

1. INTRODUCTION

Jojoba (*Simmondsia chinensis*) seeds contain about 50% of a colorless, odorless oil, that is structurally similar to sperm whale oil. The oil is unique in that it is essentially a mixture of monoesters containing monounsaturated carboxylic acid and alcohol with 20 and 22 carbon atom lengths.

Jojoba nuts by-products is the meal remaining after the extraction of the oil. This material constitutes about 50% of the nuts. Data shows that the protein content varies between 26-33% making the meal attractive as a live stock feed (**Abbott *et al.*, 1991**), but it is difficult to be used as animal feed because of the presence of several anti-nutritional factors, such as simmondsin, phenol and low concentrations of phytic acid (**Erhan *et al.*, 1997**). The most important glycosidic component is simmondsin, 2-(cyanomethylene)-3-hydroxy-4, 5-dimethoxy cyclohexyl- β -D-glucoside, which reduces food intake, and body weight, affects biochemical parameters and fertility (**Cokelaere *et al.*, 1993b and Sobhy *et al.*, 2003**). Also is toxic at chronic administration to mice in higher doses (**York *et al.*, 2000**).

The main goal of this study is the evaluation of jojoba seeds and by-product which was newly cultivated in Egypt, therefore following points were studied.

- Chemical composition of jojoba seeds and by-product, beside physicochemical properties, fatty acid, sterol and hydrocarbons content of jojoba oil.
- Detoxification of jojoba meal.

- Effect of different treatments on the removal of anti-nutritional factors from jojoba meal.
- Amino acids composition of jojoba seeds.
- Determination of jojoba protein subunits molecular weight by using SDS-PAGE.
- Biological evaluation of jojoba meal.