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CROPING AND FUTRE PROSPECTUS OF PERENNIAL FODDER IMPACT ON DIFFERENT PLANTING DATE

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Abstract
Timely cultivation is necessary for getting more yield and enhance establishment of trait to the climate situation. The experiment was done from 2023 -2024 in Bhadudeen Zakarya Unversitv Multan. The experiment occurs with various three sowing time . The early sowing of nipper grass was 1st July , and Mott grass was cultivate in the month of 20 July ,and rodh grass was planted 1st august 2023.Napier grass emerge out better in early July and late sowing decrease the sprouting . More leaf area and tiller were emerging out early time Napier grass. In treatment T1 leaf area was 2.84 feet, no of tiller emerge out 14, fresh weight was 755 mond per ha, dry matter was 6.31,crude protein was 6.55, crude fiber 4.55. In treatment T3 leaf area per plant was 0.83, no of tiller emerge out 16.74, fresh weight mond per ha was 471 ,dry matter was 3.92, crude protein 3.59 and crude fiber 2.82 .Timely sowing of grass have more leaf area as compared to the late sowing similarly fresh weight was also more in 1st July grass early time
as compared to the late sowing. More fresh weight more will be dry matter in early sowing than the late sowing. more crude protein in 1st July than the late sowing . More production

INTRODUCTION

Traditionally grass is is used as food for animals . Natural grass is very fitness and digestible have more nutrients , vitamin as well as inexpensive and high quality in the country . present our country has facing problem decrease in thirty six percent in fresh grass, towel percent crop damage and forty four percent direct eat and get quantity of residues by the crop yield (Anon., 2016). Application of heavy machinery for harvesting grass and remaining residues are fired ,no grass for eating the animals (Hindoriya et al. 2019). However low amount of grass suited and heavy price of grass enhance continuously rearing of live stock is a main issue, balance diet, grows fresh fodder to enhance the production of green grass (Kumar et al. 2017).

In this context we have studied the potentiality of different cereal and legume fodder crops for their yield and quality and discussed in the present paper. Pakistan is gifted by god many type of animals .It is not ju st gave malik meat use of own job that is men and women therefore release the famine of lower investors of animals .It is divided aproxmately 11.5% in national GDP and about 55% regarding agricultural GDP. The numbers of animals (buffaloes, cattle, goats, sheep, asses, camels, horses and mules) is 163.0 million herds in Pakistan (2010-11). The generation of animals exceeds with

in ratio of 4.2% every year and also more demand of grass .Continously require the balance of food to enhance the animals growth. Grasses are the chief and low cast source for animals. Therefore a less available grass is the main source to decrease the generation of animals . Approxmately 2% decrease in grasses in after every ten years in the month of November to janvary and in the may june is hard condition. Recently grasses sowing about 10.3 % of the complete cultivated area of different crop of 22.6 million hectares include in area of Punjab is 82.56%, Sindh 11.50% NWFP 4.48% and Baluchistan 1.46% The land for many grasses approximately as 2.31 million hectares and every year grass yield is 51.92 million tons. The grass yield is 22.5 t ha-1 (Agri 2009-10), that is very less to faciltate the animals generation in Pakistan . The shortage about is 15-30% need in the form of grass that is very low as requirement of protein..

Mostly in Pakistan two types of animals farms found that is one eat grass and another animals traveled from hilly area pasture from bank of canal and feed from naked area ,eat leaves of different crop

In Pakistan two forms are occure in village animals which are depend on the grasses and other big colonies of animals come from hilly areas and eat food from canal bank and open area and leaf of different trees is a summer-growing, stoloniferous perennial grass. It is an important multicut and multi-tillering annual fodder. Rhodes grass is adapted to a wide range of soils, from infertile sands to fertile clays. In Pakistan, fodder production is very important because the fodder is a basic source of energy utilized for feeding the livestock. It can successfully provide the fodder for animal during the lean period. According to the past studies it can be noted that Rhodes grass is cultivated on

