

NEW from Science in Sport

CLA Active Isomers of Conjugated Linoleic Acid

Conjugated linoleic acid (CLA) is set to become a major sports nutrition supplement in the next decade. Since CLA was first identified as an anticarcinogen factor in ground beef (Pariza et al 1979). CLA has been found to have many useful properties that have been demonstrated in animal studies. Over the last few years many of the effects reported in animal studies have been replicated in human studies and CLA supplementation in humans is now an exciting area of research.

CLA has been shown to ...

- reduce body fat accretion and increase lean muscle mass
- improve immune function
- increase bone mineralisation
- inhibit carcinogenesis
- reduce atherosclerosis

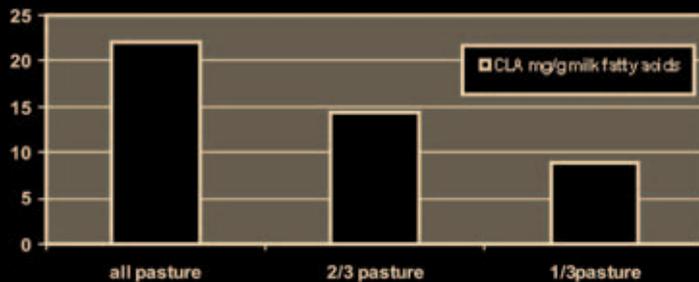
Since CLA has been shown to reduce body fat it is likely that this will be the main reason for supplementation. Human studies have supported evidence from animal studies to show that supplementation with as little as 3.2g of CLA per day can significantly reduce body fat mass in overweight and obese humans. (Blankson et al 2000)

There is speculation that the low levels of CLA in a modern diet may be a contributory factor to high levels of obesity reported in Western Societies. It is easy to see that shortages of CLA may occur in a western diet when you consider the different CLA levels in the milk of cows that are intensively farmed as opposed to pasture fed. (see figure 1).

It is important to recognise that CLA is the name for a group of compounds, not all CLA is the same. CLA consists of a group of dienoic isomers of linoleic acid not all of which have active properties. Studies have found large variations in the trans-isomer composition of CLA, the important cis-9, trans-11 isomer may be as little as 73 % to over 90% of the total CLA.



Figure 1: Conjugated Linoleic Acid content of milk from cows fed different diets. Dhinman et al 1999, J. Dairy Sci



Cows Grazing Pasture and receiving no supplemental feed had 500% more CLA than those fed typical dairy diets

For general health benefits CLA supplementation of 2-3g per day seems appropriate but those looking for a positive effect on body composition should take 3-6g daily. CLA is a natural food constituent, it is well tolerated and is not a stimulant.

We think that studies of this type add to the debate about our farming practices and desire to produce cheaper products (especially since it has been shown that it is not just what you feed the animals that counts but also environmental factors). So it is important to ask questions about the quality of the food in your regular diet. Given the massive health benefits reported with the use of CLA we feel that supplementation does have merit and certainly everyone in the Science in Sport Office is enthusiastic about its use.

Other than the beneficial effect on lean muscle mass, athletes are likely to find the positive effect on the immune system useful.

Athletes prone to stress fractures and women athletes with low body fat levels, who are at increased risk of osteoporosis, are likely to benefit from increased bone mineralisation.

Science in Sport has recognised that all CLA is not the same and have therefore set about discovering a high quality CLA supplement that is high in the active isomers cis-9, trans-11 (c9,t11) and trans-10, cis-12 (t-10,c-12).

Supplied packed as 90 x 1000mg Soft Gel Capsules

References

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