

Effect of a Traditional Processing Method on the Chemical Composition of Local White Lupin (*Lupinus albus* L.) Seed in North-Western Ethiopia

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The effect of a traditional Ethiopian lupin processing method on the chemical composition of lupin seed samples was studied. Two sampling districts, namely Mecha and Sekela, representing the mid- and high-altitude areas of north-western Ethiopia, respectively, were randomly selected. Different types of traditionally processed and marketed lupin seed samples (raw, roasted, and finished) were collected in six replications from each district. Raw samples are unprocessed, and roasted samples are roasted using firewood. Finished samples are those ready for human consumption as snack. Thousand seed weight for raw and roasted samples within a study district was similar ($P > 0.05$), but it was lower ($P < 0.01$) for finished samples compared to raw and roasted samples. The crude fibre content of finished lupin seed sample from Mecha was lower ($P < 0.01$) than that of raw and roasted samples. However, the different lupin samples from Sekela had similar crude fibre content ($P > 0.05$). The crude protein and crude fat contents of finished samples within a study district were higher ($P < 0.01$) than those of raw and roasted samples, respectively. Roasting had no effect on the crude protein content of lupin seed samples. The crude ash content of raw and roasted lupin samples within a study district was higher ($P < 0.01$) than that of finished lupin samples of the respective study districts. The content of quinolizidine alkaloids of finished lupin samples was lower than that of raw and roasted samples. There was also an interaction effect between location and lupin sample type. The traditional processing method of lupin seeds in Ethiopia has a positive contribution improving the crude protein and crude fat content, and lowering the alkaloid content of the finished product. The study showed the possibility of adopting the traditional processing method to process bitter white lupin for the use as protein supplement in livestock feed in Ethiopia, but further work has to be done on the processing method and animal evaluation.

Key words: White Lupin, Traditional Processing, Lupin Alkaloids