

Early blight fungicide rating – new approach

EuroBlight workshop, May 2015 Brasov

Bert Evenhuis, Hans Hausladen, Bent Nielsen, Huub Schepers



Early blight

- Currently ratings are based on expert judgement
- No harmonised protocols exist
 - Discussed the Alternaria workshop in Cyprus / Freising
 - Inoculation procedure proposed
- Shift in Alternaria population
 - Discussed in the Alternaria workshop and in the Alternaria session



Early Blight Table A. Efficacy of fungicides for the control of early blight caused by *Alternaria solani* and *Alternaria alternata*

Product	Efficacy
azoxystrobin	+++(+)
fluazinam	(+)
metiram/mancozeb ¹	++
propineb	++
chlorothalonil	+(+)
famoxadone+cymoxanil	++
fenamidone+mancozeb or propamocarb ²	++
zoxamide+mancozeb	++(+)
pyraclostrobin + boscalid	+++(+)
difenoconazole + mandipropamid	+++

Key to ratings : 0 = no effect ; + = some effect; ++ =reasonable effect ; +++ = good effect ; ++++ very good effect

¹This rating applies to products containing mancozeb when used at the highest dose rates (>1500g/ha). This rating may not be appropriate where the rate of mancozeb used is lower, particularly where the second active substance is not effective against *Alternaria*. ²In some trials there were indications that the rating was ++(+). Ratings will be lower where fungicide insensitive strains are present.

Disclaimer: this is given in the text of the paper from the Limassol Workshop.



Experiment 2015

- Decimal ratings
- Locations (treatments)
 - Germany (12 + UTC + 1 ?)
 - Denmark (12 + UTC + 1 ?)
 - The Netherlands (20 + UTC + 2 ?)



Protocol for testing “Effectiveness: early blight in potato” (*Alternaria solani*).

■ Purpose/aim of trials

- To compare the “Effectiveness to early blight” by measuring the protection of leaves against infection by *Alternaria* resulting from the application of a fungicide according to this requirements. This spray schedule is not necessarily related to the label recommendations. This protection originates from the protectant and/or curative properties of the active ingredients.

- EPPO guideline PP 1/2 (3) (revised in 1996) describes the standard requirements of the field trial.



Protocol lay-out

- Susceptible variety
- Control PLB with a.i. not effective on EB
- Randomized block design
- Untreated is part of the field experiment (spreader / plot)
- Preferably natural infection, however inoculation with infested grain kernels is permitted
- Misting is permissible
- Yield is not required



Protocol spray application

- Reference treatments
 - Mancozeb weekly from approx. begin flowering
 - Mancozeb every 14 days from flowering
- Spray frequency is **every 7 days** (+/- 1 day) or **every 14 days** (+/- 1 day), to be chosen by the participants. The efficacy of the EB fungicide is compared to one of the two reference treatments accordingly.
- Dose rate is highest dose registered in Europe



Spray schedule

- First spray 6-8 weeks after crop emergence or when the first symptoms appear.

T=6		T=7		T=8		T=9		T=10		T=11		T=12	
Revus	0.6	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5
Revus	0.6	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5
				Dithane DG NT	2	Dithane DG NT	2	Dithane DG NT	2	Dithane DG NT	2	Dithane DG NT	2
Revus	0.6	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5	Ranman Top	0.5
				Dithane DG NT	2			Dithane DG NT	2			Dithane DG NT	2



Assessment and data handling

- Assessment: every week by rating the % infected leaf area: EPPO-guideline PP 1/263 (1).
- A method for determining the rating for the “EuroBlight Fungicide Table” will be proposed when 6 successful trials (2 seasons x 3 trials) have been carried out by independent research institutes in at least 3 different growing regions/countries in Europe. The proposed methodology will be agreed by independent researchers and the agrochemical manufacturers and where possible will be used to analyse data from registration trials, in which the relevant standard products are included. In this way a robust dataset will form the basis of the rating given for the “Effectiveness against early blight”.



WAGENINGEN UR
For quality of life



EuroBlight

A potato late blight network for Europe



Outcome

- Experiments in 2015 & 2016
- Decimal rating early 2017
 - Rating 7 day interval
 - Rating 14 day interval

Fungicide	7 d	14 d
F1		3.5
F2		3.1
F3	2.3	
F4	3.6	
F5	2.7	
F6	4.6	4.0
F7	3.1	
F8		2.1
F9	3.2	



Thank you for your attention

