



The 60-year journey to an Australian Flushability Standard

By Chantal Keane

SOCIAL SURVEY

Knowledge of the sewer system?

My toilet flushes and goes to the ocean (20 votes) **39%**

I have an okay idea of the sewerage system (26 votes) **51%**

I have advanced knowledge (it's my job) (5 votes) **10%**

What have you flushed?

A sanitary product oops (14 votes) **25%**

Paper towel/tissue (22 votes) **39%**

Flushable wet wipes (4 votes) **7%**

Just toilet paper yeee (16 votes) **29%**

WIPES: A HISTORY



ENC
ENC



EXISTING METHODS: INDA/EDANA VS IWSFG



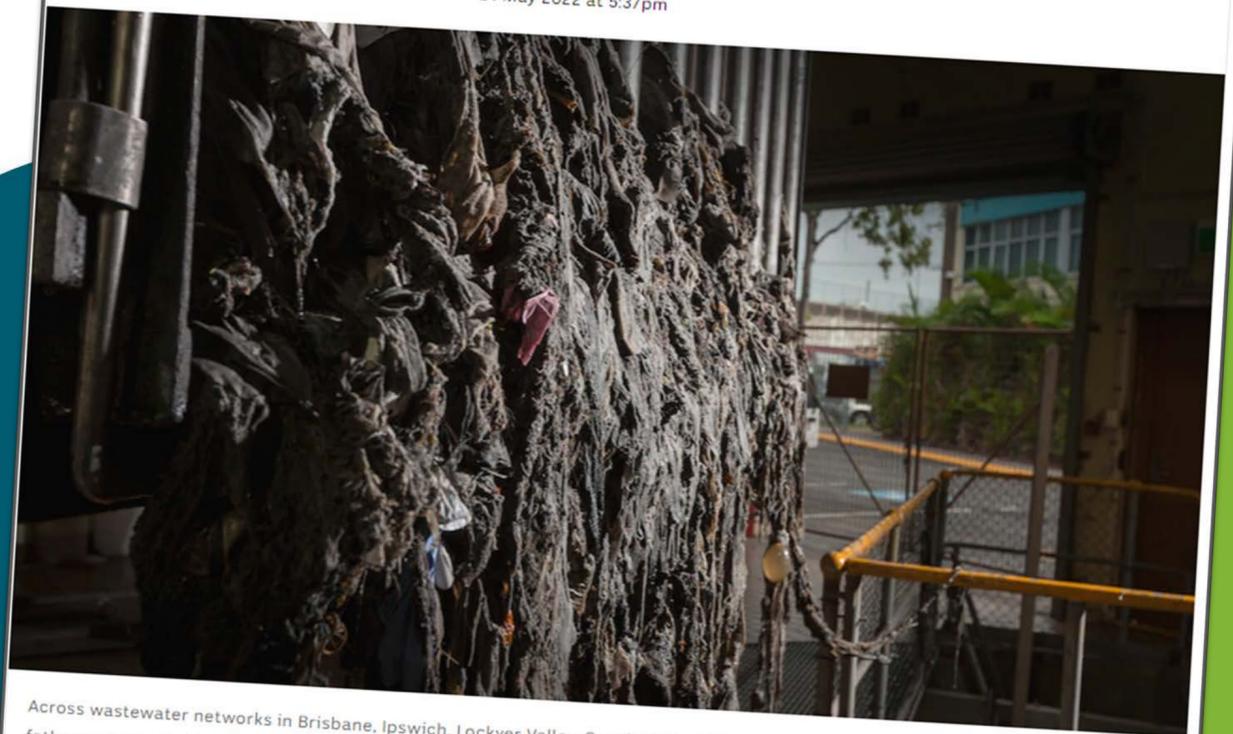
AUSTRALIAN STANDARD FOR FLUSHABLE PRODUCTS



New national standard for 'flushability' rolled out to curb costly 'fatberg' monstrosities from blocking sewerage networks

