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Adoption of Maize *(Zea mays L)* Production Technologies in Karimnagar District of Telangana

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ABSTRACT

The present paper highlights the adoption levels of farmers of maize production technologies in Karimnagar (Telangana). Total 90 farmers were selected for study. High extent of adoption of maize production technologies was observed among the Krishi Viggyan Kendra adopted farmers compared to the non adopted farmers.

Key Words: Adoption, Farmers, Maize, Production technologies.

INTRODUCTION

The full scale application of technologies is considered as adoption. A farmer is to understand, analyze and satisfy before implement of technologies. Technology adoption is a graded process in which a farmer has to pass through different stages like awareness, interest, evaluation, training and adoption. Adoption is a holistic process where in farmer has to understand the intrinsic as well as extrinsic factors effecting the technology adoption. Maize being one of the important crops of Karimnagar district, the study was undertaken to know the adoption level of production technologies of maize by the farmers in KVK adopted villages.

MATERIALS AND METHODS

Ex-post facto research design combined with exploratory type of research design was used as the selected phenomena have already occurred and the researcher had no control over the same. Krishi Vigyan Kendra, Jammikunta (Telangana) along with its 15 adopted villages was selected for the study. A sample of 60 maize growing farmers who were adopting recommended technologies and 30 maize farmers who did adopt production technologies were selected from the KVK adopted villages.

A schedule was developed to know the adoption level of the maize production technologies by the farmers which was measured on 3 point continuum i.e. fully adopted, partially adopted and non adopted with the scores of 3, 2, 1 respectively. Accordingly the respondents were grouped on the basis of percentage.

Table 1. Extent of adoption level of maize production technologies.

Category	KVK adopted farmers (n=60)			Non adopted farmers (n=30)		
	Low (33-55)	Medium (56-78)	High (79-100)	Low (33-55)	Medium (56-78)	High (79-100)
Frequency	18	20	22	16	6	8
Percentage	30.0	33.3	36.7	53.3	20.0	26.7

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RESULTS AND DISCUSSION

It was observed from (Table1) that majority (36.7%) of the KVK adopted farmers had high extent of adoption whereas, majority (53.3%) of the KVK non-adopted farmers had low extent of adoption. The results were in tune with finding of Kharatmol (2006).

The data (Table 2 & 3) indicated that ranks were assigned to all the technologies based on the total score obtained on each technology. The technologies on which the respondents had high extent of adoption were zero tillage, weed management with recommended herbicides, stem borer management with carbofuron granules were ranked 1st followed by providing irrigation at critical stages and stem borer control (2nd), selection of suitable cultivar, optimum time of sowing , optimum seed rate and management of

Table 2. Extent of adoption of maize production technologies by adopted farmers.

Sr. No.	Production technology	Extent of adoption (%)			Mean score	Rank
		Fully adopted	Partially adopted	Not adopted		
1	Proper weeding in the early stages of crop growth, Spraying of atrazine 2.5kg/ha in 500l of water as pre emergence immediately after sowing, application of 5kg carbofuron granules at knee high stage, In zero tillage timely sowing, higher returns due to lesser cost of cultivation, spraying of atrazine @ 2.5kg and paraquat @ 2.5l per hectare after sowing, less water is required as compared with normal maize cultivation and paddy stubbles will be harvested closer to the ground.	100.0	0.0	0.0	3.00	I
2	Providing irrigation at critical stages, spraying of endosulfan @ 2 ml/l of water at 12th and 19th day after sowing.	96.6	0.0	3.4	2.93	II
3	Selection of suitable cultivar, optimum seed rate, timely sowing, application of zinc sulphate.	83.4	16.6	0.0	2.83	III
4	Wilt management with *Trichoderma viridi* 5kg/ha with 250kg FYM at the time of sowing, hybrid seed production.	75.0	16.7	8.3	2.66	IV
5	Soil samples collected up to 15-20cm depth for soil testing, soil test based fertilizer application, Sowing of DHM 117 hybrid developed by ANGRAU.	50.0	25.0	25.0	2.25	V

Table 3. Extent of adoption of maize production technologies by non-adopted farmers.

