Pest and Beneficial's Review
“is the toolbox half full, or half empty?”

Dave Holah
A synthetic chemists dream!

1960s 1st generation pyrethroids developed

1974 onwards - 2nd generation of more persistent compounds - permethrin, cypermethrin and deltamethrin. 41 actives listed by IRAC

Reg package - Ecotox Pre-91/414/EEC (15 July 1991)
Birds: 1 species acute oral LD50 with a.i.
Mammals: no requirement
Fish: 2 species acute LC50 (96h) with a.s. and formulation
Daphnia acute EC50 (48h) with a.s. and formulation
Algae 1 or 2 species EC50 (72h) with a.s. and formulation
Earthworm acute
Honey bees acute oral and contact LD50 with formulation
Soil micro organisms: C- and N-cycle with formulation

Rough estimate of total Ecotox costs 40 to 50 k€

IRAC - Ca 17% of all ais 10 approved in UK.

Toolbox “half full”
Reminder- Directive 91/414 saw the loss of over 600 active substances.

Modern dossier – Section 6 Ecotoxicological Studies/ Detailed summary of the risk assessment
Nearly 100 data points - studies and risk assessments to the required guidance documents.

Peter Campbell (BCPC Conference):

Implications for an IPM future?
New GDs pose a serious threat to re-registering many actives

Toolbox “half empty”
Hallmark £ 4-5 per ha.
A 7-day course of amoxicillin costs the taxpayer £1.68*

*It's cheap so stick it in the spray tank anyway (or down the mouth) and the patient will go away happy.*

Antibiotic resistance is one of the greatest dangers to our health. Dame Sally Davies, the UK Chief Medical Officer, has described the threat as “catastrophic”. It could lead to people dying from ordinary infections, and routine operations such as hip replacements becoming deadly due to the risk of infection.

By safely reducing the number of antibiotics prescribed inappropriately we can combat antibiotic resistance.

Or - By reducing the number of plant protection products prescribed inappropriately we can combat resistance.
Implications for an IPM future
Orange blossom wheat midge

A well worked IPM example
Cultural/variety
Thresholds
Insecticides

Recommended Insecticides:
Lambda-cyhalothrin, beta-cyfluthrin, Thiacloprid

But for how long?

The Future?

- IPM may need a chemical input – threshold triggered.
- Insecticides present many “regulatory challenges”.
- Over use, irresponsible use - cheap generic products.
- Increased resistance – ie CSFB and pyrethroids.
- Seed breeders role
  - What resistant traits can be developed?
- Need to identify gaps in IPM recommendations.
  What ai’s likely to be lost?
  Encourage EAMUs etc.

- A potentially empty tool box.
Thank you!

Science For A Better Life