more than 1 lac acres of Sindh, Punjab and some areas of Balochistan, which is utilized for fodder production (Arshad et al., 2014)[1]. Rhodes grass in hay form is very much popular around the globe especially in gulf regions i.e. UAE, Qatar, Oman and KSA. Rhodes grass has high protein value (9 – 12%) and the average water consumption for its production is about 600 mm to 1200 mm. Rhodes grass sowing can be done from March to April and August to September in arid regions of the country where summer comes early. One time sowing of Rhodes grass will give the production to the growers for about 3-4 years (Arshad, 2012) . There are five main types of Rhodes grass varieties i.e. Pioneer, Katambora, Finecut, Callide, and Topcut but among all Finecut is most popular variety. Finecut is popular because of its productive yield. Seed variety is the most important input that contributes to the yield, growth and to the quality improvement of the annual fodder plants. It has been observed from past studies that Rhodes grass Finecut and Katambora responded well to nitrogen fertilizer after a basic pre-plant phosphorous application (Rahman et al., 2007) [3].

The fibre components continued to increase significantly in Mott grass whole plant and its morphological factions with advancing plant age and nitrogen application. Maximum values were observed in stem followed by whole plant and leaf. It was concluded that Mott grass should be cut preferably between 4560 days of age to obtain more nutritious and digestible feed for livestock. Keywords: Mott grass; growth; neutral detergent fibre; acid detergent fibre (2001) Mott grass (Pennisetum purpureum) has relatively low buffering capacity and low concentrations of fermentable carbohydrates. Therefore, pH decline .

Muhammad islam etal (2017) Agriculture is a primary the source of income growing and enlargement in pakistan. It consist of 25.6 % to GDP and and animals distributed about 55.9 % to the agricultural use (Govt. of Pakistan, 2013-14).

Napier grass (*Pennisetum purpureum*) has turn out the promising nutritious forage to the livestock on the sustainable basis, feedstock for biofuel and also has proven to be environmental friendly. The purpose of this study is to assess the biomass production of mott grass and its capability to sequester Carbon from the environment in the barani areas of Pothwar region in Pakistan.shiza shahzadi 2021

YenTonga etal (2017).

Material and Method

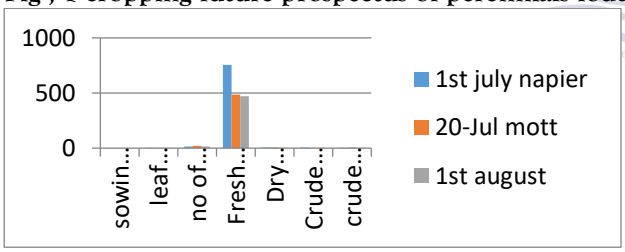
This experiment was conducted to determine the response of yield under different doses of fertilizers. The field experiment was accomplished with thrice replicates having net plot size of 2.4m ×6m was carried out in a Randomized Complete Block Design

with factorial arrangement. This field trial was conducted in the agricultural research area of the Institute of Agronomy Bahauddin University of Multan. The trial was comprised of two factors A and B), contains Perennial Fodders F1= Napier grass F2= Mott grass , F3 : =Rhodes grass . Staggered Planting time S=:1st week of July S2 =:3rd week of July S3=:2nd week of august .Irrigation was applied after 15 days of interval; flood irrigation is followed for this purpose. Using the standard procedure, components of yield were collected, and data was collected.

