

Chia Seeds and the Columbus Concept, Bakery and Animal Products

Ricardo Ayerza (h) and Wayne E. Coates

Abstract

Cardiovascular disease (CVD) is a major problem worldwide, and is the most common cause of death in the Western world. Diets high in total fat, saturated fatty acids, trans fatty acids and having high Ω -6: Ω -3 fatty acid ratios have been directly linked to risk of suffering coronary heart disease (CHD). Chia (*Salvia hispanica* L) is the highest known plant source of Ω -3 fatty acids, and also is a good source of fiber and protein. Its natural antioxidants keep it stable, even when ground, so it can be stored for extended periods of time without degradation taking place. Chia has been fed to chickens and other animals, and has significantly improved the lipidic profile of the products produced as well as the serum of rats, with no evidence of a decrease in product quality or animal health. This is unlike flaxseed and fish oil/meal which have been shown to give off flavors (fishy flavor) to eggs, and in the case of flaxseed, reduced egg production. Adding chia to bread and other bakery products could provide consumers with an easily obtainable, low cost food that would significantly increase their Ω -3 intake without having to change their normal diet, or be faced with an allergic reaction which can occur when eating fish. As chia becomes more of a mainstream source of Ω -3 fatty acids its price will decrease, and if added to bakery products, it would provide a large percentage of the world's population with a low cost source of Ω -3 fatty acids.

Key Words: Chia; Ω -3 fatty acids; flax; fish; brea