Preliminary Investigations of the Possible Flavonol Content of the Pineapple

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In a series of studies of the higher flavonols and their glycosides present in fruits, Williams and Wender have previously isolated and identified quercetin (3, 3', 4', 5, 7-pentahydroxy flavone) and kaempferol (3, 4', 5, 7 tetrahydroxy flavone) from strawberries (3) and quercetin and isoquercitrin (quercetin-3-glucoside) from both grapes (2) and black currants (1). Using comparable amounts of pineapple and the same techniques as for the three studies above, no similar type flavonoid compound could be found in the inside portion of the pineapple, *Ananas comosus*.

Experimental

Fifty pounds of pineapples (Grand Prize Muggin Brand), purchased at a local grocery store, were peeled, and the tops removed. Thirty pounds of the remaining fruit were processed through a wet grinder and extracted for 2 hours with 10 gal. of distilled water. Filtered hot, the filtrate was allowed to cool, and then passed over Amberlite IRC-50 (H) resin in a column. The adsorbed material, after washing with distilled water through the column, was removed with 95% ethyl alcohol, and the alcohol solution taken to dryness *in vacuo*. The residue was pulverized and extracted with 300 ml. of boiling anhydrous acetone. This acetone solution was chromatographed on a Magnesol column. A brown yellow band was removed with ethyl acetate-water solution, and concentrated. This seemed to be the only band from the Magnesol that appeared to have flavonol characteristics both in the visible and under ultraviolet light. The concentrate of this band, however, did not give the usual positive reduction test with hydrochloric acid and magnesium. Paper chromatographic study of the concentrate re-

sulted as follows: In 15% acetic acid as solvent, two spots were observed with R_f values at 0.10 and 0.63. In the butanol-acetic acid-water system (40-10-50%, by volume), only one spot, R_f 0.84, was observed. In 60% acetic acid, 4 spots, all blue-white under ultraviolet light, were found. The R_f values were 0.63, 0.74, 0.78, and 0.88. After spraying with basic lead acetate solution, the colors of these spots, under ultraviolet, were yellow, blue-white, yellow, and blue-white, respectively.

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LITERATURE CITED

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