Chemical Control of Anthracnose in Southern California, 2009

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Forty two fungicide treatments were evaluated for their effectiveness in controlling anthracnose (*Colletotrichum cereale*) on creeping bentgrass at UCR. The effectiveness of 26 of these is presented here.

Plots were inoculated on 25 May with anthracnose spores grown in the laboratory. The green was a 'Peterson's Creeping' annual bluegrass, established in 2007 from seed. Turf was mowed 3 days a week at a height of 0.25-in. and irrigated daily according to ET needs. Fungicide applications were initiated on 1 Jun at 7-, 14- or 28-day intervals until 8 Sep. Disease severity (% plot area affected) was evaluated every 14 days and AUDPC calculated based upon the sum of the total disease from 15 Jun to 25 Aug. Data was analyzed by ANOVA followed by means separation using Fisher's LSD (α=0.05)

Gary's Green Ultra (GGU) and P-K Plus (PKP), two fertilizers from Griggs Brothers were used to evaluate the effectiveness of nitrogen and phosphite fertilizers on anthracnose control. The mount of nitrogen in the 9 and 15 fl oz applications of Gary's Green Ultra is equal to 0.10 and 0.16 lb of nitrogen/1,000 sq ft per application, respectively. Calcium nitrate ($CaNO_3$) in 15.5-0-0 form, was applied as a comparison at 10 and 16 oz, equal to 0.10 and 0.16 lb of nitrogen/1,000 sq ft per application. The 6 fl oz application of P-K Plus contained the equivalent of 0.011 lb nitrogen and 0.12 P_2O_5 /1,000 sq ft per application.

Table 1. Results arranged by treatment

#	Treatment and rate/1,000 sq ft[z]	Interval	% anthracnose[y] 15 Jun	30 Jun	14 Jul	28 Jul	11 Aug	25 Aug	AUDPC[x]
6	Banner MAXX 1.3ME 2.0 fl oz	14	0.0 d	0.0 d	0.0 c	7.5 efg	0.0 g	0.0 f	7.5 g
34	$CaNO_3$ 15.5-0-0 10 oz	7	7.5 bcd	5.0 cd	7.5 bc	27.5 bcd	27.5 bcd	20.0 b-e	81.3 bc
35	$CaNO_3$ 15.5-0-0 16.5 oz	7	0.0 d	0.0 d	2.5 c	15.0 e-g	15.0 c-g	12.5 c-f	38.8 c-g
33	Daconil Ultrex 82.5 WG 1.8 oz	7	0.0 d	0.0 d	2.5 c	0.0 g	6.3 fg	0.0 f	8.8 g
29	GGU 13-2-3 15 fl oz plus PKP 3-7-18 6.0 fl oz	7	0.0 d	0.0 d	0.0 c	5.0 fg	12.5 d-g	10.0 efd	22.5 d-g
