



EFFECT OF THE ADDITION OF COMMON BEAN (*PHASEOLUS VULGARIS* L.) FLOUR ON THE *IN VITRO* DIGESTIBILITY OF STARCH AND UNDIGESTIBLE CARBOHYDRATES IN SPAGHETTI.

ABSTRACT

Spaghetti is considered to be a slowly digestible starch food, a feature ruled by the particular physical properties of the product. Several studies have been reported to increase nutritional value of spaghetti, using legumes. We have studied the addition of common bean flour on the starch *in vitro* digestibility. Spaghetti was prepared with semolina and different concentrations of common bean flour (0%, 15%, 30%, and 45%, w/w). Proximate analysis, optimal cooking time, and cooking loss were estimated in crude spaghetti. Total, available, and resistant starches, indigestible fractions, and *in vitro* starch hydrolysis kinetics were accomplished in cooked spaghetti. Pasta with 30% and 45% of common bean flour showed higher values of protein. Particularly, the lowest cooking time was observed for composite spaghetti with 45% of common bean flour. There was a significant increase in cooking loss when common bean flour in the composite was added. Composite spaghetti samples with increasing common bean flour showed decreasing values of total starch but an important increase in the resistant starch (RS) level and indigestible insoluble fraction values. Plain pasta made with semolina showed the highest enzymatic hydrolysis rate, which decreased when common bean flour was added to the spaghetti. Spaghetti with a higher level of common bean flour was more slowly available, which may have positive implications for human health.

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