

Interaction of soybean fungicides and insecticides with glyphosate. Waddington, Mark A., Bryan G. Young, Ronald F. Krausz and Jennifer A. Hagerman. This study was designed to determine the impact of tank-mixing glyphosate with fungicides and/or insecticides on the pesticide efficacy and soybean grain yield. The study was conducted on an Ebbert silt loam with 2.6 % organic matter and pH 6.1 at the Belleville Research Center. Fertilizer applied was 50 and 100 lb/A of P₂O₅ and K₂O, respectively, to an area that had been cropped to soybean in 2003. Asgrow 'AG 4403 RR' soybeans were planted 1.0 inch deep at 75 lb/A into a reduced-till seedbed on May 22, 2004. Plots consisted of four rows with 30 inch row spacing, 27 ft long arranged in a randomized complete block design with 4 replications. The herbicides were broadcast applied with a CO₂ pressurized sprayer using 8003 flat fan tips at 40 PSI and 20 GPA water. Monthly rainfall in inches was 1.3, 8.7, 2.8, 6.6, and 5.2 in April, May, June, July and August, respectively. Treatments were applied to soybean at reproductive stage 3 (R3). Application information is listed below.

Date	7-26-04
Treatment	R3
Air temperature (F)	76
Relative humidity (%)	58

soybean	
stage	R3
height (inch)	28-30

Soybean injury (3 to 9%) was observed at 7 and 14 days after application for all treatments that included chlorpyrifos. No soybean injury was observed for any treatment at 28 days after application. In no instance did the addition of glyphosate to a fungicide, an insecticide, or the combination of fungicide and insecticide affect the soybean yield. (Dept. of Plant, Soil and Agricultural Systems, Southern Illinois University, Carbondale)

Table. Interaction of soybean fungicides and insecticides with glyphosate. (Waddinton, Young, Krausz and Hagerman)

Treatment ^a	Application		Soybean				
			Injury days after treatment			Moisture %	Yield bu/A
	Rate (lb/A)	Time	7	14	28		
Nontreated			0	0	0	10.1	67
Lambda-cyhalothrin	0.02	R3	0	0	0	10.2	67
Chlorpyrifos	0.5	R3	9	2	0	10.3	63
Pyraclostrobin	0.1	R3	0	0	0	10.5	71
Azoxystrobin	0.1	R3	0	0	0	10.3	69
Propiconazole	0.112	R3	0	0	0	10.2	69
Lambda-cyhalothrin + pyraclostrobin	0.02 + 0.1	R3	0	0	0	10.8	72
Lambda-cyhalothrin + azoxystrobin	0.02 + 0.1	R3	0	0	0	10.3	70
Lambda-cyhalothrin + propiconazole	0.02 + 0.112	R3	0	0	0	10.1	69
Chlorpyrifos + pyraclostrobin	0.5 + 0.1	R3	6	1	0	10.4	68
Chlorpyrifos + propiconazole	0.5 + 0.112	R3	7	2	0	10.6	64
Glyphosate	1.12	R3	0	0	0	10.1	66
Lambda-cyhalothrin + glyt	0.02 + 1.12	R3	0	0	0	10.0	67
Chlorpyrifos + glyt	0.5 + 1.12	R3	9	2	0	10.0	64
Pyraclostrobin + glyt	0.1 + 1.12	R3	0	0	0	10.3	70
Azoxystrobin + glyt	0.1 + 1.12	R3	0	0	0	10.2	68
Propiconazole + glyt	0.112 + 1.12	R3	0	0	0	9.9	66
Lambda-cyhalothrin + pyraclostrobin + glyt	0.02 + 0.1 + 1.12	R3	0	0	0	10.4	70
Lambda-cyhalothrin + azoxystrobin + glyt	0.02 + 0.1 + 1.12	R3	0	0	0	10.1	70
Lambda-cyhalothrin + propiconazole + glyt	0.02 + 0.112 + 1.12	R3	0	0	0	10.0	68
Chlorpyrifos + pyraclostrobin + glyt	0.5 + 0.1 + 1.12	R3	4	1	0	10.3	69
Chlorpyrifos + propiconazole + glyt	0.5 + 0.112 + 1.12	R3	3	1	0	9.9	62
LSD			2	1	0	0.5	4
P			0.01	0.01	1.0	0.1	0.01

^aAll glyphosate was Roundup WeatherMax.

Lambda-cyhalothrin = Warrior. Chlorpyrifos = Lorsban. Pyraclostrobin = Headline. Azoxystrobin = Quadris. Propiconazole = Tilt.

All plots recieved a blanket preemergence application of pendimethalin + imazaquin at 0.75 + 0.125 lbai/A, respectively on May 23.

All plots recieved a blanket postemergence application of glyphosate at 0.75 lbae/A, applied to V3-V4 soybeans on June 21.