

ABSTRACT

The possibility of chemically delaying the onset of the climacteric rise and ripening at fairly high temperatures in Valery bananas was examined. Six chemicals including growth regulators, a respiratory inhibitor and a wax emulsion were tested. The effects of solutions at different pH levels were also determined. Boric acid was used as a carrier but was found to affect the climacteric.

Of the growth regulators tested succinic 2, 2-dimethyl hydrazide at concentrations 500 and 1,000 p.p.m. advanced the onset of the climacteric rise. At concentrations above 1,000 p.p.m. it appeared to retard the breakdown of chlorophyll in the peel. 2-chloroethyltrimethylammonium chloride (CCC) had no significant effect but when used at 1,000 p.p.m. with 2,000 p.p.m. boric acid and at 5,000 p.p.m. with 4,000 p.p.m. boric acid the climacteric rise was delayed by seven and five days respectively.

Boric acid in the range of 600 and 1,200 p.p.m. delayed ripening of both whole fruits and slices. In the presence of CCC a concentration as high as 4,000 p.p.m. was also effective.

Diphenylamine, a respiratory inhibitor was effective in delaying the onset of the climacteric rise. It also lowered the carbon dioxide output during the climacteric.

Skin coatings of Epolene E-10 wax emulsion at 15 per cent

solids concentration was significantly efficient in delaying the incidence of the climacteric and prolonging the storage life of the fruits. Weight loss was reduced by 23 per cent and the general appearance of the ripe fruits was greatly enhanced.

The pH levels of solutions affected the storage life of bananas. Solutions of pH 6, 7 and 7.5 kept the fruits green for a long time while those treated with pH 5, 5.5 and 8 ripened earlier.