

Influence on the knowledge of blackgram plantings in the leadership area of Periyar Vijay in Madurai district

ABSTRACT

The World Bank-supported TN IAM (Irrigated Agriculture Modernization) project is a continuation of the IAMWARM (Irrigated Agriculture Modernization, Restoration, and Water Management) project, which has made significant progress and impacts in Tamil Nadu by modernising irrigation infrastructure, improving water use efficiency, increasing agricultural yield and productivity in climate-resistant production systems, and diversifying into high-value crops (WUA). Because the Tamil Nadu Irrigated Agriculture Modernization Project was undertaken at the Tamil Nadu Agricultural University, the Madurai district of Tamil Nadu was purposefully chosen for this research. The primary goal of the research is to measure the respondents' level of knowledge in the studied topic. According to agricultural production technology, it was discovered that 79.00 percent of the beneficiaries are aware of the use of the VBN 6 variety for agriculture. The majority (80.00%) of the beneficiaries were aware (cultural control) of the installation of light traps, crop rotation (77.50%), and planting in the proper season.

Key words: *TN IAM project, Water use efficiency, Crop production, beneficiaries.*

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Introduction

Agriculture is the single greatest user of water in the state, accounting for 75% of total water consumption. Only 14098 tanks out of 40000 are maintained by the Water Resources Department, with the remainder by Panchayat unions. Irrigation through a network of canals, wells, and tanks improves the stability and availability of water for farming and is crucial for agricultural cultivation in parts of the state.

Irrigation covers around 3 million acres of land (54 percent of total agricultural area). An Expert Committee on "Development and Management of Water Resources" observed that bringing additional area into cultivation is unlikely, but the challenge is determining how to bridge the gap in cultivation by reducing demands, implementing effective water management, and implementing modern agricultural techniques (Micro Irrigation etc.) For the development and management of water resources in Tamil Nadu, the Committee suggested Integrated Water Resources Management and the convergence of multiple Departments. This study will be very beneficial to researchers, extension workers, and policymakers in determining the degree to which the technology was embraced by the beneficiaries, as well as reflecting on the project's effect on the farm and household of TN-IAMP recipients.

Materials and methods

The researcher chose to conduct the study in the state of Tamil Nadu, because she belongs to the same state. Due to the Tamil Nadu Irrigated Agriculture Modernization Project, Madurai was chosen as the focus of this research since it is located in Madurai district. Madurai district covers the Ayakot districts of Serumalayar and Sathyar subbasins. Seven taluks make up the Madurai district. The taluks of Madurai North and Vadipati Taluk were chosen from a pool of seven finalists. It was decided to use the intentional sampling approach to pick a sample size of 120 beneficiaries. An interview schedule that had been pre-tested and well-structured was used to gather the data. The interview approach has a higher level of data dependability. Data were evaluated using SPSS software for descriptive statistics and the Karl Pearson correlation coefficient.

Results and Discussion

Knowledge which can be implemented

The results in **Table 1.** showed that, the practice wise knowledge level of TN-IAMP beneficiaries was studied.

Table 1. Distribution of respondents according to their level of expertise in their respective fields of practice (n=120)

S. No	Practices	Knowledge level	
		Number	Percent (%)
I	Crop production technologies		
1.	Land should be free from volunteer plants like dry root rot	76	63.33
2.	land should be with proper drainage facility	91	75.83
3.	Land should be red soil or alluvial soil	108	90.00
4.	Make the land to fine tilth condition	95	79.17
5.	Application of 12.5 t/ha of FYM/coir pith during land preparation	84	70.00
6.	Mid-July to mid-august and mid-January to mid-February is suitable season	88	73.33
7	VBN 6 is the variety used for black gram cultivation	94	79.00
8	Duration of VBN 6 is 65-70 days	120	100.00
9.	Carbendazim and thiram are mostly used chemicals for seed treatment	85	70.83
10	Treat the seeds with carbendazim or thiram @ 2g/kg of seeds 24 hrs before sowing	83	69.17
11	Treat the seeds with <i>pseudomonas fluorescens</i> @ 10 g/kg or <i>trichoderma viride</i> @ 4 g/kg of seeds 24 hrs before sowing	87	72.50

