

EVALUATION OF FUNGICIDES FOR CONTROL OF PHYTOPHTHORA BLIGHT OF PROCESSING PUMPKIN, 2000: Experiments were conducted in an irrigated and a non-irrigated field near Pekin, Illinois. Both fields were naturally infested with *Phytophthora capsici* in 1999. In both fields, soils were deep plowed and disked on 6 May and 120 lb of urea-ammonium nitrate (28% N) was applied per acre and incorporated into the soil. Processing pumpkin cultivar Libby Select was planted on 8 May. Seeds were sown 18-in. apart in double-row plots, 12 ft long, in CRB design with three replications. The plots were spaced 30 ft apart. The design of the experiments in irrigated and non-irrigated fields were identical. Herbicide Command (4 pt/A) was applied on 15 May. Cucurbit beetles were managed by application of Pounce (4 oz/A) on 18 May, 25 May, and 2 Jun. Soil-drench fungicides were first applied at planting and then at 2-wk intervals. Foliar fungicide applications were made at weekly interval starting from 12 Jun (5th wk of planting). All of the chemicals were applied with a backpack sprayer, using 50 gal of water per acre. Average monthly high and low temperatures (F) were 76/50, 80/62, 84/65, 86/66, and 80/56 in May, Jun, Jul, Aug, and Sep, respectively. Recorded precipitation in the area was 7 days (3.45 in.), 9 days (3.0 in.), 7 days (3.1 in.), 6 days (1.4 in.), and 4 days (2.6 in.) in May, Jun, Jul, Aug, and Sep, respectively. The irrigated field received 0.3 in./wk water through a central pivot during Jun-Aug, when soil was dry due to inadequate rainfall. Plants were examined weekly for symptoms of Phytophthora foliar blight and fruit rot from 22 May to 13 Sep. Disease incidence and severity were evaluated at three locations (11 sq. ft each) in each plot.

Post-emergence damping-off was observed within 4-wk of seedling emergence. The first leaf infection was observed on 11 July and progressed rapidly. Disease progression was slowed from 20 July to 20 Aug, due to drier weather. Overall, the incidence of foliar blight and fruit rot in the plots treated with Acrobat MZ was lower than those in plots treated with other fungicides and those of the control plots. The results presented in the table are from the data taken on 13 Sep (at harvest).

Fruit	Phytophthora disease (%) ¹							
	Leaf		Leaf		Vine			
	incidence		severity		incidence		incidence	
	Irri.	Non-irri.	Irri.	Non-irri.	Irri.	Non-irri.	Irri.	
Treatment and rate/A (application) ²								
Non-irri.								
Control	42.6	69.6	41.8	72.2	23.6	30.8	8.3	5.6
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Acrobat MZ (F) ³ 2.25 lb (1-7)	30.2	32.2	25.3	27.4	18.9	0.0	6.2	0.0
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Acrobat MZ (F)+ Ridomil Gold/EC (S) ³ 2.25 lb+2.0 pt (1-7+0,1,3,5)	29.3	32.9	22.6	16.1	7.4	10.9	0.0	0.0
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Actigard 50WG (F) 1 oz. (1-8)	35.9	49.4	30.3	38.3	6.6	14.4	5.6	0.0
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Aliette 80WDG (F) 5.0 lb (1-7)	39.1	60.2	33.1	68.3	18.8	24.4	5.6	0.0
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Aliette 80WDG (F)+Ridomil Gold/Copper (S) 5.0 lb+2.0 lb (1-7+ 0,1,3,5)	38.6	58.8	37.3	52.2	15.8	12.0	3.7	5.6
Bravo Ultrex 82.5WG (F) 1.8 lb (1-8)	31.6	61.2	31.7	67.8	11.2	23.9	0.0	0.0
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Bravo Ultrex 82.5WG(F)+Ridomil Gold/EC(S) 1.8 lb+2.0 pt(1-8+0,1,3,5)	32.9	61.9	26.1	59.3	10.4	8.0	0.0	0.0
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Nova 40W (F)+Zoxium 80W ⁴ (F) 0.25 lb+0.4 lb (1-10)	34.9	45.3	24.4	23.1	10.4	11.9	0.0	3.7
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Quadris 2.08SC ⁵ (F)+ATOFAP 10 (F) 6.2 fl. oz.+2.0 lb (1-10)	34.9	58.3	29.4	71.1	8.0	33.8	3.7	0.0
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Quadris 2.08SC ⁵ (F)+Cuprofix 30DG(F) 6.2 fl. oz.+3.0 lb (1-10)	33.6	42.3	38.1	45.0	28.7	30.3	11.1	5.6
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Quadris 2.08SC ⁵ (F)+ Pencozeb75DF (F) 6.2 fl. oz.+2.5 lb (1-10)	39.7	52.7	35.6	51.7	10.0	7.6	0.0	0.0
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Quadris 2.08SC ⁵ (F)+TD-2389-02 (F) 6.2 fl. oz.+3.0 lb (1-10)	41.4	63.6	38.9	57.2	17.9	11.7	12.9	2.8
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Ridomil Gold/Bravo (F+S) 2.0 lb (1,3,5,7+ 0,1)	35.6	58.9	28.1	54.4	6.7	7.2	0.0	0.0
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Ridomil Gold/Bravo (F) 2.0 lb (1,3,5,7)	37.6	58.6	39.1	53.3	11.3	8.7	0.0	0.0
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Ridomil Gold/Copper (F+S) 2.0 lb (1,3,5,7+ 0,1)	35.5	47.1	36.2	35.6	16.7	8.6	0.0	0.0
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Ridomil Gold/MZ (F) 2.5 lb (1,3,5,7)	38.8	49.7	35.1	33.3	14.4	10.6	0.0	0.0
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Ridomil Gold/MZ (F+S) 2.5 lb (1,3,5,7+ 0,1)	39.4	56.0	33.9	51.7	20.7	8.3	5.6	5.6
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USF-2001 520SC(F) 6.0 fl. oz. (1-4)	38.6	64.4	31.4	64.4	12.3	16.2	0.0	0.0
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USF-2001 520SC (F) 6.0 fl. oz. (3-6)	44.0	71.6	40.3	69.4	14.8	11.0	5.6	2.8
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LSD (P≤0.05)	7.2	12.8	7.5	16.6	13.8	17.3	10.5	7.7

¹ Disease incidence: percent leaves, vines, or fruit infected; disease severity: percent leaf area infected.

² Application times: 0=8 May, 1=12 Jun, 2=20 Jun, 3=26 Jun, 4=3 Jul, 5=10 Jul, 6=17 Jul, 7=24 Jul, 8=31 Jul, 9=7 Aug, 10=14 Aug.

³ F=Foliar application; S= Soil application.

⁴ Zoxium was added to the 1st, 4th, 7th and 10th fungicide application.

⁵ Quadris was added to the 1st, 4th, 7th and 10th fungicide application.