

Effect of adjuvants on the efficiency of dimethomorph plus mancozeb (Acrobat 2 kg/ha) to control late blight in potato

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Goal of the field trial

The objective of this study was to investigate the efficacy of Acrobat (dimethomorph plus mancozeb) in combination with adjuvants to control late blight during the growing season.

Materials and methods

The first two treatments were the same for the different objects (mancozeb 1 kg/ha). The fungicide treatments were conducted at 7-day intervals. The tested fungicide-adjuvant combinations were applied 5 times. Finally, all objects were 2 times sprayed by fluazinam (200 g/ha). The tested adjuvants and the applied doses are summarized in table 1.

Table 1: Adjuvants tested and applied dose.

Adjuvant	Dose
Actirob B	methylolate
Magic Sticker	styrene acrylate copolymerxypropoxy polyether
FullStop	styrene acrylate polymer
G850	fatty amido alkyl betaine
Softanol EP7025	alkyloxypolyethylene oxyethanol
Softanol 70	alkyloxypolyethylene oxyethanol
AE 5	vetalcohol ethoxylate
Famee 5	methylester ethoxylate
Zipper	trisiloxane ethoxylated propoxylated ethoxy-propoxy polyether
TB5031	block copolymer
Purasolv BL	n-butyllactate
P-25--12010	inuline starch derivative
P01	Sunoco
BC02	green oil



Fig. 1: Leaf and stem lesions

Results and Discussion

The growing season 2006 was characterized by high temperatures and almost no rain in June and July. In August the weather was cloudy, rather cold and we received a lot of rain. These weather conditions were very favourable for late blight. Due to the heat waves of June and July the foliage started to die in August and *P. infestans* developed very fast in the second part of August. Because of that no incidence of foliage blight was scored during the growing season 2006.

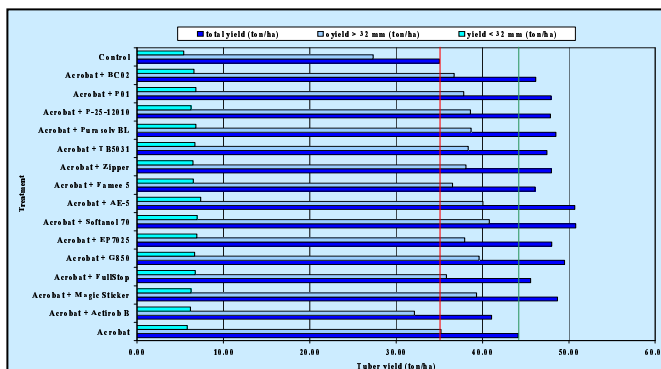


Fig. 4: Influence of the fungicide-adjuvant combinations applied on tuber yield of 'Bintje' during the growing season 2006.

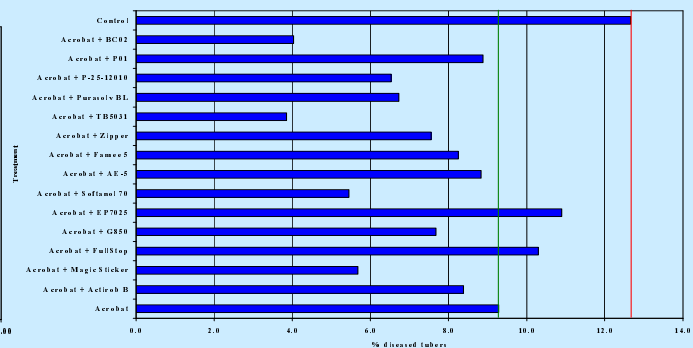


Fig. 5: Influence of the fungicide-adjuvant combinations applied on tuber blight in 'Bintje' during the growing season 2006.

No significant differences in yield were observed for the different treatments applied. The yield of the untreated plot was 35,0 ton/ha and the yield for Acrobat was 44,1 ton/ha. For the treatments of Acrobat in combination with an adjuvant the yield fluctuated between 45,6 and 50,8 ton/ha and the mean yield of all treatments with adjuvant was 47,6 ton/ha. The addition of an adjuvant had a clearly positive effect on the tuber yield.

In the control 12,7 % infected tubers were observed. The plots sprayed with Acrobat had a tuber incidence of 9,3 %. The mean tuber infection of plots sprayed with the Acrobat-adjuvant combinations was 7,4 %: the % diseased tubers fluctuated between 3,9 and 10,9 %. The adjuvants FullStop and softanol EP7025 in combination with Acrobat did not improve the tuber protection. The adjuvants TB5031 and BC02 had a distinctly positive effect on tuber protection: only an infection of 4,0 % was observed against 9,3 % diseased tubers for Acrobat without adjuvant.