



EFFECT OF WEED CONTROL PRACTICES ON SEED YIELD AND STOVER YIELD OF FODDER MAIZE (*ZEAMAYS*L.)

Sade Gowtham and Mayur Gopinath Thalkar*

School of Agriculture, Lovely Professional University, Punjab, India.

Abstract

Research had been conducted in the year 2019-20 on the farm of Agronomy in the Lovely Professional university, the field trial permitted “Effect of weed control practices on weeds, growth and seed yield of fodder maize (*Zea mays* L.)” was conducted. It was lay out three times in Randomized Block plan, with replicated nine weed control action. The action consisted of a single request of atrazine (1.0kg / ha), pendimethaline (1.0kg / ha) & 2, 4-D (0.5kg/ha), atrazine (1.0kg / ha) followed by 2, 4-D (0.5kg / ha), pendimethaline (1.0kg / ha) track by 2, 4-D (0.5kg / ha) accompanied by manual prepare viz. incorporation. Atrazine (1.0kg / ha) + hand weaving (30 DAS), pendimethalin (1.0kg / ha) + hand weaving (30 DAS); compared with hand weeding and weed check. The dominant monotype weeds were in the experimental area, *Echinochloa colona* (21.84 percent) and *Cyperus rotundus* and *Digitaria sanguinalis*, while dicots included *Eclipta alba* and *Phyllanthus niruri* (17.98 percent). Weedy test plots that did not provide hoe manage had advanced hoe bulk than herbicide action. Under hand weeding, the weed was minimum at 30 and 60 DAS. Among herbicide treatments, atrazine 1.0 kg / ha + hand prepare (at 30 DAS) has been the mainly useful to some degree in scheming dicot & monocot weeds. The weed control output of 98.30 percent was noted in hand weed action at DAS 60 due to the lowly production of prepare biomass and excelled in all herbicide treatments. Hand weeding treatment had better yield attributing characteristics The maximum yield of grain and stover was establish in give weed twice, but amid herbicide treatments atrazine (1.0kg / ha) + hand weeding (at 30DAS) was most successful and herbicide action overall considered superior.

Key words: fodder maize, herbicide, weed control, yield attributing characters, grain yield and weed biomass

Introduction

Maize is one of the world’s mainly accepted cereal harvest, both as grain and as oil crops and is called a cereal queen. Maize grain are worn for person expenditure, meat, livestock feed, the manufacture of edible oil as well as the starch and glucose industries. In India, maize is educated in an region of 8.7 mill hectares by a yearly manufacture of 22.30 mill tons n a standard output of 2470 kg / ha, considerably below the national production. Madhya Pradesh is one of Germany’s leading nations, responsible for 0.904 million hectares and 1, 47 million tons and output, comprising 10.07% and 6.25% of the country’s overall region and revenue respectively. The mean state maize yield is 1256 kg / ha. Maize forage varieties are mostly shy-seeders and have poor seed yield capacity. While, as in the case of grain maize, sufficient attention has not been paid seriously to manage the

production and supply of forage maize seeds. In general, ultimately the farmers do not find any specific program for seed production of forage. Good fodder maize seeds are scarce. To meet seed demand, it is essential that fitting agro-methods be developed to increase the manufacture of search maize seeds. It is typically grown as a *Kharif* crop, and follows a number of different ecotypes of weed plants. The extent of weed loss depends largely on prepare flora composition, time of crop-weed struggle & its severity. The seasonal weed opposition is causing significant wounded in maize yields (Dalley *et al.*, 2006). Worldwide surrender wounded are projected to be around 37 per cent in maize due to weeds.

Based on the above facts, this inquiry was suggested for the following purposes:-

1. To study associate weed flora.
2. Defining effective weed control methods in Fodder Maize.

***Author for correspondence** : E-mail : mayur.21028@ipu.co.in

3. To determine the result of various action on the increase restriction of fodder maize & seed defer.

Materials and Methods

The field work “Effect of Weed Control Techniques on Weed Growth and Seed Yield from Fodder Maize (*Zea mays* L.)” took place on the college of Lovely expert throughout in 2019 *Kharif* season. This chapter outlines the specifics of the objects, processes and strategies used throughout this analysis.

