

Prevalence of VTEC on beef carcasses in Sweden

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Baseline study of beef carcasses

- The study included 601 carcasses from 13 major slaughterhouses and 152 carcasses from 4 small scale slaughterhouses.
- Sampling between September 2006 and September 2007.
- Numbers of samples were proportional to production.

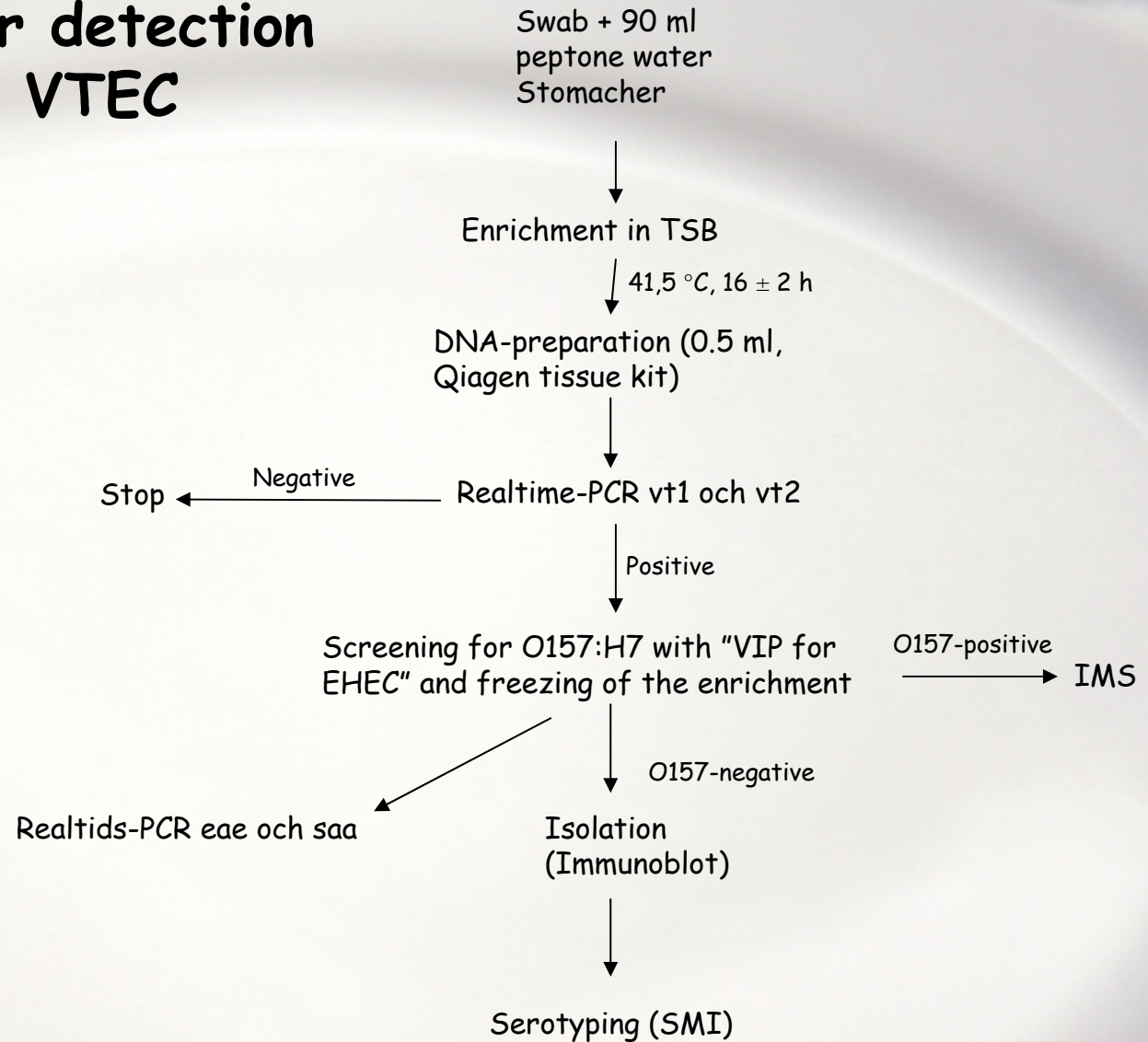




Swab sampling
on four places



