Minutes of the 1st NORBARAG meeting  
Forssa, Finland  
13 November 2008

**Agenda:**

1. Welcome (*Asko Hannukkala & Per Kudsk*)
2. Minutes of NORAG meeting in Flakkebjerg
3. Objectives and rules of procedure of NORBARAG (*Per Kudsk*)
4. Linking NORBARAG to NJF (*Per Kudsk*)
5. NORBARAG webpage. Status and future (*Asko Hannukkala*)
6. Reports from subgroups (*Lise Nistrup Joergensen, Nina Johansen & Jan Netland*)
7. NORBARAG database on pesticide resistance cases. What kind of information should it contain? (*Lise Nistrup Joergensen*)
8. New EU regulation on pesticides. How will it affect pesticide availability and resistance risk management in the Nordic-Baltic region? The new regulation will introduce comparative assessment as part of the efficacy evaluation. What are the experiences with comparative assessment in the region?
   a. Consequences for Sweden (*Göran Gustafsson*)
   b. Discussion (possible role of NORBARAG?) (*All*)
   c. Comparative assessment. Need for harmonising resistance risk management strategies (*All*)
9. Should NORBARAG submit an application for financial support to the Nordic Council of Ministers? (*Per Kudsk*)
10. Next meeting (place and date)
11. Any other business

*Ad. 1*

Per Kudsk welcomed the participants. He was very pleased that more than 50 persons had decided to participate in the meeting (40). Of the 7 member countries of NORBARAG only Latvia did not send delegates, but they have expressed their interest in participating in NORBARAG and hope to join the meeting next year.

*Ad. 2*

The minutes of the NORAG meeting in Flakkebjerg last year were approved.

*Ad. 3*

Per Kudsk presented the draft proposal of the objectives and rules of procedure of NORBARAG. The draft proposal had been mailed to all participants prior to the meeting. Last year in Flakkebjerg there was some discussion on the composition of NORBARAG particularly the ratio between representatives from public institutes and the agrochemical industry. In the draft proposal it was suggested that NORBARAG should be an informal forum for change of information for anyone actively involved in research into pesticide resistance and efficacy evaluation of pesticides and that there should be no specific restrictions on numbers and affiliation of participants neither in NORBARAG nor in the subgroups. The draft proposal was discussed and the only change proposed was that the chairmen of the subgroups should also be appointed among the representatives from
the public institutes. The revised objectives and rules of procedure will be uploaded on the NORBARAG web page.

Further considering the activities it was discussed whether the group could become involved in emergency authorisations. It was agreed that this in practise would not be possible, as this is dealt with at the national levels. It was, however recommended to exchange information on emergency cases between countries. Further it was recommended that the specific recommendations made by the subgroups of NORBARAG could be translated into local languages to be used at the national level to distribute information on pesticide resistance.

A request to organise a NJF meeting on pesticide efficacy testing was discussed. It was agreed that a meeting exchanging information on methodology and reporting in pesticide efficacy trials could be of common interest for the organisations involved in NORBARAG. It was agreed that Lise Nistrup, Morten Nygaard and Sanni Junilla will organise a meeting possibly in connection with the next NORBARAG meeting.

Ad. 4
NORBARAG was recognised as a working group under Section IV (Plant protection) on 4. November. Becoming a NJF working group means that NORBARAG can ask for financial support to cover travel expenses for a few delegates.

Ad. 5
MTT established a web page as a link to the MTT home page to assist the registration procedure for this meeting. Rather than establishing its own web page it was decided that NORBARAG should continue to use the one established by MTT for this meeting. The NORBARAG delegates from MTT will, together with the MTT web master, be responsible for the web page and add new links when needed. It was discussed if the web page and the future database (see item 7) should be open or restricted to NORBARAG members. It was agreed to make the web page accessible to all but specific information exchanged within and between subgroups such as an alert-list could have limited access. It is expected that the web-place will be used to upload information and publications relevant for the other members besides. The NORBARAG web page can be found on www.mtt.fi/norbarag.

Ad. 6
Fungicide group (Lise Nistrup Jørgensen)
The group (15 participants) had focused on getting an overview of existing cases of fungicide resistance in cereal and potatoes. BASF and Syngenta presented an overview. Widespread resistance to strobilurins is found for mildew, Septoria tritici and DTR in wheat and recently resistance has also been verified in Stagonospora nodorum in Sweden. A list of known cases of resistance will be produced with a list of recommendations for the use of cereal fungicides. It was agreed for the coming season to collect leaves with Septoria tritici in order to test for DMI resistance. In total 120 samples from the region will be tested, hopefully with the help from BASF. Flakkebjerg will be responsible for the DMI resistance testing. It was also agreed to collect leaves with net blotch in order to examine strobilurin sensitivity (F129L) and to determine EC50 values to DMI fungicides. In total 120 samples from the region will be tested, hopefully with the help from BASF. AU in Flakkebjerg and MTT will be responsible for the DMI testing.
It is the intention to conduct 5 trials across the Nordic-Baltic region in the coming season to test the efficacy of different strobilurines applied alone and in mixtures against net blotch. Syngenta is interested in supporting this activity with analysis for F129L. In Finland it is the intention in 2009 to study the impact of seed treatments on net blotch. In 2008 experiments with seed lots coming from Sweden, Denmark and Finland revealed big variation in the efficacy of imazalil.

