

Lettuce Downy Mildew

**Franklin Laemmlen, U. C. Cooperative Extension
Santa Maria, CA.**

Lettuce 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 breed 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 controls.

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

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

¹ 0 = no disease, 10 = cap leaves infected

² Number followed by the same letter does not differ significantly at the 95% confidence letter

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

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

¹ Treatments with a disease rating greater than 10.25 did not provide disease suppression adequate enough to prevent head loss at the harvest.

² Treatments followed by the same letter are not significantly different at 95% LSD.

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 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.

U.C. COOPERATIVE EXTENSION
Santa Maria, CA.

**LETTUCE DOWNY MILDEW CONTROL
UCCE, SANTA MARIA**

SPRING 2001

Treatment	Rate/Ac ^{1/}	Rating (0-20) ^{2/}
Fosphite	4 pts	6.5 a
Phos Pro	4 pts	9.0 ab
Aliette + KHCO ₃	3 lbs + 1.5 lbs	9.25 ab
Nutri Phite	4 pts	10.25 abc
Messenger	4 oz	11.5 bcd
Control	0	13.5 cde
Keep	5 lbs	14.75 de
Maneb 75 DF	2 lbs	16.25 e

^{1/} Treatments applied on Apr 16,22, and May 1, 11, 2001, in 60 gal water per acre.

^{2/} Rating was done on May 21, 2001. 0=no disease, 20=cap leaf infected. Treatments with a rating greater than 10.5 would have sustained economic loss (heads not harvestable). Treatments followed by the same letter are not significantly different at 95% LSD.

Lettuce Downey mildew Control, UCCE, Santa Maria

