

Un veloce aggiornamento sulla taurina

Qualche settimana fa, ho postato un pezzo sulla taurina. Nello specifico ho parlato del fatto che alcune razze sono meno efficienti nel metabolizzarla ([potete leggere tutto qui](#)).

Un deficit di taurina può causare cardiomiopatia dilatativa e quindi tutti coloro che possiedono esemplari di una razza a rischio dovrebbero testare il proprio cane. Ho testato Briony e i suoi valori sono risultati normali. Lei si alimenta con cibo casalingo cucinato.

Come appena detto, i sui valori sono nella norma ma ho chiesto a Lucia Casini, Professore di nutrizione veterinaria all' [Università di Pisa](#), se fosse il caso di integrare durante i periodi di caccia e addestramento intenso. Lucia consiglia di integrare con **500 mg al giorno** in quei periodi (cane atleta di circa 20 kg).

Tra i laboratori a cui potete rivolgervi ci sono: Idexx, Laboklin e San Marco.

Inoltre, siccome la maggior parte dei miei lettori si occupa di cani da lavoro (date un'occhiata al [Gundog Research Project](#)!), lasciate che aggiunga che gli atleti possono avere un fabbisogno di taurina più elevato. Se desiderate approfondire, il web è ricchissimo di articoli dedicati alla taurina e alla cardiomiopatia dilatativa nel cane, lo scopo del mio articolo è semplicemente quello di far conoscere questo problema.

A Quick Update on Taurine

A few weeks ago, I posted about taurine and, more specifically, about some breeds which might be less efficient in producing it ([you can read everything here](#)).

As taurine deficiency can lead to DCM (dilated cardiomyopathy) I think all those owning a breed at risk should assess their dogs. I eventually tested Briony and her results fell in the normal range: she eats an homemade diet and, apparently, despite my poor cooking skills, she is getting enough methionine and cysteine that she can convert into taurine.

As said above, her results are within the normal range, but I showed them to a nutritionist (Lucia Casini, Professor of Veterinary Nutrition at the University of Pisa, [School of Veterinary Medicine](#)) asking her whether Briony should benefit, like other athletes, from any taurine supplements during the hunting/shooting season and she said yes, to supplement with **500 mg a day** (she weighs around 20 kgs) in these periods.

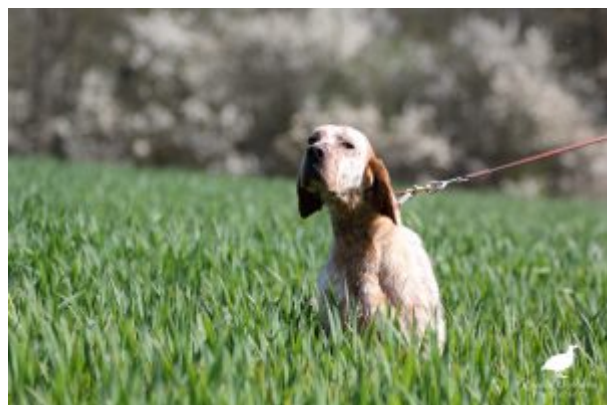
Some of the laboratories testing for taurine in Europe are: Idexx, Laboklin and San Marco.

Considering that most of my readers own working dogs ([read about the Gundog Research Project!](#)), let me also add that these athletes might need more taurine than the average dog. The web is full of articles on taurine and DCM in dogs, go and read them if you want to know more, I am just here to spread the word and raise some awareness.

La taurina, il setter inglese e le altre razze

La scorsa settimana il server si è crashato dopo la pubblicazione di un articolo sulla [tirosina](#) e per dieci giorni non ho osato pubblicare nulla, ma oggi è venuto il momento di considerare un altro amminoacido. Un'allevatrice di setter americana, infatti, ha di recente pubblicato su Facebook la storia del suo cane a cui è stata diagnosticata un'insufficienza cardiaca congestizia. A questa situazione si era arrivati a causa di una [DCM \(cardiomiopatia dilatativa\)](#) e il cardiologo ha consigliato di controllare i livelli ematici di taurina. Lei ha controllato il cane e tutti gli altri setter di sua proprietà e, sorpresa, i livelli di taurina erano bassi in tutti quelli che alimentava con un mangime grain free ritenuto ottimo, mentre erano normali in quelli che mangiavano crocchette che potremmo definire "normali".