31	GGU 13-2-3 9.0 fl oz	7	0.0 d	0.0 d	2.5 c	25.0 b-e	30.0 bc	32.5 b	73.8 c-e
28	GGU 13-2-3 9.0 fl oz plus PKP 3-7-18 6.0 fl oz	7	0.0 d	0.0 d	0.0 c	10.0 e-g	17.5 c-f	10.0 efd	32.5 c-g
30	GGU 13-2-3 9.0 fl oz plus PKP 3-7-18 6.0 fl oz plus Daconil Ultrex 82.5 WG 1.8 oz	7	0.0 d	0.0 d	0.0 c	0.0 g	12.5 d-g	2.5 f	13.8 fg
26	Headway 1.39ME 1.0 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	0.0 g	0.0 f	0.0 g
32	PKP 3-7-18 6.0 fl oz	7	0.0 d	0.0 d	2.5 c	40.0 abc	42.5 ab	47.5 a	108.8 b
7	Reserve 4.8SC 2.8 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	1.3 g	0.0 f	1.3 g
8	Reserve 4.8SC 3.2 fl oz	14	0.0 d	0.0 d	7.5 bc	10.0 e-g	3.8 fg	0.0 f	21.3 d-g
11	Reserve 4.8SC 3.2 fl oz plus Chipco Signature 80 WG 4.0 oz	14	0.0 d	0.0 d	0.0 c	5.0 fg	10.0 efg	2.5 f	16.3 fg
9	Reserve 4.8SC 3.6 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	1.3 g	0.0 f	1.3 g
10	Reserve 4.8SC 4.5 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	2.5 fg	1.3 f	3.1 g
38	Tourney 50WG 0.18 oz	14	0.0 d	0.0 d	0.0 c	5.0 fg	1.3 g	2.5 f	7.5 g
41	Tourney 50WG 0.28 oz	28	5.0 cd	5.0 cd	2.5 c	12.5 e-g	5.0 fg	2.5 f	28.8 c-g
37	Tourney G 30.4 oz	14	0.0 d	0.0 d	2.5 c	42.5 ab	22.5 cde	25.0 bc	80.0 bc
36	Tourney G 40.8 oz	28	0.0 d	0.0 d	7.5 bc	22.5 c-f	15.0 c-g	22.5 bcd	56.3 b-g
42	Trinity 1.69SC 0.50 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	3.8 fg	0.0 f	3.8 g
25	Trinity 1.69SC 1.0 fl oz	14	0.0 d	0.0 d	0.0 c	5.0 fg	5.0 fg	2.5 f	11.3 fg
2	Triton Flo 3.1SC 0.50 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	2.5 fg	0.0 f	2.5 g
3	Triton Flo 3.1SC 0.75 fl oz	14	7.5 bcd	7.5 bcd	7.5 bc	0.0 g	0.0 g	0.0 f	18.8 efg
5	Triton Flo 3.1SC 0.75 fl oz plus Chipco Signature 80 WG 4.0 oz alt/w Daconil Ultrex 82.5 WG 3.2 oz	14	0.0 d	0.0 d	0.0 c	0.0 g	0.0 g	0.0 f	0.0 g
4	Triton Flo 3.1SC 1.0 fl oz	14	12.5 bcd	12.5 bcd	10.0 bc	0.0 g	0.0 g	0.0 f	28.8 c-g
1	Untreated check	---	30.0 a	27.5 a	37.5 a	50.0 a	57.5 a	57.5 a	216.3 a
	ANOVA P		0.006	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	LSD (α=0.05)		8.0	6.5	5.8	9.4	7.9	6.5	28.4

