Abstract

Internal browning in pears (*Pyrus communis L.* cv. *Blanquilla*) has been studied by NMR using CPMG sequences with variable 90-180° pulse spacing (τ), T_2 maps and T_1-T_2 correlation spectroscopy. Spectrometers operating at 100.73, 200 MHz and 300.15 MHz were used. Affected tissue shows higher transverse relaxation rate compared to healthy tissue especially at higher magnetic field strength and long τ. Tissue disintegration as well as water evaporation appear to be the main causes of this response. FLASH T_2*-weighted images and FLASH PD-weighted images acquired for pears conveyed at 50 mm/s are discriminated for internal breakdown according to histogram features. A percentage of 94% and 96% corrected classification rate is found for the former and the later type of images respectively.