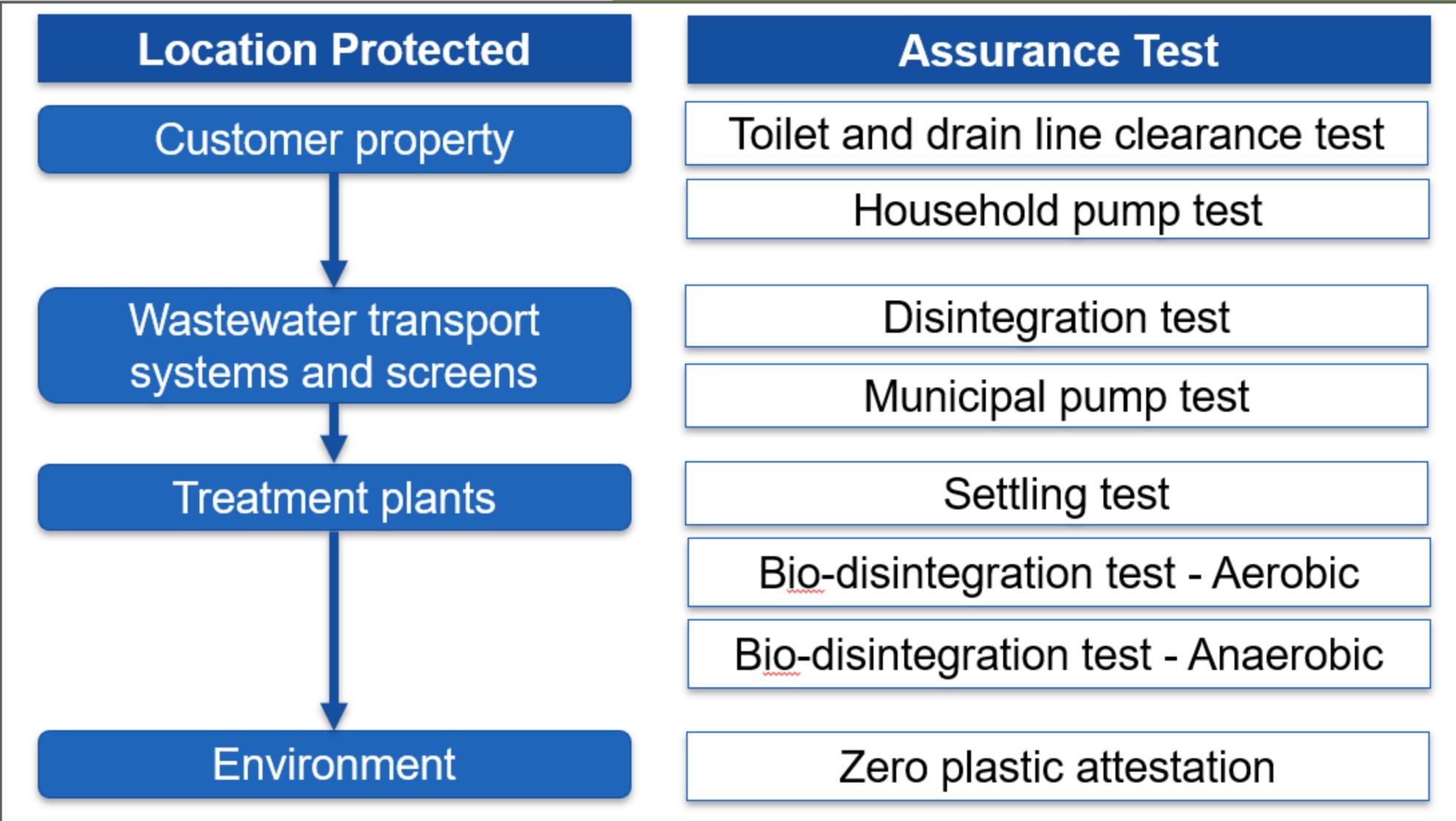
By [Baz Ruddick](#)

Posted Tue 24 May 2022 at 2:05pm, updated Tue 24 May 2022 at 5:37pm



Across wastewater networks in Brisbane, Ipswich, Lockyer Valley, Scenic Rim and Somerset local government areas, 120 tonnes of fatbergs and wet wipe masses are removed per year. (ABC News: Baz Ruddick)

APPROACH TO STANDARD



The Path to Flushability

Will it clog? Will it float? Will it degrade?

