

Testing fungicides in the EuroBlight network

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Amisulbrom + mancozeb

- Fungicide experts in 7 countries were consulted
- Rating for table 2 (provisional ratings) is proposed based on:
 - Dataset submitted by Nufarm
 - Trials carried out by the experts

Product ¹	Effectiveness				Mode of Action			Rainfastness	Mobility in the plant
	Leaf blight	New growth	Stem Blight	Tuber blight	Protectant	Curative	Anti Sporulant		
Amisulbrom + mancozeb	?	?	+	++(+) ²	++(+)	0	?	+++	Contact + contact

² based on limited data. In some trials a better efficacy was observed than ++(+)

Initium + mancozeb

- Fungicide experts in 7 countries were consulted
- Rating for table 2 (provisional ratings) is proposed based on:
 - Dataset submitted by BASF
 - Trials carried out by the experts

Product ¹	Effectiveness				Mode of Action			Rainfastness	Mobility in the plant
	Leaf blight	New growth	Stem Blight	Tuber blight	Protectant	Curative	Anti Sporulant		
Initium+ mancozeb	3.6	?	?	++	++(+)	0	0	+++	Contact + contact

² Observation of some field trials indicated that both new growth and stem blight efficacy were

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Proxanil (propamocarb + cymoxanil)

- Fungicide experts in 7 countries were consulted
- Rating for table 2 (provisional ratings) is proposed based on:
 - Dataset submitted by Belchim
 - Trials carried out by the experts

Product ¹	Effectiveness				Mode of Action			Rainfastness	Mobility in the plant
	Leaf blight	New growth	Stem Blight	Tuber blight	Protectant	Curative	Anti Sporulant		
Propamocarb + cymoxanil	?	?	?	?	+(+)	++(+) ²	++(+)	?	Systemic + translaminar

² in some trials the curative activity was +++

EuroBlight leaf blight trials 2009

- 3 trials were carried out in 2009 in UK, D & NL
- Results reported on www.euroblight.net
 - Report
 - Fungicide Table
- In 2010, 3 trials are planned in UK, D & NL



Fungicide comparison - Updated 15 January 2010 with new data regarding leaf blight

The effectiveness of fungicide products/co-formulations for the control of *P. infestans* based on the **highest** rate registered in Europe. These ratings are the opinion of the Fungicides Sub-Group at the Hamar late blight workshop, 2008 and are based on field experiments and experience of the products performance when used in commercial conditions.

Hold mouse over headers to get explanation



Product ¹	Effectiveness				Mode of action			Rainfastness	Mobility
	Leaf blight ²	New growth	Stem blight	Tuber blight	Protectant	Curative	Anti sporulant		
copper		?	●	●	●◐	0	0	●	contact
dithiocarbamates ³	2.0	?	●	0	●●	0	0	●◐	contact
chlorothalonil		?	◐	0	●●	0	0	●●◐	contact
cyazofamid	3.8	●●	●	●●●	●●●	0	0	●●●	contact
fluazinam	2.9	?	●	●●◐	●●●	0	0	●●◐	contact
zoxamide + mancozeb	2.8	?	● ⁵	●●	●●●	0	0	●●◐	contact + c
famoxadone + cymoxanil		?	●◐	N/A	●●	●●	●	●●◐	contact + tr
mandipropamid	4.0	●●	●◐	●● ⁵	●●●	● ⁶	●◐	●●●	translamina
benthiavalicarb + mancozeb	3.7	?	●◐ ⁵	●◐	●●●	●◐	●	●●◐	translamina
cymoxanil + mancozeb		?	●◐	0	●●	●●	●	●●	translamina
cymoxanil + metiram		?	●◐	0	●●	●●	●	●●	translamina
cymoxanil + copper		?	●◐	0	●●	●●	●	●●	translamina
dimethomorph + mancozeb	3.0	?	●◐	●●	●●◐	●	●●	●●◐	translamina
fenamidone + mancozeb	2.6	?	●◐ ⁵	●●	●●◐	0	●◐ ⁵	●●	translamina
benalaxyl + mancozeb ⁴		●●	●●	N/A	●●◐	●●◐	●●◐	●●●	systemic +
metalaxyl-M + mancozeb ⁴		●●	●●	N/A	●●◐	●●◐	●●◐	●●●	systemic +
metalaxyl-M + fluazinam ⁴		●●	●●	N/A	●●◐	●●◐	●●◐	●●●	systemic +
propamocarb-HCl + mancozeb		●◐	●●	●●	●●◐	●●	●●	●●●	systemic +
propamocarb-HCl + chlorothalonil	3.4	●◐	●●	●●	●●◐	●●	●●	●●●	systemic +
propamocarb-HCl + fenamidone	2.5	●◐	●●	●●	●●◐	●●	●●	●●●	systemic +
propamocarb-HCl + fluopicolide	3.8	●●	●●	●●●	●●●	●●	●●◐	●●◐	systemic +

