



## Minutes KNPV-Working group Cereal Diseases: 6 April 2010

**Present:** Ingeborg Westerdijk, Sarah Ben M'Barek, Reza Aghnoum, Bertrand Schuiling, Aaldrik Venhuizen, Noor Bas, Henk Bonthuis, Mahmod Tabib Ghaffary, Hans de Keijzer, Rients Niks, Gert Kema (chairman), Huub Schepers (minutes)

### Agenda

1. Opening
2. Announcements
3. Research activities 2009 and plans 2010  
# Everybody is invited to shortly present (5-10 min) results & plans.
4. Photo impression and short report on excursion to Rothamsted Research 2009, H. Schepers
5. Excursion to Arvalis 2010
6. Host status and genetic analysis of wheat blast (*Magnaporthe oryzae*) resistance in barley, Reza Aghnoum
7. The dodge of blotch: saving sex in *Mycosphaerella graminicola*, Gert Kema
8. Questions before closure of meeting
9. Next meeting
10. Closure
11. Joint lunch at Forum

### Opening

Gert Kema opens the meeting by welcoming everybody. Everybody shortly presents her/himself.

### Announcements

Report of meeting in February 2009 is not mentioned in agenda. The report is shown on website and approved without discussion.

### Research activities 2009 and plans 2010

Hans de Keijzer: NVM- Dutch Flour Millers ([www.flourmillers.eu](http://www.flourmillers.eu)) & Produktschap Akkerbouw ([www.produktschapakkerbouw.nl](http://www.produktschapakkerbouw.nl))

- End February 2010 a Fusarium Forum was held in Brussels. T2/HT2 was discussed. Not much data are available. In oats and barley levels are higher than in wheat. Next meeting in May 2010. No limit exists for nivalenol. This will probably stay like that.

Aaldrik Venhuizen: Agrifirm ([www.agrifirm.nl](http://www.agrifirm.nl))

- Never detected T2/HT2 in the last 5 years. Agrifirm test varieties and fungicides that will be launched in near future. Field trials to control take-all (varieties, seed coating, crop sprays). In monitoring program for mycotoxins no disturbing trends are observed. More yellow rust in barley was observed. Some varieties are very susceptible.

Ingeborg Westerdijk & Bertrand Schuiling: Wiersum-Plantbreeding ([www.wiersum-plantbreeding.nl](http://www.wiersum-plantbreeding.nl))

- ✓ Winter wheat: Line selection at different sites. Selection for resistance to Septoria, yellow rust, brown rust, Fusarium and mildew. Mildew selection is carried out in glasshouse with aggressive isolate. Chinese breeding lines are used to improve Fusarium resistance.
- ✓ Spring wheat: visual selection in the field. In 2009 a lot of brown and yellow rust. Try to accumulate genes.

- ✓ Spring barley: 2009 was a rust-year. Mildew selection in the glasshouse. Difficult to select for *Rhynchosporium*. This disease is very unpredictable: often occurs in patches. Fusarium and Septoria are not a problem. Agrifirm sometimes finds DON in spring barley below limit. DON can cause gushing.

Noor Bas: Centre for Genetic Resources ([www.cgn.wur.nl](http://www.cgn.wur.nl))

- ✓ Received some new lines from breeders. In June 2010 CGN exists 25 years. No trials or multiplication in 2010. "The seed hunter" is an interesting film about selecting wild cereals.

Henk Bonthuis: Plant Variety Board (<http://www.plantenrassen.nl>)

- ✓ Now that yellow rust collection is transferred to Aarhus University it would be good to have the address to contact them for new races. NIAB also works on yellow rust. Two official trials are carried out with *Triticum spelta*. These trials are an Eldorado for plant pathologists. *Avena strigosa* (green cover crop used in Veenkolonien to eradicate *Pratylenchus* in bulbs) might be a green bridge for oat pathogens.