INDA and EDANA have used up-to-date lab work and field studies to demonstrate that a wipe passing these seven rigorous tests may be labeled flushable.

Toilet and Drain-line Clearance Test (FG501)
To assess the potential of a disposable nonwoven wipe to successfully clear a toilet and building drainage lines.

Slosh Box Disintegration Test (FG502)
To assess the potential for a disposable nonwoven wipe to disintegrate when subjected to mechanical agitation in water.

Household Pump Test (FG503)
To assess the compatibility of a disposable nonwoven wipe with household sewage ejector pump systems.

Aerobic/Anaerobic Biodegradation Test (FG505/506)
To assess the potential of a disposable nonwoven wipe to biologically degrade under anaerobic and aerobic conditions found in wastewater treatment processes.

Settling Test (FG504)
To assess the potential of a disposable nonwoven wipe to settle in sumps, septic tanks, on-site aerobic systems and settling chambers.

Municipal Pump Test (FG507)
To assess the compatibility of disposable nonwoven wipes with municipal sewage pumping systems.

If it passes these seven tests, you may label your wipe "flushable"

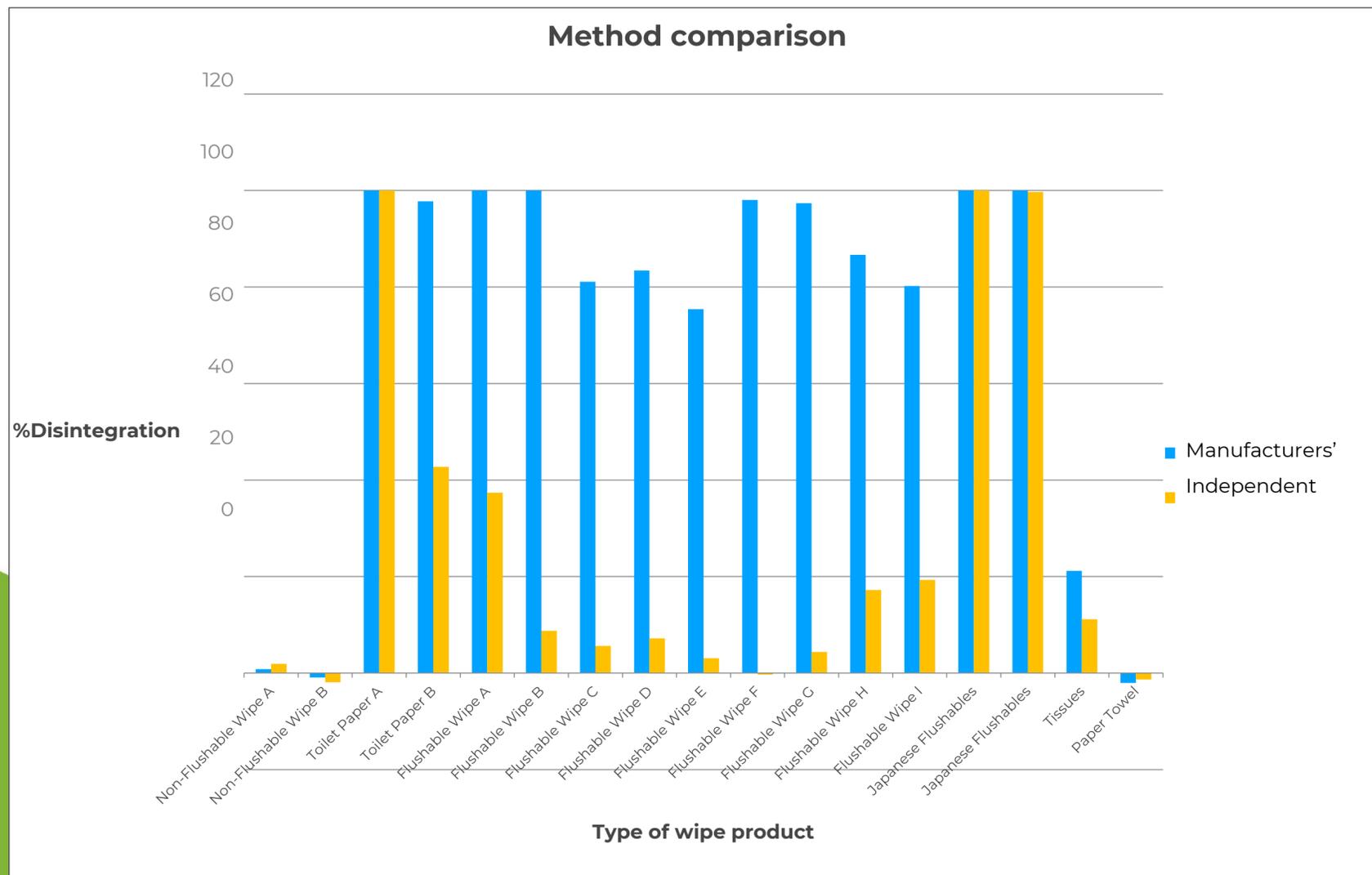
Pass/fail standards have been updated for FG502 and FG507.

