Genistein and daidzein do not affect puberty onset or oestrus cycle parameters in the domestic cat (*Felis catus*)

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**Background** – Dietary isoflavones (genistein and daidzein) possess oestrogenic properties and are present in commercially available feline diets. These isoflavones are reported to influence the reproductive system in a variety of mammalian species, although evidence is disparate and conflicting.

**Objective** – To determine if dietary isoflavones influence the onset of puberty and oestrus cycle parameters in the domestic cat when consumed during the developmental period.

**Design** – Kittens were maintained on either treatment (base diet + 300 µg/g DM isoflavones, n=6) or control (base diet + vehicle, n=9) diets for up to 480 days post-weaning. Vaginal smears were taken thrice weekly and examined for oestrogen-induced cellular degradation. The first sign of oestrogen activity, onset of regular cycling, duration of oestrus and inter-oestrus periods and the incidence of spontaneous ovulation (inter-oestrus periods >20 days) were recorded and compared between groups.

**Outcomes** – No significant difference (P >0.05) was found in the onset of puberty or any oestrus cycle parameter examined. However, cats in the treatment group demonstrated a significantly greater incidence of spontaneous ovulation compared to control group cats (13.6% versus 3.9% of observed inter-oestrus periods, respectively, P=0.03).

**Conclusions** – Genistein and daidzein, when consumed at levels representative of commercially available feline diets, do not alter puberty onset or oestrus cycle parameters in the domestic cat. However, the greater incidence of spontaneous ovulation induced by these isoflavones may be of clinical significance and warrants further investigation.