La taurina ha moltissime funzioni e le potete leggere [qui](#) ma, può davvero una carenza di taurina provocare una cardiomiopatia dilatativa? Sappiamo che questo succede nel gatto che non può sintetizzarla (amminoacido essenziale) e che quindi deve assumerla con la dieta. Per i cani, al contrario, la taurina non è considerata essenziale e si ritiene la producano da sé sintetizzandola dagli amminoacidi solforati metionina e cisteina.



Così, per fugare ogni dubbio, ho contattato di nuovo Lucia Casini, Professoressa di Nutrizione Veterinaria all'[Università di Pisa](#), e mi ha confermato quanto appena scritto, sottolineando che, comunque, bassi livelli di cisteina e metionina nella dieta potrebbero causare una deficienza di taurina. Quindi, questo significa che i mangimi contengono livelli inadeguati di tali amminoacidi? Può darsi, ma va ricordato che alcune razze sono meno efficienti nel trasformarli in taurina. Quali sono le razze? Cocker (americano e inglese), setter inglese, retrievers (golden e labrador), terranova e San Bernardo ma, onestamente, non mi sento di escludere che il problema possa essere presente in altre razze ad esse affini, o in razze in cui sono presenti casi di DCM. Per questi animali, l'integrazione di taurina potrebbe avere un ruolo preventivo e non [curativo](#).

Cosa fare quindi? Credo servano ulteriori ricerche per poterlo affermare con esattezza ma, in quanto proprietaria di un setter inglese, mi sto informando su quali laboratori effettuano questo esame e su quali siano i costi. In attesa di nuove scoperte, sento di consigliare la stessa cosa a chi possiede esemplari delle razze menzionate, di razze affini e di razze ritenute a rischio DCM.

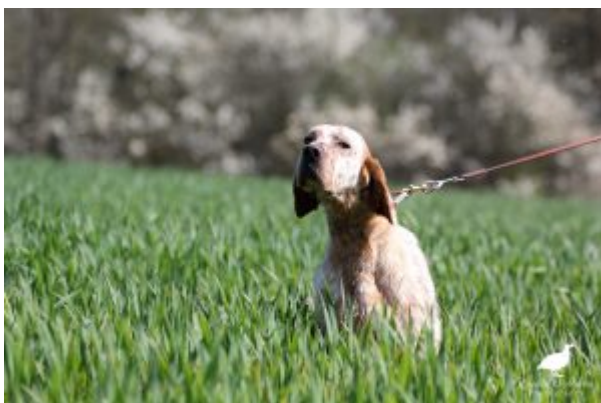
Aggiornamento, ho trovato almeno tre laboratori che testano: Idexx, Laboklin e San Marco. I prezzi sono attorno ai 60-70 euro. [\(Aggiornamento qui\)](#)

Inoltre, siccome la maggior parte dei miei lettori si occupa di cani da lavoro (date un'occhiata al [Gundog Research Project!](#)), lasciate che aggiunga che gli atleti possono avere un fabbisogno di taurina più elevato. Se desiderate approfondire, il web è ricchissimo di articoli dedicati alla taurina e alla cardiomiopatia dilatativa nel cane, lo scopo del mio articolo è semplicemente quello di far conoscere questo problema.

Taurine, English Setters & other breeds

Last week the server crashed after I published an article on [tyrosine](#) and dark coats. I stayed away from the admin panel for ten days because I was afraid I could crash it again, but now I am back discussing another amino acid. A couple of days ago, an English Setter owner living in the USA posted on FB about her dog's being diagnosed with congestive heart failure. The dog had developed [DCM](#) (dilated cardiomyopathy) and the cardiologist suggested testing his taurine blood levels. She tested him and her other dogs and the tests confirmed that some of them had indeed very low levels of taurine. Curiously, those with lower levels were fed a grain free, high protein, trendy dog food while the other ones, eating what would be considered an "average" dog food, were doing better.

Taurine has multiple functions, as you can read [here](#), but can taurine deficiency in the diet lead to DCM? We know this can happen in cats: taurine is, for cats, an essential amino acid which means they cannot synthesize it and that it must be introduced with the diet. When it comes to dogs, instead, taurine is not considered essential as they can produce it by themselves. But... to do so, they need to convert dietary sulfur amino acids (SAA, methionine and cysteine) to taurine.