Footnotes:

[z] Treatments applied in 2 gal water per 1,000 sq ft at 35 psi using TeeJet 8002 nozzles.

[y] The average % anthracnose in four replicated plots, means followed by the same letter are statistically equal (Fisher's LSD with α=0.05)

[x] AUDPC = area under the disease progress curve (total disease), calculated as the sum of average disease severity between evaluation dates.

Table 2. Results arranged by AUDPC (total disease)

#	Treatment and rate/1,000 sq ft[z]	Interval	% anthracnose[y] 15 Jun	30 Jun	14 Jul	28 Jul	11 Aug	25 Aug	AUDPC[x]
1	Untreated check	---	30.0 a	27.5 a	37.5 a	50.0 a	57.5 a	57.5 a	216.3 a
32	PKP 3-7-18 6.0 fl oz	7	0.0 d bc	0.0 d	2.5 c	40.0 abc	42.5 ab bc	47.5 a	108.8 b
34	$CaNO_3$ 15.5-0-0 10 oz	7	7.5 d	5.0 cd	7.5 bc	27.5 bcd	27.5 d cd	20.0 b-e	81.3 bc
37	Tourney G 30.4 oz	14	0.0 d	0.0 d	2.5 c	42.5 ab	22.5 e	25.0 bc	80.0 bc
31	GGU 13-2-3 9.0 fl oz	7	0.0 d	0.0 d	2.5 c	25.0 b-e	30.0 bc	32.5 b bc	73.8 c-e
36	Tourney G 40.8 oz	28	0.0 d	0.0 d	7.5 bc	22.5 c-f	15.0 c-g	22.5 d	56.3 b-g
35	$CaNO_3$ 15.5-0-0 16.5 oz	7	0.0 d	0.0 d	2.5 c	15.0 e-g	15.0 c-g	12.5 c-f	38.8 c-g
28	GGU 13-2-3 9.0 fl oz plus PKP 3-7-18 6.0 fl oz	7	0.0 d	0.0 d	0.0 c	10.0 e-g	17.5 c-f	10.0 efd	32.5 c-g
41	Tourney 50WG 0.28 oz	28	5.0 cd bc	5.0 cd bc	2.5 c	12.5 e-g	5.0 fg	2.5 f	28.8 c-g
4	Triton Flo 3.1SC 1.0 fl oz	14	12.5 d	12.5 d	10.0 bc	0.0 g	0.0 g	0.0 f	28.8 c-g
29	GGU 13-2-3 15 fl oz plus PKP 3-7-18 6.0 fl oz	7	0.0 d	0.0 d	0.0 c	5.0 fg	12.5 d-g	10.0 efd	22.5 d-g
8	Reserve 4.8SC 3.2 fl oz	14	0.0 d bc	0.0 d bc	7.5 bc	10.0 e-g	3.8 fg	0.0 f	21.3 d-g
3	Triton Flo 3.1SC 0.75 fl oz	14	7.5 d	7.5 d	7.5 bc	0.0 g	0.0 g	0.0 f	18.8 efg
11	Reserve 4.8SC 3.2 fl oz plus Chipco Signature 80 WG 4.0 oz	14	0.0 d	0.0 d	0.0 c	5.0 fg	10.0 efg	2.5 f	16.3 fg
30	GGU 13-2-3 9.0 fl oz plus PKP 3-7-18 6.0 fl oz plus Daconil Ultrex 82.5 WG 1.8 oz	7	0.0 d	0.0 d	0.0 c	0.0 g	12.5 d-g	2.5 f	13.8 fg
25	Trinity 1.69SC 1.0 fl oz	14	0.0 d	0.0 d	0.0 c	5.0 fg	5.0 fg	2.5 f	11.3 fg
33	Daconil Ultrex 82.5 WG 1.8 oz	7	0.0 d	0.0 d	2.5 c	0.0 g	6.3 fg	0.0 f	8.8 g
6	Banner MAXX 1.3ME 2.0 fl oz	14	0.0 d	0.0 d	0.0 c	7.5 efg	0.0 g	0.0 f	7.5 g
38	Tourney 50WG 0.18 oz	14	0.0 d	0.0 d	0.0 c	5.0 fg	1.3 g	2.5 f	7.5 g
42	Trinity 1.69SC 0.50 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	3.8 fg	0.0 f	3.8 g
10	Reserve 4.8SC 4.5 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	2.5 fg	1.3 f	3.1 g
2	Triton Flo 3.1SC 0.50 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	2.5 fg	0.0 f	2.5 g
7	Reserve 4.8SC 2.8 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	1.3 g	0.0 f	1.3 g
9	Reserve 4.8SC 3.6 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	1.3 g	0.0 f	1.3 g
26	Headway 1.39ME 1.0 fl oz	14	0.0 d	0.0 d	0.0 c	0.0 g	0.0 g	0.0 f	0.0 g
5	Triton Flo 3.1SC 0.75 fl oz plus Chipco Signature 80 WG 4.0 oz alt/w Daconil Ultrex 82.5 WG 3.2 oz	14	0.0 d	0.0 d	0.0 c	0.0 g	0.0 g	0.0 f	0.0 g
	ANOVA *P*		0.006	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	LSD (α=0.05)		8.0	6.5	5.8	9.4	7.9	6.5	28.4

Footnotes:

[z] Treatments applied in 2 gal water per 1,000 sq ft at 35 psi using TeeJet 8002 nozzles.

[y] The average % anthracnose in four replicated plots, means followed by the same letter are statistically equal (Fisher's LSD with α=0.05)

[x] AUDPC = area under the disease progress curve (total disease), calculated as the sum of average disease severity between evaluation dates.

Results

Disease severity was high, reaching an average of 57.5% disease in untreated plots by 11 Aug.