A common list with restrictions on potato fungicides recommendation will be created. The numbers of treatments vary significantly between countries due to reasons which not always are linked to resistance management. A list of known cases of resistance will be made along with a list of recommendations for the use of potatoes fungicides.

**Insecticide group (Nina Johansen)**
The group had 14 participants. Major activity has been done on pollen beetle. Susceptibility to pyrethroids is variable across the region. Different pyrethroids are showing different effectiveness. It is still unclear how well the test method works for thiachloprid. Indoxacarb is another new product, which has shown good efficacy on pollen beetle. No cases of cross resistance have been reported. Plans for 2009 include continued surveys on pollen beetle resistance with 3 insecticides. Finland will also monitor for resistance in Bemesia tabaci.

The subgroup will establish a list of known cases of resistance to pests. It was decided to check the label recommendation (DK, SF and N) and adjust recommendation if needed.

**Herbicide group (Jan Netland)**
The group had 10 participants. Each participant provided a status on resistance cases in their countries. DuPont gave a presentation on metabolic resistance. Other issues discussed were the reliability and reproducibility of the test methods used. Ring tests could help standardising the methods. It was decided to conduct such a ring test with resistant blackgrass samples from Sweden. Baseline studies in the region were proposed as a joint activity, where all countries could contribute with seeds on selected weeds. It was decided to test seed samples of Avena fatua in 2009.

**Ad. 7**
AU, Flakkebjerg will take responsibility for establishing a NORBARAG database containing information on known cases of resistance in the Nordic-Baltic region. The database should contain information on: crop, disease, pesticide group, year of introduction of pesticide, year of first finding, source of information, presence in region and country. Once a prototype has been developed, it will be send round for comments and further input.

**Ad. 8**
Per Kudsk gave a short historical introduction to the subject. Cut-off criteria is proposed as part of the new EU regulation on pesticides and will partly replace risk assessment. Another new element is comparative assessment of candidates for substitution. While cut-off criteria will be applied at the EU level comparative assessment will be the responsibility of the Member States. Introduction of the cut of criteria are expected to speed up the authorisation process. Off-label registrations will still be possible. Within the last year several reports have been published on the consequences of the new legislation and recently KEMI and Jordbrugsverket in Sweden published a report on the possible consequences for the Swedish crop production.
Göran Gustafsson and Henrik Hallqvist presented the outcome of these studies. KEMI concluded 8% of 271 actives will be influence by cut of criteria. Based on the conclusions in the report by KEMI Jordbruksverket concluded in their report that:

a. Onion production will be very difficult if both ioxynil and pendimethalin will disappear.

b. Disease control in onion will be difficult if mancozeb is disappearing.

c. Control of black and green nightshade in carrots will be difficult due to the loss of metribuzin. Insect control will also be more difficult.

d. Diflufenican and mesosulforon will disappear for weed control in cereals.

e. Metazachlor will be difficult to miss in oil seed rape as no real alternatives exits.

f. No alternatives to metribuzin in potatoes.

g. Acetamiprid will be the only product available for control of resistant pollen beetles.

h. If iprodion disappears no seed treatment can be made in oilseed rape.

i. If mancozeb disapears there will still be 8 other substances for blight control in potatoes.

The Swedish report can be downloaded from www.sjv.se

Per Kudsk informed that EPPO is planning to organise a workshop on comparative assessment with the view of developing an EPPO Guideline.

Ad. 9
Nordic Council of Ministers is a funding possibility for Nordic-Baltic projects although their budget for agricultural projects has been reduced in recent years. Applications can be submitted at any time during the year. Their Strategy Plan for the coming years has not been published yet and it was decided to await this before submitting an application. It was concluded that the objectives of NORBARAG clearly falls within the scope of the Nordic Council of Ministers. It was proposed that each subgroup select one topic to be included in the application. The chairmen and the 3 subgroup leaders will be responsible for developing the proposal and submitting the application.

Ad. 10
Next meeting will be in Lituania in November 2009. Roma Semaskiene will be responsible for organising the meeting in collaboration with Per Kudsk.

Ad. 11
It was agreed that all presentations given during the two days should be mailed to Asko Hannukkala who will upload them on the NORBARAG web page,

Finally the chairman thanked the Finish colleagues for a very well organised meeting.

Per Kudsk, 28 December, 2008