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## Drying Kinetics of Yam *Dioscorea batatas*

OLIVER HENSEL

*University of Kassel, Agricultural Engineering, Germany*

### Abstract

In Asian countries such as China and Japan there is an increasing interest to use Yam (*Dioscorea batatas*) as a food additive due to its nutritive and technological properties. Also in European organic food production it can have a future market as component of blends of flour for bakery and pasta that until now are typically based on maize, potatoes, rice, soybean or buckwheat and often contain locust bean gum or guar flour. New additives based on Yam can upgrade these standard blends with respect to sensory, physiological and health aspects. Due to the increasing number of people with allergic problems, Yam can also play an important role in bakery and dairy industry *e.g.* as thickening agent in yoghurt production. Typical processing consists of convective drying which enables milling and further distribution/use as flour. In order to create a production line in food industry, the drying kinetics of Yam need to be investigated including the knowledge of sorption isotherms and the determination of the final moisture content required for proper milling behaviour.

The poster presents systematic lab trials to investigate the influence of temperature (40, 60 and 80°C), size (slice thickness), shape (cubes, slices, sticks) as well as the effect of peeling and the cutting direction as pre-treatments of raw material of Yam on the duration of the drying process. In addition colour changes were investigated to proof quality aspects using the L\*a\*b\* system measured by chromameter technology. Out of the results optimum processing parameters can be named which enable to build up optimised production lines.

**Keywords:** Drying kinetics, processing, quality, yam