COMMUNICATION GAP REGARDING MANGO PRODUCTION TECHNOLOGY AMONG THE FARMERS OF TEHSIL MUZAFFARGARH

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Mango is the second important fruit in Pakistan after citrus. However, its per hectare yield is very low as compared to potential yield. This might be due to lack of technical knowledge on the part of mango growers and resultant non-adoption of improved mango production technology by them. Therefore, the present study was designed to assess communication gap regarding mango production technology among mango growers of tehsil Muzaffargarh. Muzaffargarh tehsil consists of five markaz comprising 35 union councils out of which 33 are rural and remaining 2 are urban. Five rural union councils were selected randomly, one from each markaz. Two villages were selected at random from each selected union council. Fifteen mango growers were selected from each selected village by simple random sampling technique. The data were collected through interview schedule and were analyzed with the help of statistical package for social sciences (SPSS).

Keywords: Communication gap, mango

INTRODUCTION

Mango is a delicious fruit grown in slightly less than ninety tropical and sub-tropical countries in the world (Pakissan.com.2007). Nature has endowed Pakistan with wide range of agro-climatic conditions, which permit quality production of both tropical and temperate fruits. The most suitable climatic conditions for mango cultivation prevail in plain areas of the Punjab and Sindh provinces. The main mango growing districts in the Punjab are Bahawalpur, Multan, Vehari, Rahim Yar Khan and Muzaffargarh; in the province of Sindh it is mainly grown in Mir pur Khas, Hyderabad and Thatta. Mango is one of the major fruits grown in Pakistan. It got 2nd position with the production of 17537.7 thousand tonnes and an average yield of 11.20 tonnes per hectare among leading fruits in the country (Govt. of Pak., 2005-06).

Mango is the second major fruit crop of Pakistan after citrus (Govt. of Pak., 2005-06), and is ranked fourth in the world for its production (FAO, 2005). Pakistan produces 8.5% of world's mango and export to Middle East, Iran, Germany, Japan, China and HongKong (Pakissan.com.2007). More than 100 mango varieties have been evolved from 1947 to 1967 in the country (Jiskani, 2002).

During the year 2005-06, area of Pakistan under mango cultivation was 156.6 thousand hectares with the production of 17537.7 thousand tonnes and an average yield of 11.20 tonnes per hectare (Govt. of Pak., 2005-06). But the output this year has been substantially low i.e 9-10 tonnes per hectare. It is about 50% of the potential yield, which is 20 tonnes per hectare (Shahid, 2006). So, there is a significant difference between average and potential yields.

The low per hectare yield may be attributed to poor management practices by mango growers, which may relate to communication gap at farm level. It is the extension worker who is responsible for bridging the existing communication gap by imparting training to the mango growers about mango production technology. Keeping in view the above-mentioned facts, the present study was designed to assess the communication gap regarding mango production technology among the farmers of tehsil Muzaffargarh.

MATERIALS AND METHODS

Tehsil Muzaffargarh was taken as the study area. It consists of five markaz, each markaz has seven union councils. Out of total 35 union councils, 33 are rural and the remaining 2 are urban. Out of 33 rural union councils, five union councils, one from each markaz were selected randomly. Two villages were selected at random from each selected union council. Fifteen mango growers were selected from each selected village by random sampling technique, thereby making a sample size of 150 respondents. In order to collect the required information, an interview schedule was developed. The data were analyzed with the help of SPSS (Statistical Package for Social Sciences). Descriptive analysis such as frequencies, percentages, and means were used for interpretation of the data.

RESULTS AND DISCUSSION

Table 1 depicts that all the respondents were aware of various mango varieties like Malda, Langra, Anwar Retool, Fajri, Samar Bahisht Chaunsa and Sensation. Samar Bahisht Chaunsa appeared to be the most popular variety grown by 87.6% of the respondents

followed by Dusehri (82.0%), Sindhri (72.7%), Sensation (58.7%), Langra (50.7%), Anwar Retool (46.7%), Malda (36.7%) and Fajri (18.7%).

