EVALUATION OF IRON (Fe.) BY ATOMIC ABSORPTION SPECTROMETER OF SOME PALATABLE GRASSES OF MELGHAT TIGER RESERVE, AMRAVATI, MAHARASHTRA STATE.

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Abstract

The study aim to determine the Iron (Fe.) by Atomic Absorption Spectrometer of some palatable grass from Melghat Tiger Reserve, Amravati, Maharashtra State. Early blooming stage and Mature stage leaf and stem of 14 species of grasses are selected from Melghat Tiger Reserve Dist. Amravati Maharashtra State was studied.
Study carried out by the selection of early blooming stage and mature stage of grasses leaf and stem it's shows variation in the Iron (Fe.) content in the early blooming stage and mature stage of grasses leaf and stem..

Key words: *Wild palatable grasses, Iron (Fe.) , Atomic Absorption Spectrometer, Melghat Tiger Reserve , Palatability of grasses.*

Introduction:

The Melghat Tiger Reserve is one of the most important Tiger reserve of Vidarbha region of Maharashtra in, India with 2747 Square Km. area. The Melghat Tiger reserve is divided into five division i) Gugamal wildlife division ii) Melghat wildlife iii)Sipna wildlife division and iv) Akot wildlife division and v) Akola wildlife division

The Melghat Tiger Reserve comprises herbivorous animals like Barking deer's, Spotted deers , Sāmbar , Bison ,Nil gai and omnivorous like sloth Bear. The dominant grasses are Dichantium annulatum (Forssk.) Stapf., Dichantium caricosum (L.) A. Camus., Dichantium pertusum(L.) Clayton., Dichanthim tuberculatum (Hack.) Cope., Themeda quadrivalvis(L.) Kuntze., Themeda triandra Forssk., Heteropogon contortus (L.) Beauv. ex Roem. & Schult.), Chloris virgata Swartz., Chloris gyana Kunth, Cynodon dactylon Roem. & Schult., Eragrostis uniolides(Retz.) Nees ex Steud., Eragrostis viscosa (Retz.) Trin. These grasses shows the association with the wild leguminous plant. The grasslands in Melghat Tiger Reserve are of three types ,taller grasslands, intermediate grasslands and smaller grasslands. On the basis of grasses distribution and composition grasslands are of two types Homogenous grasslands and Heterogeneous grasslands. The soil moisture content of the forest determines the palatability of the grasses.

The mineral is classified as an electrolyte because it's highly reactive in water. When dissolved in water, it produces positively charged ions. This special property allows it to conduct electricity, which is important for many processes throughout the animal body. The body needs many minerals; these are called essential minerals. Essential minerals are sometimes divided up into major minerals (macro-minerals) and trace minerals (micro-minerals). These two groups of minerals are equally important, but trace minerals are needed in smaller amounts than major minerals. The body needs trace minerals in very small amounts. Note that iron is considered to be a trace mineral, although the amount needed is somewhat more than for other micro-minerals.

Iron (Fe.) is the most abundant element (by weight) on Earth, since it makes up most of the Earth's core, and is the fourth most common element in the Earth's crust. However, Fe is considered as a trace- or micro-element in nutrition, since it only makes up approximately 0.004% of the body by weight and is required in only very minute amounts in the diet. Iron was probably the first trace element recognized as important to human nutrition, as its importance in the diet has been known for over 2,000 years.

Iron deficiency in cattle is characterized by loss of appetite, poor growth rate, and lethargy. These symptoms are due to a deficiency of hemoglobin resulting in anemia, which can be diagnosed by a low hematocrit. This is mainly seen in pre-weaned calves, especially ones fed exclusively milk and housed indoors. Iron deficiency in adult cattle is extremely rare since Fe is abundant in the soil and most forage has some degree of soil contamination. The iron requirement for ruminating cattle is thought to be approximately 50 ppm of the diet. The exact level is difficult to determine since most feedstuffs have more than adequate amounts of Fe, with soil contamination and often water adding additional amounts to the diet. Milk-fed calves have a normal growth rate with 50 ppm Fe in the diet, but their muscles are pale due to lower than normal myoglobin. Therefore the requirement for milk-fed calves is believed to be around 100 to 150 ppm in the diet. For swine, the requirement for the piglet is 60 to 80 ppm of the diet, with older animals requiring 30 to 50 ppm Fe. The requirement for poultry is similar to that of swine

