A NEW PROCEDURE FOR THE SEPARATION OF UNOXIDIZED POLYPHENOLS FROM THE FRESH TEA FLUSH USING THIN LAYER CHROMATOGRAPHY

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The main group of Soluble Compounds found in the fresh tea flush are the polyphenols. They amount to almost 25 - 35% of solids on a dry weight basis. Within this group of compounds in the fresh tea flush are the flavanols (catechins) which contribute to colour, quality and character in black tea.

Although few procedures have been developed for the separation of these flavanols in the past (Frost and Bendall), they are time consuming tedious and often the yield is not very pure. In the present study, selective isolation of polyphenols was achieved using a polyvinyl pyrolidone (Anderson and Sowers) column. Separation of individual flavanols (from the above mixture) was achieved by the use of 2-dimensional Thin Layer Chromatography with cellulose as the stationary support. Solvent systems used in this instance were Butanol : Acetic Acid : Water 6 : 1 : 2 in the first direction while 2% Acetic Acid in the second direction.

Reference :

Anderson, R.A. and Sowers, J.A. (1968) Phytochemistry, 7 : 293 - 301

Frost, G.I. and Bendall, E. (1969) Biochem. J. 113 : 741 - 755