INTERNATIONAL JOURNAL OF AGRICULTURE & BIOLOGY
1560–8530/2002/04–4–500–502
http://www.ijab.org

Damage Patterns of House Crow (*Corvus splendens*) on Some Food Crops in Faisalabad–Pakistan

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ABSTRACT

Studies on damage patterns of house crow (*Corvus splendens*) extended on the randomly selected farm crops, viz. fresh and mature maize cobs, harvested wheat, sunflower and barley, in the morning and afternoon foraging sessions, each three hours duration, February, 2001 till July, 2001, depicted the damaged plants, for freshly sown maize 12.61±2.33 (m); 18.32±2.70 (a), mature maize cobs 13.54±3.18 (m); 10.11±1.97 (a); harvested wheat 9.22±2.37 (m); 14.94±1.53 (a), sunflower 14.25±2.60 (m); 17.50±1.58 (m) and 3.58±0.82 (m); 12.61±2.58 (a) on barley. It was evident that most intensively depredated plant in the morning foraging periods was sunflower, whereas in the afternoon, it was maize. It was concluded that appropriate control measures employed judiciously in and around the crow roosts would be beneficial to avert the damage.

Key Words: Crow; Damage pattern; Food crops; Faisalabad

INTRODUCTION

Occurrence of vertebrate pests in the farm crops throughout the cultivated regions lowers the average annual production (Beg, 1978; Roberts, 1978; 1991; Shafi *et al*., 1986; Khan, 2002). The house crow is ranked as a serious avian pest in Pakistan. It inhabits towns, villages and civil lines areas (Naureen, 2001). The crow, like other bird pests, has a wide feeding niche and as such, plunders a variety of food items in open country and household situations (Maitra *et al*., 1992). It destroys the food crops and the wheat grains in good numbers particularly at the post harvest level, and, therefore, directly competes with man for the food resources, but also causes significant economic losses (Dilshan *et al*., 1982; Gourami, 1985). Maize is one of the preferred food items for the house crow. The intensity of depredations on the maize has been reported to be widespread by the rose-ringed parakeet, while a little lesser intensity of damage has been reported by the crows, sparrows and the common mynas (Khan & Ahmad, 1983; Malhi & Brar, 1987; Gupta *et al*., 1998). An interesting aspect of the life of all birds is to spend the night in the certain large sized and old trees, the nocturnal roost. An established roost remains unchanged year after year. All birds assemble in the wooded areas at about dusk producing loud calls; leave the same roost at about dawn in varying directions for foraging, feeding and other social activities (Dvir, 1985; Redpath *et al*., 1997).

The aim of the present studies was thus, aimed to ascertain the damage incurred by the house crow, on a few randomly selected food items as available at the University Campus to record the number of damaged plants, and to comprehensively know the ecology of the house crow with a view to formulate the strategy for the future regarding the control of crows in the cultivations.

MATERIALS AND METHODS

Studies on the damage patterns of house crow were carried out in the randomly selected farm crops from February, 2001 to July, 2001. Data on the depredations of freshly sown and mature maize, harvested wheat, sunflower and barley were recorded for four hours duration each in the morning and afternoon sessions. A vantage point was selected in the field for obtaining a clear view of the entire proceedings. Observation periods were split into 3-minute intervals both for the morning and afternoon foraging sessions. Impact of crow damage was visually assessed at the end of the observation duration. Field binoculars (7 x 50 mm) were also used wherever needed for a better vision.

RESULTS AND DISCUSSION

Studies on damage patterns of house crow on randomly selected farm crops extended from February, 2001 till August, 2001. Table I provides information about the overall damage proportions on the sampled crops by the house crow. Of the four food items, four hours time intervals each, for morning and afternoon duration, crow depredations for a period of three months *viz*. February, March and April on maize crop, at the milky and mature stages, was found to be maximum in March with 195 birds visiting the field, whereas the least occurred in February, when only 133 crows were recorded leaving the maize field. Similarly, depredations for rest of the food items *viz*. harvested wheat (May & June), sunflower (July) and barley (August), depicted that peak foraging activity patterns in the morning took place on sunflower, followed by harvested wheat, May and June , with only a little depredation being recorded on the barley (Table I). Damage patterns in the late afternoon were maximum on maize, and were comparable

