

# TIMELY INFORMATION

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### **Control of Foliar and Soil Diseases of Peanut with Evito 480SC Fungicide**

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Evito 480SC, which is marketed by Arysta LifeScience, was registered in 2006 for the control of a range of foliar and soil diseases of peanut. The active ingredient fluoxastrobin, which is a strobilurin, is classified in the same fungicide group as Abound 2SC, Headline 2.09E, and the trifloxystrobin component of recently released Absolute 500SC.

Strobilurin fungicides are considered by a high risk for control failures due to the appearance of tolerance or resistance in target fungi populations. Early and late leaf spot fungi are particularly high risks for developing resistance to fungicides. Increased tolerance to triazole-type fungicides (tebuconazole and propiconazole) has already been seen in leaf spot fungi populations in Georgia and Alabama. According to FRAC resistance avoidance guidelines for solo applications of strobilurin [Group 11] fungicides, no more than three (3) applications of any one or combination of the above strobilurin fungicides may be made as part of a seven (7) application calendar treatment program per growing season to a field of peanuts. If six or fewer solo applications are planned, the number of allowable strobilurin applications is two (2). Inserting a non-strobilurin fungicide, particularly Bravo Ultrex, Bravo Weather Stik, Chloronil 720, Echo 720, Equus 720, or another chlorothalonil fungicide, between applications of Evito and/or other strobilurin fungicides is strongly recommended. Make no more than two consecutive applications of Evito or another strobilurin fungicide to peanut. The total number of strobilurin applications can be increased to half the seasonal total by adding a non-strobilurin tank mix partner, especially one of the above chlorothalonil fungicides, to the spray tank.

The application rate the control of early leaf spot, late leaf spot, rust, white mold, and *Rhizoctonia* limb rot for Evito 480SC on peanut is 5.7 fluid ounces per acre. To control both foliar and soil diseases of peanut, schedule applications Evito 480SC approximately 60 and 90 days after planting. Schedule an application of chlorothalonil or another non-strobilurin fungicide like Artisan 3.6E, Moncut DF + chlorothalonil, Folicur 3.6F, Muscle 3.6F, Tebustar 3.6F, Orius 3.6F, Tebuzol 3.6F, or Trisum 3.6F 14-days (2-weeks) after the first application of Evito 480SC.

### **Field Trials with Evito 480SC**

Activity of 5.7 fl oz/A of Evito 480SC alone or tank mixed with Folicur 3.6F against leaf spot diseases, rust, and white mold was compared with that of other recommended fungicide programs in field trials conducted in 2006 at the Wiregrass Research and Extension Center (WREC) and Gulf Coast Research and Extension Center (GCREC). Applications of Evito 480SC with and without a non-ionic surfactant (NIS) were made about 60 and 85 days after planting. The remaining five fungicide treatment slots in the 14-day calendar programs were filled with 1.5 pt/A of Echo 720. Tank mix combinations of 3.5 fl oz of Evito plus 3.6 fl oz of Folicur 3.6F as well as 5.7 fl oz/A Evito 480SC alternated with 7.2 fl oz/A Folicur 3.6F were also compared at both locations. Recommended Folicur 3.6F, Abound 2SC, and Echo 720 + Moncut 70DF programs were included as standard treatments.

At the GCREC in 2006, the labeled two application 5.7 fl oz/A Evito 480SC program was equally effective in controlling late leaf spot and rust as the Echo 720, Abound 2SC, and Echo 720 + Moncut 70DF standards (Table 1). Like all other fungicide treatments, the labeled Evito 480SC program gave better late leaf spot and rust control than the recommended Folicur 3.6F program. Addition of the 0.25% v/v non-ionic (NIS) surfactant to Evito 480SC did not enhance the activity of this fungicide against late leaf spot or rust. Also, alternating or tank mixing Evito 480SC with Folicur 3.6F did not improve the control of late leaf spot or rust compared with the labeled Evito 480SC program.