Table 1 further shows that all the respondents were aware of spring transplanting time. Similarly an

of the pit, respectively. However, only 40.0% of the respondents had adopted the recommended size and 46.0% had adopted the recommendations relating to refilling of planting pit.

The data given in Table 1 further indicate that a vast

Table 1. Awareness and adoption status of respondents regarding recommended mango varieties, planting techniques and irrigation application

Varieties	Awareness		Adoption	
	No.	%	No.	%
Malda	150	100.0	55	36.7
Langra	150	100.0	75	50.0
Dusehri	150	100.0	123	82.0
Sindhri	150	100.0	109	72.7
Anwar Ratool	150	100.0	69	46.0
Fajri	150	100.0	28	18.7
Samar Bahisht Chaunsa	150	100.0	130	86.7
Sensation	150	100.0	88	58.7
Time of transplanting nursery				
Spring (15 Feb-March)	150	100.0	143	95.3
Autumn (Aug- Sept)	142	94.7	8	5.3
Systems of layout				
Square	150	100.0	136	90.7
Rectangular	101	67.3	1	0.7
Hexagonal	101	67.3	1	0.7
Size of planting pit				
3 x 3 x 3 feet	123	82.0	61	40.7
Refilling of planting pit (surface soil: FYM: loam Soil) (1:1:1)	136	90.7	69	46.0
Plant to plant distance				
35-40 feet (for square system) Anwar Retool, Dusehri and Malda	143	95.3	74	49.3
40-45 feet (for square system) Sindhri Fajri Langra and Samar Bahisht Chaunsa	143	95.3	74	49.3
Time of irrigation application				
Spring (irrigation before flowering)	150	100.0	136	90.7
Summer (8 days interval)	150	100.0	136	90.7
Winter (15-20 days interval)	150	100.0	123	82.0

overwhelming majority (94.7%) was aware of autumn season plantation. A vast majority (95.3%) planted mango in spring season while only a few (5.3%) of the respondents transplanted mango in autumn season.

The data given in Table 1 further reveal that the square system of layout was known to all the respondents while rectangular and hexagonal systems were known to majority (67.3%) of respondents. The most adopted system of layout was square system, which was followed by a vast majority (90.7%) of the respondents. The adoption of other two systems of layout was almost nil.

The data presented in Table 1 indicate that a vast majority (82.0 and 90.7%) of the respondents was aware of size of planting pit (3 x 3 x 3 feet) and refilling

majority (95.3%) of the respondents was aware of the recommendations of plant-to-plant distance i.e. 35-40 feet in case of Anwar Retool, Dusehri and Malda and 40-45 feet in case of Sindhri Fajri, Langra and Samar Bahisht Chaunsa. While only about half of the respondents had adopted recommendations in both cases.

The data about irrigation application reveal that in general the respondents were aware of and had applied irrigation according to the seasonal requirements. The awareness percentage regarding spring, summer and winter irrigation application was 100.0%. The adoption percentage was 90.7% in spring and summer seasons and 82.0% in case of winter.

Table 2. Awareness and adoption status of respondents regarding recommended Manures/Fertilizers, micro-nutrients and their time of application

