



Yield of Crude Protein and Efficiency Use of Nitrogen by Maize under Catchment Area of Penganga River Dist. Nanded

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Abstract: The field experiments were conducted in the catchment area of Penganga river at Himayatnagar Dist. Nanded. During 2020-2021. During the experiment different gradation of Nitrogen (Urea) on treated maize (*Zea- maysl.*) The Yield of green fodder, crude protein yield in Nitrogen Protein and Efficiency in using nitrogen added through fertilizer were measured the gradation used different dosage of nitrogen and studied efficiency use of nitrogen by maize.

Keywords: Maize, Nitrogen Fertilizer, Green Fodder, Crude Protein and Efficiency In Using Nitrogen

I. INTRODUCTION

Maize is one of the most important cereal crop in the world. It is miracle crop. There is no cereal on the earth, which has no immense potentiality.

Maize is almost as ideal forage crop. It is quick growing, high yielding, palatable and nutritious. Relwani, (1979). The Varieties Recommended for fodder production includes such as Africantail, Ganga 10, Ganga Safed etc. Maize is suitable for hay making. Being essentially a crop rich carbohydrates, it makes silage of good quality (Chatterjee and Maiti, 1978). The high yielding fodder crop like maize use chemical fertilizer like nitrogen in different dosage (Control, 30kg/ha, 60kg/ha, 90kg/ha, 120kg/ha). The crude protein yields on control quadrates was 158kg/ha and 121 kg/ha observed during year 2020-2021 respectively. The maximum crude protein yield 493 and 443kg/ha was recorded on the quadrates treated with N 60kg/ha During the year 2020-2021 respectively. This present result were strongly supported by Nelson (1952), Patil 1990. The maximum efficiency of 83.33 & 99.73kg/ha among the fertilizer treated quadrate N 60kg/ha and 30kg/ha during the year 2020-2021 respectively.

II. METHODS AND MATERIAL

The field experiments were conducted at catchment area of Penganga river during 2020-2021. The experiments consist of five fertilizer treatment (gradation method) with two replication was carried out in a RBD (Randomized block design). In summer season land prepared and before sowing fodder crop maize compost 1400kg/ha and F.Y.M. (farm yard manure) added in experimental land area.

Each plot maize sown by hand method and than in vegetative growth influence of fertilizer nitrogen gradation (control 30kg/ha, 60kg/ha, 90kg/ha, 120kg/ha). At different plot and then result obtained differently.

After cutting fodder crop all plotted in maize plant chemical analysis done obtained Nitrogen Percent by Microkheldhal Method. The crude Protein obtained (N x 6.25). After Total Chemical analysis efficiency of nitrogen shown in table.

Table: Yield of crude Protein and efficiency use of nitrogen by maize during the year 2020.

Fertilizer treatment	Yield of crude protein	Gain in yield of CP from additional N	Yield of N protein/6.25 (kg/ha)	Efficiency in using N added through fertilizer (%)
C	158	-	-	-
30	348	190	30.40	10.13
60	493	335	53.60	89.33



90	445	287	45.92	51.02
120	401	243	38.88	32.48

Table: Yield of crude protein and efficiency use of nitrogen by maize during the year 2021

Fertilizer treatment	Yield of crude protein	Gain in yield of CP from additional N	Yield of N protein/6.25 (kg/ha)	Efficiency in using N added through fertilizer (%)
C	121	-	-	-
30	308	187	29.92	99.73
60	443	332	51.52	85.87
90	364	243	38.88	43.20
120	315	194	31.04	25.87

III. RESULT AND DISCUSSION

Application of Different chemical fertilizer (Control,) (30kg/ha,60kg/ha,90kg/ha,120kg/ha). Nitrogen Recorded 2020-2021.

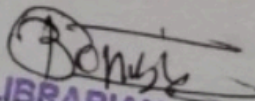
In 2020 Nitrogen dosages 60kg/ha was beneficial because maximum crude protein 493kg/ha obtained but effect of excess dosage 120kg/ha no so much effective above experiment that is 120kg/ha not beneficial and also maximum efficiency recorded 89.33% same dosages 60kg/ha Nitrogen fertilizer.

In 2021 60kg/ha Nitrogen gradation beneficial because 443kg/ha crude protein recorded also maximum efficiency occurred 99.73% the fertilizer dosages supplied 30kg/ha.

Due to changing atmosphere, rainfall and temperature above field experiment got different result in crude protein efficiency. The above result shows that excess nitrogen get decrease yield of non-legume fodder crop maize

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