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BIRD PEST DAMAGE TO GUAVA FRUITS

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The bird damage to guava fruit was estimated to be 17.24% for an orchard at Karachi; rose-ringed parakeet *(Psittacula krameri)* and house crow *(Corvus splendens)* being the pests. Maximum damage (6.38%) was observed in fruits 1/4th tissue of which had been removed, while 5.61, 2.82 and 2.43% damage was recorded for fruits showing 1/2, 3/4th and almost complete removal of the tissue. Majority of the trees (32.73%) evidenced losses in the range of 10-20%. Of the total estimated loss, 15.59% damage was recorded for the ripened fruits and 1.65% for unripe fruits.

INTRODUCTION

The importance of fruit as a source of food needs no emphasis. Being cheap and easily available, guava *(Psidium guajava)* is a popular fruit in Pakistan and is, therefore, extensively grown and marketed in the country. The factors that limit its production include insects and bird pests. Insects spoil this fruit only at ripening stage while the birds attack them even at unripe stage when the fruit is hard.

The major avian pests of guava are: rose-ringed parakeet *(Psittacula krameri)* and house crow *(Corvus splendens)*. The parakeet is found abundant by almost all over Pakistan, India, Bangladesh, Nepal, Central Burma and Sri Lanka (Ali, 1977). Being a strict vegetarian it causes great losses to fruits, cereal and oilseed crops (Ramzan & Toor, 1971, 1972; Smith, 1972; Sharma, 1976a, b; Bashir, 1981; Sandhu & Dhindsa, 1982; Shafi *et al.*, 1984; Khan & Hussain, 1990). House crow is omnivorous in its habits and causes serious damage to ripening fruits and various crops (Lakra *et al.*, 1979; Toor & Sandhu, 1979; Sandhu & Toor, 1980). Keeping in view the aforestated information the present studies were conducted to have an idea about the damage suffered by guava due to bird pests.

MATERIALS AND METHODS

To study the damage to guava, a well-maintained orchard was selected in an agricultural area of Landhi, Karachi, during the autumn season. The observations were taken for 45 consecutive days. All trees were planted in rows. From every fourth row every alternate plant was selected and in this way about 55 plants from eleven rows were chosen for sampling.

Approximate number of fruits per tree was determined by counting the number of fruits per branch and multiplying it with the total number of branches present in the given tree. The fruits damaged by birds and dropped were collected and were buried underground daily. The damaged fruits were graded on the basis of the amount of losses inflicted on them such as nearly fully damaged, 3/4th part damaged, 1/2 damaged, and 1/4th part damaged.

RESULTS AND DISCUSSION

Flocks of parrots were observed to attack the fruits in the morning and evening hours. The crows also attacked the fruits with their beaks and rendered them unfit for marketing. Often they would detach the fruits from the tree and carry them to the nearest trees for eating. Damaged fruits collected from under non-guava trees were, however, not included while estimating damage to the fruit.

recorded an average of 20.06% loss to the fruit due to rose-ringed parakeet. Shafi *et al.* (1984) estimated 8.62% parakeet loss to citrus fruit in Punjab (Pakistan). The intensity of damage to individual fruits varied from slight to severe and sometimes close to a loss of the entire fruit. It was found that in 6.38% of the fruits upto 1/4th of the tissue had been removed, in 5.61% up to one-half, in 2.82% upto 3/4th and in 2.43%, complete loss was recorded.