White mold hit counts for the Echo 720 and labeled two-application Evito 480SC programs did not significantly differ (Table 1). In contrast, the Evito 480SC + NIS, reduced rate of Evito 480SC + Folicur 3.6F, and 5.7 fl oz/A Evito 480SC/7.2 fl oz/A Folicur 3.6F alternation programs all reduced white mold hit counts when compared with the standard season-long Echo 720 program. The program that included four applications of the reduced rate of Evito 480SC + Folicur 3.6F gave better white mold control than the standard Folicur 3.6F program and was equally effective in controlling this disease as the standard Abound 2SC and Echo 720 + Moncut 70DF programs.

Yield response with the two-application Evito and season-long Echo 720 programs differed by only 15 pounds/A (Table 1). The four application 3.5 fl oz/A Evito 480SC + 3.6 fl oz/A Folicur 3.6F and standard Echo 720 + Moncut 70DF programs yielded significantly higher than the labeled two-application Evito 480SC or the season-long Echo 720 programs. Otherwise, yields for the labeled two-application Evito 480SC and the remaining fungicide programs were statistically similar.

Table 1. Comparison of Evito 480SC with Echo 720, Folicur 3.6F, Abound 2SC, and Moncut 70DF programs for the control of late leaf spot, rust, and white mold on peanut at the Gulf Coast Research and Extension Center in 2006.

Treatment and Rate/A	Application Timing <sup>z</sup>	Disease Ratings			Yield lb/A
		Late leaf spot <sup>y</sup>	Peanut rust <sup>x</sup>	White mold <sup>w</sup>	
Echo 720 24.0 fl oz .....	1-7	3.1 d <sup>v</sup>	4.2 bcd	6.8 a	4550 b
Echo 720 24.0 fl oz .....	1,2,4,6,7	3.3 cd	3.7 d	5.8 ab	4535 b
Evito 5.7 fl oz	3,5				
Echo 720 24.0 fl oz .....	1,2,4,6,7	3.3 cd	3.8 cd	4.8 bc	5062 ab
Evito 5.7 fl oz + NIS 0.25% v/v	3,5				
Echo 720 24.0 fl oz .....	1,2,4,6,7	3.1 d	4.2 bcd	3.8 cd	4879 ab
Evito 3.5 fl oz + Folicur 3.6F 3.6 fl oz	3,5				
Echo 720 24.0 fl oz .....	1,2,7	3.6 bc	4.3 bcd	3.8 cd	4925 ab
Evito 5.7 fl oz	3,5				
Folicur 3.6F 7.2 fl oz	4,6				
Echo 720 24.0 fl oz .....	1,2,7	3.1 d	4.5 abc	2.3 d	5284 a
Evito 3.5 fl oz + Folicur 3.6F 3.6 fl oz	3,4,5,6				
Echo 720 24.0 fl oz .....	1,2,7	4.3 a	5.0 a	4.8 bc	4764 ab
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Echo 24.0 fl oz .....	1,2,4,6,7	3.3 cd	4.2 bcd	4.0 bcd	5062 ab
Abound 2.08SC 18.2 fl oz	3,5				
Echo 720 24.0 fl oz .....	1,2,4,6,7	3.2 cd	4.2 bcd	2.5 d	5368 a
Echo 720 24.0 fl oz + Moncut 70DF	3,5				
1.1 lb					
LSD (P = 0.05)		0.4	0.7	2.0	612

<sup>z</sup>Fungicide applications were made on 1 = 27 June, 2 = 10 July, 3 = 24 July, 4 = 7 August, 5 = 21 August, 6 = 5 September, and 7 = 20 September.

<sup>y</sup>Late leaf spot were assessed using the 1 to 10 Florida leaf spot scoring system .

<sup>x</sup>Rust rated using the ICRISAT 1-9 rating scale (1 = no disease, ...9 = plants severely affected, 80-100% leaves withering).

<sup>w</sup>White mold incidence is expressed as the number of white mold hits per 60 ft of row.

<sup>w</sup>Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (P = 0.05).

