FORTIFICATION OF WHEAT FLOUR WITH POTATO PROTEIN

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ABSTRACT

The biological value of the cereal proteins, the consumption rate of the cereal products and the factors influencing the cereal protein utilization have been investigated.

One of the purposes of the supplementation of the low quality protein is to avoid the unbalanced, monoton nutrition first of all by most "vulnerable" groups of population /e.g. children, pregnant and lactating women/. By menu planning it is required to take into consideration the consumed food complex and also the "time-factor" of supplementation. The protein supplementation with meals results in a better physiological effect which, in turn, should hardly be predicted from experiments with individual protein sources, because of the complementary patterns of amino acids.

INTRODUCTION

The cereal protein consumption in the developing countries is more than 50 % of the total protein, but actually, in the developed countries also reaches the 30 % as is shown in Table 1. The Hungarian consumption level is between these two values, about 40 %.

The reason of the high proportion of the cereal protein is its very low cost. In the point of view of the modern nutrition it is suitable to investigate the cereal proteins as definitive proteins of the future, too.

The proteins of cereals are considered to be incomplete for human beings because of the relative lack of two essential amino acids, namely lysine and tryptophan. The fact is that only twofold amount of bread protein is able to assure the nitrogen balance on the same level as egg protein. In the data of Fig. 1., a very big deviation of the nitrogen balance values existing in the literature /Sherman,1920/ is demonstrated.
Fig. 1. Different data concerning the protein requirement of a 70 kg weight man.