LETTUCE (*Lactuca sativa*) cv. 'Coyote'
Downy mildew; *Bremia lactucae*

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**Comparison of Fungicides for Control of Downy on Iceberg Lettuce, 2005**.

Fungicide efficacy against downy and powdery mildew on lettuce was compared in a study conducted at the University of California Desert Research and Extension Center in Holtville, CA. On 24 Nov 2004, 'Coyote' iceberg lettuce was sown in two seed lines per 40 in bed and irrigated. Treatments are listed in the table. Each was applied over 25 ft of two beds with a 5 ft buffer between treatments within rows and one planted untreated buffer bed between treated beds. Materials were applied n 27 Jan, 8, 16, 25 Feb, 7 and 13 Mar. At the time of the first application, the plants were at the rosette stage of development, with an approximate 3 in diameter and one lesion was detected per 25 plants examined. All materials were applied in 30 gallons of water per acre with a $CO_2$ pressurized backpack sprayer at 30 psi. A 3-nozzle spray boom was used with Teejet 8002 flat fan nozzles spaced 6.5-in apart. Maximum and minimum temperature ranges ($^oF$) were: Dec, 62-77, 31-48; Jan, 56-81, 36-57; Feb 60-75, 39-54; Mar 71-91, 40-57. Rainfall quantities (in.) were: Dec 0.14, Jan 0.49, Feb 1.85, Mar 0.19. On 15, 25 Feb, 4 and 16 Mar, the number of downy mildew lesions per plant on each of 10 plants per plot was recorded. Log-transformed data was subjected to analysis of variance. Student-Newman-Keul's Multiple Range Test on transformed data ($P \leq 0.05$) was use for mean separation. Non-transformed means are presented as number of lesions per plant.

Downy mildew disease pressure was high and few materials held the disease below a level of the untreated control. At the last evaluation, disease severity was lower in Fosphite and Fosphite tank mixed with Acrobat 50WP and Penetrator Plus treatments as compared to the untreated control. No evidence of phytotoxicity was observed.

| Treatment rate/A[z] | Downy mildew (lesions/plant)[y] | | | |
|---|---|---|---|---|
| | 15 Feb | 25 Feb | 4 Mar | 16 Mar |
| Untreated | 12.0 a[x] | 15.6 a | 11.4 a | 8.8 ab |
| Fosphite 3 qts | 0.9 c | 4.0 a | 1.4 de | 0.0 c |
| Fosphite 3 qts + Acrobat 50 WP 6.4 oz+ Penetrator Plus 0.19% v/v[w] | 0.8 c | 0.8 b | 0.5 e | 0.1 c |
| Acrobat 50WP 6.4 oz + Penetrator Plus 0.19% | 3.8 b | 4.1 a | 3.7 bc | 2.8 b |
| Reason 8.2 oz + Maneb 75DF 2.0 lbs + Induce 0.25% v/v | 7.8 a | 4.7 a | 0.6 de | 3.4 ab |
| Forum 6.1 fl oz + Penetrator Plus 0.19% | 10.4 a | 6.4 a | 4.2 bc | 4.0 ab |
| Tanos 8 oz + Maneb 75 DF 2.0 lb alternated w/ Curzate 3.2 oz + Maneb 75 DF 2.0 lb | 8.33 a | 5.2 a | 2.1 cd | 4.1 ab |
| Curzate 3.2 oz+ Maneb 75 DF 2.0 lb | 9.9 a | 4.1 a | 1.9 cd | 5.2 ab |
| Reason 8.2 oz/ac + Induce 0.25% | 8.6 a | 5.7 a | 2.3 cd | 5.5 ab |
| Curzate 5 oz | 11.6 a | 12.4 a | 7.3 abc | 5.5 ab |
| Maneb 75 DF 2.0 lb/ac | 9.9 a | 4.6 a | 2.3 cd | 6.5 ab |
| Curzate 5 oz+ Maneb 75 DF 2.0 lb | 10.0 a | 5.1 a | 2.3 cd | 7.4 ab |
| Tanos 8 oz | 12.4 a | 11.4 a | 8.3 ab | 10.1 a |

[z] On 27 Jan, 8, 16, 25 Feb, 7 and 13 Mar, materials were applied in 30 gallons of water per acre with a $CO_2$ pressurized backpack sprayer at 30 psi.

[y] The number of downy mildew lesions per plant on each of 10 plants per plot were recorded.

[x] Means followed by the same letter do not differ significantly as determined by Student-Newman-Keul's Multiple Range Test ($P \leq 0.05$) on Log-transformed data. Non-transformed means are presented

[w] Materials separated by a "+" were tank mixed.