EFFECT OF GIBBERELLIC ACID AND BAGGING ON SHELF LIFE AND QUALITY OF 'EMBUL' BANANA.

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'Embul' is a popular cultivar of banana in the local market. However, high ripening rates, disease susceptibility and skin blemishes have limited their export potential. A preliminary investigation was carried out to determine the effects of pre-harvest treatments with gibberellic acid and bagging, individually and their combination, on postharvest quality of the bananas. Among the parameters investigated were, changes in ripening and disease susceptibility, changes in length dimensions and other physicochemical characteristics. A monoculture plantation belonging to the Department of Agriculture, Gannoruwa was used as the experimental site for this study. The treatments given in a factorial experimental set up were, spraying 100 ppm gibberellic acid (GA_3), bagging (brown paper bag tied at both ends of the bunch, with a loose polythene cape, tied on top to protect the bag), combined treatment of spraying GA_3 and bagging, and controls which were not given any treatment. The results generated to date demonstrated that GA_3 treatment may reduce ripening rate and also reduce incidence of crown rot. There was no evidence that susceptibility to anthracnose was affected by the treatments.

There was at least a 10% increase in fruit circumference, and pulp width due to bagging alone or in the combined treatment, in the unripe stage. However, after ripening this increase was observed only on pulp widths in the combined treatment. Approximately a 10% reduction of peel thickness (ripe stage) in bagging treatment and 10% increase on peel thickness (ripe stages) in GA_3 treatment were observed. There was at least a 10% increase in weight in bagging treatment and a 30% increase in weight in the combined treatment. With ripening, a 40% reduction in weight loss was observed in the combined treatment whereas only a 20% reduction was observed in the individual treatments of bagging and GA_3 treatments.

A 10% decrease in the following parameters was observed in the unripe stage in both bagging treatment and combined treatment; firmness, titratable acidity and pH. In addition, a 10% decrease in titratable acidity and 20% decrease in soluble solids content in the unripe stage was observed due to GA_3 treatment. After ripening, a 10% decrease in firmness was observed in both bagging and combination treatments, and a 20% decrease in firmness was observed in GA_3 treatment. However, in the bagging and combined treatments, soluble solids content which showed a 40% reduction in the unripe stages, decreased to a 10% reduction after ripening. In addition, a 10% reduction in titratable acidity was observed in the combined treatment and GA_3 treatment after ripening. In the bagging treatment a 10% decrease in pH was observed even after ripening.

The GA_3 treatment reduced incidence of crown rot. It also reduced the ripening rate, and contributed for shelf life improvement. Bagging treatment increased most of the length dimensions. The contribution of GA_3 was low in this aspect. Of the 4 treatments, the combination of GA_3 and bagging contributed to the best length dimensions. These results have to be confirmed by statistical analysis when sufficient data are available.

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