RESPONSIBLE FLUSHING ALLIANCE

WHAT DO WE HAVE THAT THEY DON'T?



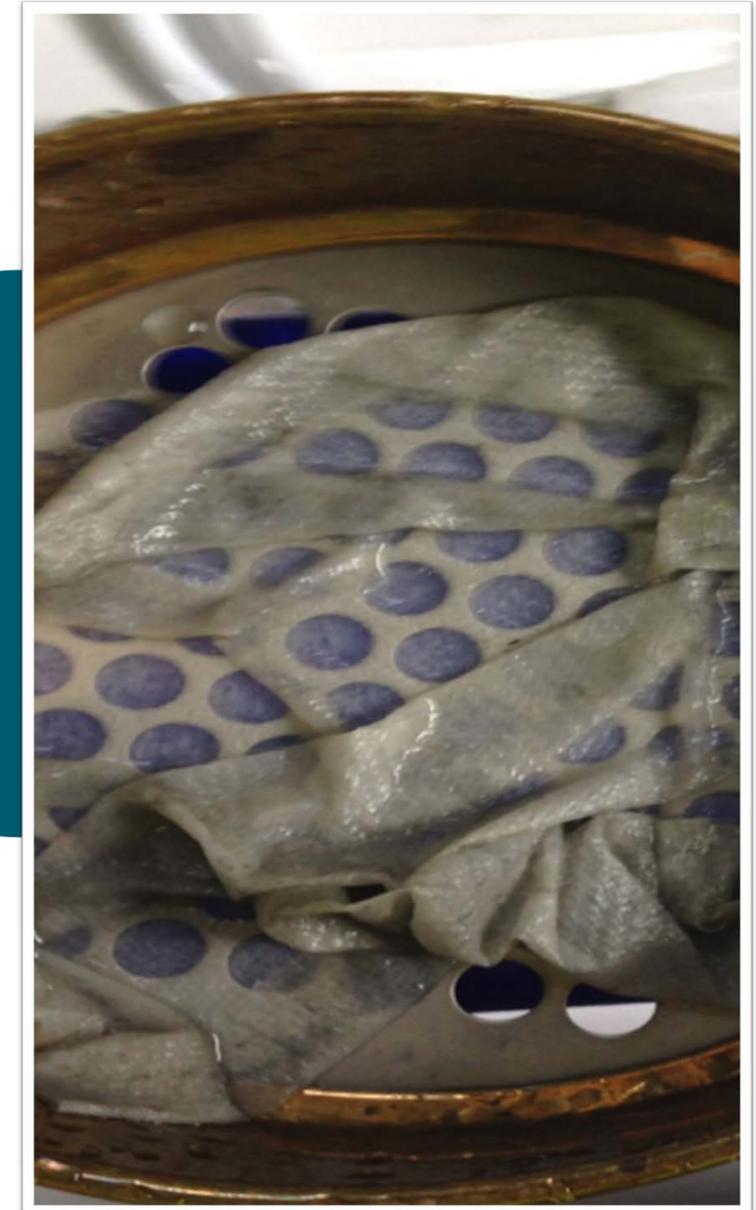
COMPARISON OF THE TWO EXISTING METHODS



Parameters	Manufacturers' method	Independent method
Sieve diameter:	12.5 mm	25.0 mm
Water temperature:	22 °C	15 °C
Volume of water:	2.0 L	4.0 L
Oscillation speed:	26 rpm	18 rpm
Duration:	60 min	30 min
Pre-rinsing:	30 sec swirling in 20 L water	Flush and then hold in dry container 30 min
Post-rinsing:	2 min rinsing at 4 L/min	1 min rinsing at 4 L/min
Pass/fail criteria:	>60% disintegration	>95% disintegration

COMPARISON WITH TEST SEWER

Product	IWSFG PAS(3)		TEST SEWER	INDA EDANA GD4	
	Average Disintegration (%)	Pass/Fail	Average Disintegration (%)	Average Disintegration (%)	Pass/Fail
1	37.4	Fail	48.6	100.0	Pass
2	19.3	Fail	28.3	80.2	Pass
3	<0.1	Fail	14.9	98.0	Pass



