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PLUM RIPENING EVALUATION BY ^{1}H NMR SPECTROSCOPY

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Abstract:
The increasing demand for fruit and juices, associated to the need of longer storage times as well as the short period for production, has occasioned the use of ripening inducers in order to complete the physiological maturation of fruits. Therefore, this work aimed to evaluate the effect of ripening inducers on the chemical composition of 'Reubennel' plum postharvest by ^{1}H NMR spectroscopy. For this, plum fruits were harvested in different maturation stages and submitted to artificial ripening by application of 2-chloroethyl phosphonic acid. After ripening period the juices were extracted and submitted to NMR analysis. Any changes in the chemical composition were observed as consequence of application of maturation inducer, when compared with those untreated. On the other hand, in those fruit that remained on the tree the ripening process still occurred and these fruits showed high and low contents of sucrose and organic acids, respectively. Therefore, those fruits that have maturated in tree have better quality. Moreover, it was shown that ^{1}H NMR spectroscopy can be employed to follow the chemical composition of fruits during ripening stages.