The grass vegetation broadly divided into two types depending upon their life-span, Ephemeral vegetation consisting mainly of the grasses that complete the life cycle during rainy season or after rainy season. The species like *Arthraxon lancifolius* Trin., *Arundenella pumila* Hochst. *ex* A.Rich., *Sporobolus diander* (L.) R.Br., *Digitaria ternata* (A. Rich.) Stapf., are the chief components of farmers category. On the contrary the species like *Heteropogon contortus* (L.) P. Beauv. ex Roem.& Schult., *Andropogon pumulus* Roxb., *Chrysopogon fulvus* (Spreng.) Chiov. , *Dichanthium caricosum* (L.) A. Camus., *Setaria intermedia* Roem. & Schult., *Pennisetum pedicellatum* Trin. which form the autumn vegetation are either perennial vegetation forming large tufts.

Grasses belongs to family (Graminae) Poaceae. Poaceae is the largest family of the Monocotyledons in Angiosperms. Grasses are classified into two main parts annual and perennials, palatable and non-palatable. Grasses with more moisture content and less silica content in the upper aerial parts like stem, leaves are considered as the palatable grasses. Grasses with low moisture content and high percentage of silica are considered as non-palatable grasses. On the basis of morphological characters grasses are also classified palatable and non-palatable grasses.

Review of literature

Grass family was recognized by Adanson as early as in 1763 by the name Gramineae which was later on named as Poaceae by Barnhart (1895).

Family Poaceae represented by about 10,300 species belonging to 898 genera (Tzvelev, 1989).

Adeyeye E. I., (2005). Chemical analyzed the macro elements like Ca, K, Mg and Na. from the root, leaves, stem, and fruit of *Zea mays* L., *Corchorus olitorius* L. and *Celosia argentea* L. He observed *Zea mays* L. Mg, K, Na and Ca content 347,285, 472, and 187 ppm in the root, 534, 268, 531 and 169 ppm in the leaves.

Cooke (1901-1908) provided an account of grasses in ‘Flora of the presidency of Bombay’. Gamble (1896) compiled ‘the Bombusaceae of British India’ and ‘Flora of presidency of Madras’ in Fischer (1934) provided account of Madras presidency. An illustrated account of grasses of Bombay was published by Blatter and Mac Cann (1935). Achariyar and Madaliyar (1921) published an account of South Indian grasses

Garg M. R., Bhanderi B. M., Kumar S. S. and Sherasia P. L., (2008). A study was conducted in the hilly zone of Kerala, to assess the status of certain macro and micro- minerals in dairy animals, by analyzing feed and fodder samples. Paddy straw was major dry roughage available for feeding dairy animals and found to be low in Ca 0.11 %, P 0.09%, S 0.11 %, Cu 1.79 ppm and Zn 11.69 ppm. Amongst green fodders, mainly local grasses and hybrid napier were available and found to be good sources of Ca 0.43%, Mg 0.34%, Cu 13.83 ppm, Mn 74.52 ppm and Fe 1379 ppm.

Muratkar G. D. and Kokate U. R. (2012), studied the Taxonomy of Palatable and non palatable grasses of Melghat Tiger Reserve, in this field work the exploration of grasses from Melghat Tiger Reserve with reference to the fodder value of the grasses for wild herbivorous animals of the protected areas of the Melghat Tiger Reserve.

R. Hari Babu and N. Savithramma (2014). Studies on mineral analysis of grasses of Poaceae. The aim of the study is to screen the grasses of South India for mineral nutrition. Ten grass species *Eleusine indica* (L.) Gaertn., *Eragrostis amabilis* (L.) Wight & Arn. ex Nees., *Eragrostiella bifaria* (Vahl) Bor., *Heteropogon contortus* (L.) P.Beauv. ex Roem. & Schult., *Panicum repens* L., *Perotis indica* (L.) Kuntze., *Pycreus flavidus* var., *Setaria pumila* (Poir.) Roem. & Schult. *Sporobolus coromandelianus* (Retzius) Kunth. and *Sporobolus wallichii* Munro ex Trim. were collected from different places of South India, in 2010, authenticated by BSI Coimbatore (Tamil Nadu).To analyzed Ca, K, Mg, P, B, Cu, Fe, Mn, Mo and Zn by Perkin Elmer 7000DV model ICP-OES was used for the determination of elements.

