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

Stage	Comparison[a]	p-value[b]	Significance[c]	Stage Length Difference[d] (days)
Diestrus	Low-Control	0.197	None	-0.6
Diestrus	Mid-Control	0.197	None	-0.8
Diestrus	High-Control	0.130	None	-0.9
Proestrus	Low-Control	0.948	None	0.0
Proestrus	Mid-Control	0.948	None	0.0
Proestrus	High-Control	0.948	None	0.0
Estrus	Low-Control	0.941	None	0.0
Estrus	Mid-Control	0.941	None	0.2
Estrus	High-Control	0.941	None	0.0
Metestrus	Low-Control	0.806	None	0.0
Metestrus	Mid-Control	0.125	None	-0.2
Metestrus	High-Control	0.238	None	-0.2

a: Sample sizes for the Control, Low, Mid, and High dose groups respectively were n = 10, 10, 10, 10. Dose levels were 0, 300, 1000, 3000 ppm respectively.

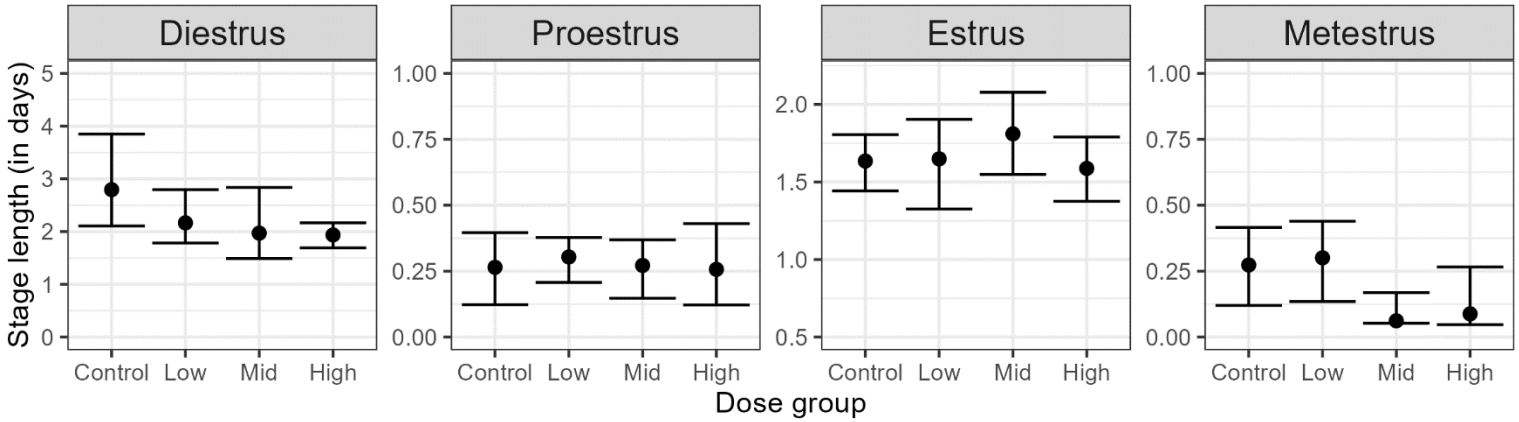
b: The p-values shown were calculated using a permutation null hypothesis testing method and have been adjusted for multiple comparisons using a Hommel correction within each stage.

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

d: 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 (300 ppm)		Mid dose (1000 ppm)		High dose (3000 ppm)	
	Stage Length (days)	95% CI	Stage Length (days)	95% CI	Stage Length (days)	95% CI	Stage Length (days)	95% CI
Diestrus	2.8	(2.1, 3.9)	2.2	(1.8, 2.8)	2.0	(1.5, 2.8)	1.9	(1.7, 2.2)
Proestrus	0.3	(0.1, 0.4)	0.3	(0.2, 0.4)	0.3	(0.1, 0.4)	0.3	(0.1, 0.4)
Estrus	1.6	(1.4, 1.8)	1.6	(1.3, 1.9)	1.8	(1.5, 2.1)	1.6	(1.4, 1.8)
Metestrus	0.3	(0.1, 0.4)	0.3	(0.1, 0.4)	0.1	(0.1, 0.2)	0.1	(0.0, 0.3)



Estimates of stage length shown as dots, with bars indicating 95% confidence intervals.