Review on Weed Research with Special Reference to Bangladesh and Malaysia

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PREFACE

Weeds are major pests of crops causing considerable yield loss everywhere. Bangladesh and Malaysia are under tropical regions having the warm and humid climatic conditions, which are favourable for exuberant growth of numerous weeds in the crop fields. Therefore, weeds are the major crop constraints in these countries. To combat these yield constraints a good number of research have been done in the countries. An attempt has been taken to review the research findings on weeds and weed control especially in Bangladesh and Malaysia. The information have been collected from different sources, edited critically and then compiled properly. Research findings (abstracts) on different aspects of weed management in various crops e.g. rice, wheat, jute, mesta, cotton, sugarcane, maize, mungbean, chickpea, mustard, soybean, seasame, potato, tomato, onion, chilli etc. since 1946 especially in Bangladesh have been presented here. Findings in the form of M.S/M.Sc. thesis, journal articles, conference proceedings, news paper articles, annual reports etc. have been included. A keyword index (keyword followed by abstract number) has been added at the end of the book, which will be helpful for the readers to findout the appropriate abstract for use. The book will be useful for all scientists, academicians, post-graduate students, extension workers, policy makes etc. who are interested in weeds and weed management.

S. M. Rezaul Karim
06 February 2012

SYMBOLS AND ABBREVIATIONS USED

Symbol/ Abbreviation	Explanation
@	At the rate of
2,4-D	2, 4-dichloro phenolic acetic acid
a.i.	Active ingredient
AEZ	Agro Ecological Zone
BARI	Bangladesh Agricultural Research Institute
BAU	Bangladesh Agricultural University
BINA	Bangladesh Institute of Nuclear Agriculture
BL	Broad leaf
BRRI	Bangladesh Rice Research Institute
CGR	Crop Growth Rate
CHT	Chinese Hand Tractor
CSWC	Comprehensive Study on Weed Control
DAP	Days After Planting
DAS	Days After Sowing
DAT	Days After Transplant
DSR	Direct-seeded Rice
DWR	Deep Water Rice
EC	Emulsifiable Concentrate
EPAU	East Pakistan Agricultural University
EPSP	5-enolpyruvylshikimate 3-phosphate synthase gene
G or GR	Grannular
g/l	Gram per litre
GC	Gas Chromatography

Symbol/ Abbreviation	Explanation
GGT	Gamma glutamyl transpeptidase
GR	Growth Rate
HW	Hand weeding
IRRI	International Rice Research Institute
JRW	Japanese Rice Weeder
Kg	Kilogram
L/ha	Litre per hectare
LAI	Leaf Area Index
LIV	Low Improved Variety
MARDI	Malaysian Agricultural Research and Development Institute
MP	Muriate of Potash
MV	Modern Variety
NAR	Net Assimilation Rate
NPK	Nitrogen Phosphorus and Potash
OBFP	Old Brahmaputra Flood Plain
RCBD	Randomized Complete Block Design
RM	Ringgit Malaysia
TDM	Total Dry Matter
TPR	Transplanted Rice
TSP	Triple Super Phosphate
WAE	Week After Emergence
WCE	Weed Control Efficiency
YBJFP	Young Brahmaputra and Jamuna Flood Plain

TABLE OF CONTENTS

CHAPTER I WEED RESEARCH IN BANGLADESH

CHAPTER II WEED RESEARCH IN MALAYSIA

CHAPTER 1
WEED RESEARCH IN BANGLADESH

RICE

0001: Ishaque, M. 1960. CONTROL OF WILD COCK'S COMB *(Celosia argentea)* with 2, 4-D IN FIELDS OF GROWING CORN AND AUS PADDY. *Pak. J. Biol. Agril. Sci.: 17-20.*

An experiment was conducted to find out the effect of different doses of 2, 4-D on rice and corn infested with Cock's comb weed. The results indicated that an application of 2, 4-D @1 lb acid equivalent in 100 gallons of water per acre gives very good control of the the weed in fields of growing corn and aus paddy. Application of this amount of 2, 4-D was not injurious to aus paddy or corn plants and by controlling only the wild Cock's comb weed (using 2, 4-D) the yield of paddy was increased. The herbicide, 2, 4-D at this rate does not kill the grass weeds, which should be removed by hand weeding. But at times when the fields remain wet for long periods and hand weeding is not possible, at least Cock's comb (thanthane) plants can easily be controlled by application of 1 1b 2, 4-D a.e in 100 gallons of water per acre, whereby the growing paddy or corn plants can be freed from competition of this kind of fast growing and, therefore, suffocation weeds.

0002: Alim, A.; Zaman, S. M. H.; Sen, J. L; Ullah, M. T. and Choudhury, M. A. 1962. WEEDING VS. NO WEEDING. REVIEW OF HALF A CENTURY OF RICE RESEARCH IN EAST-PAKISTAN. *Agril. Expt. Stat., E. Pak., Tejgaon, Dacca. pp. 22-23.*

To determine economical practice of weeding and raking an experiment