FOLIAR FUNGICIDE TREATMENTS FOR THE CONTROL SECROTINIA STEM AND CROWN ROT AND ASCOCHYTA BLIGHT IN GARBANZO BEANS

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Two trials were conducted at the U.C. West Side Research and Extension Center to evaluate four fungicides for Sclerotinia stem and crown rot control. One trial was conducted in a field that had been in garbanzos with a very high level of Sclerotinia the previous year. The purpose was to evaluate fungicides in what was expected to be a location with high Sclerotinia disease pressure. The other trial, which looked at the same fungicides but with fewer treatments, was intended to evaluate the fungicides under lower disease pressure.

The winter of 2006-2007 was quite dry and there was practically no Sclerotinia stem and crown rot in either trial. However, there was quite a bit of Ascochyta blight, especially in the trial planted for the second year in a row to garbanzos. This was due to the large number of volunteer seedlings from the previous crop that were the source of Ascochyta spores. Unfortunately, the initial blight infection took place very early in the season, prior to the application of any fungicides. Once fungicides were applied, conditions were no longer favorable for infection.

Treatments, rates, yield and size data are found in Tables 1 and 2. In the trial where garbanzos were planted after a lupin crop the previous winter (Table 1), there were no differences in yield or in the size of beans. The co-efficient of variability was less than 10% and the average yield over all treatments was 24.6 cwt/acre.

In the trial where garbanzos were planted in the same area where garbanzos had been grown in the previous year (Table 2), there was no significance in yield. However, plots which received an early application of Headline tended to have more beans between the 20 and 22 size screens with fewer beans in the 24 size screen and a larger can count, indicating smaller beans compared to other treatments. The co-efficient of variability for yield data was almost 20%, about twice that of the trial planted after lupin. This indicates there was much more variability among plots than is desirable in a research plot and may have been in part due to the early Ascochyta infection that occurred. The average yield over all treatments in this trial was 19.0 cwt/acre, which was 5.6 cwt/acre less than the trial conducted in the lupin field.

Due to absence of disease and variability in the plots, there are no conclusions possible regarding the efficacy of these materials on either Sclerotinia stem and crown rot or Ascochyta blight.

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Table 1. Yield results from 2006/2007 garbanzo foliar fungicide trial for Sclerotinia white mold in a field following lupins. UC West Side Research and Extension Center[1].

Treatment	Rate per Acre	Dates Applied	Yield[2] (cwt/acre)	% Beans >20	% Beans >22	% Beans >24	Can Count
Untreated	--	--	23.4	24.1	62.2	13.7	61.3
Headline	9 fl oz	2/17/07	25.7	26.9	64.4	8.7	61.3
Endura	11 oz	2/17/07	25.3	25.4	66.2	8.4	61.9
TopsinM	40 fl oz	2/17/07	25.2	24.2	65.3	10.5	61.0
Headline	9 fl oz	3/23/07	24.5	27.0	63.9	9.1	60.6
Endura	11 oz	3/23/07	23.2	25.3	64.8	10.0	61.3
TopsinM	40 fl oz	3/23/07	23.7	26.5	62.6	10.9	60.6
Headline 2x's	9 fl oz	2/17/07 & 3/23/07	26.0	26.0	63.7	10.3	60.9
		Probability	*0.5178*	*0.8786*	*0.7022*	*0.4391*	*0.3730*
		LSD 0.05)	*NS*	*NS*	*NS*	*NS*	*NS*
		CV (%)	*9.37*	*13.48*	*5.18*	*32.18*	*1.25*

[1]This trial was established in an area planted to a lupin variety trial the previous season. Variety HB 14 seeded on December 6, 2006; cut on June 13, 2007; threshed on June 27, 2007. Plots were 4 rows by 35 feet with 31 feet of the center two rows used for data collection. There were 4 replications.

[2]Yield reported as clean weight.

Table 2. Yield results from 2006/2007 garbanzo foliar fungicide trial for Sclerotinia white mold in a field following garbanzos. UC West Side Research and Extension Center[1].

Treatment	Rate per Acre	Dates Applied	Yield[2] (cwt/ac)	% Beans >20	% Beans >22	% Beans >24	Can Count
Untreated	--	--	18.4	13.4 bcd	61.1	25.5	59.1 bc
Headline	9 fl oz	2/17/07	21.4	20.0 a	61.3	18.7	60.8 a
Endura	11 oz	2/17/07	20.8	12.6 cd	54.9	32.5	58.6 c
TopsinM	40 fl oz	2/17/07	14.2	14.4 bc	56.8	28.8	58.4 c
Headline	6 fl oz	2/17/07	21.4	20.1 a	58.2	21.7	60.5 ab
Endura	8 oz	2/17/07	20.9	14.4 bc	50.9	34.7	58.3 c
TopsinM	20 fl oz	2/17/07	17.1	13.0 bcd	58.4	28.6	58.5 c
Headline	9 fl oz	3/23/07	17.5	11.9 cd	56.2	31.8	58.8 c
Endura	11 oz	3/23/07	19.0	13.1 bcd	56.1	30.8	57.8 c
TopsinM	40 fl oz	3/23/07	15.0	12.8 cd	58.3	28.9	57.8 c
Headline	9 fl oz	4/19/07	20.6	13.9 bcd	57.4	28.7	58.6 c
Endura	8 oz	4/19/07	19.9	9.5 d	53.2	37.3	57.6 c
TopsinM	40 fl oz	4/19/07	15.9	11.8 cd	52.4	35.7	57.8 c
Headline, Headline, TopsinM	High Rates	All 3 dates	21.5	15.9 abc	52.0	32.1	58.6 c
Bravo Weather Stik	2 pt/A	All 3 dates	21.8	17.7 ab	63.1	19.2	58.6 c
		Probability	*0.0719*	*0.0021*	*0.6640*	*0.2705*	*0.0035*
		LSD(0.05)	*NS*	*4.801*	*NS*	*NS*	*1.530*
		CV (%)	*19.86*	*23.52*	*14.15*	*34.79*	*1.83*

[1]This trial was established in an area planted to a garbanzo trial the previous season. Variety HB 14 seeded on Dec. 6, 2006; cut on June 13, 2007; threshed on June 27, 2007. Plots were 4 rows by 35 feet with 31 feet of the center two rows used for data collection. There were 4 replications.

[2]Yield reported as clean weight.