Assessment of utilities and added value of by-product streams as organic fertilisers

Nicola Campbell
14.6 million tonnes

• Biodegradable municipal waste landfilled in England in 2009

• EU Landfill Directive Targets
  – 21.7 million tonnes by 2010 (75% of 1995)
  – 14.5 million tonnes by 2013 (50% of 1995)
  – 10.2 million tonnes by 2020 (35% of 1995)
Bio-waste treatment

• Composting
  – Open windrow composting
  – In-vessel composting

• Anaerobic Digestion
  – “On-farm” using manure/slurry and energy crops
  – “Merchant” plant using food waste
Use of compost and digestate

• End-users
  – Agriculture/horticulture
  – Land restoration/soft landscaping
  – Forestry
  – Landfill restoration
Other examples

- Paper sludge ash
- Recycled gypsum
- Poultry litter ash
- Plant residues from industrial processing
- Food and drink industry wastes
Drivers for use in agriculture

- Landfill Directive
- Waste Framework Directive
  - Move towards a Zero Waste Economy
- Resource Efficiency
Drivers for use in agriculture

- Fertiliser Costs
- Soil Protection Review
  - Soil Organic Matter Content
- Local availability
- Understanding of benefits of use
Barriers to use in agriculture

- “Waste” status
- Perceived risks
- “Hassle factor”
- Transport costs
- Understanding of benefits and risks
- Seasonal demand vs constant supply
When is a waste not a waste?

- Definition of waste
- Recycling not disposal
- Quality is everything
Waste Protocols Project

• EA / WRAP led project
• Redefine the end-of-waste
• Confidence in quality of outputs
• Control of risks
• Criteria for the inputs, process and outputs
The NFU champions British farming and provides professional representation and services to its farmer and grower members.
Regulation

• Environmental Permitting Regulations
  – Waste exemptions
  – Standard rules Permits
  – Bespoke Permits

• Permitting process based on risk
• Retains “waste” status until used
Customer acceptability

- Perceptions of hazard and risk
  - Farmers
  - Farm Assurance Schemes
  - Retailers
  - Consumers
  - Media
To conclude

- Agricultural land seen as biggest market for diverted wastes
- Agriculture recycling materials and contribute to resource efficiency
- BUT – not an alternative place to dispose of waste
- Quality of the output is key
- Understanding of the benefits vs risks and how to control them is important
1.77 million tonnes