Sr. No.	Production technology	Extent of adoption			Mean score	Rank
		Fully adopted	Partially adopted	Not adopted		
1	Proper weeding, spraying of atrazine 2.5kg/ha in 500l of water as pre emergence immediately after sowing.	93.3	0.0	6.7	2.86	I
2	Timely sowing.	83.4	16.6	0.0	2.80	II
3	Sowing of DHM 117 maize hybrid developed by ANGRAU, Application of 5kg carbofuron granules at knee high stage, in zero tillage timely sowing, higher returns due to lesser cost of cultivation, spraying of atrazine @ 2.5kg and paraquat @ 2.5l per hectare after sowing, less water is required as compared with normal maize cultivation and paddy stubbles will be harvested closer to the ground.	83.4	8.3	8.3	2.50	III
4	Providing irrigation at critical stages, application of zinc sulphate 50 kg/ha/ year.	66.7	33.3	0.0	2.33	IV
5	Hybrid seed production.	66.7	0.0	33.3	2.30	V
6	Selection of suitable cultivar, spraying of endosulfan @ 2 ml/lt of water at 12th and 19th day after sowing, optimum seed rate, wilt management with application of *Trichoderma viridi* 5kg /ha with 250kg FYM at the time of sowing.	50.0	0.0	50.0	2.00	VI
7	Soil samples collected up to 15-20cm depth for soil testing, Soil test based fertilizer application.	0.0	50.0	50.0	1.50	VII

zinc deficiency (3rd), hybrid seed production, wilt management (4th), soil sample collection, soil test based fertilizer application, usage of DHM 117 hybrid (5th), respectively, whereas, most of the non adopted KVK farmers opt for practices like weed management with recommended herbicides are ranked 1st followed by timely sowing to reduce pest incidence (2nd), stem borer management with carbofuran granules, practicing of zero tillage (3rd), providing irrigations at critical stages, management of zinc deficiency (4th), hybrid seed production (5th), selection of suitable cultivar, optimum seed rate, wilt management (6th), respectively.

KVK adopted farmers in maize crop had high adoption on zero tillage, weed management with herbicides, stem borer management with

carbofuron granules, providing irrigation at critical stages, practicing selection of suitable cultivar, optimum time of sowing, usage of optimum seed rate, management of zinc deficiency, hybrid seed production, wilt management etc. The reasons for high extent of adoption on the above technologies is KVK scientists envisaged the maize farmers by conducing series of trainings, demonstrations by practically involving the adopted farmers. KVK scientists also conducted farmer–scientist interactions, field days and group discussions which facilitated high extent of adoption of the above technologies. In zero tillage, KVK assessed this technology for 2 years and demonstrated in farmers fields with farmer field school approach. Given wide publicity through electronic and print media, publishing booklets, using local cable net work which helped the farmers for high extent of adoption in zero tillage.

Most of the non adopted farmers had high extent of adoption on weed management with herbicides, timely sowing to reduce pest incidence, stem borer management with carbofuron granules, providing irrigation at critical stages, management of zinc deficiency, hybrid seed production etc. The reasons for high extent of adoption on above technologies might be that fellow adopted farmers influenced and motivated the non adopted farmers. Some of the non adopted farmers were also participated in extension activities, electronic and print media also facilitated the non adopted farmers to adopt the above technologies. The non adopted farmers had lowest extent of adoption on soil test based fertilizer application due to lack of awareness, motivation and inspiration.

CONCLUSION

High extent of adoption of maize production technologies was seen among the farmers adopted by the KVK Jammikunta compared to the non adopted farmers. This could be due to the multiplicity of the transfer of technology mechanisms followed by the KVK scientists in the adopted villages especially for the benefit of farmers adopted by the KVK.

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