

Microwave Drying Characteristics of Two Varieties of Red Lentils

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Red lentil is a grain legume and provides a good source of proteins, iron, fibre and low in fat. Lentil provides nutritional and health benefits to consumers. Health benefits derived from consuming lentils include reduction in coronary heart disease, preventing iron deficiency and stabilizing blood sugar. Canada is one of the leading producers of lentils and the leading exporter. On the average, Canada earns about \$240 million (Canadian) yearly from exporting lentils. To reduce shattering losses lentils are normally harvested at around 18 to 20% w.b. (wet basis). The lentils should then be dried down to 13 to 14% w.b. for storage and processing. Microwave system rapidly heats dielectric materials and it is used for drying, heating, thawing, sterilization and food/feed processing operations. Microwave drying is rapid, uniform and energy efficient compared to convection drying which is conventionally used to dry lentils. To better understand the microwave drying of lentils, the drying characteristics should be investigated. Knowledge of the drying characteristics would help to improve the design and efficient operation of the drying systems. The objective of this study will be to investigate the drying characteristics of red lentil varieties using microwave drying system. The experiment would be conducted at different microwave power and moisture content levels using EnWave microwave dryer. The color of the microwave dried samples would be determined using HunterLab spectrophotometer and compared with convection dried samples.