

# EoW for compost and digestate

## Workshop at JRC Seville 25<sup>th</sup> October 2011

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[represented EWA]

FWR Wastewater Research & Industry Support Forum  
CIWEM Wastewater Management Panel  
3<sup>rd</sup> November 2011

The Waste Framework Directive (2008/98/EC) says:

*'certain specified waste shall cease to be waste ... when it has undergone a recovery, including recycling, operation and complies with specific criteria to be developed in accordance with the following conditions:*

- a. The substance or object is commonly used for a specific purpose;*
- b. A market or demand exists for such a substance or object;*
- c. The substance or object fulfils the technical requirements for the specific purpose referred*
- d. to in (a) and meets the existing legislation and standards applicable to products; and*
- e. The use of the substance or object will not lead to overall adverse environmental or human health impacts.'*

Substantial amounts of sewage sludge are composted (generally with greenwaste) in Austria, Finland, France, Italy and Spain (and probably more MS) because composting gains EoW and the rules are then less onerous than the rules for recycling sewage sludge.

The UK has EoW criteria for compost and for digestate but both forbid the inclusion of sewage sludge as an ingredient.

EC confirmed that when there are EU EoW criteria they will supersede MS criteria, i.e. current MS criteria will cease to be valid.

If EoW for composted sewage sludge was withdrawn (which is possible from this workshop) it would have serious consequences for sewage sludge in several MS and also for greenwaste.

# Division of opinion

- Output criteria [+HACCP and QA]
- Prescribe everything
  - Separately collected only
  - List of forbidden inputs
    - Emotional opposition to sewage sludge
      - Sewage sludge supported by EUREAU, ReVAQ and EWA (50% of SE biosolids now in ReVAQ)
      - Defra rep did not speak up for sewage sludge
    - Emotional opposition to post collection sorting
  - Process conditions
  - Output criteria

