



## *Foliar Applications of Azoxystrobin for Rhizoctonia Control in Sugarbeets*

*Best timing for foliar applications of azoxystrobin for Rhizoctonia control in sugarbeets depends on growth stage, soil moisture/temperature and weather.*

Research over the last several years by Michigan State University Extension and Michigan Sugar Company has shown that Rhizoctonia can be effectively controlled with proper placement and timing of azoxystrobin fungicide (commonly known as Quadris®). Growers who are planting Rhizoctonia susceptible varieties, including many of the nematode tolerant varieties, should consider at least one and/or possibly two applications of fungicide. Because of soil placement, T-band in-furrow applications provide extended control and have proven to be the most effective, however, in heavy disease areas and/or when using a susceptible variety a sequential foliar application should also be applied. This application should not be applied prior to the 8 leaf stage and has been very effective from 8-10 leaf. A recent survey indicates that about half of the beet growers are using this two application approach.

Approximately one third of growers do not apply in-furrow and are relying on a single foliar spray. The best timing of this application can be tricky because of several factors. Azoxystrobin applications are most effective when applied before plant infections occur. Ideal infection periods occur when average daily soil temperature at the four inch depth is 65 degrees or warmer. Soil moisture is also important and warm wet soil will increase infections while dry soil will have less infection. Timing of applications just before rainfall has shown to be very effective.

Plant leaf stage can also be a predictor of application timing for growers using a single application. Research conducted by Sugarbeet Advancement indicates applications of azoxystrobin at the 6-10 leaf stage has often provided best Rhizoctonia control. Earlier applications (2-4 leaf) may result in reduced control, depending on soil conditions and infection periods. Be sure to count leaf stages on sugarbeets correctly. Do not include the cotyledon leaves (first leaves when beets emerge) when staging beets. Growers are often applying fungicides at the 4-6 leaf stage rather than 6-8, due to counting the cotyledon leaves. Sugarbeet leaves always grow in pairs; remove two leaf pairs at a time. Current research suggest the most effective application timing involves combining several factors. This would include a growth stage of about 6-8 leaf beets, prediction for increasing 4" soil temperatures above 65 degrees, moist soil and/or rain predicted.

All foliar applications of azoxystrobin should be applied in a 7 inch band or less, since the fungicide applied to the crown of the beet is most important. Apply at least the full rate recommended for your row width (10.5 oz/ac for 30" rows, and 14.25 oz/ac for 22" rows). Reduced rates have been shown to reduce control. Broadcast applications at the same rate are not as effective as banded applications. Be careful not to mix azoxystrobin with oil based products and adjuvants as leaf injury can occur. Manganese, Boron and some insecticides that are non-oil based can be mixed and safely applied to sugarbeets.

In 2015 Michigan Sugar Company conducted some foliar efficacy research comparing Quadris (azoxystrobin) to generic versions including Azoxy 25C, Agristar Azoxystrobin and Equation SC. In an average of 3 locations, there did not appear to be any differences between Quadris and the generic formulations. No in-furrow comparisons were conducted or attempt to measure mixability/compatibility with other products.



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The impact that In-furrow followed by a foliar application of azoxystrobin can have on controlling Rhizoctonia compared to none.