Soni A., Kumar K. and Mathur R., (2014). Study the micro and macro element concentration in different forage grasses viz. *Cenchrus ciliaris* L., *Cenchrus setigerus* Vahl., *Lasiurus sindicus* Henr. and *Pennisetum typholdenum* Pers. The average concentration (% DM) of different macro and micro element in forage grasses analyzed in this study were ranged from 0.19-0.24, 0.19-0.25, 0.79-1.20, 0.35-0.48, 0.078-0.12, and 0.98-

1.11respectively for Sulfur, Phosphorus, Calcium, Magnesium, Sodium and Potassium(macro element) and 218-310, 26-37, 34-52 and 9-28 (µg/gm) respectively for, Iron, Zinc, Manganese, and Copper(micro element).

Material and Method-:

Melghat Tiger Reserve possesses a unique position, the forest is of Mixed Dry Deciduous with dominance of Teak (*Tectona grandis* L). The annual rainfall varies from 1200 – 1400mm , humidity – 67 – 89 % and the temperature range varies from 8˚C – 39˚C and there is various diversity of flora and fauna. The representative sample of grasses species collected from selected areas of Melghat Tiger Reserve especially from Gugamal Wildlife division, Melghat wildlife division and Akot wildlife division. The area/ site selected from different grassland of Melghat Tiger Reserve, the visits are arranged in month of August, September and October of every year of the span of research work.

The regular field visits are arranged in different season, before flowering of grasses and after flowering of grasses. The Collected grasses specimens are Apluda mutica , Chloris barbata , Chloris virgata, Cyanodon dactylon Dicanthium annuulatum , Dicanthium caricosum, Digitaria bicornis (Lam.) , Heteropogon contortus (L.) , Iseilema laxum Hack., Paspalidium flavedium (Retz.) , Setaria pumila (Poir.)Roem, Spodiopogon rhizophorus Trin., Themeda triandra Forssk., Themeda quadrivalvis (L.) Kuntze.These grasses are Selected from core area of Melghat Tiger Reserve are identified by using National flora of Bombay Presidency by T. Cooke, Grasses of Maharashtra by Dr. Potdar and Dr. S. R. Yadav, Flora of Marathawada by Bhuktar and Sardesai, Flora of Nagpur District, Maharashtra by N. R. Ugemuge and Flora of Melghat by Dr. M.A. Dhore.

Sr. No.	Botanical Name	Common Name	Location
1	*Apluda mutica* L.	Motitura	Gullargaht
2	*Chloris barbata* Sw.	Gonde	Vairat
3	*Chloris virgata* Sw.	Gonde	Vairat
4	*Cynodon dactylon* (L). Pers.	Harali	Gullarghat
5	*Dichanthium annulatum* (Forssk.) Stapf.	Lahan Marvel	Gullarghat
6	*Dichanthium caricosum* (L.) A. Camus	Mothi Marvel	Gullarghat
7	*Digitaria bicornis* (Lam.) Roem. & Schult.	Rai Gavat	Memana
8	*Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult.	Kusal Kali	Pastalai
9	*Iseilema laxum* Hack.	Moshan	Bori
10	*Paspalidium flavedium* (Retz.) A. Camus.	Bodilya	Dhargad
11	*Setaria pumila* (Poir.)Roem. & Schutt.	Ran Bajara	Pastalai
12	*Spodiopogon rhizophorus* Trin.	Pochati	Dhargad
13	*Themeda triandra* Forssk.	Lahan Gondhal	Bori
14	*Themeda quadrivalvis* (L.) Kuntze.	Mothi Gondhal	Gullarghat

Determination of Fe by Atomic absorption spectrometer :

The elements aluminum (Al), calcium (Ca), copper (Cu), iron (Fe), magnesium (Mg), potassium (K), sodium (Na), and zinc (Zn) in a plant tissue digest brought into solution by one of several procedures for organic matter destruction can be determined by atomic absorption spectrophotometry (AAS). The plant tissue digest containing the elements to be determined is atomized into either an acetylene lair or acetylene nitrous oxide gas mixture at a temperature between 2,000 to 2,900°C. The burner design and adjustment of the fuel/oxidant mixture provide conditions in which the elements to be determined are converted to non-excited, non-ionized, ground-state atoms.

