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Preliminary findings of LZD- resistance monitoring in animals in Ireland

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Background



- Emerging resistance highlighted by Belgium, 2019
- EURL survey prompted a retrospective analysis of resistance in Gram positive bacteria
- mainly originate from samples of clinically sick animals- passive surveillance

	EUST 2 plate	EUVNEC plate
Gram pos isolates 2019-23	<i>Staphylococcus aureus</i>	Enterococcus
No. Isolates tested	387	53
No. Isolates resistant	1	2

	Bacterial Spp.	Origin	MIC (mg/L)	Genotype
Isolate 1	<i>S. aureus</i>	Bovine	8	cfr
Isolate 2	<i>E. faecalis</i>	Bovine	16	optr(A)
Isolate 3	<i>E. faecium</i>	Bovine	8	poxr (A)

Survey on the voluntary linezolid resistance surveillance by EU countries

Coordinated by:

- The EU Reference Laboratory for antimicrobial resistance (EURL-AR), National Food Institute, Technical University of Denmark

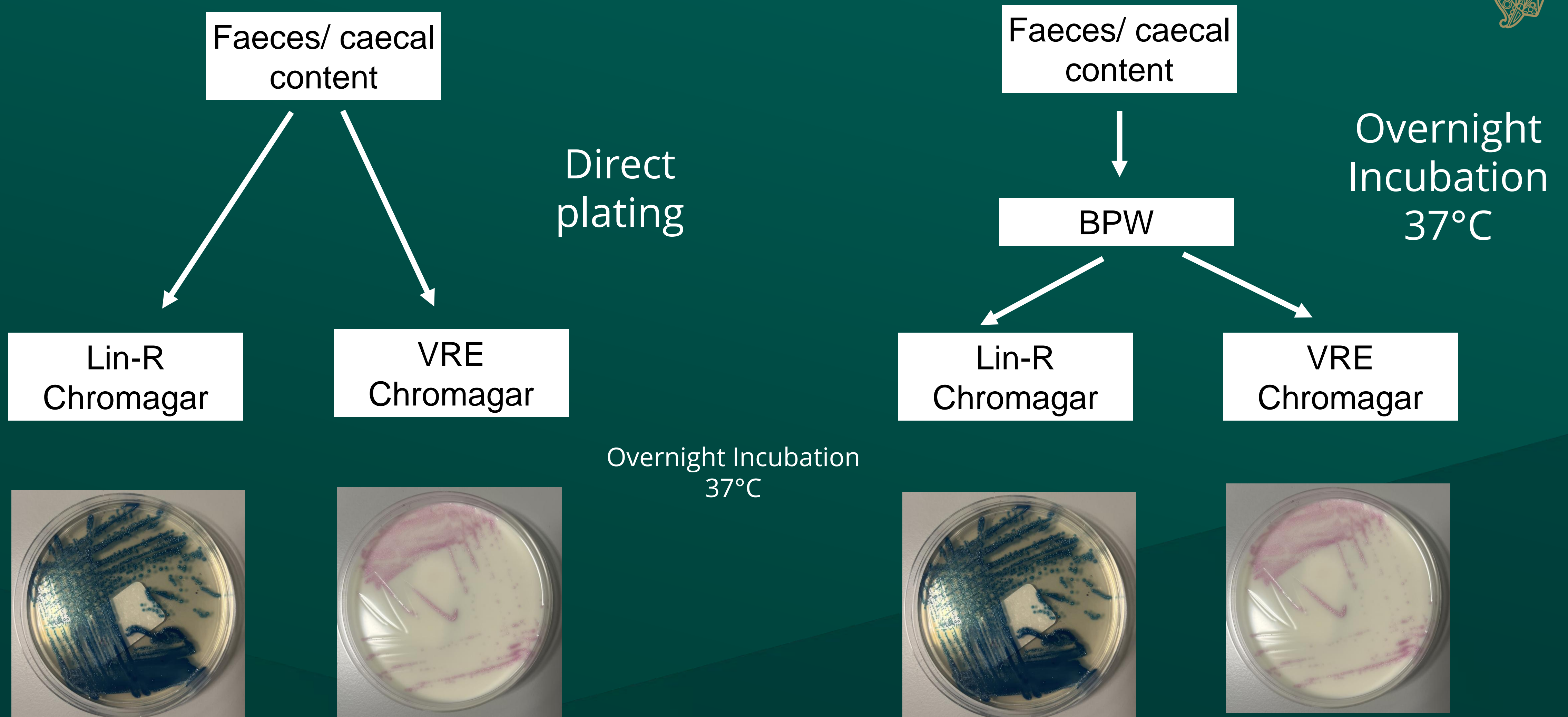
- Sciensano, Belgium

Large diversity of linezolid-resistant isolates discovered in food-producing animals through linezolid selective monitoring in Belgium in 2019

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Evaluation of inoculation procedures





Results- 44 samples processed in duplicate

	Direct plating	BPW + overnight incubation
Total positive		
Lin-R (Enterococcus)	0	0
Lin-R (Staphylococcus)	0	0
VRE (Enterococcus)	7*	9

*Enterococcus detected using direct plating for 1 sample but mixed growth on BPW

- 26 samples were also processed in triplicate – BPW inoculated but not incubated
- Identical results- BPW without/ post incubation
- Decided to proceed with incubation of BPW to streamline workflow



Results:

- 215 samples tested to date
- 20 ovine, 69 bovine faeces and 126 avian caecal contents
- 1 linezolid resistant *E. faecalis* isolated from faeces of a sick calf at necropsy
- Op_{tr}(A)- encoded resistance

Conclusions

- Prevalence lower than expected, based on passive surveillance findings
- Chromagar capable of detecting resistant isolates with MICs as low as 8µg/ml
- Switch to BE recommended plates



Media	Total tested	Total positive
Lin-R (Enterococcus)	195	1x <i>E faecalis</i>
Lin-R (Staphylococcus)	195	0
VRE (Enterococcus)	215	23 x <i>E. durans</i>



Acknowledgements



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