

## Companion Animals

**M44 Vitamin E and seminal quality in Rottweiler dogs.** L. K. Hatamoto-Zervoudakis<sup>\*1</sup>, C. A. Baptista-Sobrinho<sup>3</sup>, M. Nichi<sup>2</sup>, A. K. S. Cavalcante<sup>4</sup>, V. H. Barnabé<sup>2</sup>, R. C. Barnabé<sup>2</sup>, and C. N. M. Cortada<sup>5</sup>, <sup>1</sup>Federal University of Mato Grosso, Cuiabá, Brazil, <sup>2</sup>University of São Paulo, São Paulo, Brazil, <sup>3</sup>Brazilian Army, Osasco, São Paulo, Brazil, <sup>4</sup>Federal University of Bahia Reconcavo, Cruz das Almas, Brazil, <sup>5</sup>Tecpar, Curitiba, Brazil.

The objective of this study was to evaluate dogs semen quality supplemented with oral vitamin E (DL- $\alpha$ -tocopherol). Eighteen male Rottweiler dogs were randomly divided in 2 groups: group control (without supplementation) and group treatment (with supplementation: 500 mg of DL- $\alpha$ -tocopherol/animal per day). The supplementation period duration was 90 d. Semen was collected by digital manipulation twice per week and ejaculate volume, sperm motility, spermatic concentration, sperm morphology (primary defects, secondary defects, and total defects) were determined. There were not found effects of treatment ( $P > 0.05$ ) on ejaculate volume, sperm motility, semen concentration, and percentage of total defects. Supplemented animals with vitamin E presented reduction of percentage of primary defects ( $8.35 \pm 0.65$  vs.  $12.29 \pm 0.98$ ;  $P = 0.0006$ ) and increase of percentage of secondary defects ( $9.37 \pm 0.61$  vs.  $7.52 \pm 0.51$ ;  $P = 0.0241$ ) when compared with control animals. In conclusion, supplemented animals had alteration in spermatic morphology, reduced primary defects and increased secondary defects; however, supplemented animals showed no alterations in the other evaluated characteristics

**Key Words:** antioxidant, fertility, tocopherol

**M45 Proximate analysis of commercially available whole prey for small captive exotic cats.** K. R. Kerr<sup>\*1</sup>, L. M. Garner<sup>2</sup>, and K. S. Swanson<sup>1,2</sup>, <sup>1</sup>Division of Nutritional Sciences, University of Illinois, Urbana, <sup>2</sup>Department of Animal Sciences, University of Illinois, Urbana.

Small exotic cats are commonly fed whole prey to supplement traditional diets. Data regarding the composition of commercially available prey is lacking. The objective of this study was to evaluate the macronutrient composition of mammalian and avian species of different ages. Species examined included mice (1 to 2 d, 10 to 13 d, 21 to 25 d, 30 to 40 d, and 150 to 180 d); rats (1 to 4 d, 10 to 13 d, 21 to 25 d, 33 to 42 d, and >60 d); rabbits (stillborn, 30 to 45 d, and >65 d); chicken (1 to 3 d); and quail (1 to 3 d, 21 to 24 d, and ~60 d). Differences between classes were examined. Dry matter and CP concentrations were higher ( $P < 0.05$ ) and fat concentrations were lower ( $P < 0.05$ ) in aves versus mammals. Differences between ages were examined within species for rats, mice and quail. For rats, there was a linear increase ( $P < 0.05$ ) in DM concentration and a linear decrease ( $P < 0.05$ ) in CP concentration with age. Additionally, 1 to 4 d rats had higher ( $P < 0.05$ ) fat concentration than all other ages. In mice, DM concentration was higher ( $P < 0.05$ ) in 1 to 2 d mice than all other ages. Ten to 13 d mice were higher

( $P < 0.05$ ) in fat and lower ( $P < 0.05$ ) in CP than all other age groups. In quail, there was a linear increase ( $P < 0.05$ ) in DM concentration with age. Crude protein concentration was higher ( $P < 0.05$ ) in 21 to 24 d quail compared with all other ages. Fat concentration was higher ( $P < 0.05$ ) in 1 to 3 d quail than all other ages, and higher ( $P < 0.05$ ) in ~60 d quail compared with 21 to 24 d quail. Ash concentrations were not affected by age in rats, mice, or quail. Differences in composition due to age and between mammals and aves should be considered when selecting whole prey types. These data indicate that composition changes with age; however, these changes depend on species. Further research is needed to evaluate how whole prey may be used to meet the nutritional needs of small exotic cats, including micronutrient compositional analysis and bioavailability.

**Key Words:** whole prey, proximate composition, carcass

**M46 In vitro digestion characteristics of expanded porkskin- and rawhide-based chews.** S. Hooda<sup>\*1</sup>, L. G. Ferreira<sup>1</sup>, L. L. Bauer<sup>1</sup>, G. C. Fahey Jr.<sup>1</sup>, M. A. Latour<sup>2</sup>, and K. S. Swanson<sup>1</sup>, <sup>1</sup>Department of Animal Sciences, University of Illinois, Urbana, <sup>2</sup>Department of Animal Science, Purdue University, West Lafayette, IN.

Chews are a major sector of the pet food industry, but their digestion characteristics are virtually unknown. Therefore, the purpose of this study was to investigate the in vitro digestion characteristics of expanded porkskin- and rawhide-based canine chews. An in vitro method that simulated gastric and small intestinal digestion was used. Chews (in triplicate) were incubated with pepsin/HCl for 6, 12, 18, and 24 h to evaluate gastric digestion. To evaluate gastric and small intestinal digestion, chews were incubated with pepsin/HCl for similar periods, followed by incubation with pancreatin for 18 h. Gastric digestibility of expanded porkskin chews was 54.7% at 6 h and 58.6% at 12 h. An increase was observed after 18 h (76.4%) and 24 h (86.4%) of gastric digestion. In contrast, low gastric digestibility was observed for rawhide chews at 6 h (7.6%) and reached a maximum of 41.6% at 18 h. Both gastric and pancreatin digestion results indicated nearly complete disappearance of expanded porkskin chews even after 6 h gastric and 18 h pancreatin digestion. Extended gastric incubations (12, 18, and 24 h) followed by pancreatin digestion (18 h) did not change expanded porkskin chews digestibility. However, rawhide chews were only 70% digested after 6 h gastric and 18 h pancreatin digestion. Gastric digestion at 12 and 18 h did not result in further improvement in rawhide chews digestibility. The 24 h gastric and 18 h pancreatin digestion led to a increase in dry matter digestibility (85%) of rawhide chews. Thus, in vitro dry matter digestibility of whole chews clearly demonstrated that expanded porkskin chews was readily digestible and took a shorter time to be completely digested. In contrast, rawhide chews were not completely digestible, even after 24 h of simulated gastric and 18 h of simulated small intestinal digestion. Sponsored by Scott Pet Inc.

**Key Words:** in vitro digestibility, porkskin chews, rawhide chews