Principle:

An atomic absorption spectrophotometer consists of a sample introduction system, an excitation source (hollow cation lamp), nebulizer and flame burner, chopper, and detector. An atom of an element is capable of absorbing light energy characteristic of that element. Radiation (photons) is generated from a hollow cathode lamp whose cathode is made of the element for determination. When these photons pass through the flame containing atoms of the element, the photons are absorbed. The degree of absorption is proportional to the concentration of the element in the flame (the flame also serves as a means of supporting the atoms in the light path). The measured difference between the light intensity passing around the flame and that passing through the flame defines absorption and can be used to determine the concentration of the element in the atomized solution. The analyze containing the elements of interest must be a solution that can be atomized into the flame.

Requirement: Atomic absorption spectrophotometer, small crucible (nickel or porcelain) weighing balance, muffle furnace and volumetric flasks and perchloric acid hood.

Reagents: Hydrochloric acid, nitric acid (16N HNO3), and deionized water.

Lanthanum (La) Solution (1,000 mg/L): Prepared from either lanthanum oxide (La or from lanthanum chloride (LaCl3. H20) containing O.1N HCl. The La_2O_3 must be brought into solution using HCl, but is much cheaper than the more readily soluble hydrated chloride source. Using La_2O_3, prepare a slurry by adding a small volume of deionized water to 1.1727g La_2O_3 in a 1-L volumetric flask. Slowly add 8 ml concentrated HCl and stir. Dilute to final volume with additional deionized water. Starting with LaCl3 - H20, dissolve 2.6738 g LaC13 - H20 in deionized water. Slowly add 8 ml of concentrated HC1 and bring to volume with additional deionized water.

Iron (Fe) Standard (1,000 mg/L): Weigh 1.000 g Fe wire into a 1-L volumetric flask. Dissolve with approximately 8ml deionized water and 8ml concentrated HC1. Bring to volume with deionized water.

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Procedure:

1. Transfer filtrate from the dry ashing procedure into 20-ml beaker.
2. Read samples with atomic absorption spectrophotometer using appropriate standards and instrument settings. Set zero with reagent blank, which is 1.2N HCl solutions.
3. Report as ppm. Fe and Zn in the plant sample.

Calibration and Standards

1. 1000 ppm. Fe stock solution
2. 100 ppm. Fe and working stock solution dilute 10 ml of 1000 ppm. Stock solution each to 100 ml with deionized water, respectively.

Working standards

Pipette the following volumes of 100 ppm working stock solution into 500 ml volumetric flasks and dilute to volume with 1.2 *N* HCI solutions.

Calculations

Micronutrient ppm. in plant sample = ppm. in reading.

Table 1. Showing Evaluation of Iron (Fe.) by Atomic Absorption Spectrometer of early bloom stage of grasses

Sr. No.	Botanical Name	Iron (Fe.) In ppm. (Leaf)	Iron (Fe.) In ppm. (Stem)
1	*Apluda mutica* L.	214	186
2	*Chloris barbata* Sw.	287	141

3	*Chloris virgata* Sw.	331	293
4	*Cynodon dactylon* (L). Pers.	356	264
5	*Dichanthium annulatum* (Forssk.) Stapf.	485	354
6	*Dichanthium caricosum* (L.) A. Camus	576	391
7	*Digitaria bicornis* (Lam.) Roem. & Schult.	355	267
8	*Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult.	419	346
9	*Iseilema laxum* Hack.	187	199
10	*Paspalidium flavedium* (Retz.) A. Camus.	492	347
11	*Setaria pumila* (Poir.)Roem. & Schutt.	297	121
12	*Spodiopogon rhizophorus* Trin.	197	94
13	*Themeda triandra* Forssk.	282	106
14	*Themeda quadrivalvis* (L.) Kuntze.	368	295

Table 2. Showing Evaluation of Iron (Fe.) by Atomic Absorption Spectrometer of matured stage of grasses.

Sr. No.	**Botanical Name**	**Iron (Fe.) In ppm. (Leaf)**	**Iron (Fe.) In ppm. (Stem)**
1	*Apluda mutica* L.	298	217
2	*Chloris barbata* Sw.	219	125
3	*Chloris virgata* Sw.	197	267
4	*Cynodon dactylon* (L). Pers.	317	201
5	*Dichanthium annulatum* (Forssk.) Stapf.	504	198
6	*Dichanthium caricosum* (L.) A. Camus	511	326
7	*Digitaria bicornis* (Lam.) Roem. & Schult.	274	189
8	*Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult.	386	391
9	*Iseilema laxum* Hack.	198	188
10	*Paspalidium flavedium* (Retz.) A. Camus.	498	324

11	*Setaria pumila* (Poir.)Roem. & Schutt.	201	119
12	*Spodiopogon rhizophorus* Trin.	168	92
13	*Themeda triandra* Forssk.	311	94
14	*Themeda quadrivalvis* (L.) Kuntze.	236	198

Iron (Fe.) content:

Leaf -: Iron (Fe.)content (DM basis) of early bloom stage of grasses leaf and mature stage of grasses leaf are presented in Table 1. and Table 2. Respectively.

