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Een goede voedingsconsulent

1. Heeft een diploma/certificaat
2. Denkt niet in zwart-wit
3. Gelooft klanten
4. Heeft empathie
5. Denkt out-of-the-box
6. Biedt een plan met opvolging
7. Overlegt met de dierenarts



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Waarbij kan voeding helpen?



Gezondheidsproblemen

- Hart- lever en nierfalen
- Nierstenen
- Kanker
- Chronische maag- darmklachten
- Diabetes (niet aangeboren)
- Huidproblemen
- Pancreatitis
- Overgewicht

Gedragsproblemen



- Aggressie veroorzaakt door fysiek ongemak
- Compulsieve stoornis
- Picafagie
- Ernstig bedelen of bezitterig over voer
- Onzindelijkheid

Compulsieve stoornis & jeuk

Honden met atopische dermatitis (AD)

- Zijn minder **trainbaar**
- Vertonen meer **displacement** gedrag
- Zoeken meer **aandacht**
- **verzorgen** zich compulsief
- Kunnen compulsieve **stoornis** ontwikkelen als gevolg:
 - Staartjagen, vliegen happen, automutilatie, pica



Stress draagt ook bij tot het ontstaan van AD!

Bront Harvey ND, Craigon PJ, Shaw SC, Blott SG, England GOW. Behavioural Differences in Dogs with Atopic Dermatitis Suggest Stress Could Be a Significant Problem Associated with Chronic Pruritus. *Animale (Basel)*. 2019 Oct 16;9(10):813. doi: 10.3390/anim9100813. PMID: 31623070. PMCID: PMC6832574

Onzindelijkheid bij katten

- **Dieet** beïnvloedt
 - het volume,
 - de pH,
 - de concentratie van urine
- Dit is relevant in de **behandeling** van:
 - blaas-aandoeningen en nierstenen
 - bijgevolg onzindelijkheid



Bront Markwell PJ, Buffington CT, Smith BH. The effect of diet on lower urinary tract diseases in cats. *J Nutr*. 1996 Dec;126(12 Suppl):2753S-2757S. doi: 10.1093/jn/126.12.2753S. PMID: 9668257.

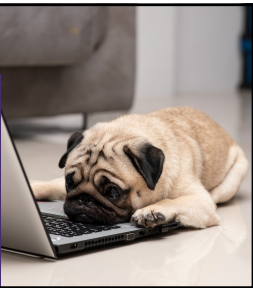
Wat moeten we weten?

Need to know:

- Medische voorgeschiedenis
- Huidige medicatie
- Lijst met geprobeerde voeding
- Huidige voeding en snacks
- Huidige klachten
- Contact met de dierenarts

Nice to know:

- Laatste bloed- of urine-resultaten



To protein or not to protein

Invloed van voeding op gedrag



To protein or not to protein

Conclusions and clinical relevance: For dogs with dominance aggression, the addition of tryptophan to high-protein diets or change to a low-protein diet may reduce aggression. For dogs with territorial aggression, tryptophan supplementation of a low-protein diet may be helpful in reducing aggression.

Abstract
Objective: To evaluate the effect of high- and low-protein diets with or without tryptophan supplementation on behavior of dogs with dominance aggression, territorial aggression, and hyperactivity.
Animals: 10 adult, healthy dogs with dominance aggression, territorial aggression, and/or hyperactivity, and 17 dogs with hyperactivity.
Procedures: In total, 27 dogs were fed for 12 weeks each in random order with a transition period of not < 4 days between each diet. Ten dogs had low-protein content (approximately 10%), and 17 dogs had high-protein content (approximately 28%). Ten of the dogs (3 low-protein and 7 high-protein) were supplemented with tryptophan. Owners scored their dogs' behavior daily by use of standardized behavior score sheets. Mean weekly scores of dominance aggression and territorial aggression, and aggression toward people were determined at the start and end of each 12-week period.
Results: For dominance aggression, behavior scores were highest in dogs fed low-protein diets without tryptophan and in dogs fed high-protein diets with tryptophan. Tryptophan supplementation in low-protein diets was associated with significantly lower behavior scores than low-protein diets without tryptophan supplementation.
Conclusions and clinical relevance: For dogs with dominance aggression, the addition of tryptophan to high-protein diets or change to a low-protein diet may reduce aggression. For dogs with territorial aggression, tryptophan supplementation of a low-protein diet may be helpful in reducing aggression.
Clinical significance:

To protein or not to protein

7. J. Am. Vet. Med. Assoc. 1996 Feb 1;208(2):276-9.

Effect of dietary protein content on behavior in dogs

N.H. Dodman¹, L. Behar, L. Shuster, W. Rand, U.A. Luescher, Robinson, K.A. Houpt

¹ Affiliations: ¹ = coauthor

PMID: 8575985

Abstract

Objectives: To determine the effect that feeding diets containing a low (17%), medium (25%), or high (32%) protein content would have on behavior in dogs.