Table I. Damage proportions of house crow (*Corvus splendens*) on sampled food items at the farmlands of University Campus. The data were recorded for four hours duration each in the morning and afternoon sessions

Time period (h)	Feb.	Mar.	Apr.	May	June	July	Aug.
	maize			harvested wheat		sunflower	barley
a. Morning							
0500-0530	32	27	40	52	49	75	11
0530-0600	48	47	35	55	46	55	10
0600-0630	17	41	31	46	30	25	14
0630-0700	11	25	25	16	18	18	7
0700-0730	11	21	25	29	15	20	6
0730-0800	7	15	18	11	16	13	6
0800-0830	7	10	11	-	11	12	-
0830-0900	-	7	3	5	-	7	-
Total	**133**	**195**	**188**	**214**	**185**	**225**	**54**
Mean	**16.7**	**24.3**	**23.5**	**27.4**	**23.1**	**28.1**	**6.70**
± SE	**2.31**	**2.70**	**3.18**	**2.78**	**3.01**	**2.57**	**1.46**
b. Afternoon							
1530-1600	-	-	-	-	-	-	-
1600-1630	-	-	5	-	5	-	-
1630-1700	11	-	12	15	12	15	-
1700-1730	16	20	16	28	24	29	11
1730-1800	20	26	21	38	20	31	7
1800-1830	38	40	29	58	28	40	20
1830-1900	47	57	48	55	42	46	15
1900-1930	52	71	75	78	85	71	5
Total	**184**	**214**	**206**	**272**	**216**	**232**	**58**
Mean	**23.0**	**26.8**	**25.7**	**34.0**	**27.0**	**29.0**	**7.2**
± SE	**2.17**	**2.06**	**2.11**	**3.05**	**2.02**	**2.11**	**1.50**

for April and May, were slightly lower in intensity in March (Table I).

On the harvested wheat, the crow depredation was recorded to be fairly intensive in May, while the damage was of almost similar magnitude on sunflower both in the morning and afternoon sessions, as well as for sunflower and barley crops (Table I). Results also depict that the crows continued their foraging regimens on the selected food items throughout the morning and afternoon time intervals. There was almost always a burst of activity in the early morning hours which continued at least for about four hours duration. It was evident that the birds, after having spent the night devoid of food, made early an exit from their roost most likely for searching the food. Intensity of depredations on the maize at freshly sown stage in February was variable in the morning and afternoon sessions, while it was enhanced and comparable for the subsequent two months on the mature cobs (Khan & Ahmad, 1983; Gourami, 1985). Wheat is regularly harvested by the middle of May, after which the left over grains remain in the field for a long time, providing a large caret de jour, and the depredations gain a substance for the crows, parakeets, sparrows and common mynas, at this point (Malhi & Brar, 1987; Roberts, 1991; Gupta *et al*., 1998). In the present studies, the house crow was recorded to be benefited largely from the stray sprinkles of wheat. Number of depredating crows were slightly higher in the afternoon duration than in the morning due to the fact that the birds had to spend the whole night, and therefore, pounded the harvested wheat field in large proportions. Like the cereals, oil seeds, remained one of the favorite food items for all bird pests; sunflower seeds being consumed by the parakeets, crows and mynas (Shafi *et al*., 1986; Chakarvorty *et al*., 1998). Despite the fact that there have always been sustained efforts for the promotion of oil seed crops in Pakistan to meet domestic oil requirements, this aspect needs to be considered thoroughly from the ecological point of view, as it would invariably augment bird pests predicament (Beg, 1978; Iqbal, 1998). Crow damage to sunflower crop was relatively intense in the morning hours, mainly owing to the absence of any surveillance which allowed the crows to feed without much difficulty. Perhaps, the bird damage to sunflower would not be tenacious if they are well protected and appropriately monitored (Sushil & Kumar, 1994). Depredations on the barley seeds was found to fairly little. Inc countries, like Pakistan, agroecosystems are havens for many animals. Thoughtless tampering with tree composition and an unintelligent use of toxicants for inhibiting the pest populations should be based on necessary essential studies. And also that the control strategies should be aimed at near the bird roosts, which might be able to inhibit the damage to food items.

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(Received 04 July 2002; Accepted 10 August 2002)