

Research Article

COMPARATIVE STUDY OF MORPHOLOGICAL PARAMETERS IN GUAVA VARIETIES COLLECTED FROM FOUR DIFFERENT TEHSILS OF DISTRICT BHAKKAR

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ABSTRACT

Morphological parameters including leaf area, leaf weight and fruit diameter of two guava varieties of four different tehsils of district Bhakkar showed that highest leaf area of Hong Kong variety was 33.67 cm² in tehsil Darya Khan, highest leaf weight was 0.7 g in tehsil Bhakkar and Mankera and highest fruit diameter was 4 cm in Tehsil Kalor Kot. Highest leaf area of Ruby X Supreme variety was 51.45 cm² in tehsil Bhakkar, highest leaf weight was 0.9 g in tehsil Bhakkar and Kalor Kot and highest fruit diameter was 4.72 cm in Tehsil Darya Khan.

Keywords: *Morphological Parameters, Guava*

INTRODUCTION

Pakistan has blessed with miscellaneous agro-climatic conditions which is suitable for the production of many varieties of fruits and vegetables. Guava is a major fruit grown in Pakistan occupy an important position in the fruit industry of Pakistan and cultivated on an area of 63 thousand ha and production rate is 555 thousand tons (Anonymous, 2008). Instead of different provinces of Pakistan, Punjab contributes the most important part in guava production in Pakistan with 49 thousand ha area and 445.5 thousand tons production (Anonymous, 2008). Guava is most attractive fruit in appearance, shape, fragrance and nutrition. It has marvelous nutritive importance, taste and medicinal properties and illustrates enormous potential for making significant products (Aslam *et al.*, 2014).

Guava is most essential tropical and subtropical fruit of Myrtaceae family (Wafaa *et al.*, 2013). Guava is actually a good source of Vitamin C, sugars, pectin and fibers (Javeria *et al.*, 2012). It bears fruit twice in a year i.e. summer and winter guava fruits but the better quality fruit is obtained in winter (Bal and Dhaliwal, 2004). In Pakistan, guava produced in winter season is more popular amid the consumers because these fruits are free from fruit fly attack. Due to pitiable orchard managing practices, the guava orchards are facing some physiological disorders. Different diseases such as wilt and canker as well as insect and pests like fruit fly are also involved in the decline of the tree vigor and fruit quality. Fruit fly cruelly affects the summer crop follow-on large loss in yield of most of the guava growers. Guava is the preferred food host of fruit fly. Guava fruits spoil due to growing larvae of fruit fly in guava fruits (Aslam *et al.*, 2014). That's the reason that in many areas of Pakistan, people get rid of summer crop by physical beating of trees at flowering or at initial fruit set stage. The variations in the climatic conditions of both seasons also lead to the major differences in the quality of guava fruit (Aslam *et al.*, 2014). At present in Pakistan, little information is accessible about the physico-chemical quality profile of guava. Hence, the proposed experiment will be conducted to study the comparative fruit quality of two commercial guava varieties 'Ruby X Supreme' and 'Hong Kong' collected from four tehsils of district Bhakkar. These tehsils are Bhakkar, Darya Khan, Mankera and Kalor Kot.

MATERIALS AND METHODS

The four Tehsils of District Bhakkar were selected for the purpose of sample collection. Leaves and fruits of two guava varieties (Ruby x supreme and Hong Kong) were collected from all four Tehsils (Bhakkar, Darya Khan, Mankera and Kalor Kot) for analysis. Each sample comprised over two replicates. Each sample was randomly handpicked, wrapped in a specific brown envelop and labeled.

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Leaf Weight (g): Weight of leaf was taken by using digital balance and expressed as (g).

Leaf Area (cm²): Leaf area was determined by using portable leaf area meter (Model LI 3100, LICOR, USA).

Fruit Width (cm): Fruit diameter was measured with the help of Vernier Caliper. It was expressed as (cm).

RESULTS AND DISCUSSION

Morphological parameters including leaf area, leaf weight and fruit diameter of two guava varieties of four different tehsils of district Bhakkar showed in table 1 that highest leaf area of Hong Kong variety was 33.67 cm² in tehsil Darya Khan, highest leaf weight was 0.7 g in tehsil Bhakkar and Mankera and highest fruit diameter was 4 cm in Tehsil Kalor Kot. Highest leaf area of Ruby X Supreme variety was 51.45 cm² in tehsil Bhakkar, highest leaf weight was 0.9 g in tehsil Bhakkar and Kalor Kot and highest fruit diameter was 4.72 cm in Tehsil Darya Khan. These variations in morphological parameters may be due to a wide range of reasons, such as cultivated regions, growing conditions, nature of soil, seasonal changes, genetically different cultivars, storage conditions (Imeh & Khokhar, 2002).

Table: 1 Morphological Characteristic of Fruits and Leaves of Guava Varieties at Different Tehsils of District Bhakkar

Tehsils	Varieties					
	Hong Kong			Ruby X Supreme		
	Leaf Weight (g)	Leaf Area (cm ²)	Fruit Diameter (cm)	Leaf Weight (g)	Leaf Area (cm ²)	Fruit Diameter (cm)
Bhakkar	0.7	31.22	3.23	0.9	51.45	4.26
Kalor Kot	0.6	32.4	4	0.9	49.12	4.56
Mankera	0.7	30.56	3.1	1	50.6	4.23
Darya Khan	0.6	33.67	3.9	0.8	43.78	4.72

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