

Improvement of the curative control of *Phytophthora infestans*

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In August 2006 many potato fields were more or less infected with *Phytophthora infestans* (fig. 1). Due to the heat wave in July 2006 many farmers sprayed their crop less frequent with fungicides.

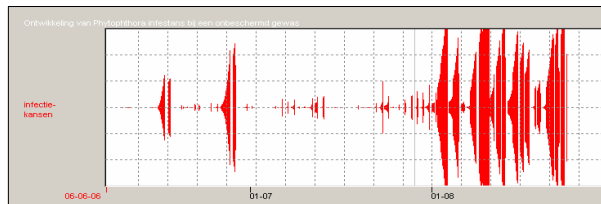


Figure 1: Phytophthora pressure periods in 2006 according to the Dacom advice system.

In practice infested potato crops are treated with metalaxyl or propamocarb/chloorthalonil. Also fungicides are added to the regular spraying with mancozeb/cymoxanil to improve their curative properties. HLB carried out a field trial to establish the effectiveness of some additives to regular fungicide sprayings.

materials and methods

The field trial was carried out in a potato crop cv. Amyla. The initial infection with *Phytophthora infestans* was around 5% and was mainly found in the upper leaf layers. Fungicide treatments were applied on the 18th and 23rd of August 2006 in three replicates.

active ingredient	concentration	dosage l or kg/ha
A propamacarb/chloorthalonil	375/375 g/l	2.7
B mancozeb/cymoxanil	68%/4.5%	2.5
C mancozeb/cymoxanil ammoniumthiosulfaat	68%/4.5% 15	2.5
D mancozeb/cymoxanil fluazinam	68%/4.5% 500 g/l	2.0 0.3
E mancozeb/cymoxanil mineral oil	68%/4.5% 4	2.0
F fluazinam	500 g/l	0.4

After these treatments the crop was sprayed with fluazinam 3 times with an interval of 6 days.

The infection with *Phytophthora* (% of the leaf area infected) was assessed weekly from beginning of the trial. The vitality (# sporangia per cm² lesion) was determined on the 25th of August 2006.

results

The increase of *Phytophthora* and the vitality of the lesions is presented in figure 2.

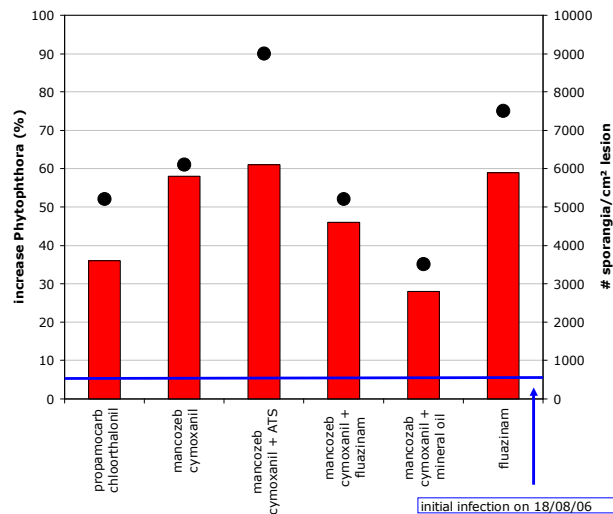


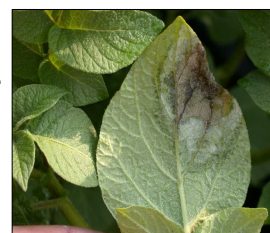
Figure 2: The increase of the *Phytophthora* infection and the vitality of lesions

discussion

Adding mineral oil to mancozeb/cymoxanil made the treatment more effective. Adding mineral oil to the spraying liquid is commonly used in virus control or herbicide control to increase the effectiveness of the herbicide treatment. Mineral oil destroys the wax layer of the leaves. This working principle seems also effective when mineral oil is added to mancozeb/cymoxanil. Adding ATS was not effective. The effect of addition of fluazinam was in between.

conclusion

Adding mineral oil to mancozeb/cymoxanil increased curative control.



HLB is the link between scientific research and practice (know-how in the field) in the area of plant health and soil in agricultural and related sectors.

Phytophthora research on HLB is mainly done in the starch potato area in Holland (North east part of Holland).

HLB carries out field trials to test products on their specific qualities like preventive control, curative control, eradicated control, tuber blight control and rain fastness.