

RESEARCH NEWS

NODULE FORMATION OF GUAVA (*Psidium guajava* L) FRUITS

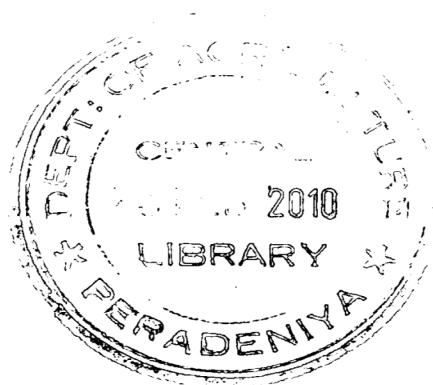
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Guava (*Psidium guajava* L) has become one of the popular fruit crops in Sri Lanka. It has gained considerable attention on the account of high nutritive value, availability at a moderate price, pleasant aroma and good flavour. For direct consumption or processing, quality of the fruit is important.

Nodule formation of guava fruits is a disorder affecting the quality and this could be seen in almost all the guava growing areas in the country. It is commonly observed in some varieties that produce large-sized fruits. These varieties also bear normal and disordered fruits on the same plant. A higher number of disordered fruits could be observed in dry seasons. The nodules are observed at very initial stage of the fruit development and become larger with fruit maturity. These nodules are hard in nature than the rest of the fruit. Consequently, this disorder affects the quality of the fruit as well as the market value. Similar symptoms have been observed in papaya and these were identified as a deficiency symptom of boron. It was also reported that corky nodules of fruits and tubers were due to boron deficiency. Based on this information an experiment was conducted to identify measures to minimize nodules in guava using boron.

The experiment was conducted in 2008 at the Fruit Crops Research and Development Centre, In Red Yellow Podsollic soil with low fertility. Four-year-old, bearing guava plants (var. *Pubudu*) was selected as it was a susceptible variety for nodule formation. Four treatments including one soil treatment, two foliar treatments *i.e.* monthly and 3 times at 2 weekly intervals, and a control were evaluated with 3 plants per treatment. Borax was used as the source of boron and a 0.2 % solution was prepared for foliar application to be sprayed according to the treatment. Soil application was given at the beginning of the experiment. Other cultural practices including fertilizer application were adopted according to the recommendation of the Department of Agriculture. The number of total fruits produced and fruits per plant with nodules were recorded at 2, 4 and 6 months after treatments (MAT) and the percentage disordered fruits was calculated.

The results revealed a reduction of nodule formation in fruits with both foliar treatments. At 6 MAT, the reduction of nodule formation (over the control) was 65 % in the treatment with monthly application of Borax, and 70 % in the application of Borax a 3 times at 2 week intervals. The fruits, which already had nodules, remained as they were and only newly emerged fruits showed the tolerance. There was no difference in the severity of the disorder between monthly application and the application of Borax three times. The soil treatment was not successful in reducing the problem, which could be due to unavailability of applied boron to plants as a result of interactions with certain other factors in soil. Boron was lower in affected fruits (7.3 ppm) than in normal fruits (12.4 ppm). The results indicated that that foliar application of 0.2 % borax solution 3 times at 2 week intervals for guava plants that shows symptoms of nodule formation in fruits could be used effectively to minimize the disorder. Further research is needed for efficient and practical methods of application of boron to control this disorder.



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