

## ► Effect of dietary intake of L-Tryptophan supplementation on working dogs demonstrating stress related behaviours

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Manifestations of anxiety in dogs include an increase or decrease in the grooming behaviour, increase of agonistic behaviours, lower/higher food intake, increased vocalization and increase of marking behaviours. These signals commonly happen in dogs with stress related behaviours and can be evaluated by an ethogram. Usually, these behaviours are associated with the animal's reaction to the environment that they can't control, or to a lack of stimulus. Certain factors contribute to the demonstration of stress such as confinement, lack of physical space, and no environmental stimulus. These behaviours when properly measured, by a specific classification system, can lead to an evaluation of the animal's welfare.

The aim of the current study is to evaluate the possible effect of L-Tryptophan (L-Trp) on the general behaviour of dogs and to assess the therapeutic efficacy of short-term supplementation of L-Trp on behavioural responses associated with anxiety and stress related disorders.

In this particular study we used working dogs, from the National Guard. A total of 30 dogs housed in kennels, 25 males and 5 females were observed. All animals went through a health check-up just before the start and at the end of study. Dogs were observed during 3.5 months (2 weeks for habituation, 4 weeks without supplementation and 8 weeks with supplementation), 5 days per week. Each data recording session involved 10 minutes of detailed observation per dog by a trained observer providing a continuous focal sample.

This was a double blind controlled study, where animals were randomly assigned to dietary supplementation of L-Trp starting at the 7th week (14 dogs took L-Trp dietary supplementation and 16 took placebo dietary supplementation). L-Trp daily dose was 10-15mg/kg administered with daily meals.

After L-Trp supplementation all the Stereotypy's ( $p > 0.05$ ), Bark ( $p < 0.05$ ) and Stare ( $p < 0.01$ ) behaviours decreased. These results allow us to say that L-Trp supplementation had an effect in changing the frequency of the stress related behaviours, decreasing the anxiety signals. Consequently, L-Trp supplementation can be an efficient tool to help treat some behavioural disorders of animals as part of behaviour therapy. As the L-Trp supplementation decreased some of the dog's anxiety signs, we conclude that this effect improved the animal's welfare.



## ▶ Effect of dietary intake of L-Tryptophan supplementation on multi-housed cats presenting stress related behaviours

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Cats are now living in more enclosed environments with none or almost no access to the outside environment. In cats living in confinement, the lack of physical space, the absence of activity and environmental stimulus are the major causes of stress. This situation can be worse for those cats living in multi-housed environments. Suppression of the stress response and associated stereotyped behaviours may be beneficial in terms of the animal's welfare.

The aim of the current study is to evaluate the possible effect of L-Tryptophan (L-Trp) on the general behaviour of cats and the efficacy of short-term supplementation of L-Trp, specifically the therapeutic effectiveness on behavioural responses associated with anxiety and stress related disorders.

A total of 25 multi-housed cats (mean=8 years, std=3,5), 10 males and 15 females, were observed. All animals went through a health check-up at the beginning and at the end of the study. Cats were observed during 3,5 months (2 weeks for habituation, 4 weeks without supplementation and 8 weeks with supplementation), 5 days per week. Each data recording session took 10 minutes, involving detailed observation, of each cat, by a trained observer thus providing a continuous focal sample.

This was a double blinded controlled study, where animals were randomly assigned to dietary supplementation of L-Trp starting at the 7th week (13 cats took L-Trp dietary supplementation and 12 took a placebo dietary supplementation). L-Trp daily dose was 12,5mg/kg administrated with daily meals.

After L-Trp supplementation all the Stereotypy's ( $p<0.01$ ), Vocalization ( $p>0.05$ ), Agonistic Behaviour ( $p<0.01$ ), Affiliative Behaviour ( $p<0.01$ ), Exploring ( $p<0.01$ ) and Sustaining ( $p<0.01$ ) behaviours decreased. In the same way House Soiling, Scratching and Agonistic Interactions inside the group significantly decreased ( $p<0.05$ ). These results suggest that L-Trp supplementation had an effect in changing the frequency of the stress related behaviours, decreasing anxiety signals. Consequently L-Trp supplementation can be a very efficient tool to help treat some behavioural disorders in cats as part of behavioural therapy. As the L-Trp supplementation reduces some of the cat's anxiety signs we conclude that this effect improves their welfare.



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