

ANIMAL BLOOD, AS A SAFE AND VALUABLE RESOURCE

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Abstract

The lack of iron and essential amino acids cause starvation in developing countries and a lot of diseases nowadays and will cause much bigger problems in the future. Having in mind information that about 9 billion people world population is predicted by 2050 and the relative overpopulation now, and especially in the future (larger meat demand growth than population growth), we can see that it will be necessary to utilize protein sources which have not used for human consumption yet or in very small scale, for instance the animal blood. However, the hygienic handling and preservation of blood cause problems for the food industry.

Perishable foods are deteriorate quickly soon after slaughter (or after harvest). The blood is especially easily spoiling material because of the high protein content and water activity. Moreover, liquids can be contaminated easier than solid matters. If blood is separated and the blood products (plasma and red blood cell fractions) are handled separately, there are many possibilities for preservation and their use in functional foods. There are techniques for food safety and safe use of blood products, which are introduced as well as the safe product of animal blood origin. For example, 100 g porcine blood powder can cover an average 70 kg adult's daily essential amino acid need except for the methionine, while whole porcine blood contains 1490.14 mg well-absorbed heme iron in 1 kg dry mass. The animal blood and the blood products have excellent protein and iron content and it can substitute allergenic egg and/or milk origin ingredients in foods. These may be well utilizable resources with application of the adequate processing technologies.

This review may help in the developing of functional food products in the future and prove that the application of animal blood is a potential solution for the growing need of protein and iron of humanity.

Key words: *Animal blood, By-product, Nutrition, Protein, Iron.*