

INTERPRETATION OF FECRT DATA (COLES ET AL 1992)

IN EXCEL ENTER

				A	B
	Pre treatment (or control group) egg counts	Post treatment (or treated group) egg counts	1	Pre treatment (or control group) egg counts	Post treatment (or treated group) egg counts
	600	250	2	600	250
	450	100	3	450	100
	550	600	4	550	600
	250	50	5	250	50
	50	0	6	50	0
	750	200	7	750	200
	800	350	8	800	350
	1100	50	9	1100	50
	950	250	10	950	250
	1200	150	11	1200	150
			12		
Number in group=n	10	10	13	=count(A2:A11)	=count(B2:B11)
Arithmetic mean=M	670	200	14	=average(A2:A11)	=average(B2:B11)
Variance of counts=S	132889	31667	15	=var(A2:A11)	=var(B2:B11)
Percentage reduction=100(1-M _t /M _c)		70	16		=100*(1-B14/A14)
			17	=A15/(A13*A14^2)	=B15/(B13*B14^2)
Variance of reduction (log scale)=V=S _t /n _t M _t +S _c /n _c M _c		0.11	18		=A17+B17
			19		=exp(-2.048*B18^0.5)
			20		=exp(2.048*B18^0.5)
Approx 95% confidence limits			21		=B14/A14
Upper =100(1-M _t /M _c)(exp(-2.048 V)		85	22		=100*(1-B21*B19)
Lower=100(1-M _t /M _c)(exp(-2.048 V)		41	23		=100*(1-B21*B20)

Resistance is confirmed if the percentage reduction in egg count is less than 95% (here 70%) and the lower confidence limit is less than 90% (here 41%). If only one of the two criteria is met, resistance is suspected.