Experimental details:

Year of experimentation	: 2019
Sowing time	: June
No of treatments	: 09
No of replication	: 03
Total No plots	: 27
Per plot size	: 5m × 3m
Experimental design	: Randomized Block design
Crop	: maize (<i>Zea mays</i> L.)
Seed variety	: Veer 006
Area needed	: 460 Meter Square
Raw to row spacing	: 40 cm

Statistical analysis

The observations measured our estimated for all parameters with two factors and three replications were statistically analyzed by using OPSTAT software for two factor analysis.

Results and Discussion

Effect on yield attributing characters of maize

The different actions for weed organize have made seeds per cob significantly varied between cob and cob attributes, and the data have been presented in table. Yet the cobs were not all plant there were significant variations between both therapies. For the weeding of hands twice, seeds per cob, cob length & cob load were higher than in other therapies. Excellent maize growth and production in a weed less environment may result in greater cob length, cob circle and cob weight, seed per cob, than other treatments during the critical crop growth cycle. relevance of atrazine (1.0 kg / ha) + hand-weaving at 30 DAS was present in the atrazine (1.0 kg / ha) contrasted with atrazine (1.0 kg / ha), pendimethaline (1.0 kg / ha) and 2, 4-D (0.5 kg / ha) per cob (1.0 Kg / ha) alone). Hawaldar & Agasimani (2012) & Patel *et al.*, (2005) account alike outcome.

Influence of weed control treatments on seed yield, stover yield, harvest index, weed index

Seed yield and Stover yield

The result of a dynamic process depends not only on the hereditary component of the yield foliage but also on the manufacture skill employed for crop yields under a particular treatment. Weed have complete substantial break to the harvest, based on the related plant types, their prevalence and length of field plant rivalry and so on. The seed and feeder rates were lowest in areas where the weed control measures were not taken by the plant payable to harsh prepare rivalry until the end of the critical

Details of treatments

Details of the Treatments	Time of application
T1 Atrazine 1.0kg/ha	Pre- emergence
T2 Pendimethalin 1.0kg/ha	Pre- emergence
T3 2,4-D (Ethyl ester) 0.5kg/ha	Post- emergence
T4 Atrazine 1.0kg/ha fb 2,4-D (Ethyl ester) 0.5kg/ha	Pre& post emergence
T5 Pendimethalin 1.0kg/ha fb 2,4-D (Ethyl ester) 0.5kg/ha	Pre& post-emergence
T6 Atrazine 1.0kg/ha + Hand weeding (30 DAS)	Pre-emergence
T7 Pendimethalin 1.0kg/ha + Hand weeding (30DAS)	Pre- emergence
T8 Hand weeding	30 and 60 DAS
T9 Weedy check	--

Table 1: Details of treatments for weed control in maize crop.

Layout of experiment				
R1		R2		R3
T1	lm	T3	lm	T9
T2		T5		T4
T3		T7		T1
T4		T9		T3
T5		T2		T7
T6		T8		T5
T7		T4		T8
T8		T6		T2
T9		T1		T6

Table 2: Seed yield and Stover yield.

Treatment	Seed yield	Stover yield	Harvest index	Weed index
T1- Atrazine 1.0kg/ha	2,243.120	16,278.21	12.507	24.74
T2- Pendimethalin 1.0kg/ha	2,132.240	15,298.23	12.160	27.41
T3- 2,4-D EE 0.5kg/ha	1,926.220	14,098.54	11.180	42.41
T4- Atrazine 1.0kg/ha fb 2,4-D EE 0.5kg/ha	2,486.460	18,261.34	12.860	18.45
T5- Pendimethalin 1.0kg/ha fb 2,4-D EE 1.0kg/ha	2,732.540	18,162.48	12.660	20.21
T6- Atrazine 1.0kg/ha + Hand Weeding (30 DAS)	3,127.250	20,182.32	13.360	4.02
T7- Pendimethalin 1.0kg/ha + Hand Weeding (30DAS)	3,028.440	20,161.88	13.160	8.61
T8- Hand weeding (30 & 60 DAS)	3,216.880	20,198.55	13.860	0.00
T9. Weedy check	1,368.640	11,263.62	9.120	58.22
C.D.	2.609	18.039	0.196	-
SE(m)	0.863	5.966	0.065	-
SE(d)	1.220	8.437	0.092	-
C.V.	0.061	0.060	0.987	-

