

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.

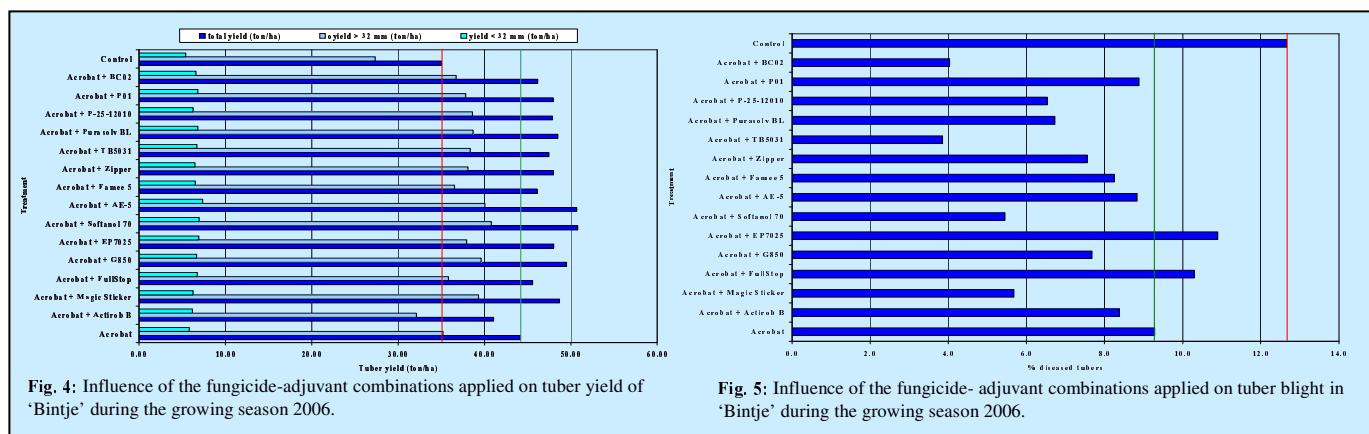
Adjuvant	Dose	
Actirob B	methylolate	500 ml/ha
Magic Sticker	styrene acrylate copolymerxypropoxy polyether	500 ml/ha
FullStop	styrene acrylate polymer	250 ml/ha
G850	fatty amido alkyl betaine	500 ml/ha
Softanol EP7025	alkyloxypolyethylene oxyethanol	0.10%
Softanol 70	alkyloxypolyethylene oxyethanol	0.10%
AE 5	vetalcohol ethoxylate	0.10%
Famee 5	methyl ester ethoxylate	0.10%
Zipper	trisiloxane ethoxylated propoxylated ethoxy-propoxy polyether	100 ml/ha
TB5031	block copolymer	0.10%
Purasolv BL	n-butyl lactate	0.50%
P-25-12010	inuline starch derivative	0.10%
P01	Sunoco	1 l/ha
BC02	green oil	500 ml/ha



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.



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.