

Hypothesis test results for analysis of estrous cyclicity using the continuous-time Markov model

Stage ^a	Comparison ^b	p-value ^c	Significance ^d	Stage Length Difference ^e (days)
Diestrus	Low-Control	0.011	p < 0.05	-0.7
Diestrus	Mid-Control	0.210	None	-0.4
Diestrus	High-Control	0.006	p < 0.01	-0.9
Proestrus	Low-Control	0.842	None	0.0
Proestrus	Mid-Control	0.225	None	-0.1
Proestrus	High-Control	0.145	None	-0.1
Estrus	Low-Control	0.001	p < 0.01	0.2
Estrus	Mid-Control	0.009	p < 0.01	0.2
Estrus	High-Control	0.009	p < 0.01	0.2

a: Insufficient data to evaluate metestrus stage.

b: Sample sizes for the Control, Low, Mid, and High dose groups respectively were $n = 67, 79, 64, 69$. Dose levels were 0, 1000, 3000, 6000 ppm respectively for the treated groups.

c: The p-values shown were calculated using a permutation null hypothesis testing method and have been adjusted for multiple comparisons using a Hommel correction within each stage.

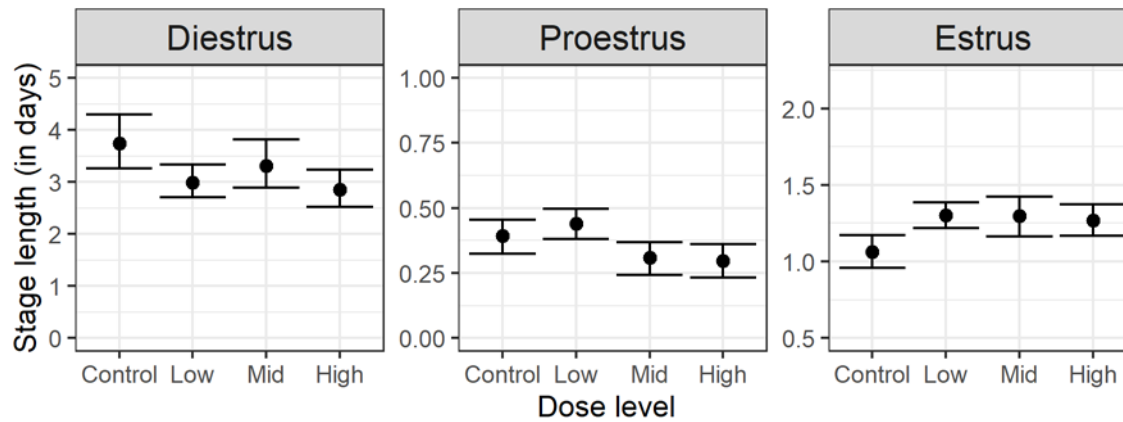
d: Significance is based on the adjusted p-value with a significance level of $\alpha = 0.05$.

e: A positive number indicates the estimated stage length in the treated group is longer than in the control group.

Markov model estimates of stage length and 95% confidence intervals

	Control (0 ppm)		Low dose (1000 ppm)		Mid dose (3000 ppm)		High dose (6000 ppm)	
	Stage Length (days)	95% CI	Stage Length (days)	95% CI	Stage Length (days)	95% CI	Stage Length (days)	95% CI
Diestrus	3.7	(3.3, 4.3)	3.0	(2.7, 3.3)	3.3	(2.9, 3.8)	2.9	(2.5, 3.2)
Proestrus	0.4	(0.3, 0.4)	0.4	(0.4, 0.5)	0.3	(0.2, 0.4)	0.3	(0.2, 0.4)
Estrus	1.1	(1.0, 1.2)	1.3	(1.2, 1.4)	1.3	(1.2, 1.4)	1.3	(1.2, 1.4)
Metestrus ^a	0.2	--	0.2	--	0.2	--	0.2	--

a: Due to a very low number of observations of metestrus, stage lengths were estimated using a profile likelihood approach. As a result, confidence intervals are not available for the metestrus stage length estimate.



Estimates of stage length shown as dots, with bars indicating 95% confidence intervals. Estimates for lengths of metestrus are not shown here due to very low numbers of observations of this stage.