

IMPLICATIONS OF MEDIUM pH ON PECTIN EXHAUSTIVE EXTRACTION FROM TROPICAL CITRUS

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In order to verify the effect of different pH's on the yield and methoxylation degree (MED) of natural pectins were taken orange (*Rutaceae* sp) and passion fruit (*Passiflora edulis*) mesocarp. The peeled fruits were triturated and diluted to exhaustive extraction. The initial pHs (pHi) were adjusted to 2.2 or 3.0. The mixtures were boiled, cooled at room temperature and filtered. Of the liquor recovered, one third was considered for obtaining yield pectin (fraction A). Of two third, one was added HCl until pH 1.0, boiled, cooled and neutralized, performing pectin (A⁻). The other was added NaOH until pH 12.0, remaining 60' and subsequently neutralized (A⁺). The exhaustive yield was obtained in ethanol 95% in order to precipitate. Major bands (1740 and 1640 cm⁻¹) of Infrared spectroscopy were used to determine pectin MED. The highest yields of pectin were obtained at pHi 2,2 in orange mesocarp. In this pHi vary 6.83% (A⁻) to 13.42% (A⁺) for orange while 1.76% (A⁻) to 3,44% (A⁺) in passion fruit. MED decreased from fraction A to A⁻ varying from 71-51% and 65-20% (pHi 2,2) and 63-39% and 62-38% (pHi 3,0) in orange and passion fruit, respectively. The pHi influences in the extraction yields. Alkaline and acid treatment are medium used to render pectin distinct MED for industrial purpose.

Keywords: pectin, extraction, infrared.