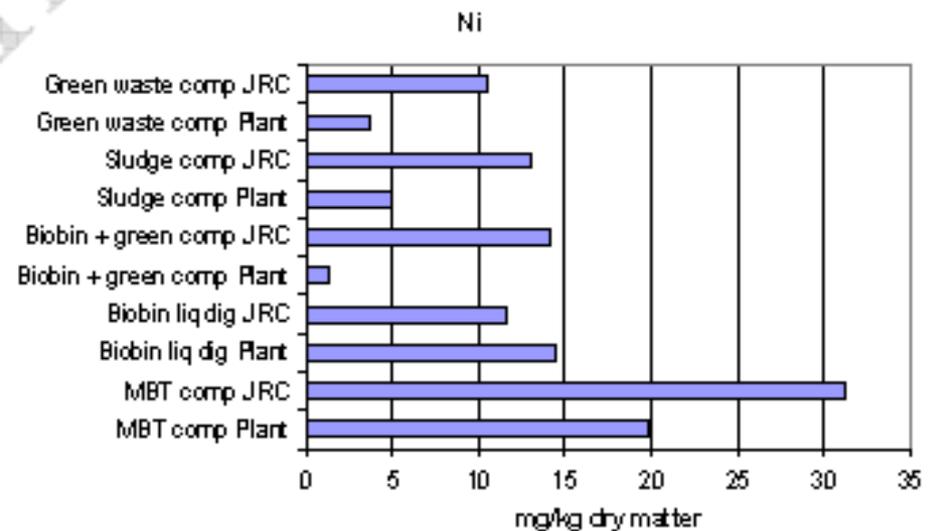
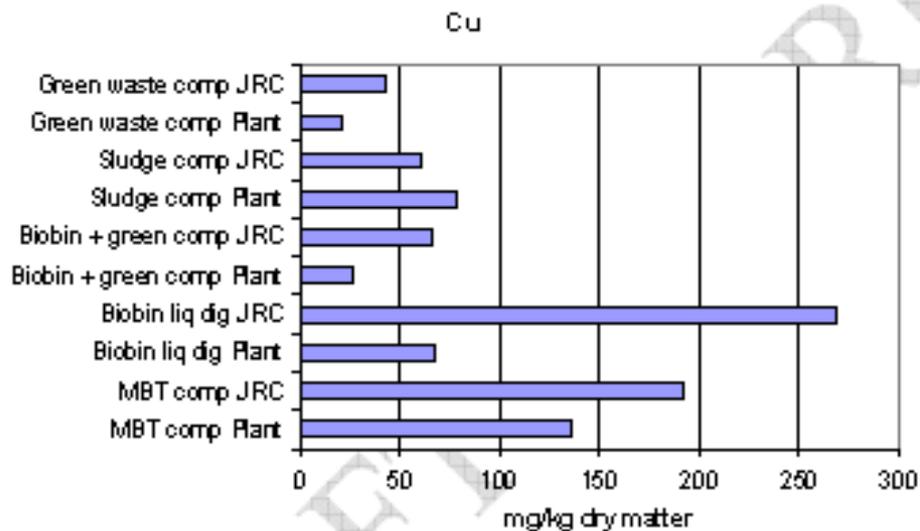
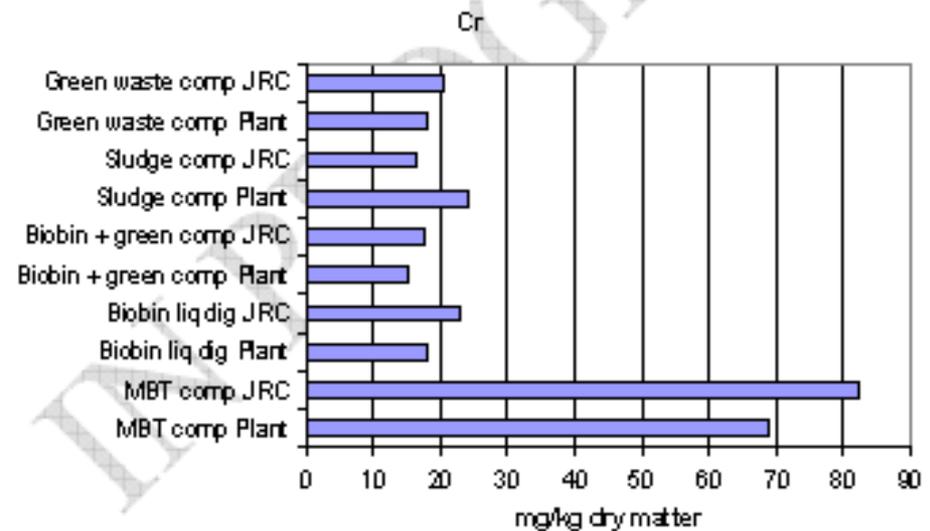
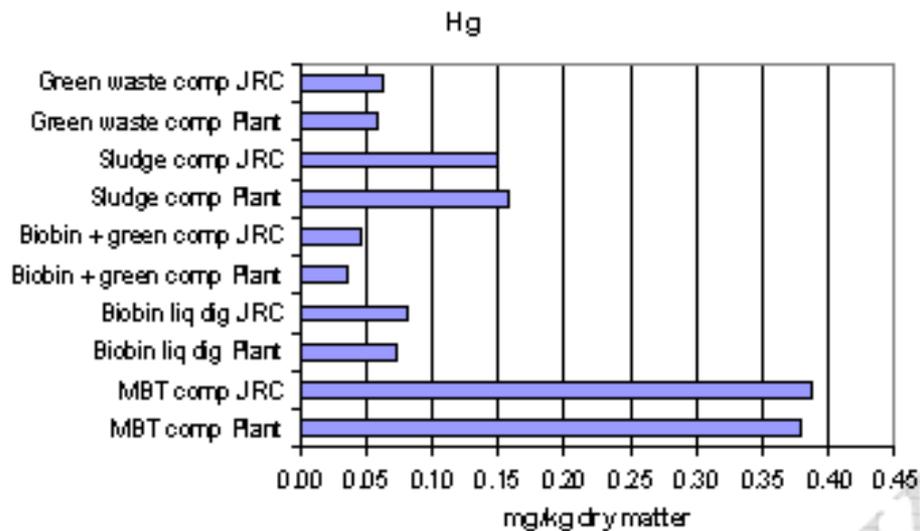
# EU stewardship of phosphate