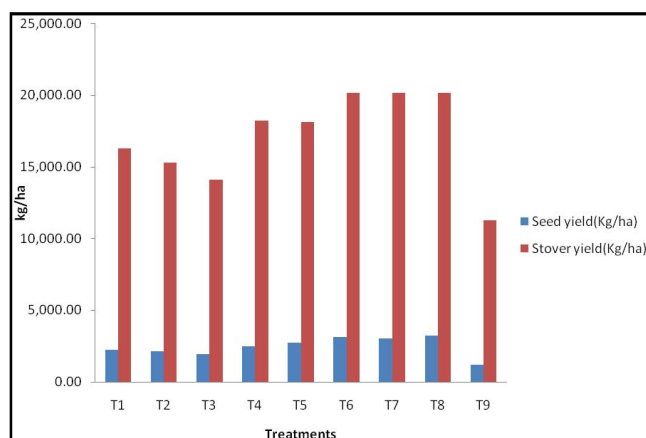


Fig. 1: Seed yield and Stover yield.

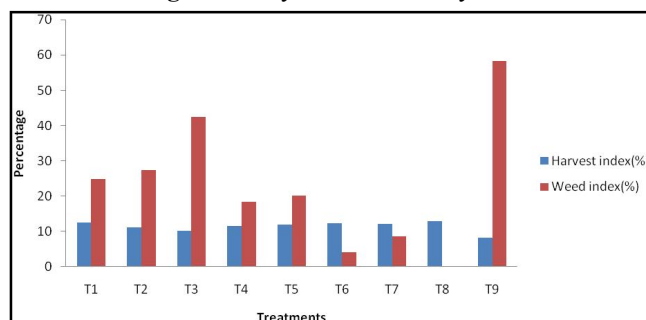


Fig. 2: Harvest index and Weed index.

growing time. Twice in manual weeding accompanied by atrazine (1.0 kg / h), + hand prepare with 30 DAS equivalent to pendimethalin (1.0 kg / h) + hand weeding with 30 DA in comparability with other treatments is obtained the maximum yield of seed and bowl. Sanodiya et al. Malviya and Singh (2007). (2013) published similar findings.

Harvest index

The yield indicator (the ratio of profitable defer to organic defer) in weedy test plots were low because photosynths were poorly divided into sinks due to the smaller size of the source (assimilatory area). The usage of pre-emergence drugs, such as atrazine, pendimethalin & 2,4-D, indicated a rise in harvests.

The harvest index improved by 2,4-D (12.96 and 12.82%), followed by atrazine and pendimethaline, respectively. The highest index was found to be in twice (13,86%), followed by atrazine (1.0kg / ha) + weeding of the hand at 30DAS and pendimethaline (1.0kg / ha) + weeding of the hand at 30DAS.

Weed index

Weed Index (WI) indicate a decrease in defer in contrast to weed-free plots because of weeds. Data from the weed index shows that the highest decrease in yield (58.29%) was practical in weedy research plots because the prepare were present throughout the crop season

.The emergence of field weeds competes to suppress maize growth and production for nutrients, room and light for the harvest. However, atrazine (1.0kg / ha) and pendimethalin hand weeding decreased (4.01 percent and 8.62 percent)

Conclusion

The following results may be taken from a single season's data

1. In fodder maize, the related weed flora were *Echinochloa colona* (21.84%), *Cyperus rotundus* (21.43%) and *Digitaria sanguinalis* (20.14%) as monocotal weeds. However, as dicot weeds, *Eclipta alba* (18.60%), *Phyllanthus niruri* (17.98 percent). Maize crop had to contend at all stages mainly with these pre-dominant weed flora.
2. Pre-appearance request of atrazine 1.0 kg / ha + hand weed at 30 DAS and pendimethaline 1.0 kg / ha + hand weed at 30 DAS reduced considerably infestations and was most effective to paralyze development.
3. The size parameters such as plant height, stem roundness, LAI and germ crop & stovar crop were maximum with manual weaving, at 30 & 60 DAS twice & accompanied by pre-surfacing atrazine 1, 0 kg / ha+ (at 30 DAS) with total plant height, stem round, LAI crop, and stovar yield.
4. Application of atrazine 1.0kg / ha + 2, 4-D (0.5kg / ha) with NMR (Rs 39079 / ha) and B: ratio C (2.42) was found to be more economically viable.

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