From the table 1. revealed that value of Iron (Fe.) content (DM basis) of early bloom stage of grasses leaf of *Apluda mutica* L., *Chloris barbata* Sw., *Chloris virgata* Sw., *Cynodon dactylon* (L).Pers., *Dichanthium annulatum* (Forssk.) Stapf., *Dichanthium caricosum* (L.) A. Camus., *Digitaria bicornis* (Lam.) Roem. & Schult. *Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult., *Iseilema laxum* Hack., *Paspalidium flavedium* (Retz.)A.Camus.,*Setaria pumila* (Poir.) Roem. & Schutt., *Spodiopogon rhizophorus* Trin., *Themeda triandra* Forssk. and *Themeda quadrivalvis* (L.) Kuntz. grasses are reported values are 214, 287, 331, 356, 485, 576, 355, 419, 187, 492, 297, 197, 282 and 368 ppm. Iron (Fe) content respectively.

From the table 1. Revealed that the Iron(Fe.) content (DM basis) of early bloom stage of grasses leaf of fourteen species of grasses. The higher value Iron (Fe.) content reported in grasses leaf of *Dichanthium caricosum* (L.) A. Camus. 576ppm., *Paspalidium flavedium* (Retz.) A.Camus. 492ppm., *Dichanthium annulatum* (Forssk.) Stapf. 485ppm., *Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult. 419ppm. and *Themeda quadrivalvis* (L.) Kuntz. 368ppm. than the other early bloom grasses leaf while lower value of Iron(Fe.) content reported in grasses leaf of *Iseilema laxum* Hack. 187ppm. and *Spodiopogon rhizophorus* Trin. 197ppm. respectively.

From the table 2. revealed that value of Iron (Fe.) content (DM basis) matured stage of grasses leaf of *Apluda mutica* L., *Chloris barbata* Sw., *Chloris virgata* Sw., *Cynodon dactylon* (L).Pers., *Dihcanthium annulatum* (Forssk.) Stapf., *Dichanthium caricosum* (L.) A. Camus., *Digitaria bicornis* (Lam.) Roem. & Schult. *Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult., *Iseilema laxum* Hack., *Paspalidium flavedium* (Retz.)A.Camus.,*Setaria pumila* (Poir.) Roem. & Schutt., *Spodiopogon rhizophorus* Trin., *Themeda triandra* Forssk. and *Themeda quadrivalvis* (L.) Kuntz. grasses are reported values are 298, 219, 197, 317, 504, 511, 274, 386, 198, 498, 201, 168, 311 and 236ppm. Iron (Fe) content respectively.

From the table 2. revealed that the Iron(Fe.) content (DM basis) of matured stage of grasses leaf of fourteen species of grasses. The higher value Iron(Fe.) content reported in grasses leaf of *Dichanthium caricosum* (L.) A. Camus. 511ppm., *Dihcanthium annulatum* (Forssk.) Stapf. 504ppm., *Paspalidium flavedium* (Retz.)A.Camus. 498 ppm., *Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult. 386ppm., *Cynodon dactylon* (L).Pers. 317ppm. and *Themeda triandra* Forssk. 311ppm than the other matured stage grasses leaf while lower value of Iron(Fe.) content reported in grasses leaf of *Spodiopogon rhizophorus* Trin. 168ppm. and *Iseilema laxum* Hack. 198ppm. respectively.

Stem(Culm) : Iron(Fe.) content (DM basis) of early bloom stage of grasses stem(culm) and matured stage of grasses stem(culm) are presented in Table 1. and Table 2. respectively.