- EU imports 9% of world P extraction
- in urban wastewater  $\approx$  34% of P import
- Only 52% of P is removed from wastewater
- Only 20% of the P in wastewater is recycled  
80% is squandered
- SE P-recycling target; DE target soon
- 2012 EC White Paper on P

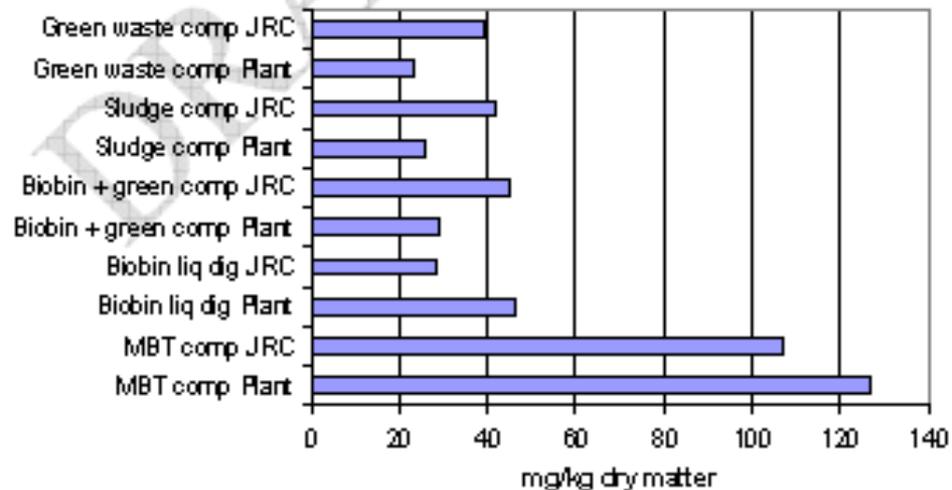
# First data from JRC analysis of samples

## How different are composts and digestates?

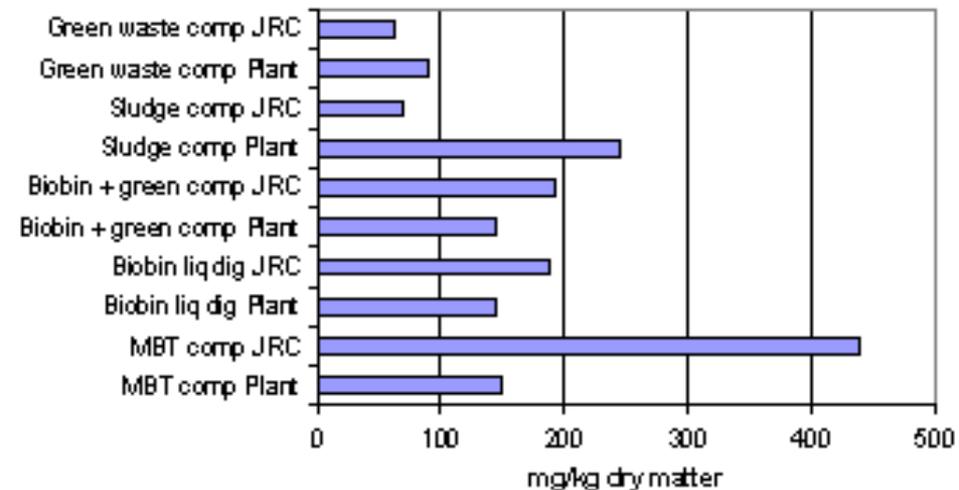
### How would manure compare?



