

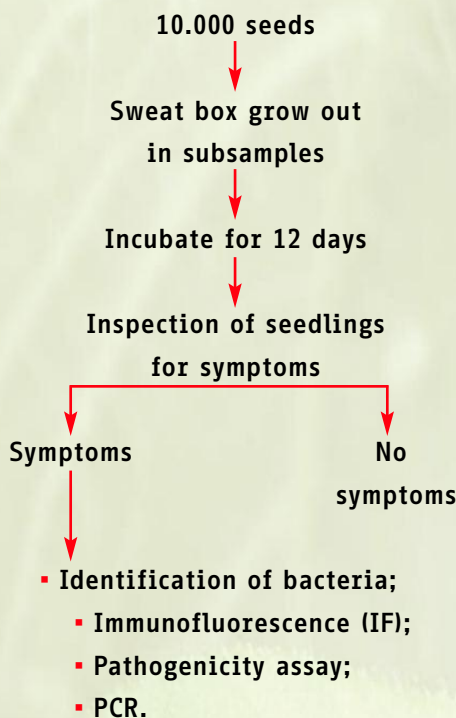
Bacterial Fruit Blotch of (water)melon



Acidovorax avenae subsp. *citrulli* (*Aac*) is the causal organism of bacterial fruit blotch (BFB) of melon and watermelon. BFB has caused severe losses in watermelon production since 1989 in the USA.

BFB is a seed borne bacterial pathogen and for this reason the detection on seeds is crucial.

Procedure



Methods

One of the methods to detect *Aac*-infested seeds is the grow out method in which seeds are incubated under greenhouse conditions that are favorable for symptom expression. This grow out test is rather laborious and space-consuming and incubation conditions can be weather related. An alternative is the sweat box method that was originally developed in the USA. In this method seeds are incubated in transparent boxes with a high humidity and temperature. Optimum conditions for rapid development of symptoms can be guaranteed through the use of advanced climate chambers. A potential complication to detect *Aac*-infected seeds is that opportunistic micro-organisms other than *Aac* sometimes can cause similar symptoms. Therefore identification of the pathogen is done with three complementary methods: immunofluorescence microscopy, PCR with *Aac*-specific primers and pathogenicity assays using both melon and watermelon seedlings.

Advantages

‘Sweatbox grow out’ comparison with Standard ‘Grow out’:

- Less contamination between the samples through closed boxes system;
- Throughout the year testing in a controlled environment;
- Test can be finished in three weeks;
- In a low number of seed lots evaluation of seedlings is difficult due to rapid growth of saprophytic fungi. Therefore Naktuinbouw recommends treatment of the seeds with thiram/carbendazim.

More information

Do you want to learn more about the possibilities? Do not hesitate to contact us.

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