Flow scheme for detection and isolation of VTEC

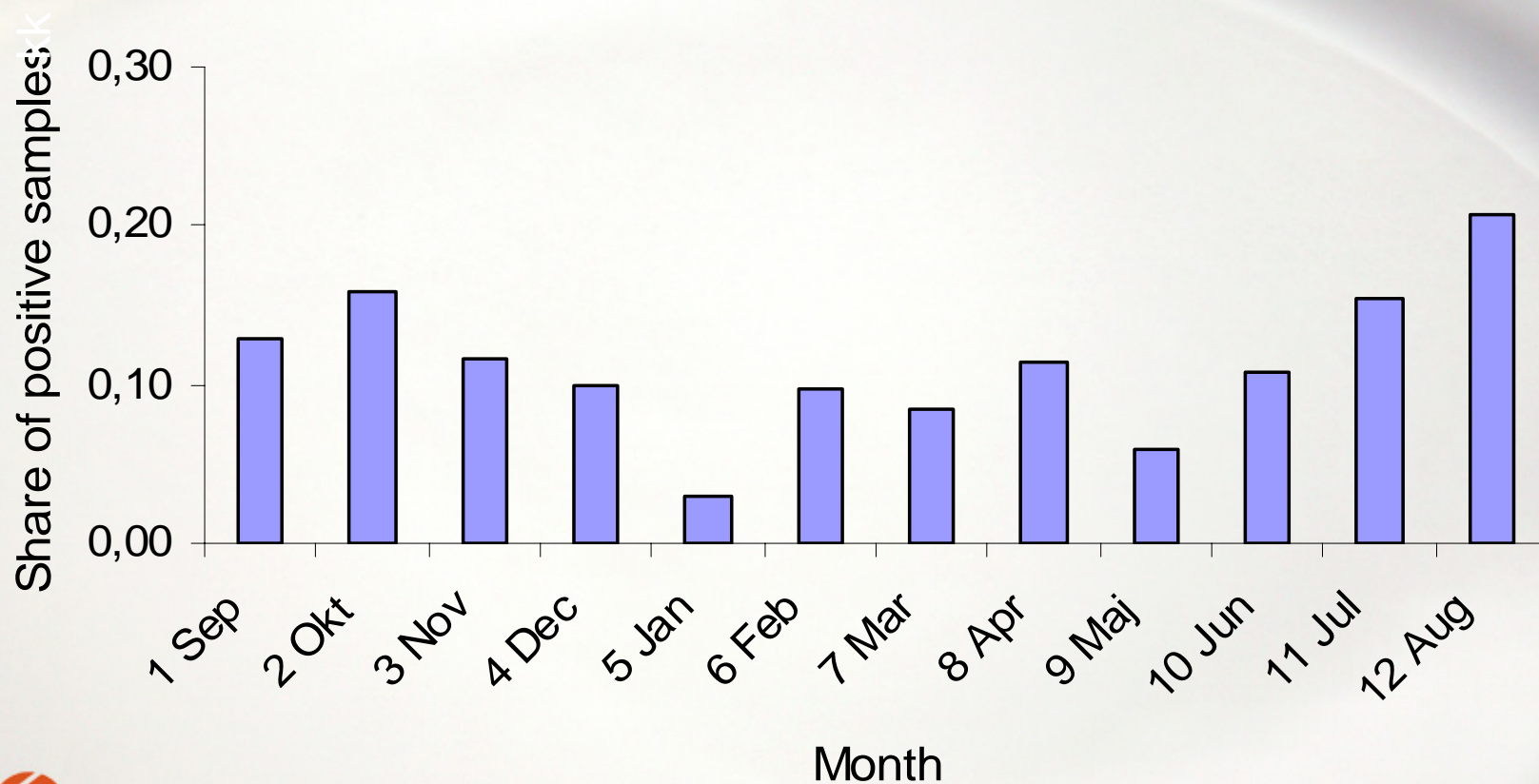


RESULTS

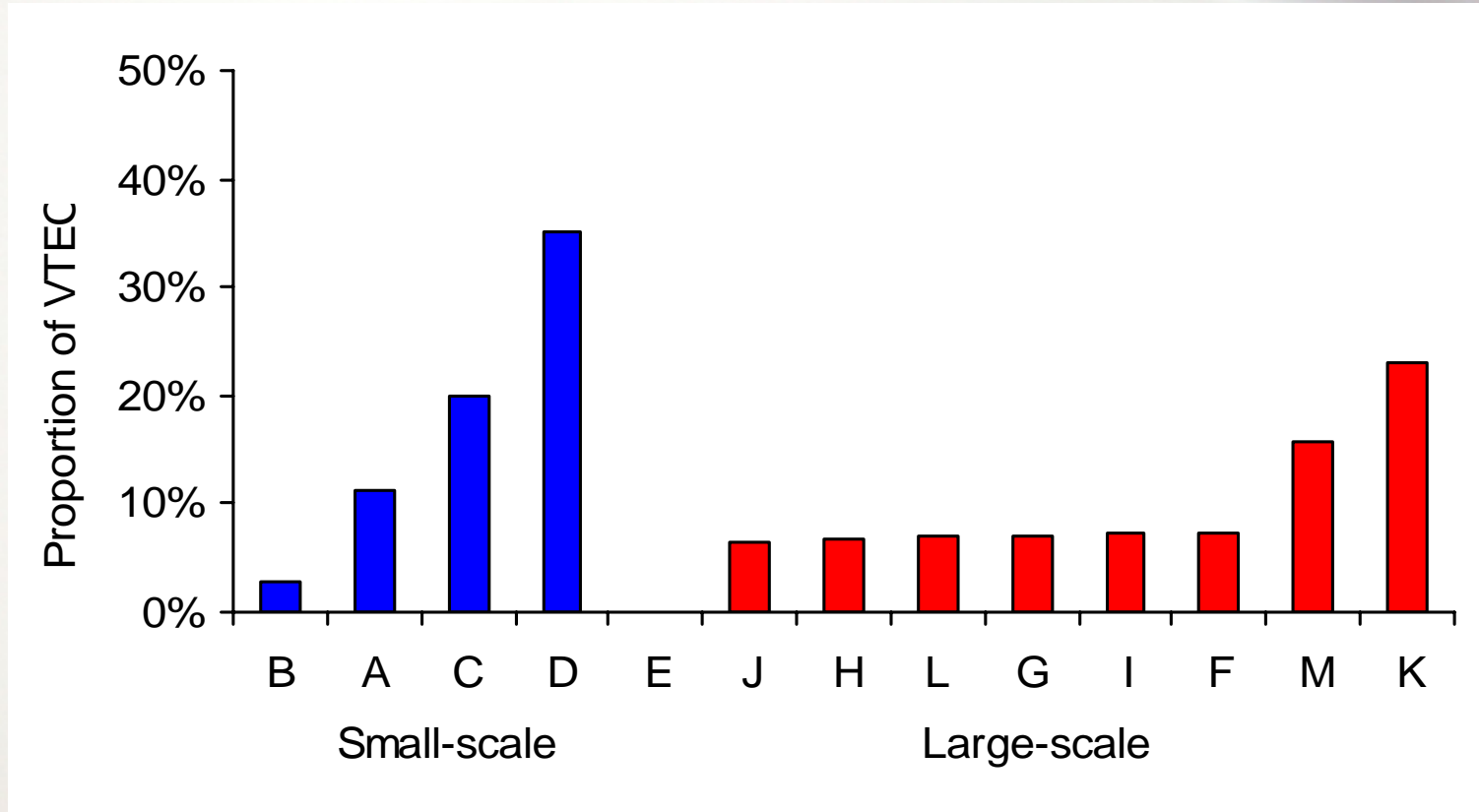
- 12% of the 753 samples were PCR-positive for vt1 and/or vt2
- VTEC isolates were recovered from 40 samples