12	Rhizobium is mostly used bio fertilizer for treating seeds	78	65.00
13.	Treat the seeds with rhizobium @ 600 g/ha of seeds required along with 500 ml of rice kanji	79	65.83
14.	Rhizobium and phosphobacteria are bio fertilizer used for basal application	82	68.33
15	In case of seed treatment is not done, 10 packets of rhizobium (2kg/ha) and 10 packets of phosphobacteria (2kg/ha) along with 25 kg of FYM and 25 kg of sand applied before sowing	92	76.67
16.	20 kg/ha seed required	104	86.67
17.	Seed dibbling is method of sowing	67	55.83
18.	45X10 cm is spacing	71	59.17
19.	Application of 5 t/ha of FYM during last ploughing of land preparation	74	61.67
20.	25 kg/ha of nitrogen fertilizer applied as basal	67	55.83
21.	50 kg/ha of phosphorous fertilizer applied as basal	56	46.60
22.	25 kg/ha of potassium fertilizer applied as basal	66	55.00
23.	Pendimethalin and fluchloralin are mostly used pre-emergence herbicides	81	67.50

24.	Spraying of pendimethalin @ 2.5 l/ha or fluchoralin 30% EC @1.5 l/ha at 3 rd or 5 th day after sowing with hand sprayer	81	67.50
25.	Soil digging should be done at 30 th day after sowing to prevent weeds	81	67.50
II	Crop protection technologies		
26.	Sowing should be done in proper season	92	76.60
27.	Crop rotation should be done	93	77.50
28.	Fixation of light traps to attract gram pod borer adult stage	96	80.00
29.	Collect all stages of pest and destroy it	56	46.67
30.	Removal of yellow mosaic virus affected plants from the field to control viral diseases	67	55.83
31.	Fix the pheromone trap @ 12 no/ha to control borer	62	51.67
32.	To control yellow mosaic virus, seed treatment of seeds with imidacloprid @ 5 ml/kg of seeds 24 hrs before sowing	92	76.67
33.	Seed treatment with <i>trichoderma viride</i> @ 4g/kg or <i>pseudomonas fluorescens</i> @ 10 g/kg of seeds to control dry root rot	70	58.33
34.	Spraying of 0.1% carbendazim on plant parts to control dry root rot	67	55.83
35.	Spraying of carbendazim @ 2.5 kg/ha on plant parts to control powdery mildew disease	79	65.83

	Harvest and storage		
36.	Pods turns brown or black with hard seeds inside pods are harvesting indices	94	78.33
37.	Plants are uprooted by hand or cut with sickle at the bottom of the plants	95	79.17
38.	Beating with flexible bamboo stick or by machinery to separation of seeds from harvested plants	92	76.67
39.	Drying of seeds by open sun dry up to 8-9 per cent of moisture content in seeds	86	71.67
40.	Agro moisture meter is instrument used to check moisture content in seeds	59	49.17
41.	Discoloured and broken seeds should be eliminated before grading	77	64.17
42.	Grading is done by sieving the seeds with BSS 7X7 wire mesh sieve	78	65.00
43.	Store the seeds in gunny bags or cloth bags for short term storage (8-9 months) with seed moisture of 8-9 per cent	70	58.33
44	Store the seeds in polyline gunny bags for medium term storage (12-15 months) with seed moisture of 8-9 per cent	78	65.00
45	Store the seeds in polythene bags for long term storage (more than 15 months) with seed moisture of 8 per cent	93	77.50

Crop production technology knowledge level

It could be observed from above Table 1 according to crop production technology aspects reveals that (79.00%) of the beneficiaries possessed knowledge in using VBN 6 variety for cultivation and duration of crop be 65-70 days and maximum number of beneficiaries (90.00%) had knowledge on using alluvial / red soil land and using recommended seed rate of cultivation.

Beneficiaries have an equal level of knowledge (70.83%) on recommended chemicals and an average of (70.00%) of beneficiaries have knowledge on land preparation, maintaining recommended seasons (73.33%), bio-fertilizer usage on seed treatment and land preparation (60 – 70%), and recommended spacing (59.17%) on crop production aspects, according to the results of this study.

Crop protection technology expertise

Table 1 presents that crop protection measures beneficiaries have a high level of knowledge, with the majority (80.00 %) possessing information on (cultural control) fixing light traps, crop rotation (77.50 %) and planting in the right season.

The knowledge of biological and chemical pest and disease management is held by between 55 and 76% of beneficiaries, depending on the distribution.

How well you understand harvesting and storing

Most beneficiaries (78.33 %) were aware of harvest indices (the colors changes from brown to black), harvesting techniques (79.17 %), and processing (76.67 %). This can be shown in Table 1. (Separation of seeds and drying).

Conclusion

The project's achievements and lessons learned must be frequently communicated with black gramme producers through publications, websites, newsletters, and mass media. The research found that farmers, scientists, and extension workers have been increasing adoption levels to benefit TN-IAMP

recipients. For a beneficial effect, these links must be reinforced and maintained. 80% of TN-IAMP black gramme producers were middle level information seekers. Trainings, demos, and publications are major information sources. Thus, interventions on these factors must be sustained and enhanced to benefit all project black gramme producers.

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