

PRACTICE ABSTRACT n° 38

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Composite flour formulation using wheat and legumes flours

As important sources of plant protein and other nutrients, legumes are highly beneficial in the diet of people and regarded as a cheap source of protein and energy, particularly for rural populations. The legumes production in Tunisia is one of the important products in agricultural practice. For those reasons the incorporation of legumes flours in composite flour formulation seems to be interesting.

In a trial conducted in the higher institute of agronomy of Chott Mariem (ISA-CM) the use of pea, chickpea and faba bean seeds showed significant results for chemical, biochemical and techno-functional analysis. A pre-treatment of legumes seeds was conducted as presented in the figure 1 to eliminate anti-nutritional factors.

Legumes pretreatment



Figure 1: pretreatment to eliminate anti-nutritional factors in legumes

The quality analysis of the different flours showed that all the analysed parameters (colour parameters, total phenols, packed density, water absorption capacity, foaming capacity....) are significantly affected by microwave heating and germination. The most important results indicated that the germination has enhanced the radical scavenging capacity of the different legumes flours.

Flour formulation

- The legume levels affected significantly the nutritional and the techno-functional properties of composite flours.
- The colour is affected by pea supplementation
- The use of pea and faba bean flours improved the antioxidant activity of the composite flours

We hope to support the small stockholders to produce new products with nutritional and healthy quality and added value.