

# Briefing on GM food and feed

Andrew Wadge

Clair Baynton



# What is genetic modification?

- Technique of changing or inserting genes
- Genes are made up of DNA and carries all the instructions that an organism inherits
- Allows transfer of genes to develop characteristics that it is difficult to achieve through traditional breeding



# Plant breeding techniques

- Traditional crop breeding
- Chemicals
- Radiation
- Marker assisted breeding
- Reverse breeding
- Grafting onto transgenic root stock
- Cisgenesis
- Targeted mutagenesis
- Gene silencing
- Oligo-directed gene modification



# GM crops authorised for food use

- Soybeans
- Herbicide tolerant maize
- Insect resistant maize
- Insect resistant cotton
- Herbicide tolerant oilseed rape



# Current situation

- 125m hectares of GM crops grown globally
- 13.3m farmers grow GM crops in 25 countries
- No commercial growing of GM crops in the UK
- UK routinely imports soya bean meal, maize gluten and cotton meal for use in animal feed



# Stakeholder concerns

- A new technology
- Unknown potential health implications
- Impact on the environment
- Lack of identifiable consumer benefits



# GM regulatory framework

- EC Regulation 1829/2003
- Provides for the risk assessment and labelling of GM food and animal feed
- EC Directive 2001/18 – environmental risk assessment
- Centralised risk assessment via EFSA
- Decision via QMV at EC Standing Committee



# FSA responsibilities

- Competent authority under EC regulation 1829/2003
- Research programme to underpin the safety assessment and enforcement of the legislation
- Independent scientific input from Advisory Committee on Novel Foods and Processes



# Consumer attitudes on GM

- FSA quarterly tracker
- Steady decline in concern, when prompted, from 43% (2001) to 26% (December 2008)
- Spontaneous concern peaked at 20% (2003) and declined to 7% (December 2008)



# 'Food Matters' report (1)

- Two action points on GM
- FSA analysis of the market, regulatory regime and implications for consumers
- Defra analysis on impact on the livestock sector from trends in GM production and operation of EC regulations



# 'Food Matters' report (2)

- Series of stakeholder meetings
- Divergent views
- Full support for robust and rigorous safety assessment
- Immediate issue for animal feed industry but future parallels for food industry



# On-going and forthcoming work

- Royal Society study on biological approaches to enhance food-crop production
- Foresight project on global food and farming futures
- Commission evaluation of the EC GM Regulation
- Discussions on a 'technical solution' for the low level adventitious presence of GMOs