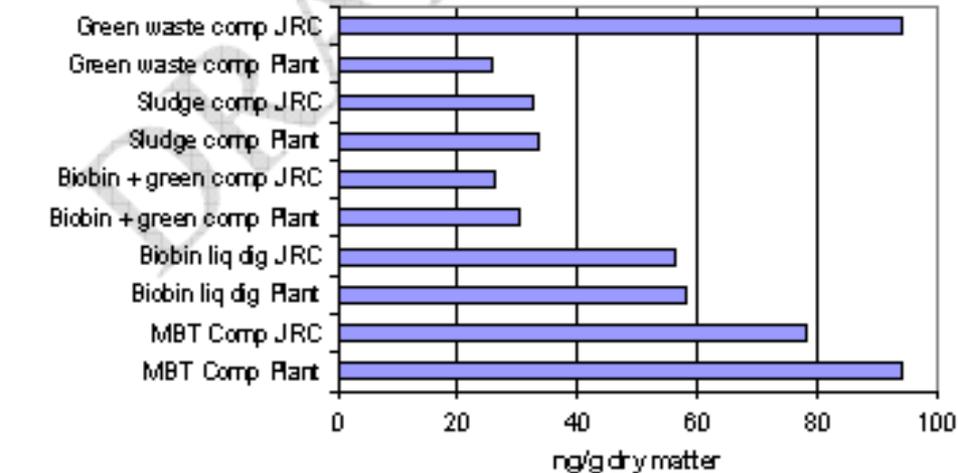
Pb



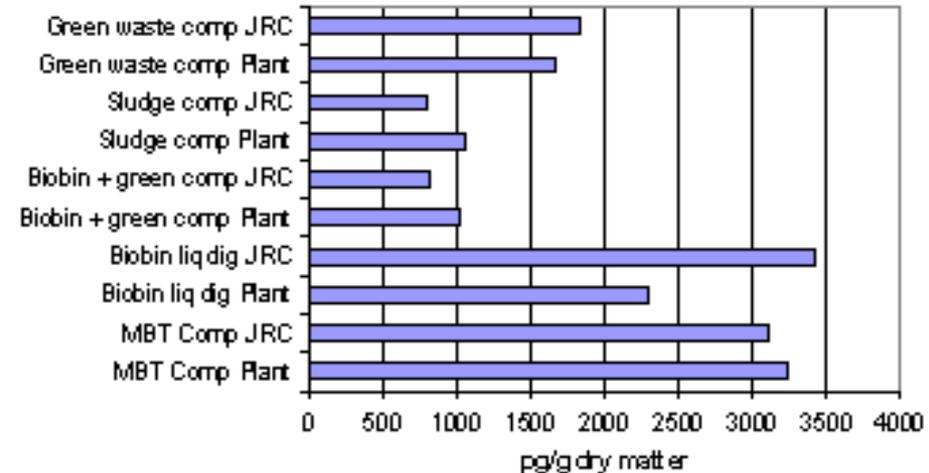
Zn



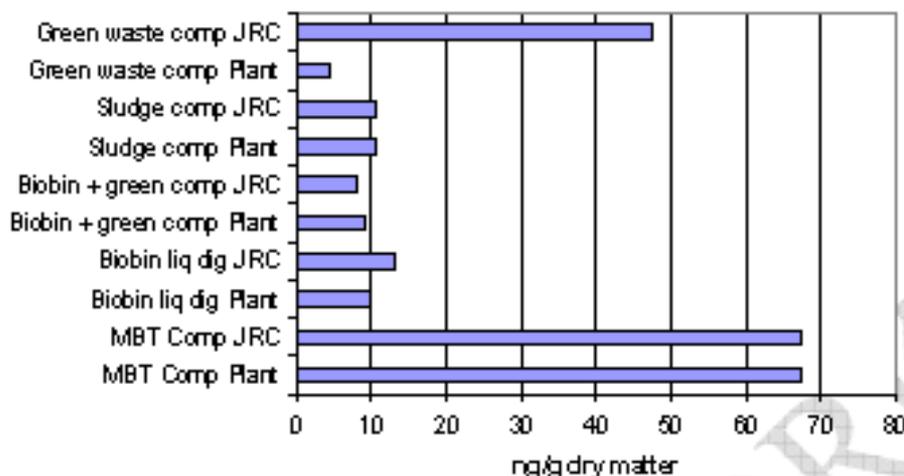
PCB



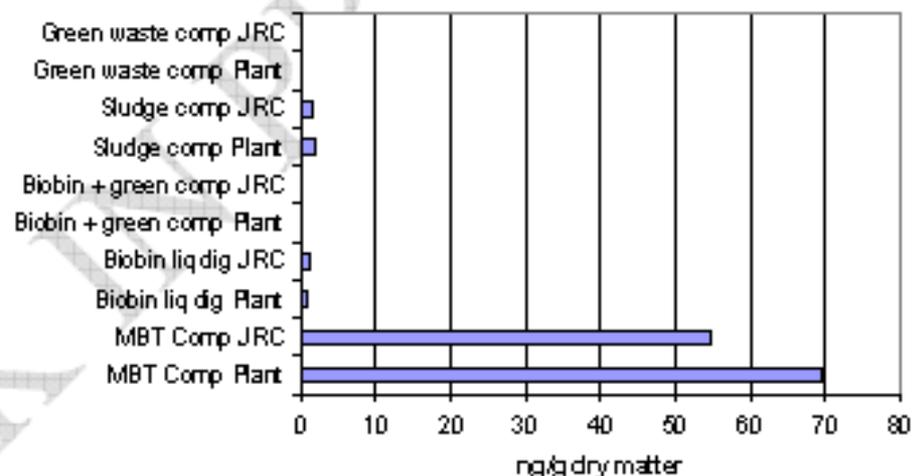
