Estela Patricia López, Arnaldo Valentin Trejo. Food Laboratory, Faculty of Engineering, National University of Salta, Bolivia Avenue 5150, Salta (4400), Salta, Argentina.

The lupine is a legume from the Andean highlands, that was used as food by the native communities of South America. It has a high content of protein, rich in lysine. It also contains alkaloids that make the seeds bitter, and even toxic, so it must be washed before consumption. The aim of this study was to obtain a lupine protein isolate through a minimal processing without excessive use of water for the removal of alkaloids. 500g of lupine wholemeal were suspended in water, basified (pH9) with NaOH1N and centrifuged. The supernatant was acidified (pH 4, 5 with HCl1N) and again centrifuged. The resulting precipitate was neutralized. The suspension was lyophilized and the total nitrogen was analyzed for Kjeldahl. Whole wheat flour yielded a 23.6% in protein isolate. The lupine protein isolate obtained provides 14,4g of nitrogen (x6,25=90% protein). The product was fine-grained (80 mesh), with a greenish yellow color (L* 85±3.5, a* -13±1.4, b*25±1.3) and a slight bitter aftertaste, similar to the flour obtained after the washing process. While the conventional washing process, required 24hs of soaking in 2lt of water, 12 boiling process with 2lts of water each time and 48hs of washing under running water (50lts on average). In conclusion, lupine proteins were obtained by minimal processing, the alkaloids were also eliminated without using an average of 76lts of water for washing 500g of seed, so it was a highly efficient process.