Design: Prospective, controlled study.

Animals: 12 dogs with dominance aggression, 12 dogs with hyperactivity, 12 dogs with territorial aggression, and 14 control dogs without behavioral problems.

Procedure: Dogs were fed each of the diets for a 2-week period, and owners were instructed to score their dogs' behavior on a daily basis.

Results: Behavior of the dogs with dominance aggression, dogs with hyperactivity, and control dogs was unchanged by the dietary manipulations. Territorial aggression was significantly reduced when dogs were fed the low- or medium-protein diet, compared with territorial aggression when fed the high-protein diet. Post hoc analysis indicated that this effect was attributable to a marked reduction in aggression in a subset of the group (n = 7) in which territorial aggression was a result of fear.

Clinical implications: Results of this study suggest that a reduction in dietary protein content is not generally useful in the treatment of behavior problems in dogs, but may be appropriate in dogs with territorial aggression that is a result of fear.

Published Online

Dodman NH, Behar L, Shuster L, Rand W, Luescher UA, Robinson L, Houpt KA. Effect of dietary protein content on behavior in dogs. J. Am. Vet. Med. Assoc. 1996 Feb 1;208(2):276-9. PMID: 8575985.

To protein or not to protein

Invloed van voeding op gedrag

Aminozuur verhoudingen

Competition by large neutral amino acids

Protein

L-tryptophan

Dietary tryptophan

Blood-brain barrier

Tryptophan hydroxylase

L-tryptophan

5-HTP

5-HT

Tryptophan depletion and its implication for psychiatry - Scientific Figure in ResearchGate. Available from: https://www.researchgate.net/publication/237656562_Tryptophan_depletion_and_its_implication_for_psy psychiatry and 20 Dec 2024

To protein or not to protein

FIGHT!

Tryptofaan

Tyrosine

To protein or not to protein

Invloed van voeding op gedrag

Tryptofaan

Bouwsteen serotonine:

- stemming
- slaap
- vertering
- geheugen

ideale bronnen zijn pitten:

- Sesam
- Zonnebloem
- Pompoen



Tryptophan depletion and its implication for psychiatry. Available from: https://www.researchgate.net/publication/361461406-tryptophan-depletion-may-be-culpable-for-1-tryptophan_fig1_361461406 (accessed 20 Dec 2024)

To protein or not to protein

Invloed van voeding op gedrag

Tyrosine

aanmaak catecholamines:

- dopamine
- adrenaline
- noradrenaline

Cognitieve functies!



Lidderman HB, Thompson LA, Caruso OM, Niro PJ, Mahoney CR, McClung JP, Canon GB. The catecholamine neurotransmitter precursor tyrosine increases anger. *Front Neurosci*. 2020;14:1633. doi: 10.3389/fnins.2020.00163. Epub 2020 Sep 14. PMID: 32938466; PMCID: PMC7471116.

To protein or not to protein

Invloed van voeding op gedrag

Proteïne & (essentiele) aminozuren

- 1 maaltijd zonder arginine kan dodelijk zijn voor katten
- Taurine tekort en vergroot hart



Tryptophan depletion and its implication for psychiatry. Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/publication/361461406-tryptophan-depletion-may-be-culpable-for-1-tryptophan_fig1_361461406 (accessed 20 Dec 2024)

To protein or not to protein

Invloed van voeding op gedrag

Wat doen?

- Vlees + tryptophan
- Omega 3 & Vit D
- Voor honden: Koolhydraat rijk ontbijt + tryptophan

Langdurige gevolgen?

Bosch G, Boerds B, Hendriks WH, van der Poel AF, Versteeg MM. Impact of nutrition on canine behaviour: current status and possible mechanisms. *Nutr Res Rev*. 2007 Dec;30(2):180-94. doi: 10.1017/S0954579407001310X. PMID: 18079868.

Patrick RP, Ames BN. Vitamin D and the omega 3 fatty acids control serotonin synthesis and action, part 2: relevance for ADHD, bipolar disorder, schizophrenia, and impulsive behavior. *FASEB J*. 2010 Apr;24(8):2307-22. doi: 10.1096/faj.24.3684L. Epub 2010 Feb 24. PMID: 20171306.