Amongst fertility based treatments, applications of P-K Plus (potassium phosphite, KH_2PO_3) alone initially had a reduction on anthracnose severity, but disease developed equal to the check later in the trial. Nitrogen applied as $CaNO_3$ or Gary's Green Ultra did have a more pronounced effect on anthracnose reduction, with slightly better effects seen with higher rates of nitrogen. Combinations of Gary's Green Ultra and P-K Plus were equivalent to nitrogen applied alone for overall disease reduction, but some benefits were seen over $CaNO_3$ or Gary's Green Ultra alone near the end of the evaluation period. Applications of Gary's Green Ultra, P-K Plus and Daconil were equivalent to Daconil applied weekly, but color and turf quality were higher (data not shown).

For the DMI fungicides (Banner, Tourney, Triton FLO) very good to excellent control was observed. However, the granular fungicide Tourney G, did not perform as well as the sprayable forms during some of the later evaluation dates. Tourney G also tended to show some burn on the turf. This is likely due to the worse distribution of the granular form compared to the sprayable one. Some discoloration was noticeable with Tourney (WG) and Trinity applications when repeated applications were made at high temperatures. The pigment present in Triton FLO likely masked any noticeable discoloration.

DMI mixtures such as Reserve (equal to Triton FLO & Daconil) and Headway (Banner MAXX & Heritage) also provided excellent disease control. Signature tank mixes and alternations also provided excellent disease control.

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	6	14	32	5	30	12	33	11	39	20
3	24	23	16	31	1	13	26	2	41	15	34	42
28	40	4	27	17	22	37	21	38	19	36	10	25
9	35	18	29	7	8	9	12	39	20	30	8	22
27	3	16	28	13	33	19	2	26	31	11	21	32
4	29	34	10	15	1	36	18	40	17	25	7	41
35	23	37	5	38	24	14	42	6	38	8	29	11
21	2	32	17	16	35	5	24	42	30	12	9	28
20	33	18	3	23	15	31	6	13	25	36	27	37
1	19	22	34	41	4	40	14	39	7	26	10	

Chemical Control of Dollar Spot in Southern California, Spring 2009

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Thirty four fungicide treatments were evaluated for their effectiveness in controlling dollar spot (*Sclerotinia homoeocarpa*) on creeping bentgrass at UCR. The effectiveness of 19 of these is presented here.

Plots were inoculated on 11 May with dollar spot infested grain. The green was a 90/10 mix of creeping bentgrass and annual bluegrass, established in 2005 from sod. Turf was mowed 3 days a week at a height of 0.25-in. and irrigated daily according to ET needs. Fungicide applications were initiated on 28 May at 14-, 21- or 28-day intervals until 9 Jul. Disease severity (% plot area affected) was evaluated every 14 days and AUDPC calculated based upon the sum of the total disease from 28 May to 23 Jul. Data was analyzed by ANOVA followed by means separation using Fisher's LSD (α=0.05)