Dioxins



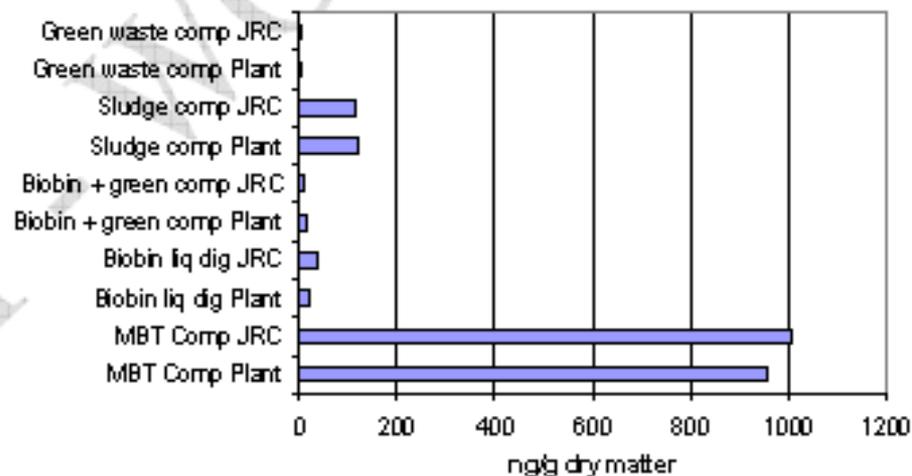
Penta PBDE



Octa PBDE



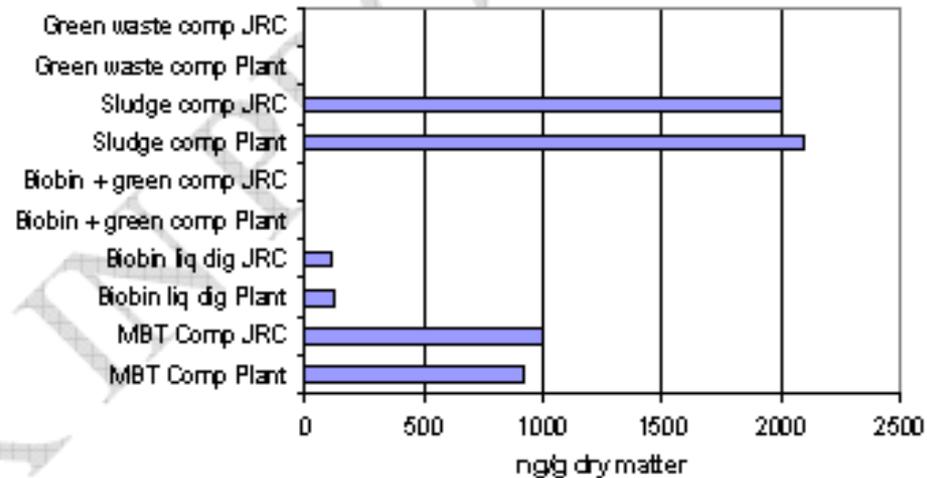
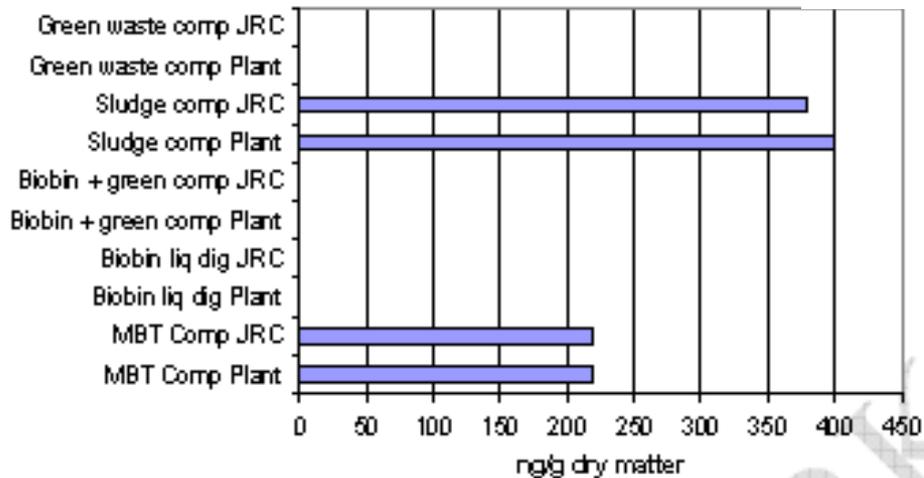
Deca PBDE



