

Abstract

A study was conducted to assess and compare the effect of forced convection drying (FC) and microwave assisted drying (MW) on some unsaturated fatty acids and trypsin inhibitor activity (TIA) in soybeans. Samples were collected at regular intervals during drying at 60 °C (for food purposes), 40 °C (for seed purposes) and 100 °C (to simulate harsh conditions). All samples were dried to a final moisture content (MC) of 10 or 13% before being analyzed. Treated samples contained significantly lower quantities of unsaturated fatty acids ($P < 0.05$) per unit dry matter than untreated samples and MW was less destructive to fatty acids and TIA than FC. Although fatty acid destruction was more rapid at higher temperatures, the extent of degradation was dependent on both the drying temperature and drying time. Soybeans dried using FC contained acceptable low levels of TIA, making them adequately processed for food purposes, but suffered greater degrees of fatty acid degradation. Soybeans dried using MW retained higher levels of (TIA). Recoveries were >84%.