81 The impact of feeding treats containing cannabidiol (CBD) on the canine fear response to a noise-induced fear response test. Elizabeth M. Morris[1], Susanna E. Kitts-Morgan[2], Dawn M. Spangler[2], Kyle R. McLeod[1], Joao Costa[1], David L. Harmon[1], [1]*University of Kentucky,* [2]*Lincoln Memorial University*

Interest is increasing regarding use of Cannabidiol (CBD) in companion animals due to anecdotal evidence of beneficial behavioral and health effects. The purpose of this investigation was to evaluate the influence of CBD on behavioral responses to fear-inducing stimuli in dogs. Sixteen dogs (18.1 ± 0.2 kg) were utilized in a replicated 4x4 Latin square design with treatments arranged in a 2x2 factorial, consisting of control, 25mg CBD, trazodone (100 mg for 10–20 kg BW, 200 mg for 20.1–40 kg BW), and combination of CBD and trazodone. A fireworks model of noise-induced fear was used to assess CBD effectiveness after 7 d of supplementation. Each test lasted 6 min, with no noise during the first 3 min and the fireworks track played during the second 3 min. Plasma was collected 1 h before, immediately after, and 1 h after testing for cortisol analysis. Behaviors in each 3-min block were video-recorded, and heart rate (HR) sensors were fitted for collection of HR and heart rate variability parameters. Data were tested for normality using the UNIVARIATE procedure in SAS, then differences examined using the MIXED procedure in SAS with fixed effects of treatment, period, time, and treatment x time interaction. Inactivity duration and HR increased during the first minute of the fireworks track compared with 1-min prior (P=0.0002 and 0.0112, respectively), indicating the fireworks model successfully generated a fear response. Trazodone lowered plasma cortisol compared with control (P < 0.0001), which was attenuated when administered in combination with CBD (P = 0.2379). Neither CBD nor trazodone affected the duration of inactivity (P = 0.9182 and 0.3290, respectively). Trazodone increased time spent with tail relaxed (P = 0.0013). CBD tended to increase HR (P = 0.0930) and decreased the peak of low- and high-frequency bands (LF and HF, P = 0.0107 and 0.0220, respectively). These results do not support an anxiolytic effect of CBD in dogs given CBD at 1.4 mg/kg.

Keywords: Cannabidiol, canine, fear

82 The impact of feeding treats containing cannabidiol (CBD) on the daily activity level of dogs. Elizabeth M. Morris[1], Susanna E. Kitts-Morgan[2], Dawn M. Spangler[2], Kyle R. McLeod[1], David L. Harmon[1], [1]*University of Kentucky,* [2]*Lincoln Memorial University*

Growing public interest in and use of Cannabidiol (CBD) in companion animals has amplified the need to elucidate potential impacts. The purpose of this investigation was to determine the impact of CBD on daily activity of adult dogs. Twenty-four dogs (18.0 ± 3.4 kg) were utilized in a randomized complete block design with treatments consisting of control, 2 mg CBD/kg BW/d, and 4 mg CBD/kg BW/d split between two treats administered after twice-daily exercise (7:00-9:00 and 17:00-19:00). Four hours each day (10:00-12:00, AM and 13:30-15:30, PM), were designated as time when no persons entered the kennels, with 2 h designated as Quiet Time and the other 2 h as Music Time, where calming music played over speakers. Quiet and Music sessions were randomly allotted to daily AM or PM times. Activity monitors were fitted to dogs' collars for continuous collection of activity parameters. Data were collected over a 2-wk baseline period to block dogs by activity level (high or low) before randomly assigning dogs within each block to treatments. After 1 wk of treatment adaptation, activity parameters were collected for 2 wk. Data were tested for normality using the UNIVARIATE procedure in SAS before examining differences using the MIXED procedure in SAS, including effects of treatment, day, session (Quiet or Music), time of day (AM or PM), and accompanying interactions. CBD did not alter total activity points (P = 0.9971) or activity duration (P = 0.8776). CBD tended (P = 0.0692) to reduce scratching compared to control. Irrespective of treatment, dogs were more active in PM than AM (P < 0.0001). Regardless of session, dogs receiving 4 mg/kg/d tended (P = 0.0914) to be less active in the PM than control. CBD did not affect activity duration during exercise periods (P = 0.1425), but dogs receiving CBD ran more than control (P = 0.0339). These results indicate that when supplemented up to 4 mg/kg/d, CBD does not negatively impact daily activity levels of dogs.

Keywords: Cannabidiol, canine, behavior