Table 1. Results arranged by treatment

	Disease severity (%)[y]					
Treatment & rate per 1,000 sq ft [z]	28 May	11 Jun	25 Jun	09 Jul	23 Jul	AUDPC[x]
Banner MAXX 1.3ME 1.0 fl oz	2.5	8.8 b	5.0 b	1.3 b	0.0 d	16.3 bc
Bayleton 50 WG 0.50 oz	3.8	7.5 b	8.8 b	7.5 b	10.0 c	30.6 bc
Curalan 50EG 1.0 oz	6.3	0.0 b	0.0 b	0.0 b	0.0 d	3.1 bc
Eagle 20EW 1.4 fl oz	3.8	11.3 b	12.5 b	1.3 b	2.5 cd	28.1 bc
Emerald 70 WG 0.18 oz plus Daconil Ultrex 82.5 WG 1.8 oz	6.3	0.0 b	0.0 b	0.0 b	0.0 d	3.1 bc
Emerald 70WG 0.13 oz	6.3	3.8 b	0.0 b	0.0 b	0.0 d	6.9 bc
Emerald 70WG 0.18 oz	7.5	1.3 b	0.0 b	0.0 b	0.0 d	5.0 bc
Emerald 70WG 0.18 oz (21-day interval)	0.0	0.0 b	1.3 b	0.0 b	0.0 d	1.3 c
Emerald 70WG 0.18 oz (28-day interval)	3.8	0.0 b	0.3 b	0.0 b	0.0 d	2.1 c
Emerald 70WG 0.18 oz plus Daconil Ultrex 82.5 WG 3.2 oz	0.0	0.0 b	0.0 b	0.0 b	0.0 d	0.0 c
Emerald 70WG 0.18 oz plus Iprodione Pro 2SE 2 fl oz	5.0	0.0 b	0.0 b	0.0 b	0.0 d	2.5 c
Emerald 70WG 0.18 oz plus prodione Pro 2SE 3 fl oz	7.5	0.0 b	0.0 b	0.0 b	0.0 d	3.8 bc
Insignia 20WG 0.90 oz	11.3	6.3 b	0.0 b	0.0 b	7.5 cd	15.6 bc
Interface SC 4.0 fl oz	3.8	0.0 b	0.0 b	0.0 b	0.0 d	1.9 c
Reserve 4.8SC 3.2 fl oz	1.3	0.0 b	1.3 b	0.0 b	0.0 d	1.9 c
Tourney 50WG 0.28 oz	1.3	10.0 b	10.0 b	8.8 b	22.5 b	40.6 b
Trinity 1.69SC 1.0 fl oz	3.8	5.0 b	1.3 b	1.3 b	1.3 cd	10.0 bc
Triton Flo 3.1SC 0.50 fl oz	2.5	6.3 b	2.5 b	1.3 b	2.5 cd	12.5 bc
Untreated check #1	16.3	40.0 a	55.0 a	72.5 a	52.5 a	201.9 a
Untreated check #2	10.0	42.5 a	55.0 a	62.5 a	50.0 a	190.0 a
ANOVA *P*	0.2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
LSD (α=0.05)		6.2	8.6	5.2	4.5	19.0

Table 2. Results arranged by total disease (AUDPC)

Treatment & rate per 1,000 sq ft [z]	Disease severity (%)[y]					AUDPC[x]
	28 May	11 Jun	25 Jun	09 Jul	23 Jul	
Untreated check #1	16.3	40.0 a	55.0 a	72.5 a	52.5 a	201.9 a
Untreated check #2	10.0	42.5 a	55.0 a	62.5 a	50.0 a	190.0 a
Tourney 50WG 0.28 oz	1.3	10.0 b	10.0 b	8.8 b	22.5 b	40.6 b
Bayleton 50 WG 0.50 oz	3.8	7.5 b	8.8 b	7.5 b	10.0 c	30.6 bc
Eagle 20EW 1.4 fl oz	3.8	11.3 b	12.5 b	1.3 b	2.5 d	28.1 bc
Banner MAXX 1.3ME 1.0 fl oz	2.5	8.8 b	5.0 b	1.3 b	0.0 d	16.3 bc
Insignia 20WG 0.90 oz	11.3	6.3 b	0.0 b	0.0 b	7.5 d	15.6 bc
Triton Flo 3.1SC 0.50 fl oz	2.5	6.3 b	2.5 b	1.3 b	2.5 d	12.5 bc
Trinity 1.69SC 1.0 fl oz	3.8	5.0 b	1.3 b	1.3 b	1.3 d	10.0 bc
Emerald 70WG 0.13 oz	6.3	3.8 b	0.0 b	0.0 b	0.0 d	6.9 bc
Emerald 70WG 0.18 oz	7.5	1.3 b	0.0 b	0.0 b	0.0 d	5.0 bc
Emerald 70WG 0.18 oz plus Iprodione Pro 2SE 3 fl oz	7.5	0.0 b	0.0 b	0.0 b	0.0 d	3.8 bc
Emerald 70 WG 0.18 oz plus Daconil Ultrex 82.5 WG 1.8 oz	6.3	0.0 b	0.0 b	0.0 b	0.0 d	3.1 bc
Curalan 50EG 1.0 oz	6.3	0.0 b	0.0 b	0.0 b	0.0 d	3.1 bc
Emerald 70WG 0.18 oz plus Iprodione Pro 2SE 2 fl oz	5.0	0.0 b	0.0 b	0.0 b	0.0 d	2.5 c
Emerald 70WG 0.18 oz (28-day interval)	3.8	0.0 b	0.3 b	0.0 b	0.0 d	2.1 c
Reserve 4.8SC 3.2 fl oz	1.3	0.0 b	1.3 b	0.0 b	0.0 d	1.9 c
Interface SC 4.0 fl oz	3.8	0.0 b	0.0 b	0.0 b	0.0 d	1.9 c
Emerald 70WG 0.18 oz (21-day interval)	0.0	0.0 b	1.3 b	0.0 b	0.0 d	1.3 c
Emerald 70WG 0.18 oz plus Daconil Ultrex 82.5 WG 3.2 oz	0.0	0.0 b	0.0 b	0.0 b	0.0 d	0.0 c
ANOVA *P*	0.2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
LSD (α=0.05)		6.2	8.6	5.2	4.5	19.0