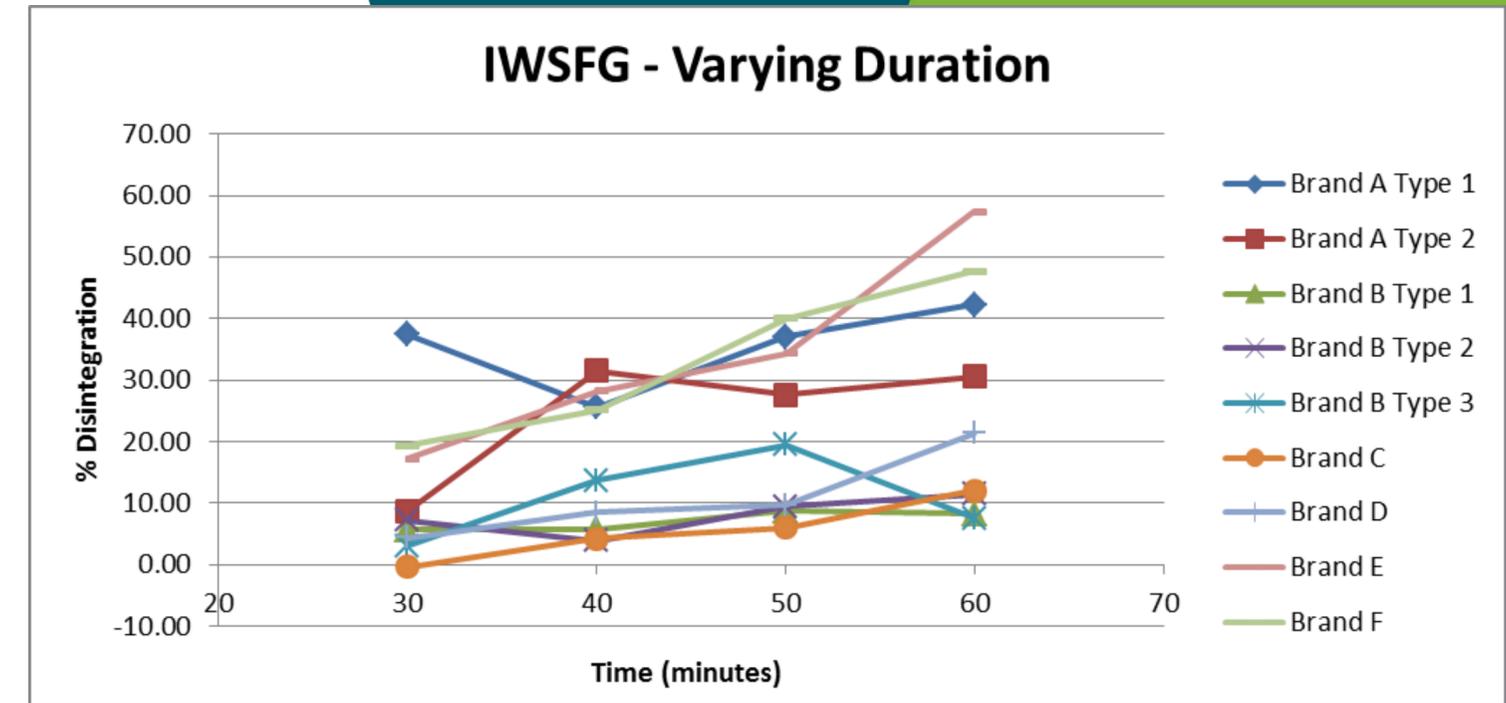
