



Effect of planting dates on green fodder yield of maize fodder variety S-2002 under Faisalabad conditions

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Abstract

A field trial was conducted for two years 2016 and 2017, at Agronomy (Forage Production), Section Ayub Agricultural Research Institute, Faisalabad to see the effect of different planting dates on green fodder yield of maize fodder variety S-2002. Four planting dates D-1, 1st July, D-2, 15 July, D-3, 30th July, and D-4, 15 Aug were tested in a plot size of 3m.x 6m. Recommended doses of N, P and irrigations were applied. Lay out of the experiment was randomized complete block design with three repeats. Physical parameters such as final plant height (cm). No of leaves per plant, No of plants per meter square, stem diameter (cm), green fodder yield tons per hectare were recorded. It was revealed from the recorded data that the treatment D-3 (30th July sowing time) gave maximum plant height 218.75 cm, no of plants per meter square (24.7), No of leaves per plant (13.25), stem diameter (2.86 cm) and green fodder yield (54.9 tons per hectare), which is more than all the treatments in the experiment. Based on these observations, this can easily be concluded that by planting maize fodder variety S-2002 in 30th July we can easily achieve maximum green fodder yield.

Keywords: yield, maize, plant, leaves, stem, fodder

Introduction

Maize is important Kharif fodder of Pakistan and is sown in an area of 78% among all other Kharif fodders sown. Fodder crop area of Pakistan is 2.11 million hectare and production is 45.77 million tons. It accounts for 3.2 percent in the value added in agriculture and 0.7 percent of GDP. It is a popular fodder for milch animals. It provides superior and cheap nutrition for prolonged period to the cattle and helps in enhancing milk production. The critical constraint for profitable livestock production in developing countries is related to inadequacy of quality forage which is further being aggravated by increased urbanization and enhanced shifting trend of agriculture towards cash crops which further reduces the area under fodder crops. Moreover in our region, low per acre fodder yield coupled with two important fodder scarcity periods (one during summer and other during winter months), which, further aggravated the fodder availability situations. The result of this study provides information to the farming community for obtaining maximum green fodder yield of maize at different sowing dates. There are various ways to overcome fodder shortage. One of them is growing maize as forage crop. It is grown all over the country and covers 4.8 percent of the total cropped area.

Adequate and regular supply of fodder is essential for development of dairy and livestock. Because of decrease in per acre yield and area under production, fodder supply has become scarce. Urbanization and shift to cash crops reduces the area under fodder crops by about two per cent every decade.

The objective of this study is to determine the effect of different sowing dates for obtaining maximum green fodder yield of maize fodder variety S-2002 under Faisalabad conditions.

Material and Methods

The study was conducted at Agronomy (Forage Production) Section Ayub Research Institute Faisalabad during 2016-2017. The experiment was laid out in randomized complete block design with three replications. Maize fodder was sown in 4 different sowing dates (1st July, 15th July, 30th July and 15th August) in the trial. The size of each plot was 3 x 6m. Maize seed was broadcasted uniformly on each plot after preparation of land. Recommended dose of N, P and irrigations were applied. Data regarding final plant height (cm), No of leaves per plant, No of plants per meter square, Stem diameter (cm), green fodder yield tons per hectare were recorded.

Result and Discussions

It was revealed from the recorded data that in the treatment D-3 (30th July sowing time) gave maximum plant height 218.75 cm, no of plants per meter square (24.7), No of leaves per plant (13.25). stem diameter (2.86cm) and green fodder yield (54.9 tons per hectare), which is more than all the treatments in the experiment.

Plant Height Cm

Plant height (cm) of maize fodder variety S-2002 affected by

different sowing times. Maximum Plant height (cm) was obtained in D-3 (30th July sowing time) 218.75(cm) compared with treatment D-1(1st July sowing time) with lowest plant height (202.75cm) (Table-1).

Leaves / Plant

Leaves per plant of maize fodder variety S-2002 affected by different sowing times. Maximum leaves per plant was obtained in D-3 (30th July sowing time) 13.25 compared with treatment D-2(15th July sowing time) with lowest no of leaves per plant (10.25) (Table:-1).

Plants / Meter Square

Plants per meter square of maize fodder variety S-2002

affected by different sowing times. Maximum plants per meter square was obtained in D-3 (30th July sowing time) 24.7 compared with treatment D-4(15th Aug sowing time) with lowest plants per meter square (24.0) (Table:-1).

Stem Diameter

Stem diameter of maize fodder variety S-2002 affected by different sowing times.

Maximum stem diameter was obtained in D-3 (30th July sowing time) 2.86 cm compared with treatment D-1(1st July sowing time) with lowest stem diameter square (2.75cm) (Table:-1).

Table: 1 Effect of Different Planting Dates on Green Fodder Yield of Maize Variety S-2002

Sowing Dates	Plant Height cm	Leaves /Plant	Plants/Meter Square	Stem Diameter (cm)	Green Fodder Yield(t/ha)
D-1 1 st July	202.25	11.0	24.6	2.75	44.7 c
D-2 15 th July	204.75	10.25	24.2	2.79	50.07 b
D-3 30 th July	218.75	13.25	24.7	2.86	54.9 a
D-4 15 th Aug	208.75	12.0	24.0	2.82	50.4 b

LSD 5% Green Fodder Yield = 3.5443

Table 2: Meteorological data Recorded at Faisalabad. (Plant Physiology Section, AARI, FSD)

Month	Temperature°C				R.H%		Rainfall mm
	Maximum		Minimum		Range	Mean	
	Range	Mean	Range	Mean			
July-2016	32.0-42.2	37.3	22.0-31.5	26.9	40.0-96.0	76.7	154.5
July-2017	32.0-40.5	37.4	22.5-29.5	27.5	44.0-96.0	73.4	111.0
Ave		37.3		27.2		75.0	132.7
August-2016	31.0-39.0	36.2	22.5-29.5	26.8	42.0-92.0	74.2	66.1
August-2017	30.6-40.0	37.4	21.0-29.6	26.9	41.0-92.0	73.1	65.7
Ave		36.8		26.8		73.6	65.9

Data revealed that during the months of July mean maximum temp is 37.3°C and during the months of Aug mean maximum temp is 36.8°C while during the months of July mean minimum temp is 27.2°C and during the months of Aug mean minimum temp is 26.8°C. Relative humidity is 75% during the months of July and 73.6% during the months of Aug. Rain fall is 132.7 mm during July and 65.9mm during Aug.

Conclusion

It was concluded from the trial results that by sowing maize fodder variety S-2002 in 30th July sowing time we can easily get maximum green fodder yield under Faisalabad conditions.

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