Giannini A, Cici A, Torricelli B, Merli C, Casati L. Plasma Tryptophan/Large Neutral Amino Acids Ratio in Domestic Dogs Is Affected by a Single Meal with High Carbohydrate Load. *Animals (Basel)*. 2019 Apr 20;9(4):618. doi: 10.3390/ani9040618. PMID: 31060026. PMC5818174.

To protein or not to protein

Invloed van voeding op gedrag

Amino acid	AL (g/100kcal)	Met (g/100kcal)	Val (g/100kcal)	Leu (g/100kcal)
Alanine	0.180	0.180	0.180	0.180
Arginine	0.180	0.180	0.180	0.180
Asparagine	0.180	0.180	0.180	0.180
Aspartic acid	0.180	0.180	0.180	0.180
Cysteine	0.180	0.180	0.180	0.180
Glutamine	0.180	0.180	0.180	0.180
Glutamic acid	0.180	0.180	0.180	0.180
Glycine	0.180	0.180	0.180	0.180
Histidine	0.180	0.180	0.180	0.180
Isoleucine	0.180	0.180	0.180	0.180
Leucine	0.180	0.180	0.180	0.180
Lysine	0.180	0.180	0.180	0.180
Malic acid	0.180	0.180	0.180	0.180
Phenylalanine	0.180	0.180	0.180	0.180
Proline	0.180	0.180	0.180	0.180
Serine	0.180	0.180	0.180	0.180
Threonine	0.180	0.180	0.180	0.180
Tyrosine	0.180	0.180	0.180	0.180
Valine	0.180	0.180	0.180	0.180

Grote hoeveelheden maïs



Bosch G, Boerds B, Hendriks WH, van der Poel AF, Versteeg MM. Impact of nutrition on canine behaviour: current status and possible mechanisms. *Nutr Res Rev*. 2007 Dec;30(2):180-94. doi: 10.1017/S0954579407001310X. PMID: 18079868.

Ermanovic M, La Guardia M, Giammarco S. Maize based diets and possible neurobehavioural alter effects among some populations in the world. *Hum Genet*. 2011;121(1):101-11. PMID: 21832110. doi:10.1007/s00430-010-0200-0.

To protein or not to protein

Invloed van voeding op gedrag

Poteine en verzadiging (ook vezels)

Aanhoudende honger leidt tot:

- meer stereotyp gedrag
- minder rust
- frustratie

Als je daar niet slechtgezind van wordt!



Bosch G, Boerds B, Hendriks WH, van der Poel AF, Versteeg MM. Impact of nutrition on canine behaviour: current status and possible mechanisms. *Nutr Res Rev*. 2007 Dec;30(2):180-94. doi: 10.1017/S0954579407001310X. PMID: 18079868.

To protein or not to protein

Invloed van voeding op gedrag

Fysieke



Gezondheid

Mentale



Gezondheid

Soorten voeding

Droogvoer	Natvoer	Rauw voer	Koken
			

Droogvoer

Voordelen

- Meest betaalbaar
- Makkelijkst
- Betrouwbaar

Nadelen

- Droog
- Meestal minder vlees
- Minder 'vers'
- Hoge verhitting

Zo maak je het optimaal

- Vers toevoegen
- Kiezen voor hoog vleesandeel
- Optimaal bewaren
- Roteren



Natvoer

Voordelen	Nadelen
- Vocht - Lekker - Meer vlees - Makkelijk - Meer afwisseling mogelijk	- Duur - Frigo nodig - Hoge verhitting

Zo maak je het optimaal

- Roteren
- Vers toevoegen
- Kiezen voor lager vetgehalte

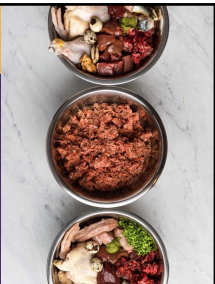


Rauw voer

Voordelen	Nadelen
- Vers en lekker - Geen verhitting - Minder stoelgang - Vocht en veel vlees - Veel variatie mogelijk	- Hygiëne - Maagzuur - Grote stukken bot - Inconsistente analyse

Zo maak je het optimaal

- Kiezen voor laag vetgehalte
- Groenten toevoegen
- Optimaal bewaren
- Lickimat
- Roteren



Koken

Voordelen	Nadelen
- Maatwerk - Vers en lekker - Veel variatie mogelijk	- Duur - Veel werk - Minutieuze baasje nodig

Zo maak je het optimaal

- Volg richtlijnen recept
- Varieer
- Supplementen