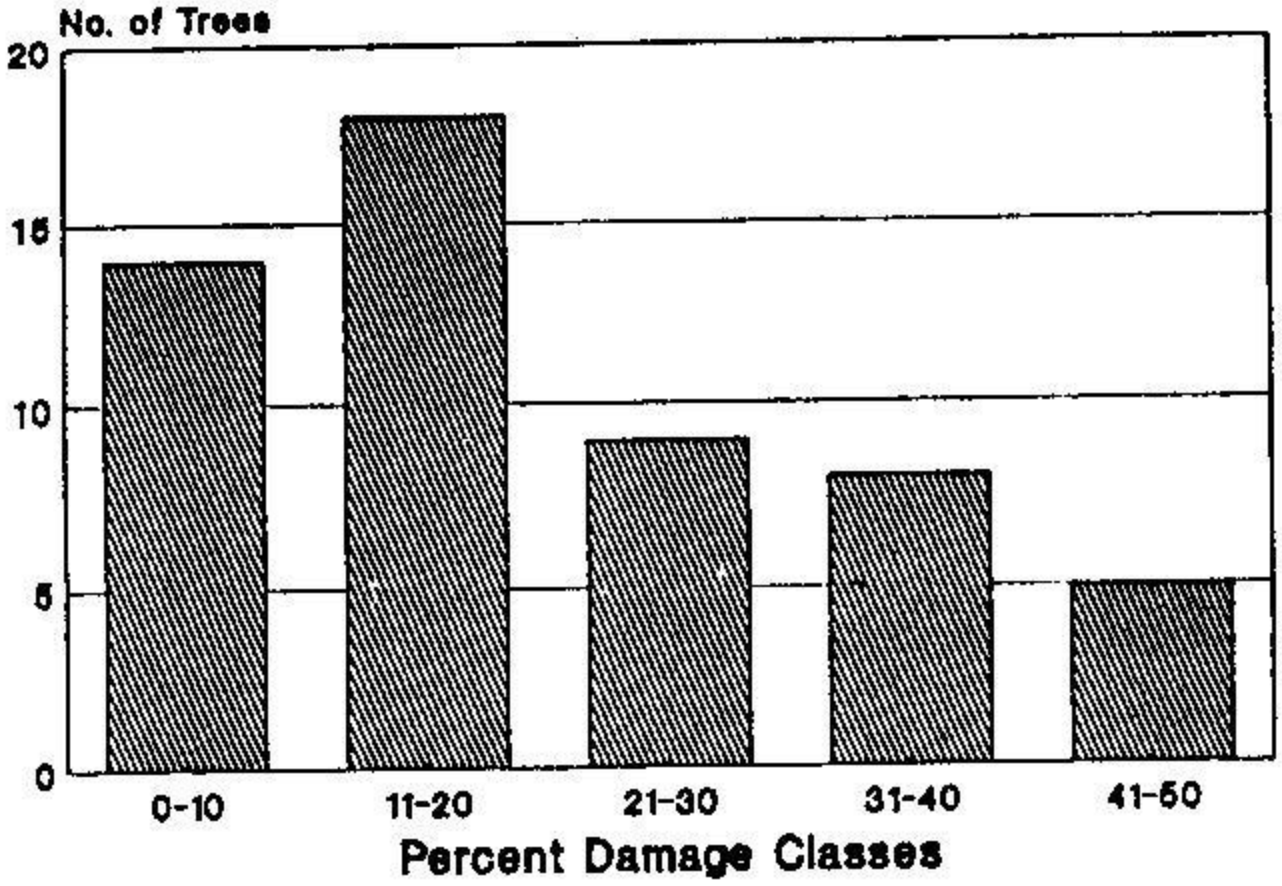

Fig. 1. Frequency of distribution of bird damage to guava tress

The data on damage to the guava fruit are presented in Table 1. Of a total of 21406 fruits sampled, 3690 were damaged by birds which amounted to 17.240% loss. This damage was inflicted in the presence of intensive manual scaring. Ali (1977) and Ali and Fatehally (1967) rated the rose-ringed parakeet a serious pest to the standing fruits. In Indian Punjab, Ramzan and Toor (1973)

Frequency distribution of losses is shown in Fig. 1. The magnitude of damage in majority of the trees (32.73% of the total) was between 10-20%. Fifteen trees (27.27%) showed in the range of 0-10%. The damage between 40-50% was seen only on 9.09% of the total trees. Of the total estimated loss, 15.59% damage was recorded for the ripened fruits and 1.65% for unripe fruits.

Table 1. Extent of bird damage to guava fruits

No. of trees examined/row	Total no. of fruits/5 trees	Degree of damage				No. of damaged fruits/5 trees	Growth stage	
		1/4	1/2	3/4	Full		Ripened	Unripened
5	1278	32	19	3	3	57	54	3
5	3145	57	84	13	9	163	144	19
5	2301	103	67	29	16	215	200	15
5	1801	90	70	27	19	206	200	6
5	1193	109	47	26	14	196	189	7
5	1933	250	184	121	102	657	578	79
5	1966	97	63	56	41	257	229	28
5	2314	193	200	54	39	486	448	38
5	1892	107	150	109	102	468	396	72
5	1602	117	151	67	92	427	386	41
5	1980	210	166	99	83	558	512	46
Total 55	21406	1365	1201	604	520	3690	3336	354
Percentage: -	6.38	5.61	2.82	2.43	17.24	15.59	1.65	

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