The estimation of mimosine in *Leucaena* by the use of a FeCl$_3$ method (Matsumoto and Sherman 1951, Megarrity 1978) is unsatisfactory, being influenced by a variety of factors such as pH (Tsai and Ling, 1973); non-specificity, caused by the presence of other phenolic compounds such as 3, 4-dihydroxypyridine and tannins; and variable recoveries caused by the use of charcoal in the decolourisation procedure.

The estimation of mimosine, in 0.1 molar HCl extracts of *Leucaena* (modification of method by Megarrity, 1978), has been achieved in Edinburgh using an automated ion exchange chromatographic (IEC) procedure involving the use of a single sodium citrate buffer (pH = 3.69). Detection of mimosine was accomplished by reaction of the eluent with 2, 4, 6-trinitrobenzenesulphonic acid. Values for mimosine in *Leucaena* were found to be up to 28% higher when estimated with FeCl$_3$ (modification of method by Megarrity, 1978) than when determined by IEC. Cold (20°C and shaken for 10 mins) 6 molar HCl extraction of LLM and subsequent analysis by IEC yielded excellent recoveries and values almost identical to those obtained with the 0.1 molar HCl extraction procedure. Hydrolysis of LLM with 6 molar HCl (115°C for 22 hrs) and subsequent analysis by IEC, however, produced values 4% lower than those by the two extraction methods. The similarity in the IEC results, obtained by analysis of both extracts and hydrolysates, suggests that extraction is complete. The higher values obtained by analysis of the 0.1 molar HCl extract, using FeCl$_3$, is probably due to reaction of Fe (III) with other phenolic compounds in the extract.

Since mimosine has a greater toxicity than 3, 4-dihydroxypyridine (Hegarty, Lee, Christie, De Munk and Court, 1978) its quantitative estimation in *Leucaena* is considered to be essential. The method indicated above, for the estimation of mimosine using IEC, is versatile, rapid, precise and specific.

**REFERENCES:**


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