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***Cercospora arachidicola* (Early Leaf Spot); *Cercosporidium personatum* (Late Leaf Spot); *Puccinia arachidis* (Peanut Rust); *Sclerotium rolfsii* (White Mold)**

Evaluation of fungicides for reduction of Leaf Spot, Rust and White Mold diseases of Peanut (*Arachis hypogaea*).

A field (Kendrick loamy sand) at the University of Florida-IFAS Plant Science Research and Education Unit (PSEU) in Citra, Florida was used for experimentation. On 4 May seeds of peanut var ‘Georgia Green’ were planted at a density of 5 seeds per foot into rows on 36” centers. Fungicides were applied seven times at 7-14 day intervals starting June 16 and ending on July 27, 2006. All spray applications were applied using a CO₂ backpack sprayer at 30 lb/in² (psi) in 50gpa water through a two 8004 TeeJet® flat fan tips on a 36 inch boom. Each fungicide treatment and a non-treated control were replicated five times using two rows twenty feet in length separated by an untreated guard row. All plots which were arranged in a randomized complete block design. Inoculum of the Leaf spot and rust experiment was naturally occurring. Disease rating for leaf spot and rust started on June 28, 2006 and continued weekly throughout the test. Disease ratings were made by randomly collecting ten peanut leaflets from each treated row and rating Leaf spot and Rust incidence and severity. Leaf spot was first observed on June 28, 2006 and throughout the remainder of the test. Rust was first observed on July 19, 2006. Inoculum for the White Mold test was prepared using three isolates of the pathogen and 50 grams of prepared inoculum were applied to the over the top the northern row of each two row plot. As the inoculum was applied, it was shaken down onto the plant crown. The plots were examined for disease incidence and rated for foot of row infected. Some Tomato Spotted Wilt was observed throughout the planting, however the infestation was light. The plots were dug on September 11, 2006 and the peanuts were bagged, identified by plot and replicate, and placed into a dryer. When the peanuts had sufficiently dried they were removed from the dryer and the yield from each replicated plot was weighed and the data recorded.

Final data summary for Peanut leaf spot and Rust Trial 2006.

| Treatment/Spray | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Early Leaf Spot Incidence % | Early Leaf Spot Severity % | Late Leaf Spot Incidence % | Late Leaf Spot Severity % | Rust Incidence % | Rust Severity % | Yield in Lbs/ Plot | Yield in Lbs/ Acre |
|--|---|---|---|---|---|---|---|-----------------------------|----------------------------|----------------------------|---------------------------|------------------|-----------------|--------------------|--------------------|
| T1- Untreated | | | | | | | | 57.7a | 5.8ab | 55.7a | 8.4a | 98.5a | 28.3a | 8.4a | 3671.3a |
| T2- Echopropimax(Echo 720 (1 pt/A+ Propimax 2 fl.oz./ A) | X | X | | X | | X | X | 59.0a | 4.99ab | 40.0ab | 1.1b | 91.3ab | 11.5c | 10.25ab | 4464.9ab |
| T2- Abound (9.2 fl.oz./ A) | | | X | | X | | | | | | | | | | |
| T3- Echo 720 (1.5 pt/A) | X | X | | | | | X | 66.25a | 3.9ab | 48.3ab | 1.3b | 94.0ab | 13.1bc | 12.09bc | 5266.4bc |
| T3-Folicur 3.6F (7.2 fl.oz./ A) | | | X | X | X | X | | | | | | | | | |
| T4- Echo 720 (1.5 pt/A) | X | X | | | | | X | 59.8a | 2.99b | 33.3b | 0.5b | 94.0ab | 10.6c | 12.47bc | 5431.9bc |
| T4-Echo720 (1 pt/A)/Muscle 3.6F (7.2 fl.oz./ A) | | | X | X | X | X | | | | | | | | | |
| T5-Evito (5.7 Oz/A) | | | X | | X | | | 58.0a | 4.5ab | 52.0a | 1.5b | 93.5ab | 13.4bc | 12.94c | 5636.6c |
| T5-Bravo WS (16oz/A) | X | X | | X | | X | | | | | | | | | |
| T6-Bravo WS (16oz/A) | X | | X | | X | X | X | 57.0a | 3.3ab | 43.5ab | 3.8b | 89.5b | 16.4bc | 11.05bc | 4813.4bc |
| T6- Abound (9.2 fl.oz./ A) | | X | | X | | | | | | | | | | | |
| T7-Tilt/Bravo (1.5 Pt/A) | X | X | X | X | X | X | X | 65.8a | 6.3ab | 49.8ab | 3.5b | 92.3ab | 20.4b | 11.32bc | 4931.0bc |
| T8-Bravo WS (16oz/A) | X | X | | | | | X | 66.3a | 7.3a | 47.5ab | 3.4b | 98.3a | 14.9bc | 11.09bc | 4830.8bc |
| T8-Folicur 3.6F (7.2 fl.oz./ A) | | | X | X | X | X | | | | | | | | | |

