

# EVALUATING FUNGICIDES FOR REDUCING ANTHRACNOSE IN WATERMELONS

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## ABSTRACT

Anthracnose, caused by the fungus *Colletotrichum orbiculare*, is a destructive disease of watermelons that reduces yield and quality of fruit. Research was conducted in Cook County to evaluate fungicide efficacy for controlling anthracnose in watermelons. Treatments included four applications of Bravo Weatherstik followed by Quadris and Quintec in rotation with either Fontelis + Tebuzol; Edura + Tebuzol; Luna Experience; Bravo Weatherstik; Switch; Inspire Super; Topsin XTR; Tebuzol; Fontelis + Bravo Weatherstik; or Endura + Bravo Weatherstik. One treatment consisted of seven applications of Bravo Weatherstik only. An untreated check was included in each replication. Plots were evaluated for anthracnose 15, 20 and 28 June. The most significant reductions in anthracnose on the 28 June ratings were observed in treatments containing Bravo Weatherstik 6sc only. Treatments that included Topsin XTR in rotation with Quadris and Quintec also reduced anthracnose greater than treatments that included Bravo Weatherstik in rotation with Quadris and Quintec. Data suggests Bravo Weatherstik as well as Topsin XTR significantly reduced anthracnose compared to the untreated check, however considering potential for rind burn, Topsin XTR should be considered in a fungicide spray program to effectively reduce anthracnose while preserving marketable fruit.

## SITUATION

Anthracnose, caused by the fungus *Colletotrichum orbiculare*, is a destructive disease of cucurbits. Visual symptoms of the disease in watermelons include angular lesions on foliage stems and fruit. Anthracnose causes significant loss in yield and quality of fruit if the disease is not managed. Harvested melons infected with the disease are typically rejected among buyers. Newer fungicides that target gummy stem blight are available to watermelon producers however their efficacy against anthracnose is unknown. Research was conducted in Cook County to evaluate fungicides for controlling anthracnose in watermelons.

## RESPONSE

A site was established in a commercial watermelon field in Lenox, Georgia to evaluate fungicides for reducing anthracnose. Watermelons were transplanted into single row mulched beds 4 April. Beds were on six foot centers. Plots were 30 feet long and 6 foot wide and separated by a border row of melons. The test design was a randomized complete block with four replications. Fungicide treatments were applied using a CO<sub>2</sub> backpack sprayer with TX-18 hollow-cone nozzles calibrated to deliver 40 gal/A. The crop was managed according to University of Georgia Extension production guidelines. Irrigation was provided via traveling gun. All plots received applications of Bravo Weatherstik 27 April, and 4, 11, 21 May. The remaining treatments 31 May, 8, 15 June consisted of Quadris and Quintec in rotation with Fontelis + Tebuzol, Edura + Tebuzol, Luna Experience, Switch, Inspire Super, Topsin, Tebuzol, Fontelis + Bravo Weatherstik, Bravo Weatherstik, or Endura + Bravo Weatherstik. Plots were replicated 4 times – each replication included a not treated plot. One treatment consisted of 7 applications of Bravo Weatherstik only. Yield data was not recorded because disease onset occurred after fruit set and the likelihood of detecting yield differences among treatments was poor.

## RESULTS

Treatments were evaluated for anthracnose infection 15, 22, and 28 June. All treatments provided significantly greater control than the untreated check. Vines treated with Bravo Weatherstik only, or Topsin XTR in rotation with Quintec during sprays 5 – 7 provided the greatest control of Anthracnose. Treatments that included Bravo Weatherstik as a final treatment (4,10,11) provided good control of anthracnose. An exception was vines treated with Tebuzol + Bravo Weatherstik in rotation with Quadris and Quintec in which control of anthracnose was significantly less than treatments of Bravo Weatherstik only. Switch in rotation with Quadris and Quintec (5) provided significantly greater control when compared to the untreated check however control was significantly less when compared to the Bravo Weatherstik only treatment. Rind burn was observed in the Bravo only treatments.

## DISCUSSION

Considering chlorothalonil's capability to cause rind burn, although inconsistently, when applied to melons near maturity, the product should not be considered in a late season fungicide program to reduce anthracnose. Melons with blemished rinds are considered unmarketable among packers. Late season fungicides that include Topsin XTR should be considered in a fungicide program to effectively reduce anthracnose.