GM Research (Policy) in the UK

Undemocratic?

Unnecessary?

Unscientific?

Dishonest?

Lawrence Woodward

Citizens Concerned About GM

GM Research (Policy) in the UK

- Undemocratic? – yes: no public consultation but non-transparent industry/sector engagement
- Unnecessary? – yes: alternatives (often better exist) and are ignored
- Unscientific? – yes/no: non GM research ignored in project assessment/specific projects follow scientific method but doubts about reporting
- Dishonest? – Has the true purpose of research and industry interests been hidden?

CASE – Aphid trial and Potato trial

Aphid control in Spring Wheat - Undemocratic

No public consultation

No farmer consultation

- opinion that its not needed/not priority

No transparency in budget allocation

No publication of clear research rationale

- conflicting reasons given

No publication of research protocol

Aphid control in Spring Wheat – Unnecessary and Unscientific

- Aphids are presented as a major problem for conventional farmers – but are they?

- Not in all years – varies with weather, not in most recent years
- Not in Spring Wheat
- Sophisticated aphid alerts and smart spraying regimes
- Barley Yellow Dwarf Virus (BYDV) can be significantly reduced by later (Oct) drilling
- "cereal aphid populations often fail to (reach) economic damage levels due to ...natural control factors, principally ...predators, parasitoids and pathogens and weather factors such as heavy rain" (researchers from Rothamsted, SAC et al)

Organic Farmers Have No Problems With Aphids in Cereals Either Directly or through BYDV

Aphid control in Spring Wheat – Unnecessary and Unscientific

- Managing biodiversity in field margins to enhance integrated pest control in arable crops
- Defra "Sustainable Arable LINK programme – Rothamsted, SAC, Game Conservancy, Central Science Laboratory, Uni. of Plymouth – Dec 2004

- Conventional but non-GM agriculture – 3 years over £1m
- " strong evidence .. That early parasitoid activity can hinder aphid population development ..to prevent exponential growth" ***(i.e. to economically damaging levels)***
- "This emphasises the importance of maintaining a diverse natural enemy community in agricultural ecosystems"

Aphid control in Spring Wheat – Unnecessary and Unscientific

- Managing biodiversity in field margins to enhance integrated pest control in arable crops

- Parasitoids and hoverflies “significantly reduced aphid population growth rates”
- Early parasitoid activity, achieved by ensuring over wintering habitat (e.g. grass, hedgerow margins, undisturbed fields)
- Flower rich margins significantly reduced cereal aphid numbers by providing food for hoverflies

BUT THERE IS MORE THAN THIS TO AGRO-ECOLOGY AND ORGANIC FARMING

Aphid control in Spring Wheat – Unnecessary and Unscientific

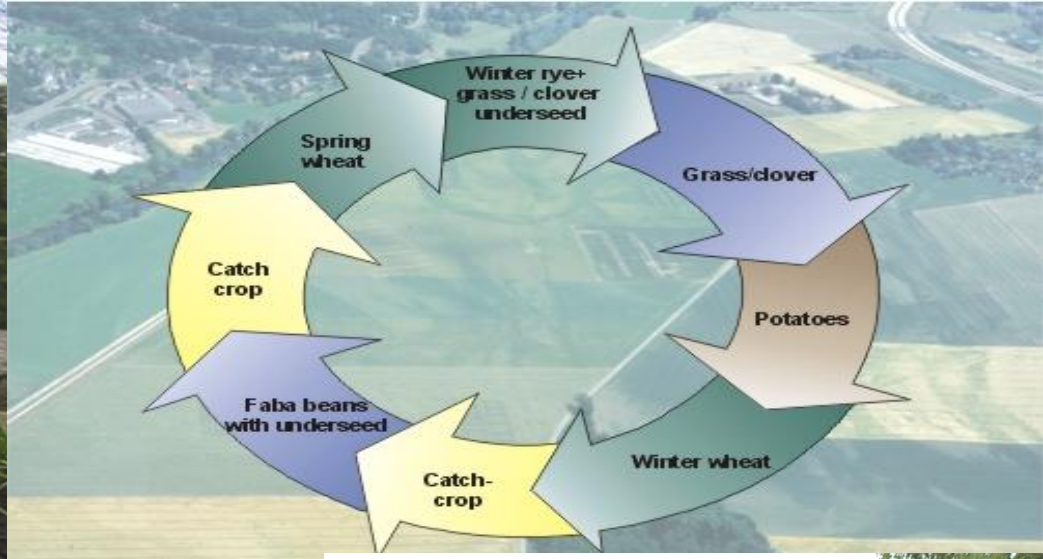
- There is some ambivalent research about aphid numbers on organic farms – possibly to do with variety of farms and methodology but some research is clear;

- Aphid levels 5 times higher on conventional than organic fields
- Predator abundance 3 times higher on organic fields
- Predator-prey ratio 20 times higher on organic fields

(Kraus et al 2011 in triticale)

Organic farms do not have a problem with aphids – farmer evidence on all types of organic farms

ORGANIC RESEARCH CENTRE
ELM FARM



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Key factors for aphid control on organic farms
THE WHOLE ORGANIC SYSTEM

- Avoidance of soluble N fertiliser (relationship between higher levels of free protein amino acids/relative proportion of non protein to protein amino acids and higher aphid numbers on conventional fields – UK and US research)
- Avoidance of eco-system damage through pesticide use
- Enhanced soil fertility (reduced aphid impact on organic fields with higher soil micro-organisms – Povada et al 2005)
- Cultivation and drilling (October)
- Complexity on farms – variety of crops
  - weeds in crops
  - diverse field margins
- Presence of non-crop habitats

68-105% more species and74-153% greater abundance (*Fuller et al 2005)*

Higher diversity in semi-natural habitats on organic farms (*Petersen et al 2006, Boutin et al 2008)*

Higher within-field diversity of plants in organic , even in complex landscapes (*Gibson et al 2007)*

Aphid control in Spring Wheat – Dishonest?

Has the true purpose of research and industry interests been hidden?

Why Spring Wheat? – several different stories but;

- Rothamsted needed to do wheat for 20/20 funding
- BBSRC/Govt wanted PR softening up
- Get something started

Differing stories about who benefits

- “heavily courted” by industry here and in US
- farmers clamouring for it
- public benefit GM to reduce pesticides

Aphid control in Spring Wheat – Dishonest?

Has the true purpose of research and industry interests been hidden?

- Two new gene inserts
- One US patent owned by research company
- One as yet unpatented
- No transparency about this/about ownership/about future commercialisation
- AND THE POTATO TRIAL

Discussion – When is genetic engineering not genetic engineering?

- New techniques are being developed that do not or may not fit within EU definition of GMOs/GM
- Up to 12 already in use (in trials and some commercial applications
- Some – e.g. Cisgenesis – are being misleading promoted
- All are problematic

SEE

"New techniques for the alteration of the living "

http://www.infogm.org/spip.php?article5191

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