All values followed by the same letter are not significantly different P<0.05.

Statistical analysis conducted using SAS 9.1 GLM and Duncan's Multiple Range Test.

Applications 1-7 were made 06/16/06; 06/22/06; 06/29/06; 07/06/06; 07/13/06; 07/20/06; 07/27/06.

Conclusions from this data:

No difference between treatments and untreated check for Early Leaf spot incidence.

Treatment 4 had significantly lower early leaf spot incidence than treatment 1 but was not significantly different from the other treatments.

All treatments had significantly lower Late Leaf spot severity compared to the untreated check but none of the treatments were significantly different from each other.

Treatment 6 has significantly less rust compared to the untreated check and treatment 8 and the untreated check but was not significantly different from the remaining treatments.

Treatment 4 had significantly lower rust severity than treatment 7 and the untreated check but was not significantly different from the remaining treatments.

Treatment 5 had a significantly greater yield compared to the untreated check and treatment 2 whereas treatments 3,4,6,7,8 were not significantly different from treatment 5.

Final data summary of White Mold test 2006

| | 06/16/06 | 06/22/06 | 06/29/06 | 07/06/06 | 07/13/06 | 07/20/06 | Foot of Row infected | Yield in Lbs | Yield in Lbs/Acre |
|-------------------------|----------|----------|----------|----------|----------|----------|----------------------|--------------|-------------------|
| Treatment/Spray | 1 | 2 | 3 | 4 | 5 | 6 | | | |
| T1- untreated | | | | | | | 21.0a | 7.5a | 3299.9a |
| T2-Abound (12.3 oz/A) | | X | | X | | | 11.0b | 9.46b | 4120.7b |
| T2- Folicur (7.2oz/A) | | | X | | X | | | | |
| T3- Headline (12 oz/A) | | X | | X | | | 10.1b | 8.64ab | 3763.5ab |
| T3- Folicur (7.2oz/A) | | | X | | X | | | | |
| T4-Moncut (1.07lb/A) | | | | X | | X | 10.6b | 7.99ab | 3480.4ab |
| T5- Bravo WS (1.5 pt/A) | X | X | | X | | X | 9.0b | 9.07ab | 3950.8ab |
| T5-Evito (5.7 Oz/A) | | | X | | X | | | | |

All values followed by the same letter are not significantly different $P < 0.05$.

Statistical analysis conducted using SAS 9.1 GLM and Duncan's Multiple Range Test.

Applications 1-6 were made 06/16/06; 06/22/06; 06/29/06; 07/06/06; 07/13/06; 07/20/06.

Conclusions:

All treatments had significantly less length of row infected with White Mold (*Sclerotium rolfsii*) compared to the untreated check.

Treatment 2 had significantly greater yield than the untreated check but this yield was not significantly greater than the remaining treatments.