I decided to speak again with Lucia Casini, Veterinary Nutrition Professor at the [University of Pisa](#), and she confirmed what I just wrote above, adding that a lack of methionine and cysteine could, however, cause taurine deficiency. So, are some dog foods lacking of methionine and cysteine? Maybe, or it could also be that some animals are less efficient when it comes to transforming them into taurine. There are several breeds of dogs that have a lower than normal ability to convert SAA: American Cocker Spaniels, Cocker Spaniels, Golden Retrievers, Labrador Retrievers, St Bernard, English Setters and Newfoundlands (and probably more we still do not know about). In their cases, taurine supplementation could have a preventive, rather than [curative](#) role.

So... What should we do? I think further research is needed but, personally, owning an English Setter, I am investigating on laboratories which can assess taurine levels and trying to collect information about the cost of this service. Would I advise you to do the same? Probably, and I am also wondering if other breeds, especially those related to the aforementioned breeds and those prone to DCM, should be tested: more research is certainly needed!

Update: in Europe at least 3 labs test for taurine in dogs: Idexx, Laboklin and San Marco. Prices are around 40-50 euros. [Update on my test here](#).

Considering that most of my readers own working dogs ([read about the Gundog Research Project!](#)), let me also add that these athletes might need more taurine than the average dog. The web is full of articles on taurine and DCM in dogs, go and read them if you want to know more, I am just here to spread the word and raise some awareness.

Hai un cane dal mantello scuro? Leggi qui!

A volte i cani neri diventano rossicci. Di solito si pensa che lo schiarimento sia causato dal sole ma... ci sono cani neri che non diventano mai marroni e cani neri che sono marroni tutto l'anno, anche in inverno. Ho posseduto solo un cane nero e solo per qualche mese, era un greyhound recuperato dai cinodromi e era marrone anziché nero ma questo era causato da una grave anemia e dalla leishmaniosi. Sappiamo tutti che le malattie possono alterare il colore dei mantelli, ma anche l'alimentazione!

Ieri, la mia amica Lucia Casini, che è professore di Nutrizione Veterinaria presso [l'Università di Pisa](#), a condiviso questo studio con me ["Tyrosine supplementation and hair coat pigmentation in puppies with black coats – A pilot study."](#)

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Tyrosine supplementation and hair coat pigmentation in puppies with black coats – A pilot study

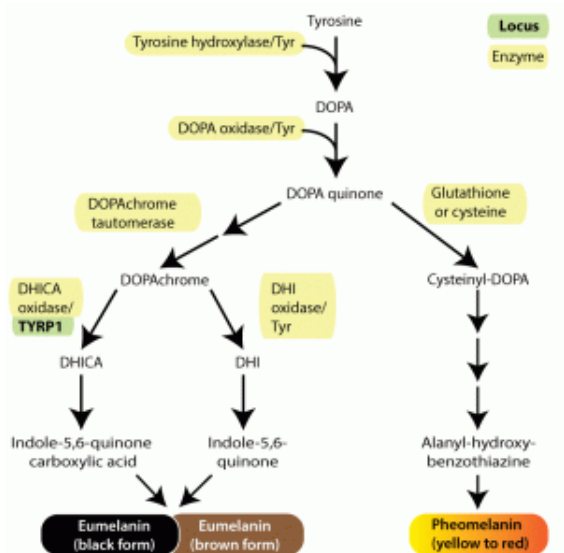
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Abstract

