OAK (*Quercus alba* and *Q. bicolor*)
Anthracnose; *Apiognomonia quercina*

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Comparison of fungicides for management of oak anthracnose, 2012.

Fungicide treatments were arranged in a completely randomized design in a block of white oak trees (*Quercus alba*) planted in 2011 on 10 x 20 ft spacing. Each treatment consisted of 7 single tree replicates. The same fungicide treatments were arranged in a randomized complete block design in a block of swamp white oak trees (*Q. bicolor*) also planted in 2011 on 10 x 20 ft spacing. Each treatment consisted of 4 single tree replicates. Fungicides were applied to trees (from two directions until runoff) using a Solo-Pump-Style backpack sprayer. (Approximately 0.36 gal of a spray suspension was used per 7 trees within each treatment.) Fungicide treatments were applied to trees that were at red tip to bud break on 23 Apr and again on 2 May. Buccaneer (1 qt/A) plus MCPA (1 qt/A) was applied on 6 Apr and Rely (82 oz/A) plus Makaze (2 qt/A) was applied 9 Jul for weed control. No fertilizer was applied to tree rows. Tree phenology was evaluated on 25 Apr by examining 100 buds from each tree to determine which trees were at bud swell, red tip (bud scales separated exposing tips of leaves) or full bud break (individual leaves beginning to swell and emerge from buds). The incidence of anthracnose was evaluated on 17 May and again on 1 Jun by examining all leaves on 10 shoots (average 66 leaves with a range of 47 to 94), arbitrarily selected from each tree.

Spring weather conditions were considered normal to wet. Anthracnose was first observed on 7 May as subtle water soaking of leaves with some vein necrosis. Leaf lesions were much more obvious within a week and some shoot dieback was also observed. Nontreated trees that were at bud swell on 25 Apr had less anthracnose than trees at red tip or full bud break (Table 1). Nontreated white oak trees had significantly more anthracnose than fungicide treated trees (Table 2). There was no significant difference in incidence between trees treated with Banner or Daconil. Due to high tree to tree variation there was no significant difference in incidence between treatments on swamp white oak trees (Table 3), however, the trend in the data is similar to that found for *Q. alba* trees. Both tree types treated with Banner showed a distinctive growth regulation response with smaller, darker colored leaves and compact growth. This PGR effect was more pronounced on *Q. bicolor* trees.

Table 1. Tree development and incidence of anthracnose on nontreated trees.

Bud Phenology on 25 Apr	Leaves with Anthracnose (%)	
	17 May	1 Jun
Bud Swell	5 (n=4)	23 (n=4)
Red Tip	23 (n=3)	44 (n=3)
Full Bud Break	37 (n=4)	50 (n=4)

Table 2. Incidence of anthracnose on white oak trees (*Quercus alba*).

Treatment & Rate/100 gal water	Leaves with Anthracnose (%)*	
	17 May	1 Jun
Nontreated ……	31.0 a	47.6 a
Banner MAXX at 16 fl oz……....	1.4 b	11.4 b
Daconil Weather Stik at 1.4 pt……...	5.9 b	20.8 b

*.Means followed by same letter do not differ significantly based on LSD (P=0.05).

Table 3. Incidence of anthracnose on swamp white oak trees (*Quercus bicolor*).

Treatment & Rate/100 gal water	Leaves with Anthracnose (%)*	
	17 May	1 Jun
Nontreated ……	10.7	30.7
Banner MAXX at 16 fl oz……....	4.5	8.9
Daconil Weather Stik at 1.4 pt……...	0.3	3.2

* Means without letters did not differ significantly based on LSD (P=0.05).