

Evaluation of physico-chemical characteristics of cauliflower slices at different pre-treatment and drying condition

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■ **ABSTRACT** : Experimental study was conducted to evaluate cauliflower slices using tray drying and microwave drying techniques. Pretreatment of cauliflower slices as unblanched, blanched and blanched with KMS and dried in tray dryer at different temperature (45, 55 and 65°C) and in microwave at different power level (20W, 40W and 60W). The physico-chemical qualities (moisture content, drying rate, rehydration ratio and retention of vitamin C) were evaluated just offer preparation of cauliflower slices. The moisture content decreased continuously with drying time and increasing the drying temperature. Moisture loss increased from cauliflower with increased in power of microwave and time of drying. The drying rate of cauliflower slices under tray drying decreased as the drying time progressed and finally attained zero drying rate. The pretreated samples were taken shorter drying time. Statistical analysis indicated that drying time was dependent on initial size of cauliflower, drying air temperature and velocity, but rehydration ratio was significantly affected by the combined effect of temperature and airflow velocity. Vitamin C content of the dried cauliflower samples browning was function of temperature, airflow velocity and combined effect of temperature and airflow velocity. The ascorbic acid retention of microwave and tray dried samples had the highest ascorbic acid retention for KMS blanched samples. KMS blanched samples had highest rehydration ratio in tray dryer while as rehydration ratio of KMS blanched cauliflower was highest at every power level of microwave dryer. The rehydration ratio was acceptable 40W power level. Microwave power drying was found most suitable for KMS blanched cauliflower slices at low power level.

■ **KEY WORDS** : Cauliflower slices, Tray dryer, Microwave, Moisture content, Drying rate, Vitamin C, Rehydration ratio

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