Manures/Fertilizers		Awareness		Adoption	
		No.	%	No.	%
Farm Yard Manure (well rotted)					
Plant age (years) Dose (kg/plant)					
2	5	150	100.0	129	86.0
4	15	150	100.0	129	86.0
8	40	150	100.0	129	86.0
10	50	150	100.0	129	86.0
Above 10	60	150	100.0	129	86.0
Chemical fertilizers					
Urea					
Plant age (years) Dose (kg/plant)					
2	0.2	150	100.0	115	76.7
4	0.6	150	100.0	115	76.7
8	1.8	150	100.0	115	76.7
10	2.0	150	100.0	115	76.7
Above 10	3.0	150	100.0	108	72.0
Triple super phosphate					
Plant age (years) Dose (kg/plant)					
2	0.1	150	100.0	63	42.0
4	0.3	150	100.0	63	42.0
8	0.8	150	100.0	56	37.3
10	1.0	150	100.0	63	42.0
Above 10	3.0	150	100.0	63	42.0
Potashium sulphate					
Plant age (years)	**Dose (kg/plant)**				
2	0.1	150	100.0	49	32.7
4	0.4	150	100.0	49	32.7
8	0.8	150	100.0	49	32.7
10	1.0	150	100.0	49	32.7
Above 10	1.25	150	100.0	49	32.7
Time of application of Farm Yard Manure					
Full dose during December and January		150	100.0	136	90.7
Time of application of Chemical fertilizers **Nitrogen**					
1/3 before flowering (February)		150	100.0	137	91.3
1/3 at fruiting stage (April)		150	100.0	137	91.3
1/3 after harvesting (August-September)		150	100.0	137	91.3
Phosphorus					
Full dose during December and January		150	100.0	91	60.7
Potash					
Full dose during December and January		143	95.3	70	46.7
Application of Micronutrients					
Micronutrients Dose (kg/plant)					
Zn	0.2	150	100	116	77.3
Mn	0.1	109	72.7	6	4.0
Cu	0.15	109	72.7	6	4.0
B	0.1	109	72.7	6	4.0
Fe	0.2	109	72.7	6	4.0

The data presented in Table 2 show that all the respondents were aware of recommended doses of FYM for mango plants of different age groups and 86.0% of them had adopted the recommendations. The above research findings are almost similar to those of Anwar (1976) who concluded that FYM was used by 84.62% of the respondents. The data also reveal that all the respondents were aware of recommended doses of chemical fertilizers (urea, triple super phosphate and potashium sulphate) for mango plants of different age groups. About three-fourths respondents had adopted urea, more or less 40% had adopted triple super phosphate, and about one-third respondents had adopted potashium sulphate according to the recommendations. It implies that adoption of urea was higher as compared to other chemical fertilizers. There existed a big adoption gap in case of phosphatic and potashic fertilizers.

The data given in Table 2 further show that all the respondents were aware of application time of FYM and chemical fertilizer except potash, which was known to 95.35%. A vast majority (about 90.0%) of the respondents had adopted FYM and chemical fertilizer (Nitrogen) as per recommendations. However, in case of phosphorus and potash 60.7 and 46.7% of the respondents, respectively had adopted the said fertilizers according to the recommended time. Almost similar results were achieved by Sharif (1990) who concluded that use of Urea and DAP was known to and adopted by majority of the respondents.

Table 2 also reveals that all the respondents were aware of Zn, while a large majority (72.7%) of the respondents was aware of Mn, Cu, B and Fe. A large majority (77.3%) of the respondents had adopted Zn while a negligible number (4.0%) had adopted Mn, Cu, B and Fe. It can be concluded from the above findings that mango growers were much concerned about the use of Zn as a micro-nutrient as compared to other micro-nutrients. Thus a big gap existed with regard to the adoption of these micro-nutrients.

CONCLUSIONS

Samar Bahisht Chaunsa appeared to be the most popular variety followed by Dusehri and Sindhri. A vast majority planted mango in spring season while only a few of the respondents transplanted mango in autumn season. The most adopted system of layout was square system. The adoption of other two systems of layout was almost nil. A vast majority of the respondents was aware of recommended size of planting pit and its refilling. However, only 40.0% of the respondents had adopted the recommended size and 46.0% had adopted the recommendations relating to refilling of planting pit. A vast majority of the respondents was aware of the recommendations of plant-to-plant distance. While only about half (49.3%) of the respondents had adopted recommendations.

All the respondents were aware of recommended doses of FYM and chemical fertilizers for mango plants of different age groups and 86.0% of them had adopted the recommendations regarding FYM while adoption of urea was higher as compared to other chemical fertilizers. There existed a big adoption gap in case of phosphatic and potashic fertilizers. A vast majority of the respondents had adopted FYM and chemical fertilizer (Nitrogen) as per recommendations. However, in case of phosphorus and potash 60.7 and 46.7% of the respondents, respectively had adopted the said fertilizers according to the recommended time. Mango growers were much concerned about the use of Zn as a micro-nutrient as compared to other micro-nutrients and big gap existed with regard to the adoption of these micro-nutrients.

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