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**Characterization of *Cercospora beticola* populations to support integrated *Cercospora* leaf spot management approaches in Michigan.**

Sugarbeets produce over half of domestic sugar, and Michigan is the fourth highest U.S. producer. *Cercospora beticola* causes one of the most impactful foliar diseases in sugarbeet growing regions, Cercospora leaf spot (CLS). Management of CLS relies heavily on timely and repeated fungicide applications, and fungicide resistance has been observed for several fungicide classes in *C. beticola*. In 2021 and 2022, *in vitro* fungicide sensitivity was tested for five demethylation inhibitors (DMI; difenoconazole, fenbuconazole, mefentrifluconazole, prothioconazole, tetraconazole), a quinone outside inhibitor (QoI; pyraclostrobin), a methyl benzimidazole carbamate (MBC; thiophanate-methyl), and triphenyltin hydroxide. Mutations associated with resistance to QoI, MBC, and DMI fungicides also were evaluated using restriction fragment length polymorphisms (PCR-RFLP). While the E198A mutation was significantly associated with *C. beticola* responses to thiophanate-methyl ( $P < 0.0001$ ), G143A and Glu169 were not as strongly associated with pyraclostrobin or DMI (prothioconazole and tetraconazole) responses, respectively. Overall, *in vitro* insensitivity was observed for all tested active ingredients, however, elevated frequencies were observed for thiophanate-methyl (72-86%), tetraconazole (28-56%), prothioconazole (78-92%), and pyraclostrobin (9-33%). Despite these observations, application programs that rotate multiple fungicide groups and use tank-mix partners continue to offer significant CLS control in field studies ( $P < 0.05$ ). To further diversify and support integrated CLS management, ongoing studies of cultural strategies to reduce *C. beticola* inoculum survival also are being conducted.