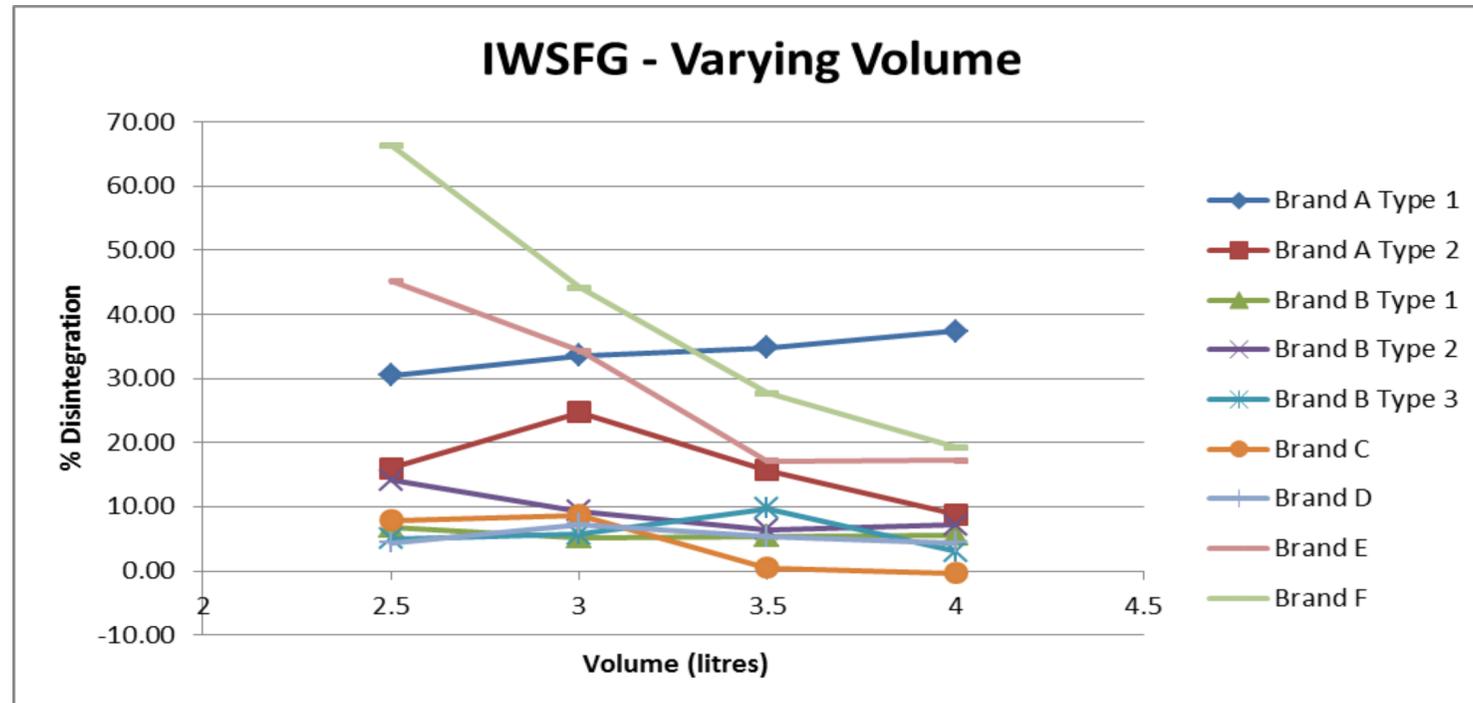
REFINING THE REPRESENTATIVE METHOD