From the table 1. revealed that value of Iron(Fe.) content (DM basis) of early bloom stage grasses stem (Culm) of *Apluda mutica* L., *Chloris barbata* Sw., *Chloris virgata* Sw., *Cynodon dactylon* (L). Pers., *Diahcanthium annulatum* (Forssk.)Stapf., *Diachanthium caricosum*(L.)A.Camus., *Digitaria bicornis* (Lam.) Roem. & Schult. *Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult., *Iseilema laxum* Hack., *Paspalidium flavedium* (Retz.)A.Camus., *Setaria pumila* (Poir.) Roem.& Schutt., *Spodiopogon rhizophorus* Trin., *Themeda triandra* Forssk. and *Themeda quadrivalvis* (L.) Kuntz. grasses are reported the values are186, 141, 293, 264, 354, 391, 267, 346, 199, 347, 121, 94, 106 and 295ppm. Iron(Fe) content respectively.

From the table 1. revealed that the Iron(Fe.) content (DM basis) of early bloom stage of grasses stem (Culm) of fourteen species of grasses. The higher value the Iron(Fe.) content is reported in *Dichanthium caricosum*(L.)A.Camus.(391ppm.), *Dichanthium annulatum* (Forssk.)Stapf.(354ppm.), *Paspalidium flavedium* (Retz.) A.Camus.(347ppm.) and *Heteropogon contortus* (L.) P. Beauv.ex Roem. & Schult. (346ppm.) while the lower value of Iron (Fe.) containd was found in the grasses leaf of *Spodiopogon rhizophorus* Trin. (94ppm.) and *Themeda triandra* Forssk. (106ppm.) respectively.

From the table 2. revealed that value of Iron(Fe.) content (DM basis) of matured stage grasses stem (Culm) of *Apluda mutica* L., *Chloris barbata* Sw., *Chloris virgata* Sw., *Cynodon dactylon* (L). Pers., *Dichanthium annulatum* (Forssk.) Stapf., *Dichanthium caricosum*(L.)A.Camus., *Digitaria bicornis* (Lam.) Roem. & Schult. *Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult., *Iseilema laxum* Hack., *Paspalidium flavedium* (Retz.)A.Camus., *Setaria pumila* (Poir.) Roem.& Schutt., *Spodiopogon rhizophorus* Trin., *Themeda triandra* Forssk. and *Themeda quadrivalvis* (L.) Kuntz. grasses are reported the values are 217, 125, 267, 201, 198, 326, 189, 391, 188, 324, 119, 92, 94 and 198ppm. Iron(Fe) content respectively.

From the table 2. revealed that the Iron(Fe.) content (DM basis) of matured stage of grasses stem (Culm) of fourteen species of grasses. The higher value the Iron (Fe.) content was reported in *Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult. (391ppm.), *Diachanthium caricosum*(L.)A.Camus.(326ppm.), *Paspalidium flavedium* (Retz.)A.Camus.(324ppm.) and *Chloris virgata* Sw.(267ppm.) while lower value of Iron (Fe.) content was found in the *Spodiopogon rhizophorus* Trin. (92ppm.) and *Themeda triandra* Forssk.(94ppm.) respectively.

From above Table 1. and Table 2. observation it is concluded that early bloom stage grasses leaf and stem (Culm) of *Chloris barbata* Sw., *Chloris virgata* Sw., *Cynodon dactylon* (L). Pers., *Dichanthium annulatum* (Forssk.) Stapf. (stem), *Dichanthium caricosum* (L.) A . Camus., *Digitaria bicornis* (Lam.) Roem. & Schult., *Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult.(leaf), *Iseilema laxum* Hack.(stem), *Spodiopogon rhizophorus* Trin., *Themeda triandra* Forssk.(stem) and *Themeda quadrivalvis* (L.) Kuntze. (leaf) was contained the higher value of Iron(Fe.) content than matured stage of grasses leaf and stem (Culm), while matured stage grass leaf and stem (Culm) of *Apluda mutica* L., *Dichanthium annulatum* (Forssk.) Stapf. (leaf) Schult., *Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult.(stem), *Iseilema laxum* Hack.(leaf) and *Themeda triandra* Forssk.(leaf) was contained the higher value of Iron(Fe.) content than early bloom stage of grasses leaf and stem (Culm) respectively.

Conclusion :-

The study of the Evaluation of Iron (Fe.) by Atomic Absorption Spectrometer of Palatable grasses from Melghat Tiger Reserve Dist. Amravati, State Maharashtra. Study carried out by the selection of early blooming stage and mature stage of grasses leaf and stem(Culm) it's shows variation in the of Iron (Fe.) content in the early blooming stage and mature stage of grasses leaf and stem(Culm).These values also determines the fodder value of selected grasses for herbivores of the Protected Areas of the forest Department.

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