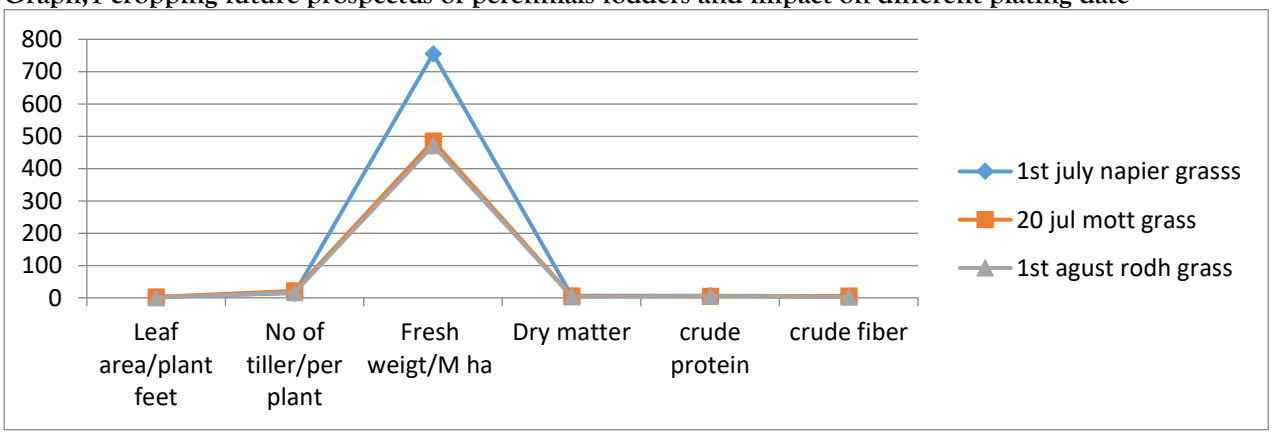
Table :1 cropping grand mean future prospectus of perennials fodders and impact on different plating date

Treatment Sowing time	Leaf Area per Plant feet	No of Tiller	Fresh Weight mond per ha	Fresh forage yield	Dry matter	Crude protein	Crude fiber
Ist july Napier grass	Grand mean 2.84	Grand mean 14	Grand mean 755	Grand mean 436	Grand mean 6.31	Grand mean 6.55	Grand mean 4.55
20 july Mott grass	Grand mean 2.84	Grand mean 21.44	Grand mean 485	Grand mean 342	Grand mean 5.38	Grand mean 4.57	Grand mean 5.52
1st august Rodh Grass	Grand mean 0.83	Grand mean 16.74	Grand mean 471	Grand mean 175.6	Grand mean 3.92	Grand mean 3.89	Grand mean 2.82

Fig ; 1 cropping future prospectus of perennials fodders and impact on different plating date



Graph;1 cropping future prospectus of perennials fodders and impact on different plating date



Results and discussion

Leaves per plant

The leaf area per plant revelry huge percentage in the he leaves per plant (LPP) play a considerable part in the final productivity as it significantly effects the leaf area which in turn affects the dry matter production. The results showed that sowing time and varieties had significant impact of LPP, moreover, interaction of sowing time and varieties also had significant impact on the LPP as shown in (Table 1)

The maximum LPP was seen in T1 in Npier grass max 2.84 while minimum LPP in T3 0.83 was observe in (Table 1). Three different grasses in which have a great more leaf area was noted in nippier grass and impact of cultivation time of grasses is more as shown in fig 1 . Every grass has its own genetic character. More Leaves get high assimilation yield as compared to the mott and rodh grass. Encompassing leaf area in nipper more will be the bio mass yield (Elegendra.E velila etal ;2020). Communicate with other grass verities is not better due to different genetic behaviour ,moreover involvement in different taint time and variety was more effective . Napier grass explored glaring with paramount leaves in reciprocity in rodh grass. Slightest leaves area was discern in rodh fodder . it is infrequently appraise that extortionate embryonic in napier grass (Getiso Aman etal ;2021).

Fresh weight

The maximum FWPP (2.40 g) was noted in S1F1, minimum FWPP(1.82 g) was noted in crop grown rodhe (Table 4.6), which is clearly detected. According to the research of the (**Taylor D Denman etal ;(2021)**).At the same time as optimum planting densities ensured the better utilization of resources along with better adjusts production which guaranteed the production of heighted plants with more fresh weight. All perrinals grass cultivar also acted different for the FWPP and variety napier produced more FWPP due to maximum leafs per plant which leads to substantial increase in plant weight (**De Sarwanto etal ;** (2019). These results comply with the observations of (**Getiso Aman etal ;(2021)**). Who reported that the most important stage of maturity is the prediction of fresh forage yield. Besides, the forage's maturity stage also has significant interaction with its digestibility..Napier max processed the high weight of the fodder fresh yield as compared to the other varieties of perinals grass with sowing time .

