Introduction: Oxidative stress is one mechanism that could contribute to the acceleration of aging and age-related diseases. On the other hand, because of their antioxidative qualities soybean derived foods could have beneficial effects on the aging process.

Objectives: The aim of our work was to study the effects of a diet supplemented with soy milk on certain biological features of aging in rats.

Methods: Male Wistar rats of 3 to 18 months of age, were assigned to one of two diets: 1) Experimental Group, commercial rat formula and soy milk; 2) Control Group, commercial rat formula and water. Every three months both lipid profile and lipid peroxidation were determined and neuronal cells of hippocampus were counted in control and experimental rats.

Results: The soy milk diet significantly improved the plasmatic lipid profile, decreasing serum cholesterol (total as well as LDL) and serum triglycerides, HDL-cho-lesterol was significantly higher in experimental animals. The LDL/HDL ratio was thus significantly lowered. The soy diet also produced decreased values of lipid peroxidation in brain, liver and kidney. These effects were significant after 6 to 9 months. The experimental animals lost fewer hippocampal neurons than the controls. Finally at 18 months of age, a greater number of surviving animals in experimental group with respect to the control one was observed.

Conclusions: 1) soy intake could have beneficial effects as a complement of normal diet, but not as a replacement for animal proteins and 2) these effects are the result of a very long period (almost lifelong) of consumption of this diet.

Keywords
Soymilk, Oxidative stress, Lipid profile, Neuronal bodies.