¹ The scores of individual products are based on the label recommendation and are NOT additive for mixtures of active ingredients. Inclusion of a product in the list is NOT indicative of its registration status either in the EU or elsewhere in Europe, ² Based on EuroBlight field test in 2006-2008, ³ Includes maneb, mancozeb, propineb and metiram, ⁴ See proceedings for comments on phenylamide resistance, ⁵ Based on limited data, ⁶ In some trials there were indications that the rating was 1½

Update since 2007: Ratings for mandipropamid is now included in the table. Ratings for leaf blight is based on results from Euroblight field trials during 2006-2009, and only compounds included in these trials are rated for leaf blight. The scale for leaf blight is a 2-5 scale (see technical report). All other ratings are 1-3 scale indicated by a combination of full (1) and half (½) orange colored dots.

Key to ratings: 0 = no effect ; ● = reasonable effect ; ●● = good effect ; ●●● = very good effect ; N/A = not recommended for control of tuber blight; ? = no experience in trials and/or field conditions.

Whilst every effort has been made to ensure that the information is accurate, no liability can be accepted for any error or omission in the content of

Leaf/tuber-blight trials: proposed procedure

- In the trials products can be included
 - Without a rating: rating is calculated with data from 6 trials
 - With a rating: rating is re-calculated with the extra data
- Fungicide table is updated on website after all companies have approved draft report and proposed ratings. This can be done independent from workshop meetings
- Products keep their rating 3 years (without participating in trials): after that it is required to participate in 3 new trials

EuroBlight tuber blight trials 2009

- 3 trials were carried out in 2009 in UK, DK & NL
- Results reported to participating companies in report (% blight relatively low)
- Do we have to re-consider the protocol?
- In 2010, 3 trials are planned in UK, DK & NL

Protocol tuber blight trials

- Local potato variety susceptible to tuber blight
- 4-6 replicates with a minimum of 4 rows/plot
- Start with blanket sprays with Dithane or Curzate M to allow a slow foliar epidemic with the same amount of foliar blight in each plot
- Spreader rows can be inoculated when necessary
- Spray test fungicides 3-6 x. Start before 0,5% blight Interval should match blight risk.
- **Misting/irrigation** when needed

Specific requirements

- The growth habit of the cultivar should be recorded i.e. determinate or indeterminate growth.
- Record the provenance and genotype characteristics of the strain(s) if known.
- Record crop cover.
- Crop growth stage should be recorded at each spray date using the BBCH key.

Specific requirements (continued)

- Rainfall, air temperature, soil temperature and soil moisture should be recorded.
- Desiccation: The optimum time to desiccate the haulm can be identified if tuber samples are harvested weekly from extra plots of one standard treatment, starting when foliar blight appears in the plots. The tuber samples must be assessed within 24 hours of harvest. These weekly samples will allow monitoring of tuber blight development.

Specific requirements (continued)

- A minimum of 8 weeks storage in a non-refrigerated store between pre- and post-storage assessment of tuber blight, after which the tubers are re-assessed (post-storage assessment).
- The tuber blight data should be analyzed using analysis of variance with the foliar blight results included as a covariate



Thank you for your attention

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