ADOPTION OF VPLC-880 FERTILIZER MIXTURE AMONG TEA SMALL HOLDERS IN MATARA DISTRICT OF SR! LANKA



P. NELKA RAJANI

EU/1S/2002/AG/36





228

FACULTY OF AGRICULTURE EASTERN UNIVERSITY SRI LANKA 2007

ABSTRACT

Around 397,000 tea small holders are engaged in cultivation of tea covering approximately 400,000 holdings in 14 administrative districts in the island. As in previous years, the tea sector continued to dominate and contributed 65% of total tea production in 2005 due to both greater land area used as well as higher yields. Small holding sector hold 45% of the area under tea plantation. The average yield in the small holder sector was 1,867kg/ha in comparison to 1,358kg/ha in the estate sector in 2005.

The Tea Research Institute introduced new fertilizer recommendation for mature tea in 2000. However; the adoption of this new fertilizer mixture by the respondents is poor. The major objectives of this study to determine the level of adoption of the newly recommended fertilizer mixture and to assess the influence of attitudes towards the recommendations on the selection of fertilizer by the respondents. The method adopted for primary data collection in the study was the survey research through personal interviews using a structured questionnaire. Information related to tea cultivation and fertilizer usage, socio economic characters, land and crop information, attitude of the respondents plant nutrition, information sources, basis of fertilizer selection, credibility of information sources were gathered for a group of 45 respondents selected randomly Pasgoda tea small holdings area. Most of the tea small holders used the old TRI mixture. especially the U709 mixture (66.7%)and T1130. Only 22% used the new TRI mature tea mixture. Resonpondents used attitude about changes in growth of plant, duration of high production and the yield potential as their basis of fertilizer selection.

Majority of the respondents (48.9%) used tea factory as their main information source and 6.7% respondents used TI/EO to obtain information about tea farming. Nearly 30% of respondents received information from both factory and other farmers. About 13% of respondents received information from both factory and TI/EO. Many of the respondents (78%) had medium attitude towards the practical aspects of the new fertilizer mixture and 55.6% of the respondents had high attitudes towards the economic aspects of the new fertilizer mixtures.

The adoption index calculated by using the amount and frequency of use of VPLC-880 and use of urea according to the yield level.

The most important reasons for the low adoption were; low practicability influences the attitude towards the new recommendations. Most frequently mentioned reason for not adopting new fertilizer mixture were interference of tea factory in distribution of fertilizer.

It can be concluded that the knowledge and adoption of the new recommendation were low. Continuous adaptive trials in the region, cost benefit analysis on new fertilizer recommendations, improve the service of the extension officers of TSHDA could be recommended for the increase in the adoption of new fertilizer recommendation.

TABLE OF CONTENTS

	Page No.
Abstract	
Acknowledgement	
Table of contents	V
List of tables	ix
List of figures	
Abbreviations	xi
CHAPTER I INTRODUCTION	
1.1 Background	1
1.2 Historical and geographical perspectives	4
1.3 Tea industry in Sri Lanka	6
1.4 Tea sector and its economic importance to Sri Lanka	8
1.5 Rationale of the study	9
1.6 Objectives of the study	10
CHAPTER 02 LITERATURE REVIEW	
2.1 Tea small holding sector in Sri Lanka	11
2.2 Tea research institute in Sri Lanka	
2.2.1 Future challenges	13
2.3 Fertilizer use in tea cultivation.	14
2.4 Fertilizer and tea quality	15
2.5 Introduction to fertilizer	16
2.6 Basic principles of manuring of tea	18
2.7 Application of fertilizer	18

	2.7.1 Fertilizer Application Rates	19
	2.8 Use of dolomite in tea cultivation	19
	2.9 Changes in fertilizer recommendations for mature tea over the past	20
	2.10 New fertilizer recommendation for mature tea	21
	2.11 Current trends in tea fertilizer application	23
	2.12 Adoption of agricultural innovation	24
	2.12.1 Adoption process	24
	2.12.2 Five stages of adoption	24
	2.12.3 Four factor model of adoption of innovation	25
	2.12.4 Successful implementation of new innovation	25
1	2.12.5 Diffusion of an innovation	26
	2.13 Method of communication in transmission of technology	27
#	2.13.1 Role of communication	29
CHAPTE	CR 3 RESEARCH METHODOLOGY	
	3.1 Description of the study area	30
	3.2 Sampling procedure	31
	3.3 Method of data collection	33
	3,3,1 Primary data collection	33
~	3.3.2 Secondary data collection.	35
*	3.3.3 Pre-testing and interviewing	
	3.4 Development of scale for adoption level	34
	3.5 Data analysis	35

CHAPTER 4 RESULTS AND DISCUSSION

4.1 Socio-economic characteristics of respondents
4.1.1 Age distribution of the respondents
respondents
4.1.2 Income level of therespondents
4.1.3 Educational level of respondents
4.1.4 Experience in tea cultivation
4.2 Tea land size holdings and production
4.3 Fertilizer usage by the respondents in the study
area
4.3.1 Fertilizer mixtures used by the respondents41
42
4.3.2 The level of adoption42
4.4 Basis of selecting fertilizer for mature tea
4.5 Fertilizer suppliers to the small holders
4.6 Soil pH testing and dolomite application
4.7 Foliar application in mature tea
4.8 Soil conservation
4.9 Communication behavior46
4.9.1 Information flow to the small holders47
4.10 Reasons for poor adoption of new fertilizer recommendations
4.11 Attitudes of respondents towards the new fertilizer mixture
4.11.1 Overall attitudes of respondents towards the new mixture
4.12 Relationship between adoption of new fertilizer mixture and