fresh forage yield (t ha^{-1})

study shows that fresh forage yield is adore by plant time and cultivar as shown in table 1.The observation exposes that timely cuiltivation verdict had great impact on frsh forage yield as shown in fig 1. Fresh yield was noted by assembled end results straight connected with the observation (Abadouz et al; 2010; al Mustafa et al 2017) . Therefore production increased by variety of genetic modification liable for better aptitude yield of fresh forage yield . the observation is described by as (Prsd and Brook 2005). The experiment show that enhanced in the grass population in relation to fresh forage yield.

Dry matter yield (t ha^{-1})

The results related to dry matter yield (t ha^{-1}) under the influence of the sowing time are shown in Table (1) The interaction among the sowing time and varieties were observed highly significant. It is shown in table.

The results related todry matter yield as pretentious by sowing time and varieties are given in (Table 4.9). The results showed that sowing time and cultivars had significant impact on dry matter yield, The maximum dry matter yield (7.65 t ha^{-1}) was noted in S1F1 and dry matter yield (4.20 t ha^{-1}), minimum was recorded in F_4 (Table 4.9). Among accessions maximum dry matter yield (4.65 t ha^{-1}) was noticed in napier max gained minimum dry matter yield 4.20 t ha^{-1}). At sowing time there is less competition between the plants which favors better plant height, leaves and stems per/plant and plant weight and therefore leads to substantial increase in the forage yield It is obviously the confirmed results as the observed results of (Katrina Gillett; (2011) . The considerable variations amongst accessions contributes towards for efficient dry matter yield (Y NA ALLAH ETAL(2019)).

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The results related todry matter yield as sowing time and varieties are given in (Table 4.9). The results show that sowing time and cultivars had significant impact on dry matter yield, The maximum dry matter yield (108 m ha^{-1}) was noted in and dry matter yield (0.18 t ha^{-1}), minimum was recorded in F_4 (Table 4.9). Among accessions maximum dry matter yield (0.56 t ha^{-1}) was noticed in lucerne max with F_2 fertilizer dose and Sardi -10 gained minimum dry matter yield (0.18 t ha^{-1}). The supreme dry matter yield was recorded in F_2 compared to rest of fertilizer doses (Table 4.9). At the time sowing there is less competition between the plants which favors better plant height, leaves and stems per/plant and plant weight and therefore leads to substantial increase in the forage yield It is obviously the confirmed results as the observed results of (M Q Bilal 2008). Dry matter intake (DMI) ranged from 9.46 to 10,08 kg/day. Maximum intake was in cows fed matt grass in green form supplemented with molasses and minimum in those fed silage ensiled with molasses. Dry matter intake as a percent body weight ranged from 2.69 to 2.80. The considerable variations amongst accessions contributes towards for efficient dry matter yield (Wayu and Atsbha, 2019).

Protein

The highest protein 6.55 ain Napier grass was seen and lowest scared protein 3.89 in rodh grass was noted as shown in table 1 . At suitable time plantation pronounced effect on the protein because of greater photosynthesis quality explained by (Arshad etal 2012). Different new line also had great effect on protein .napier grass have more ability to produce protein serenity amount in leaf. Leaves are good meticulous genesis of protein and highest leafs are liable to produce more gratified protein (Katrina Gillett; (2011) .

Crude Fibber

The maximum crude fibber percentage (4.55%) was recorded in max after that minimum crude fiber content (3.40%) was recorded in rodhe grass (table 1). Therefore influencing of cultivation time and variety had great role on crude fibre contents as shown in fig 1. Crude fibre contents are less in prompt phase of development nippier grass while enhance as in maturing stage described by (Dahmardeh *et al.*,2009). It is clearly descry that s1 effectuate better proficiently than all other verities Napier has top most crude fibre in the observation .

Irrigation was applied after 15 days of interval; flood irrigation is followed for this purpose. Using the standard procedure, components of yield were collected, and data was collected by variance analysis of Fisher's at a 5% probability level.