Footnotes:
[z] Treatments applied in 2 gal water per 1,000 sq ft at 35 psi using TeeJet 8002 nozzles at 14-day intervals unless otherwise specified.
[y] The average % dollar spot in four replicated plots, means followed by the same letter are statistically equal (Fisher's LSD with α=0.05)
[x] AUDPC = area under the disease progress curve (total disease), calculated as the sum of average disease severity between evaluation dates.

Results

Disease severity was high, reaching an average of 72% disease in untreated plots by 9 Jul. All fungicide applications provided significant control of dollar spot as compared to the untreated checks.

Performance of Emerald (SDHI-class) and Emerald tank mixes was excellent. Even when applied at 21- or 28-day intervals, control was equal to applications made at 14-day intervals. Control of disease applied alone was equivalent to that of treatments that included a tank-mix partner (Daconil or Iprodione Pro). For resistance management, it is recommended that Emerald be applied in tank-mix with other fungicides and another fungicide be used in alternation after 2 sequential Emerald applications.

Curalan (dicarboximide-class) also performed very well in this trial as did Insignia (QoI-class).

Amongst the DMIs (Banner, Eagle, Tourney, Trinity, and Triton) performance was excellent to very good, with Tourney appearing weaker than the others when used at these experimental rates.

Premixed DMI-products such as Reserve (triticonazole plus chlorothalonil) and Interface appeared to have excellent activity against dollar spot.

2009 Materials Under Trial

Trade Name	Manufacturer	Active Ingredient	Class	FRAC Code
Banner MAXX 1.3ME	Syngneta Professional Products	propiconazole	DMI	3
Bayleton 50WG	Bayer ES	triadimefon	DMI	3
Calcium nitrate (15.5-0-0)	---	calcium nitrate	---	
Concert 4.3SE	Syngneta Professional Products	chlorothalonil + propiconazole	multi-site + DMI	M5 + 3
Curlan 50EG	BASF Corp.	vinclozlin	dicarboximide	2
Daconil Ultrex 82.5 WG	Syngneta Professional Products	chlorothalonil	multi-site	M5
Eagle 20EW	Dow Agroscience	myclobutanil	DMI	3
Emerald 70WG	BASF Corp.	boscalid	SDHI	7
Gary's Green Ultra (13-2-3)	Grigg Brothers	urea, ammonium phosphate, potassium phosphate, potassium nitrate, iron, copper, manganese, and zinc glucoheptonates		
Headway 1.39ME	Syngneta Professional Products	azoxystrobn + propiconazole	QoI + DMI	11 + 3
Insignia 20WG	BASF Corp.	pyraclostrobin	QoI	11
Interface SC	Bayer ES	iprodione + trifloxylstrobin	dicarboximide + QoI	2 + 11
Iprodione Pro 2SE	BASF Corp.	iprodione	dicarboximde	2
P-K Plus (3-7-18)	Grigg Brothers	urea, ammonium sulfate, ammonium phosphate, potassium phosphite	---	---
Reserve 4.8SC	Bayer ES	chlorothalonil + triticonazole	multi-site + DMI	M5 + 3
Chipco Signature 80WG	Bayer ES	fosetyl-al	phosphonate	33
Tourney 50WG	Valent Professional Products	metconazole	DMI	3
Tourney G	Valent Professional Products	metconazole	DMI	3
Trinity 1.69SC	Bayer ES	triticonazole	DMI	3
Triton Flo 3.1SC	Bayer ES	triticonazole	DMI	3