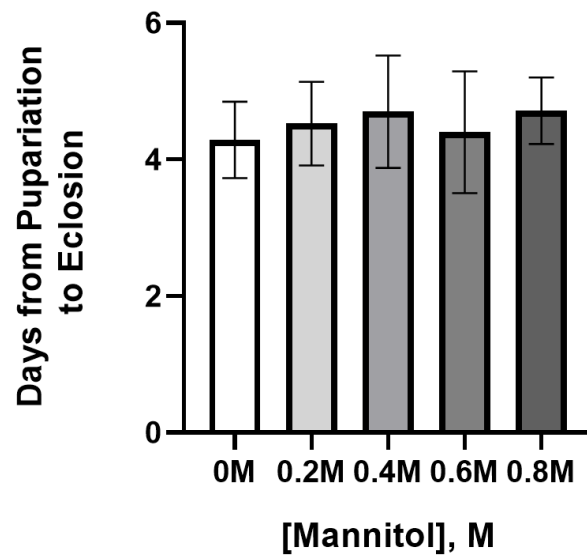
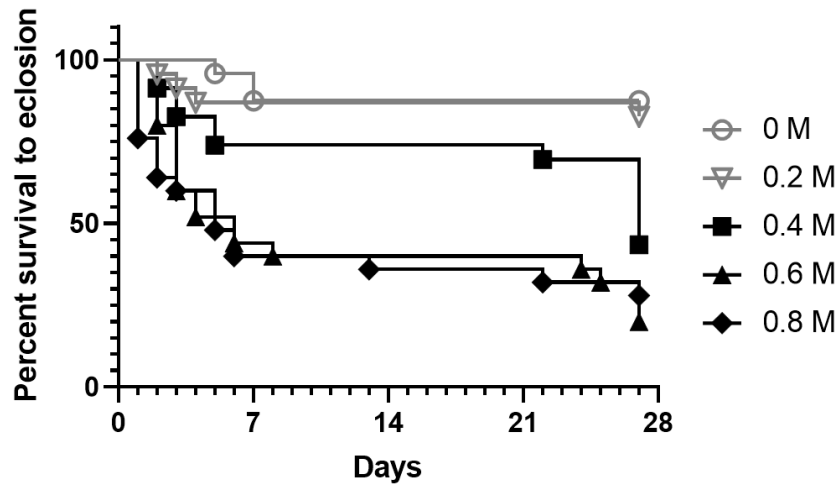


**Fig S1. Effect of emergence day on adult thorax length.** Linear regressions showing effect of emergence day on thorax length in males and females at each concentration. Only 0.4M-males saw a significant decreasing in thorax length as eclosion was more delayed ( $y=-0.0029x+0.9777$ ;  $F=10.51$ ,  $p=0.002$ ,  $R^2=0.1534$ ); slopes were not significantly different from one another ( $F=0.5298$ ,  $p=0.7537$ ). Error bars represent one standard deviation.



**Fig S2. Time from pupariation to eclosion when ingesting increasing concentrations of mannitol.** Time from pupariation to eclosion did not differ between control and any mannitol treatments (ANOVA,  $F=1.04$ ,  $p=0.39$ ). Error bars represent one standard deviation.



**Fig S3. Percent survival of *D. melanogaster* larvae fed increasing concentrations of mannitol.** Survival plots showing percent survival to eclosion versus post-hatching fly age given control food or foods with increasing concentrations of mannitol (0.2M to 0.8M). Observations were terminated at 27 days after egg laying (n=30eggs/treatment). Highly significant differences ( $p < 0.01$ ) from the control are in black, non-significant differences are in grey.