Sowing time significantly affected the parameters of quality as well as quantity. From 1st july sowing time performed better among the other sowing time The maximum production is achieved from the napier max. According to the results the maximum plant population (41), plant height (3.9) meter, number of stem diameter (5.80) cm, leaves per plant (34), Leaf area per plant(2.4) meter, fresh wight per plant (186) g, dry weight per plant (2.40) g, dry matter yield ton per hectare(120 quntal)are obtained from S1F1. The quality parameters were also influenced by treatment .Crude protein percentage (7.43%), crude fiber percentage (5.9 %), ash percentage (6.90%) were also increased just because of sowing time .

Minimum yield and quality of perrinal grass is obtained from grass, the plant population (17), plant height (2.8) m, number of stem diameter (3.93) cm, leaves per plant (10), fresh wight per plant (162) g, dry weight per plant , (1.82 t ha^{-1}), dry matter yield ton per hectare (4.20 t ha^{-1}),Crude protein percentage (5.20%), crude fiber percentage (3.40%), ash percentage (4.1%).

Cultivars must have the potential to produce the highest yield and qualitative fodder under ecological conditions. presence of the other species uses of the pesticides, climatic changing conditions, harvesting and method of the preservation strongly effected due to poor potential of the cultivars.

The results suggested that for perrinal grass pastures sowing time is essential for, forage quality,improved persistence and higher sustainable productivity,

because sowing times are key component of better production of napier . Fodder crops which are imperative for livestock production systems. It is overall profitable of farming systems, combined with sowing time and perrinal varities resulted in maximum produce. To preserve the quality of plant products for biomass production, follow the sowing time according to the ecological conditions of Faisalabad. It is one of the best methods to practice the different sowing time for environment sustainability and enhance the crop yield.

All the parameters were *statistically* analyzed by Statistix 8.1 for analysis of variance. Throughout the experiment all fertilized plots received equal amount of moisture. During the whole experiment period, significantly higher crop yields were obtained from S1F1 sowing time and varitrty of grass. The study concluded that the timely sowing and napier grass boosted crop yield and growth, improved naper quality content, and better soil physical condition.

Conclusion

Sprouting of seedling and meadow appearance rise scintificallly measurd that timely cultivation of perennials grass had a more effect on yield. Varieties. impact on the production and quality of napier fooder is significant . This study shows that nippier grass get more fresh forage production , dry matter yield , more yield of grass over ecological position of different verities in the study. Napier grass engender topmost in crude protein as well as crude fibber in rudimentary reap. Mainly obtain inflated yield propound 1st week of july is an ideal time for planting of copious verities of biennial grass napier grass should be preferred.

Suggestion

The fodder grass cultivar are advice retrenchment their yield and appropriate time for perennials grass receive proficient consequence**.** It was concluded that timely sowing fodder grass gave more production napier grass sowing first week of july. Conclusions Glancing at the research findings of field trials,

The maximum stems diameter (5.80) was recorded while minimum stems diameter (2.24) cm was recorded in rodhe variety (Table 4.4). Among purposed varieties of napier max and remained at top with maximum stems diameter. Competition between the plants caused a noteworthy difference in production of stem diameter under sowing time. The maximum stems diameter was recorded in napier). The profitable results are as same like (Mohammad and Ayadi 2004). Which is clearly seen in both tables. A verified cultivars also had the substantial differences of stems diameter napier max produced more stems diameter due to its genetically better potentialto produce the stems and better light harvesting and subsequent assimilates production. Earlier different authors also found considerable variations amid cultivars for stem diameter results were same as like (Iptas and Acar, 2003; Kusaksiz, 2010).The research results Fertilizer treatment increased the production, protein, and ash percentage.

Stem diameter

The stem diameter is an important parameter generally the pernial crop stems contain the high digestible fiber which is clearly explained in (Table 4.4). The results showed that both sowing time and varieties had validated impact on stems diameter (Table 4.4 The interaction effect of sowing time and varieties is significant for stems diameter was recorded(Table 4.4), as it is shown in ANOVA table.

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