The Netherlands – current resistance problems and management strategies

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Organisations and groups involved

Ctgb - Board for the Authorisation of Plant Protection Products and Biocides

NPPO – Evaluator for efficacy
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National Resistance groups in the Netherlands:
Fungicide: FRAG-NL - report to FRAC
Insecticide: IRAG (Benelux) - report to IRAC
Herbicide: KNPV Herbicide Resistance (Benelux) - report EWRS
Authorisation

- Resistance management on the Legal Conditions for Use (label), currently used as standard:

  This product contains the active ingredient \(< name a.i. >\). \(< name a.i. >\) belongs to the \(< name chemical group >\). The \(< Irac or Frac or Hrac code >\) \(< code call >\). For this product, there is risk of resistance development. In the context of resistance management you should follow the opinions given in the information messages.

- If the number of applications is restricted or if a specific spray regime (e.g. separate blocks with interval) is required this is mentioned in the legal part of the label.
Sources information on resistance problems

- Research, authorisation holder, national and international resistance groups, and signals from practice.

- No monitoring on resistance in the Netherlands by the government
- National resistance groups: responsible for guidelines and sharing information on the actual resistance situation
- Yearly update from the authorisation holder about status resistance per a.i. to Ctgb – currently no regular act
- Signals from practice – rarely: ‘what is a signal?’
Recent signals

• Fluazinam: Syngenta advised in 2012 to reduce the number of applications (temporary) against late blight to 4, because of the discussion on less sensitive strains of *P. infestans*.
  - In 2013 Syngenta advised to increase the number of applications to 6 and to mix Shirlan with a preventative product, e.g. mancozeb
  - But authorisation not adapted.

• Metamitron: resistant *Chenopodium album* (fat-hen) in sugar beet (confirmed). Discussion if this resistance is present in the Netherlands.

• Several herbicides: less effective on *Echinochloa crus-galli* (common barnyard grass). Cause unknown: options resistance or another type of *Echinochloa crus-galli*

• Resistant blackgrass problem in the North of the Netherlands increases slightly.
Topic that need attention

• Azole resistant Aspergillus: threat to seriously ill people

• Authorisation and risk for resistance development of non-target organisms