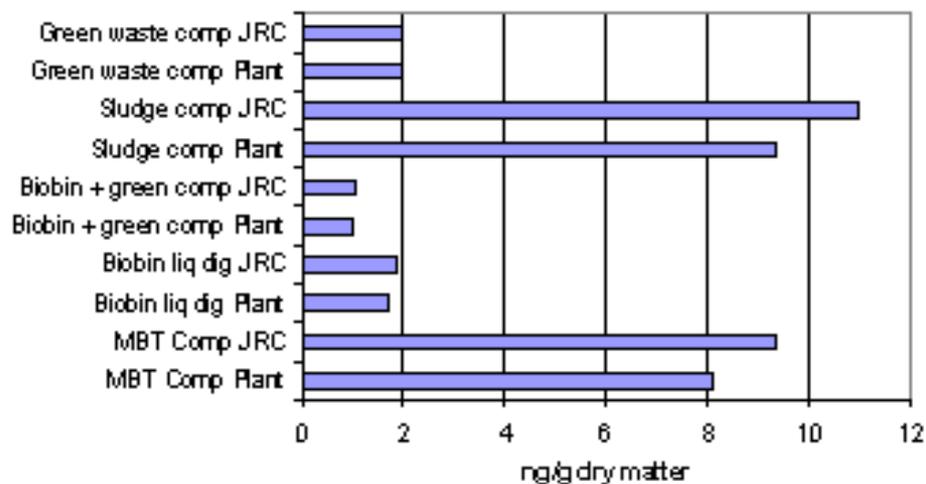
# polycyclic musks

Tonalide

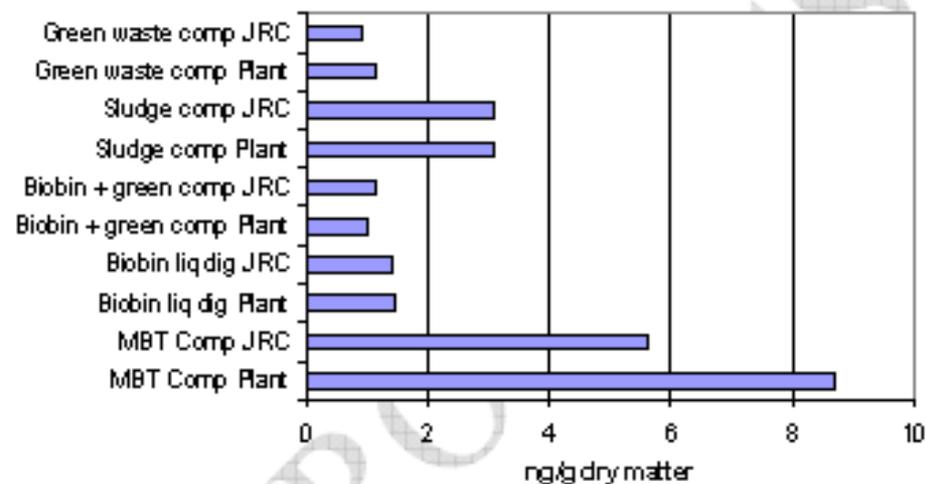
Galaxolide



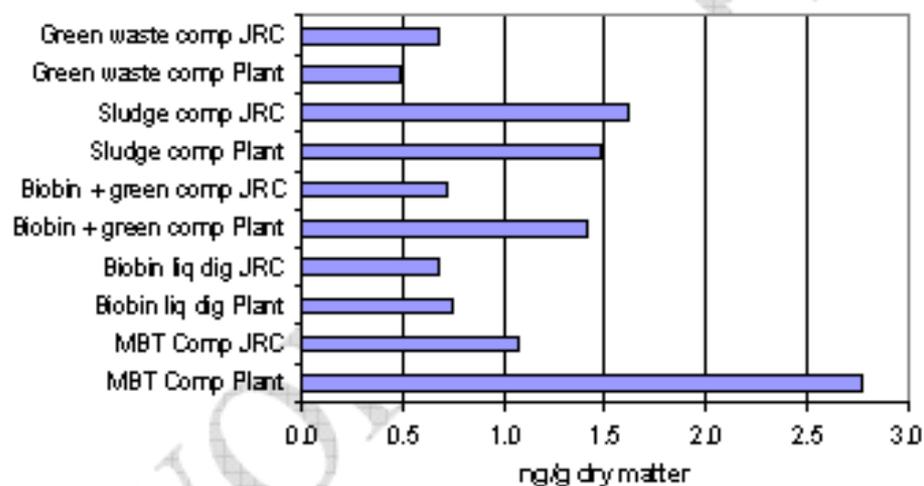
PFOS



PFOA



PFNA



## Ring Test 2009 : set up

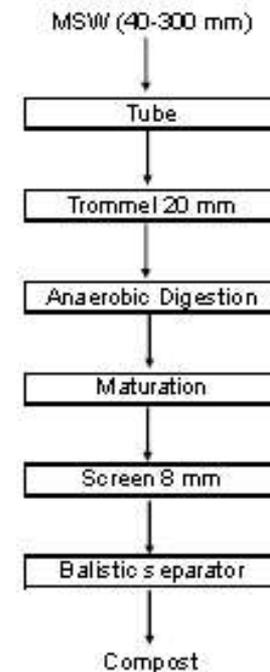
- **6 accredited laboratories :**

- UK
- France
- Germany
- Belgium
- Netherlands
- Spain

- **Parameters :**

- Dry matter, organic matter, pH, total N
- Heavy metals
- Physical impurities

- **1 single compost type (French MSW compost) sampled according to EN 12579**



## Ring Test 2009 : Heavy metals

mg/kg DM	B	NL	UK	F	D	E	Mean	Std Dev	RSD
Cd	1,0	1,0	0,9	1,0	0,7	1,3	1,0	0,1	6%
Cu	144	158	123	148	100	191	143	14,7	10%
Ni	24	28	26	31	23	37	27	3,0	11%
Pb	88	105	81	100	79	149	93	11,1	12%
Cr total	36	41	32	44	30	59	38	5,4	14%
Zn	338	403	323	413	320	671	369	45,4	12%
Hg	0,4	0,4	0,3	0,5	0,4	0,4	0,4	0,1	18%

- **2 groups :**

- NL, B, F, UK results are +/- equivalent
- German and Spanish results show large discrepancies

- Arguments that EoW excluding sludge would
  - Tilt playing field
  - Prevent economy of scale / critical-mass of co-treatment
  - Impair phosphate stewardship
  - Had some traction but did not win the day
- EC concluded from workshop that “MBR” and sludge should be excluded “at this stage”
- Does the evidence support the position?