STUDY ON DIETARY FIBER OF SOME PLANT SOURCES

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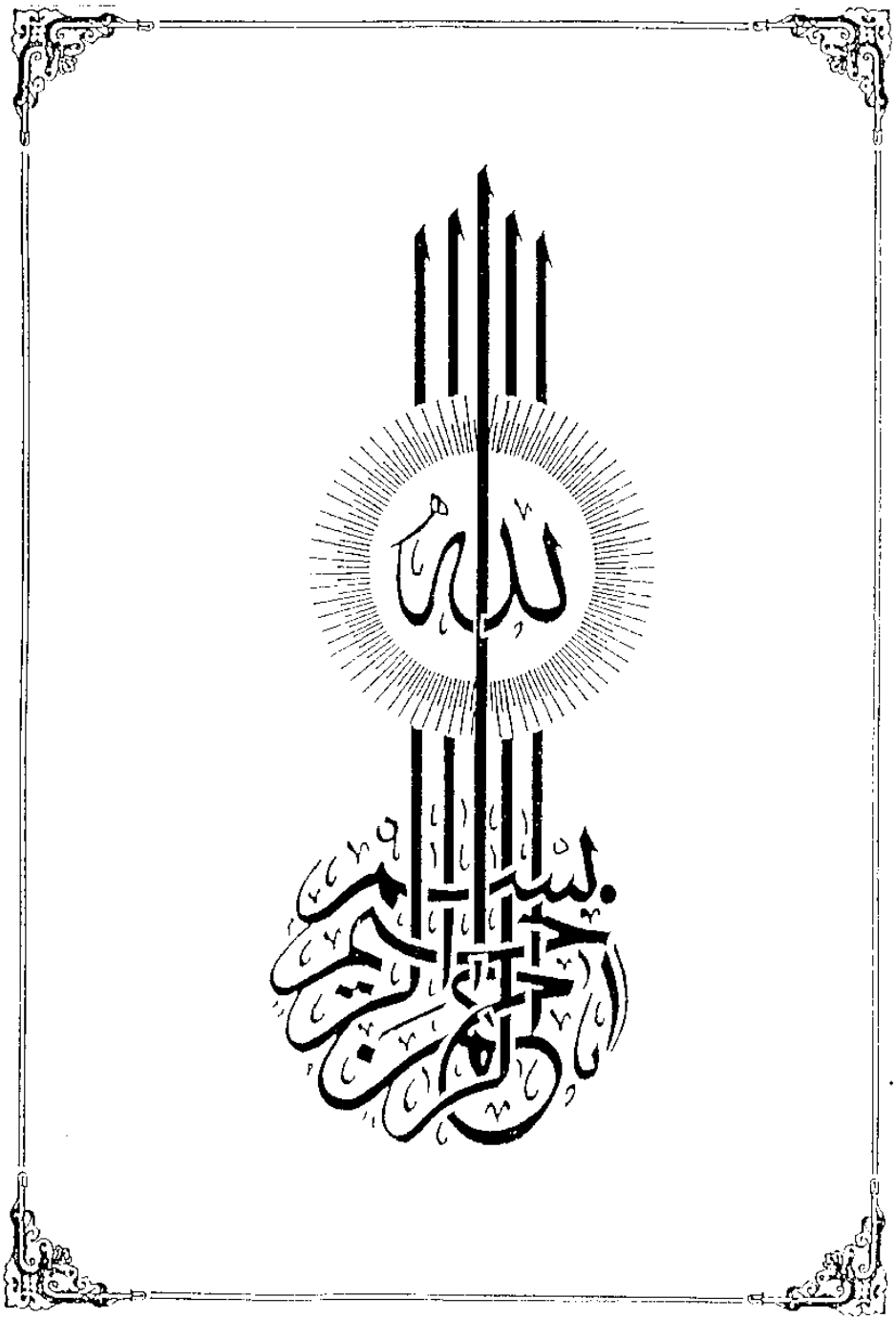

APPROVAL SHEET

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ABSTRACT

Afaf Abdel Moneim Ibrahiem, Study on Dietary Fiber of Some Plant Sources. Unpublished Master of Science, Department of Food Science & Technology, Ain Shams University, 1998.

Eight fiber sources considered as disposal portion were investigated and evaluated as supplemented ingredient in high fiber bread production. Bean husk considered the highest potential food fiber. It contained 84.4% total dietary fiber. Considering soluble dietary fiber percentage in total dietary fiber, Jew's mallow leaves is the ideal source followed by Jew's mallow stem's and Jew's mallow plants.

Sunflower heads and wheat bran were easy-to-mill while Jew's mallow stems was hard-to-mill.

The eight fiber sources demonstrated very wide differences in water holding capacity and oil holding capacity. This is according to chemical composition, physical structure and matrix structure formation during grinding. Volume expansion characteristic affect gastrointestinal function and is very important to be considered during baking process.

Incorporation of fiber sources with wheat flour dough increased water absorption reduced stability time, required longer mixing time, reduced the extensibility, increased the ratio value and reduced the total area of extensiograph.

Wheat bran and medium Jew's mallow stems are considered as excellent fiber sources due to the high over all acceptability values scored by panelists for bread baked with such sources.

Key words: Dietary fiber - Plant sources - Functional properties, Rheological properties - High fiber product.

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