

Studies of Lipids and Proteins in a Wild Species of the *Arachis* (*Fabaceae*) Gender

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Abstract: Chemical components of eight wild species of *Arachis* were studied. The objectives were to know the chemical composition and establish chemotaxonomic relationships. The results indicate that *A. villosa* is suitable for breeding program of cultivated peanut. *A. monticola* and *A. batizocoi* showed major chemical affinity with *A. hipogaea*.

Introduction

The chemical composition of the *Arachis hipogaeae* (peanut) has been extensively studied [1-5] for being the cultivated species of the *Arachis* gender, however, studies of the wild species are limited.

The knowledge of this plant could facilitate methods of crossing among them with cultivation of *A. hipogaeae* in order to obtain seeds of optimum quality.

The objectives of this paper are: 1) To determine the lipidic-proteic chemical composition of seeds of wild species of *Arachis*, to contribute to the chemical knowledge of the species 2) To establish possible chemotaxonomic relationships 3) To contribute to the plans of genetic improvement of *A. hipogaeae*.

Experimental

Wild seeds of *Arachis* (*A. correntina*, *A. duranennensis*, *A. monticola*, *A. batizocoi*, *A. cardenasii*, *A. helodes*, *A. chacoensis* y *A. villosa*) were used. The total contents of protein was determined (kjeldahl) and the extraction of oil for quantification was carried out.

The methyl esters of fatty acids were quantized and identified (GC), and also the iodine indexes were determined. The results were presented in a phenograph and in two- and three-dimensional graphics.

Results and Discussion

The results of the chemical studies of the peanut s wild species showed that: 1) *A. batizocoi* is the

species that contains the highest percentage of oil and *A. villosa* the highest protein content 2) The best oleic/linoleic relation and iodine index are found in *A. villosa* 3) The samples of the wild species (except *A. villosa*) present a lower oleic/ linoleic relation and higher iodine indexes than the cultivated peanut 4) In relation to the numerical analysis, it can be observed that some samples of species separate one from each other because they have little chemical affinity, meaning they have differences at the level of their genotypes 5) The species more chemically related by affinity to the cultivated peanut are *A. monticola* and *A. batizocoi*.

Acknowledgements: To CONICET, CONICOR , CEPROCOR e INTA de Manfredi (Córdoba).

References and Notes

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