

## Sterol ratios used in the discrimination of faecal sources at ESR

### Ratio Key:

#### ***Ratios indicative of faecal pollution (either human or animal)***

F1	coprostanol/cholestanol.	>0.5 indicative of an unspecified faecal source of sterols If <0.5 may indicate avian faecal contamination
F2	24ethylcoprostanol/ 24-ethylcholestanol.	>0.5 indicative of an unspecified faecal source of sterols.
F3	24-ethylcholesterol/24-ethylcoprostanol	Ratio <1 suggests animal/human source, Ratio >4 suggests plant decay or avian source

#### ***Human indicative ratios***

H1	% coprostanol	Ratio >5-6% suggests human source
H2	coprostanol/(coprostanol+cholestanol)	Ratio >0.7 suggests human source
H3	coprostanol/ 24-ethylcoprostanol	Ratio >1 suggests human source
H4	coprostanol/(coprostanol+24-ethylcoprostanol)	Ratio >0.75 suggests human source

#### ***Herbivore indicative ratios***

R1	% 24-ethylcoprostanol	Ratio >5-6% suggests herbivore source
R2	coprostanol/(coprostanol+24-ethylcoprostanol)	Ratio <30% suggests herbivore source

#### ***Avian indicative ratios***

A1	24-ethylcholestanol/(24-ethylcholestanol+24-ethylcoprostanol+24-ethylepicoprostanol)	A1 Ratio >0.3 - 0.4 suggests avian source
A2	cholestanol/(cholestanol+coprostanol+epicoprostanol)	AND A2 Ratio >0.5 suggests avian source

#### ***Plant indicative ratios***

P1	24-ethylcholesterol/24-ethylcoprostanol	Ratio >4.0 suggests plant decay/run-off Ratio >7.0 may indicate avian pollution
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### Notes:

Note that ratios must be interpreted with consideration to the levels of sterols, and relative to one another. For example H1 is typically also above 5-6% in ruminant faeces. Plant sterols and mixed sources also have differing effects on sterol interpretations which must be considered. Conclusions are the best interpretation of sterols by our expert opinion. It is important to establish whether human or herbivore pollution is present by using ratios H1, H2 and/or R1), before applying the other human and herbivore ratios.