Gert Kema, Sarrah Ben M'Barek Mahmod Tabib Ghaffary, : Wageningen UR Plant Research International ([www.pri.wur.nl](http://www.pri.wur.nl))

- ✓ Mahmod Tabib Ghaffary: PhD student focusing on *M. graminicola* and *F. graminearum* with an emphasis on the identification of new resistance genes and their markers for marker assisted breeding application.
- ✓ Sarrah Ben M'Barek: PhD-student focusing on genetics of *M. graminicola* regarding the role of host-selective toxins in relation with host.
- ✓ Fungicide resistance: In Lancet paper is published that describes the hypothesis that use of azoles in agriculture increases the risk for fungicide resistance in the human pathogen *Aspergillus fumigatus*.
- ✓ Yellow rust: a publication in *Phytopathology* 100 (2010): 432-435 describes Berberis as an alternate host. The WUR-collection on stripe (yellow) rust is shipped to Aarhus University (DK) that still has an active rust program. When new races appear they can be sent to AU.

Rients Niks, Reza Aghnoum: Wageningen UR Plant Breeding ([www.plantbreeding.wur.nl](http://www.plantbreeding.wur.nl))

- ✓ Non-host resistance of barley to heterologous rusts: have developed an experimental line with accumulated genes for susceptibility to heterologous rusts. About eight QTL's for resistance to *P. hordei* are introduced in this line.
- ✓ Basal resistance of barley to *P. hordei*: concentrating on *Rphq2*, *Rphq11* and *Rphq16*. These are being fine mapped.
- ✓ QTL's for basal host and nonhost resistance to powdery mildew and rust fungi to map in *prx* clusters: peroxidase-profiling is applied to develop markers based on conserved sequences of *prx* genes.
- ✓ Basal resistance of barley to powdery mildew: in several barley mapping populations in total 23 QTL's are mapped for resistance to barley powdery mildew.
- ✓ Quantitative resistance of barley to wheat blast: barley is tested for the level of susceptibility to wheat blast (*Magnaporthe oryzae*).

Huub Schepers: Wageningen UR Applied Plant Research ([www.ppo.wur.nl](http://www.ppo.wur.nl))

- ✓ Validation of a system that uses the prediction for DON content at harvest to produce recommendations for sprays during flowering.
- ✓ Crop residue management on heavy clay soils to decrease disease pressure from these residues.
- ✓ Variety testing on various locations. Including a trial with artificial inoculation with Fusarium.

## 5. Excursion to Arvalis 2010

In 2010 we plan to organize an excursion to ARVALIS in Boigneville (F) possibly combined with a visit to INRA in Versailles ([www.versailles-grignon.inra.fr](http://www.versailles-grignon.inra.fr)). ARVALIS is a technical institute in charge of applied research in agriculture. They work in arable crops such as cereals, maize, potatoes and forage crops ([www.arvalisinstitutduvegetal.fr](http://www.arvalisinstitutduvegetal.fr)). We are planning to organize a 1-2 day excursion to this research station somewhere in the first two weeks of June 2010. Both ARVALIS and INRA will present their work on cereal diseases in presentations and in the field. Our plan is to travel by mini-bus. ARVALIS Boigneville is 560 km from Wageningen. The KNPV will sponsor the travel costs of this excursion. 6-8 members of the working-group have indicated they are interested. As soon as the program is finalized we will inform all members.

### Excursion to Rothamsted (UK) 2009: *Huub Schepers*

PDF of the PowerPoint presentation is uploaded on our web-portal.

### Host status and genetic analysis of wheat blast (*Magnaporthe oryzae*) resistance in barley: *Reza Aghnoum*

PDF of the PowerPoint presentation is uploaded on our web-portal.

### The dodge of blotch: saving sex in *Mycosphaerella graminicola*: *Gert Kema*

PDF of the PowerPoint presentation is uploaded on our web-portal.

### Next meeting

It was decided not to fix the date for the next meeting. In spring 2011 we will organize a meeting after we checked with Doodle the most convenient date for everybody.

### Joint Lunch at Forum

After the meeting we enjoyed a joint lunch in the Forum building.

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