At WREC in 2006, all the Evito 480SC programs with one exception controlled leaf spot diseases as well as the standard fungicide programs (Table 2). As was the case with most of the other fungicide programs, Evito 480SC gave significantly better leaf spot control than the standard Folicur 3.6F program. Alternating Evito 480SC with Folicur 3.6F resulted in a significant decline in leaf spot control compared with the labeled 2-application Evito 480SC program. Due largely to low white mold pressure, no sizable differences in the control of this disease were seen between fungicide programs. Addition of the non-ionic surfactant did not influence the activity of Evito 480SC against leaf spot diseases or white mold. Yield response with the Evito 480SC programs was similar to that obtained with all standard fungicide treatment programs. Yield for the Abound 2SC program were higher compared with the season-long Echo 720 and standard Folicur 3.6F programs.

Table 2. Effectiveness of Evito 480SC and recommended Echo 720, Folicur 3.6F, Abound 2SC, and Moncut 70DF fungicide programs compared at the Wiregrass Research Extension Center in 2006.

Treatment and Rate/A	Application timing <sup>z</sup>	Disease ratings		Yield lb/A
		Leaf spot <sup>y</sup>	White mold <sup>x</sup>	
Echo 720 24.0 fl oz .....	1-7	3.4 c <sup>w</sup>	3.8 ab	3687 b
Echo 720 24.0 fl oz .....	1,2,4,6,7	3.3 c	3.8 ab	4041 ab
Evito 5.7 fl oz	3,5			
Echo 720 24.0 fl oz .....	1,2,4,6,7	3.1 c	3.0 b	4001 ab
Evito 5.7 fl oz + NIS 0.25% v/v	3,5			
Echo 720 24.0 fl oz .....	1,2,4,6,7	3.2 c	3.2 b	3985 ab
Evito 3.5 fl oz + Folicur 3.6F 3.6 fl oz	3,5			
Echo 720 24.0 fl oz .....	1,2,7	4.0 ab	4.8 a	4025 ab
Evito 5.7 fl oz	3,5			
Folicur 3.6F 7.2 fl oz	4,6			
Echo 720 24.0 fl oz .....	1,2,7	3.3 c	2.7 b	4074 ab
Evito 3.5 fl oz + Folicur 3.6F 3.6 fl oz	3,4,5,6			
Echo 720 24.0 fl oz .....	1,2,7	4.5 a	3.5 ab	3816 b
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz .....	1,2,4,6,7	3.0 c	2.8 b	4380 a
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz.....	1,2,4,6,7	3.1 c	3.8 ab	3945 ab
Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5			
LSD (P = 0.05).....		0.5	1.6	509

<sup>z</sup>Fungicide applications were made on 1 = 26 June, 1.5 = 5 July, 2 = 11 July, 3 = 26 July, 4 = 8 August, 5 = 22 August, 6 = 5 September, and 7 = 18 September.

<sup>y</sup>Early and late leaf spot were assessed using the 1 to 10 Florida leaf spot scoring system .

<sup>x</sup>White mold incidence is expressed as the number of white mold hits per 60 ft of row.

<sup>w</sup>Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (P = 0.05).

In summary, Evito 480SC is a useful addition of the arsenal of fungicide available for controlling damaging diseases of peanut. Activity of the labeled two application 5.7 fl oz/A Evito program against leaf spot diseases and rust was comparable to that of the standard Abound 2SC, season-long Echo 720, and Echo 720 + Moncut 70DF programs and superior to that of Folicur 3.6F. The white mold activity of Evito 480SC needs to be clarified in additional field trials. In the one study where noticeable white mold damage was seen, the labeled two-application Evito 480SC program failed to reduce hit counts below that of the season-long Echo 720 standard. Significant reductions in white mold hit counts were seen only when Evito 480SC was tank-mixed or alternated with applications of Folicur 3.6F. Overall, Evito 480SC probably is a better fungicide for controlling leaf spot diseases and rust than white mold. Yield response with the labeled Evito 480SC program was comparable to that obtained with other fungicide programs giving similar levels of disease control.