

**Chemical management of cabbage black rot, Clayton, NC 2023.**

Chemical management of cabbage black rot Central Crops Research Station in Clayton, NC. Experimental plots were 14-ft long single raised beds on 5-ft centers covered with white plastic mulch with 5-ft fallow borders on each end. Cabbage was transplanted (seven plants/plot) on 3 May. Irrigation and fertilization (4-0-8, N-P-K) were applied via drip tape. Three treatments and a non-treated control were tested in a randomized complete block design with four repetitions. Fungicide treatments were applied using a CO<sub>2</sub>-pressurized backpack sprayer equipped with a single-nozzle, handheld boom with a hollow cone nozzle (TXVS-26) delivering 40 gal/A at 35 psi on 7 Jun, 14 Jun, 28 Jun, 6 Jul, 13 Jul, and 19 Jul. Artificial inoculation was performed in the early morning on 9 May, and where inoculum was applied using a backpack sprayer at 20 psi in a concentration of 10<sup>7</sup> spores per milliliter. Disease severity per plot was assessed on 28 Jun, 6 Jul, 13 Jul, 28 Jul and 4 Aug. Data were analyzed in the software ARM (Gylling Data Management, Brookings, SD) using analysis of variance (AOV) and Fisher’s protected least significant differences (LSD) test to separate means.

Black rot was first detected on 28 Jun. No phytotoxicity was observed in the experiment. The disease severity data obtained on 13 Jul showed no significant differences across the fungicide treatments nor the nontreated control. Season-long disease, as summarized using the area under the disease progress curve (AUDPC), also showed no significant differences for any treatment nor the nontreated control.

Treatments	Rate /Acre	Application Time	Disease Severity <sup>z</sup> (%) 13 Jul	AUDPC <sup>y</sup>
Non-treated Control	–	–	23.3 a <sup>x</sup>	898.50 a
Theia Dyne-Amic	1.5 lbs 0.375% v/v	ABCDEF ABCDEF	5.0 a	545.75 a
Theia Dyne-Amic Kocide	1.5 lbs 0.375% v/v 0.75 lbs	ACE ACE BDF	13.8 a	675.38 a
Theia Dyne-Amic Kocide	1.5 lbs 0.375% v/v 0.75 lbs	ABCDEF ABCDEF ABCDEF	21.3 a	779.63 a
Mastercop	0.5 pt	ABCDEF	18.3 a	784.00 a
Mastercop	1.0 pt	ABCDEF	18.8 a	665.63 a
Kocide	1.5 lbs	ABCDEF	13.3 a	543.38 a

<sup>z</sup>Disease severity rating is based on percent necrotic foliage per plot caused by *X. campestris* pv. *campestris*.

<sup>y</sup>Area under the disease progress curve.  $AUDPC = \sum_{i=1}^{n-1} \frac{y_i + y_{i+1}}{2} x(t_{i+1} - t_i)$

<sup>x</sup>Treatments followed by the same letter(s) within a column are not statistically different ( $P=0.05$ , Fisher’s Protected LSD).