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“Competition for Resources in a Changing World:
New Drive for Rural Development”

Development of a Multipurpose Pan for Date Processing

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Abstract

In almost all countries where date palm is a traditional cultivation part of the dates are harvested for processing and main products are paste and syrup. Syrup is widely produced at a household level, while industrial processing is mostly done in big plants: an intermediate technology, allowing to produce syrup in a hygienically and controlled way is missing or not affordable by smaller producers.

After the experience gained in projecting and setting up a small scale date processing plant in the Iraqi Province of Dhi Qar, the author designed a multipurpose pan that can be used for rehydrating of dry dates, juice extraction and vacuum concentration for syrup production.

The main objective for carrying out this study is to provide single or associated smaller date farms with a mean for processing directly part of their dates, to obtain a healthier and more hygienic product and with lower energy input compared to what they could achieve with traditional methods.

The pan consists of a cylindrical body with a heating sleeve in the lower part and an airtight lid with an outgoing pipe for air extraction or juice circulation. This multipurpose pan is quite simple and inexpensive, taking in account the different operations that it performs, and can be produced in different sizes.

A first 80 liter prototype, capable of producing about 15 liters of syrup for each batch, has been manufactured to test and evaluate its performances and used first to rehydrate dried dates imported from Iraq and after to extract juice from them and then concentrate it. At first empiric exam and after an organoleptic test of the syrup, the pan proofed to be capable to perform satisfactorily these operations and has been added to the equipment of the above mentioned date processing plant, so it will be used in a more intensive way in Iraq during 2008 harvest. In the while other tests are ongoing to measure main working parameters and define the best way of use.

Keywords: Date palm, syrup, processing, vacuum concentration, rehydration