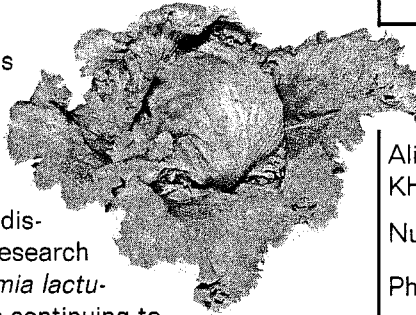


# Lettuce Downy Mildew

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**L**ettuce downy mildew is a persistent and serious problem for Central Coast lettuce growers. Resistant varieties provide some help in reducing disease severity, but continuing research shows that the pathogen, *Bremia lactucae*, has several strains and is continuing to produce new strains, which have the ability to overcome most of the resistance bred into lettuce cultivars. Because of this situation, chemical control of downy mildew is essential to maintaining successful lettuce production on the Central Coast. Downy mildew control trials using both new and existing plant protection products are done annually to assess product efficacy for downy mildew control.



In August 2000, a trial was done on cultivar Legacy. The results follow:

Treatment	Rate/Ac	Disease Ranking (0-10) <sup>1/</sup>
1. 3714 USF 2001	6 fl.oz.	1.4 a <sup>2/</sup>
2. Propamocarb/ Aliette	2.5 pts.	3.1 b
3. Mancozeb 75 W + Actigard (1st) 2 lbs.+1 oz. followed by Actigard (spray 2,3 and 4)	2 lbs. + 1 oz.	3.5 bc
4. Actigard 50W	1 oz.	4.6 bcd
5. No treatment		5.1 cd
6. KP481 50F	8 oz.	5.4 d

<sup>1/</sup> 0=no disease, 10=cap leaves infected  
<sup>2/</sup> Number followed by the same letter does not differ significantly at the 95% confidence level.

In May 2001, a second trial was done on cultivar Tiber. The results follow:

Treatments	Rate/Ac	Disease Rating (0-20) <sup>1/</sup>	Ave. Wt. (gm) per Head
Fosphite	4 pts.	6.5 a <sup>2/</sup>	972.5 a <sup>2/</sup>
Phos Pro	4 pts.	9.0 ab	971.6 a
Aliette + KHCO <sub>3</sub>	3 lbs.+ 1.5 lbs.	9.25 ab	1026.1 a
Nutri Phite	4 pts.	10.25 abc	938.2 a
Phos Gard <sup>3/</sup>	4 pts.	11.0 bcd	1022.5 a
Messenger	4 oz.	11.5 bcd	972.7 a
Control	0	13.5 cde	982.5 a
Keep	5 lbs.	14.75 de	1026.3 a
Maneb 75 DF	2 lbs.	16.25 e	973.5 a

<sup>1/</sup> Treatments with a disease rating greater than 10.25 did not provide disease suppression adequate enough to prevent head loss at harvest.  
<sup>2/</sup> Treatments followed by the same letter are not significantly different at 95% LSD.

<sup>3/</sup> Manufacturer indicates this formulation is no longer available.

Both trials indicate that new products continue to be developed, which provide excellent control of lettuce downy mildew alone or in combinations. Also, that some currently available products continue to provide economic control of *Bremia lactucae*. The "red flag" in the second trial is the complete failure of maneb. This trial was done in the Oso Flaco area, a location traditionally known for its high downy mildew pressure. It can be expected that resistance may arise in a situation where disease potential is high, and control sprays need to be applied frequently and continuously. This trial again underscores the need to integrate the disease control program, using chemicals with varying modes of action. The trial also shows that all phosphonate products are not equal.

Another trial will be conducted this fall to continue to assess the changing nature of downy mildew and the plant protection products used to control it.

