has been working on CLS population dynamics, including looking back before CR+ varieties were introduced (Figure 1) and after CR+ varieties were introduced (Figure 2). The use of CR+ varieties has put significant pressure on the CLS population to adapt and overcome the CLS tolerance that CR+ varieties have to infection. As a result, the CLS population has shifted to strains able to infect CR+ varieties.

These strains were widespread in 2024 as we struggled to control CLS with the frequent spring and summer rain events. As a result, we now have significant amounts of inoculum going into 2025 that have the ability to infect CR+. This means that a traditional spray program will be required to control CLS on these varieties.

Early season latent infection testing has shown a trend over the last 4 years that we see a spike in CLS infection between the 3rd and 4th weeks of June (Figure 3). This confirms the need to start spraying early.

In addition, Dr. Secor has been working on a new DIV matrix which has shown that the presence of free water drastically increases CLS infection as compared to increasing temperature or humidity alone (Figure 4). This means having fungicide protection against CLS is important during times of prolonged dew formation that can occur frequently in September.

C. beticola population dynamics

2016

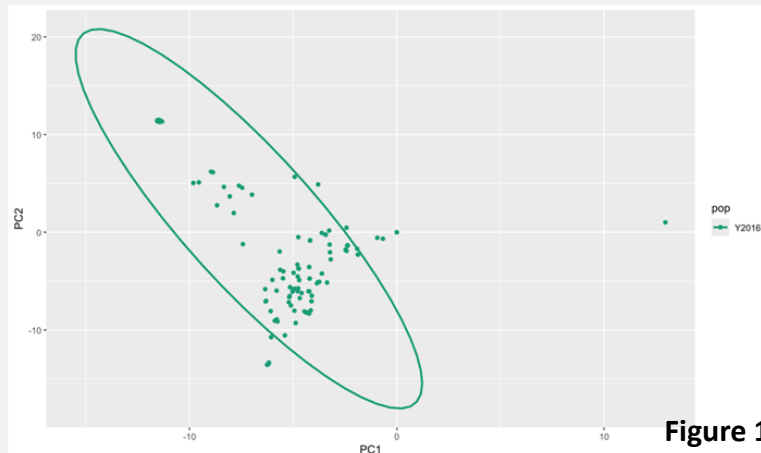


Figure 1

C. beticola population dynamics: CR+

2016 - 2023

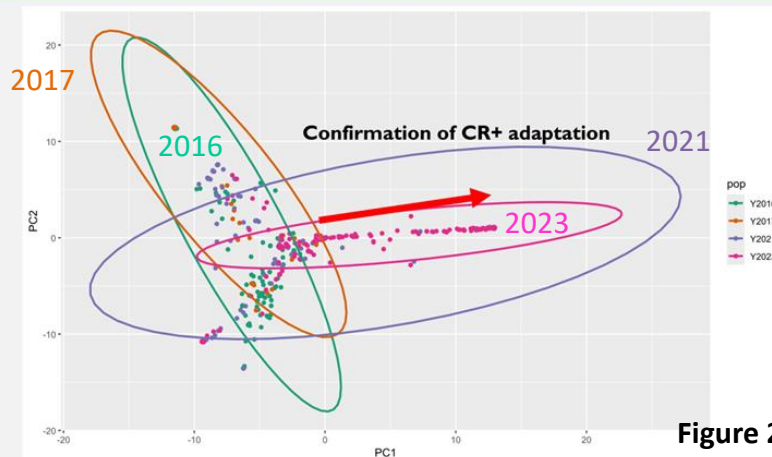


Figure 2

Cercospora beticola DNA detection prevalence

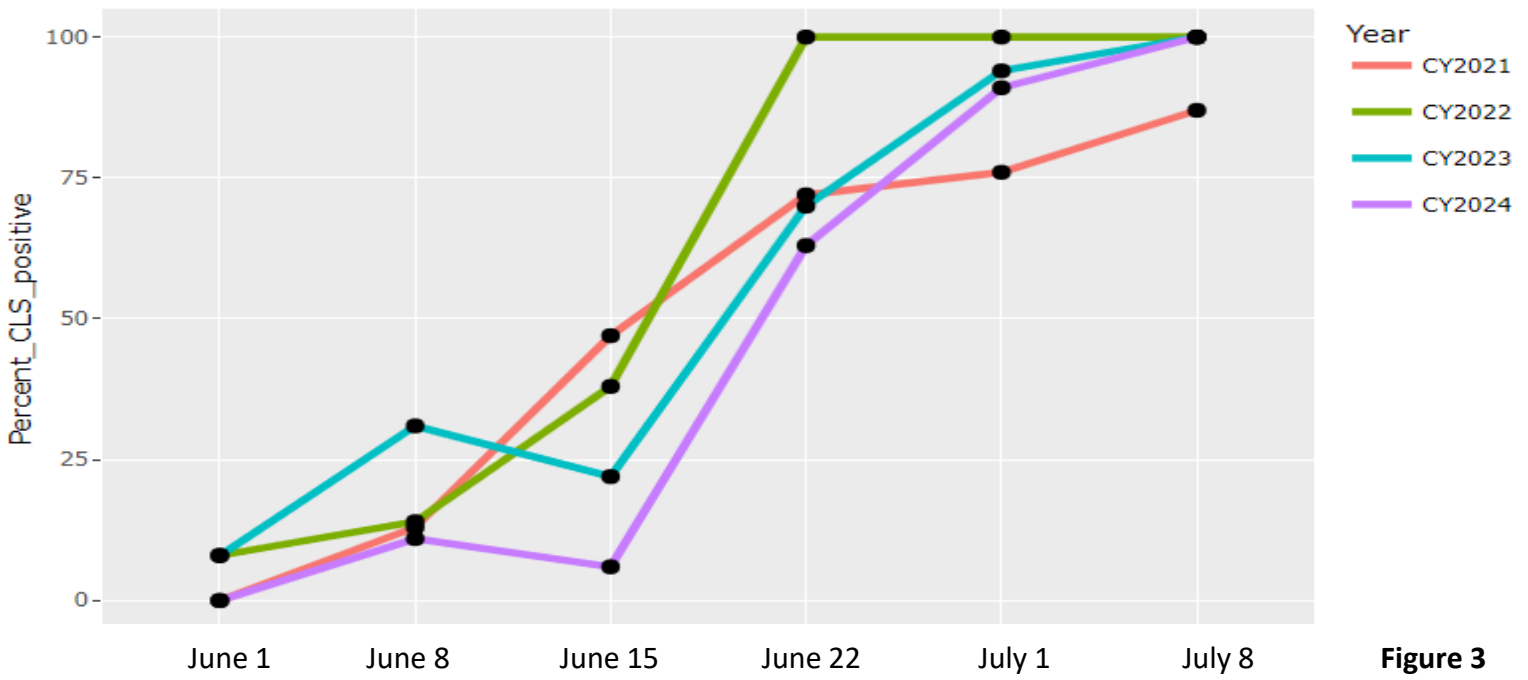


Figure 3

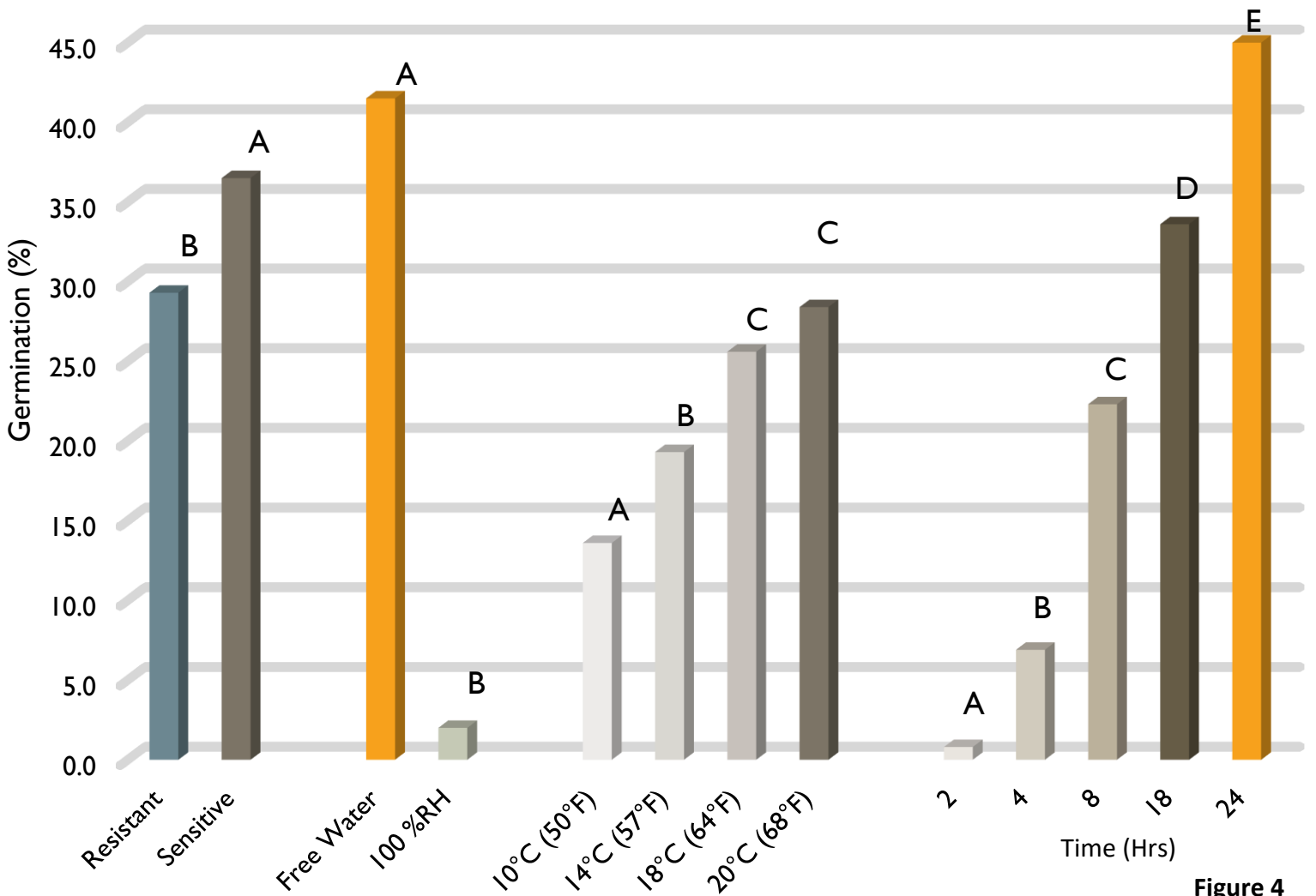


Figure 4

All data and figures provided by Dr. Nate Wyatt, USDA-ARS Fargo, ND. For a more detailed explanation of the CR+ adaptation and Dr. Secor's data on CLS spore germination, please watch Dr. Nate Wyatt's video under the meeting info tab.

<https://www.smbc.com/agronomy/AgronomyDefault>