The appearance of a red hue to the hair in black coated cats and dogs has previously been reported as a “red hair syndrome”. Such changes in hair colour are related to an alteration in the proportions of two types of pigments produced by melanocytes; black eumelanin and brown pheomelanin. In black cats, it has been demonstrated that higher levels of phenylalanine + tyrosine (Phe+Tyr) than those recommended for growth are required to support eumelanin synthesis. The purpose of this study was to evaluate if a similar observation could be made in dogs. Twelve black coated puppies (Black Labrador retrievers and [Newfoundlands](#)) were divided into 3 groups of 4 and fed 3 diets with increasing concentrations of Phe+Tyr (A: 4 g/Mcal; B: 5.8 g/Mcal; C: 7 g/Mcal) for a period of 6 months. Quantification of plasma amino acids (Phe, Tyr, Cys) and spectrophotometry of hair samples from the Labrador retrievers (as the a* dimension of CIE Lab system) were performed at the beginning, during and at the end of the study. There was a significant negative linear relationship between plasma Tyr levels and a* values of hair in Labrador dogs on diets A and B, suggesting that a diet with total Phe+Tyr content of 6 g/Mcal (higher than the growth recommended allowance) was necessary to ensure an optimal black coat colour in these puppies and that levels up to 7 g/Mcal can lead to a more intense black coat colour. Moreover, similar to what was found in kittens, plasma levels of Tyr up to 54 µmol/l did not guarantee an optimal black colour coat and led to the “reddish hair” appearance in black coated puppies.

Lo studio, come potete leggere nell'astratto (in inglese), suggerisce che i cani dai mantelli scuri abbiano un fabbisogno di tirosina doppio rispetto agli altri cani e rispetto a quanto indicato nelle linee guida del NRC. Lucia ha anche spiegato che il ruolo della tirosina è stato studiato in maniera più approfondita nei gatti ma che molti cibi industriali, specialmente quelli poveri di proteine di origine animale, non contengono abbastanza tirosina per i cani neri. La fenilalanina sembra anch'essa avere un ruolo ed entrambi sono amminoacidi essenziali, ovvero vanno introdotti attraverso la dieta.



Some biochemistry...

La carne, specialmente il maiale e gli avicoli sono una buona fonte di tirosina. Il National Research Council (USA) raccomanda: 2g di tirosina ogni 1000 kcal per i cani adulti e 3,5 g per i cuccioli ma i cani dal mantello scuro parrebbero necessitare di dosi doppie.

Own a dark dog? Read this!

Black dogs sometimes turn rusty brown. People tend to attribute this to "too much sun" but, indeed, some black dogs never turn brown, while some others are brownish all year round, winters included. I owned a black dog only for a couple of months: he was a rescued Greyhound and he was, indeed, brown but this was caused by severe anemia and leishmaniasis. We all know systemic diseases can affect coat colour, but nutrition can as well.

Yesterday, my friend Lucia Casini, who is professor of Veterinary Nutrition at the [University of Pisa](#), shared this study with me ["Tyrosine supplementation and hair coat](#)

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Tyrosine supplementation and hair coat pigmentation in puppies with black coats – A pilot study

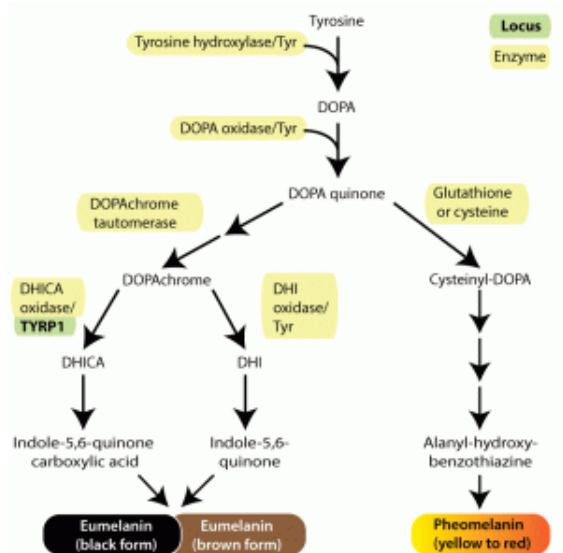
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The study, as you can read in the abstract, suggests that dogs with darker coats need twice the amount of tyrosine the average dogs needs – according to the NRC guidelines. Furthermore, the longer the coat, the higher the requirements for tyrosine. She also explained that the role of tyrosine and coat colour has been studied more in cats, but added that some commercial foods, especially those poor in proteins of animal origins, do not contain enough tyrosine for black dogs. Phenylalanine seems to play a role too and they are both essential aminoacids, hence they must be introduced through the diet.



Some biochemistry...

Meat, especially pork and poultry, is a good source of tyrosine. The National Research Council (USA) recommends: 2g of tyrosine each 1000 kcal for adult dogs and 3,5 g for puppies, but darker coated dogs requirements seem to be double.