Wipe delaminates, only 30% paper disintegration



More uniform disintegration (but still not great...)



ROUND ROBIN RESULTS

Product	IWSFG 4 Litres and 60 min					GD4 4 Litres and 30 min					GD4 4 Litres and 60 min			
	Lab 1	Lab 2	Lab 3	Mean	Sdev	Lab 1	Lab 2	Lab 3	Mean	Sdev	Lab 1	Lab 3	Mean	Sdev
Kleenex Flushable Wipes 42pk	42.3	51.6	90.5	61.5	25.6	44.4	38.5	68.0	53.3	20.9	63.9	76.5	52.2	19.2
Precious Flushable Wipes 50pk	12.0	50.2	8.0	23.4	23.3	64.2	54.7	21.5	38.1	23.5	79.3	44.2	46.5	21.2
Natracare Flushable Moist Tissues 30pk	47.7	81.2	24.5	51.1	28.5	81.6	89.0	49.4	69.2	28.0	79.5	68.3	66.4	21.2



THE FINAL MASTERPIECE

Temp	Volume	Duration	RPM	Tilt Angle	Sieve
20°C ($\pm 2^\circ$)	3 Litres	60 minutes	18 rpm	11° ($\pm 0.5^\circ$)	25 mm

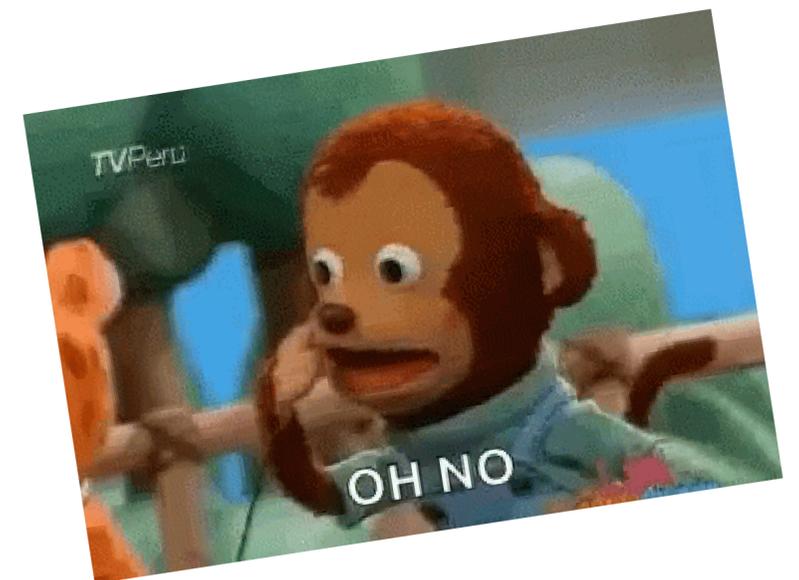
C8 Pass/Fail Criteria

To be acceptable, the mean percentage of the initial dry mass of the sample passing through the 25mm sieve for the 6 test products after 60 minutes of testing shall be greater than 75%.

This result shall be supported by visual examination and photographs of solids on the sieve.



SAME... BUT DIFFERENT??





NEXT STEPS?

- *Accredited laboratory testing
- *International standardisation
- *Wider education