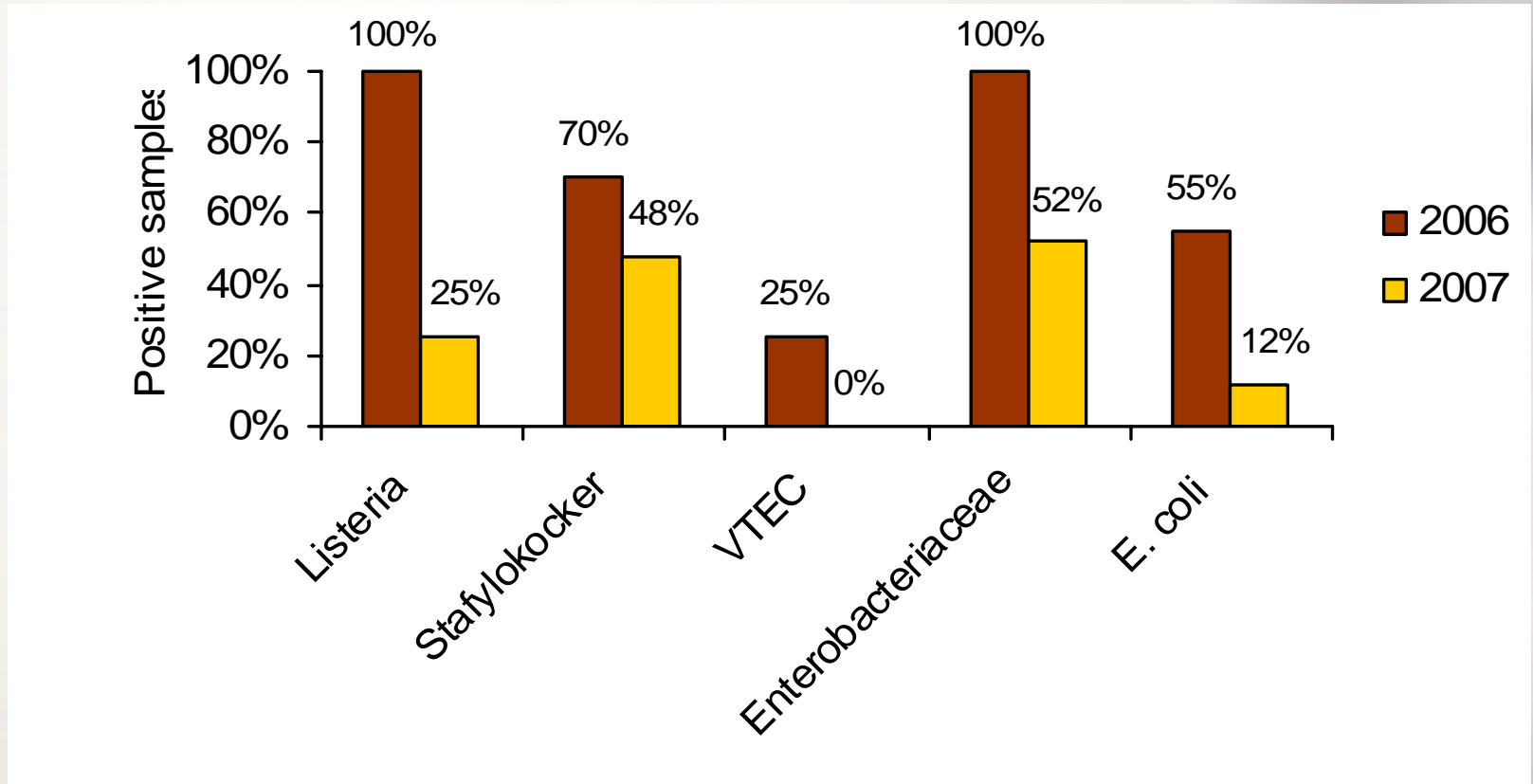
Seasonal variation



Differences between slaughterhouses



Listeria problem in one slaughterhouse – improved hygiene resulted in better results



Characterisation of the isolates

Isolate	vt-1	vt-2	eae	saa	serotype	Isolate	vt-1	vt-2	eae	saa	serotype
25	+	+	-	+	O178:H19	562	-	+	-	-	
35	-	+	-	-	O2:H27	568	-	+	-	+	O113:H21
55	+	-	-	-		617	-	+	-	-	O113:H21
56	-	+	-	-	O2:H27	635	+	-	-	-	
57	-	+	-	-	O2:H27	719:2	+	-	-	-	
73	+	-	+	-		724	-	+	-	+	O113:H21
84	+	-	-	-		767:2	+	+	-	+	O178:H19
114	+	+	+	-	O157:H7	838:1	+	+	+	-	O157:H7
119	-	+	-	-	O174	838:2	+	+	+	-	O157:H7
174	+	-	+	-		798	+	-	-	-	
182	-	+	-	-	O7:H29	816:1	-	+	-	-	
213	-	+	-	+	O113	816:2	-	+	-	-	
250	+	-	-	+		828	+	-	+	-	
260:2	+	+	-	+	O170:H28	837	-	+	-	-	
292	-	+	+	-	O177	865:1	-	+	-	+	
294	+	-	-	-		865:2	+	-	-	+	
259	-	+	-	-	O8:H9	923:1	+	+	+	-	
426	-	+	-	-		923:2	+	-	+	-	
448	-	+	-	-		936	+	+	-	+	
449	-	+	-	-		943	-	+	-	-	
493	+	+	-	-	O128	678	+	-	-	-	
508	-	+	-	-		788	+	-	+	-	



Conclusions

- VTEC is common on beef carcasses (12%)
- There is a seasonal variation in the prevalence
- Most VTEC do not carry the *eae* gene
- The prevalence differs between slaughterhouses and is partly due to differences in hygiene
- A wide range of serotypes were found, including O157:H7 and O113:H21

