RESEARCH > REVIEW >

The Omega Score of Purina® Omega Match™ Ahiflower® Oil Supplement is Superior to that of Other Omega Fatty Acid Sources

AN EVALUATION OF THE OMEGA SCORE OF PURINA® OMEGA MATCH™ AHIFLOWER® OIL AND OTHER TYPICAL OMEGA FATTY ACID SOURCES FOR HORSES.

< BACKGROUND >

Fat is an optimal energy source for horses. However, not all fat sources are the same and the source of the fat dictates the composition of its fatty acid profile. Typical fat sources for horses such as corn oil, are high in omega-6 fatty acids such as linoleic acid, while others, such as flaxseed, are higher in the omega-3 fatty acid, alpha-linolenic acid. The fatty acids that make up the fats that we feed have different biochemical properties that result in various physiological effects in the horse. Evaluating fat sources based on their composition can be complicated unless a consistent and unbiased approach is utilized. An Omega Score system evaluates the chemical makeup of different fat sources and assigns a value based on the biochemical properties of the fatty acids that they contain. This research review will discuss the Omega Score of various fat sources including Purina® Omega Match™ Ahiflower® Oil, a unique plant-derived omega-3 fat source.

< DESCRIPTION >

The Omega Score of any fat source can be calculated by evaluating the fatty acid composition of a specific feed ingredient. Assigning specific fatty acids with a unique value allows for the evaluation and quantifiable measurement of the fatty acid profile. The values below are based on relative conversion efficiencies towards longer-chain omega fatty acids.[1, 2, 3] The Omega Score is calculated as the sum of omega-3 and 6 fatty acids with each individual fatty acid being attributed a value as described below:

LINOLEIC ACID	1
ALPHA LINOLENIC ACID	3
GAMMA LINOLENIC ACID OR STEARIDONIC ACID	6
EICOSAPENTAENOIC ACID OR DOCOSAHEXAENOIC ACID	8

[1] McNiven M & Rodriguez JC (2016) *Ahiflower Oil Demonstrates Improved Anti-Inflammatory Activity and Long-Chain Polyunsaturated Fatty Acid Conversion in Horses: Results of A Randomized Controlled Dietary Trial*, Atlantic Veterinary College, University of Prince Edward Island (unpublished report available on request)

[2] James M et al (2003) *Metabolism of stearidonic acid in human subjects: comparison with the metabolism of other n-3 fatty acids,* Am J Clin Nutr 2003;77:1140–5

[3] Surette M (2013) *Dietary omega-3 PUFA and health: Stearidonic acid-containing seed oils as effective and sustainable alternatives to traditional marine oils,* Mol. Nutr. Food Res. 00, 1–12

Based on these values, an index can be calculated to provide an Omega Score that would indicate a higher number identifying a more enriched omega-3 fatty acid source. **Table 1** below highlights the Omega Score of a variety of fat sources while **Table 2** focuses on the fatty acid composition of Purina® Omega Match™ Ahiflower® Oil.

TABLE 1 OMEGA SCORES OF PURINA® OMEGA MATCH™ AHIFLOWER® OIL AND COMPARABLE FAT SOURCES

FAT SOURCE	OMEGA SCORE
AHIFLOWER® OIL	281
CAMELINA OIL	124
FLAXSEED OIL	208
FISH OIL	240

TABLE 2 FATTY ACID PROFILE OF PURINA® OMEGA MATCH™ AHIFLOWER® OIL

FATTY ACID	PERCENTAGE
OMEGA-3 FATTY ACID	63%
ALPHA-LINOLENIC ACID	42%
STEARIDONIC ACID	17%
OMEGA-6 FATTY ACID	15.2%
LINOLEIC ACID	10%
GAMMA-LINOLENIC ACID	5%

< CONCLUSIONS >

Purina® Omega Match™ Ahiflower® Oil is a unique plant-derived omega fatty acid source for horses. It is comprised of a distinctive fatty acid profile derived from the omega-3 fatty acids alpha-linolenic acid and stearidonic acid. Additionally, it contains the unique omega-6 fatty acid gamma-linolenic acid. Taken together, these data indicate that Purina® Omega Match™ Ahiflower® Oil is an optimal omega fatty acid source for horses.

< FOR MORE INFORMATION > Contact your local Purina® representative if you would like more information about this product.