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Grasses : As Boon and Some Depreciated Taxa of Uttar Pradesh

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Abstract Grasses are plants of family Poaceae and important due to their biogeographical presence as well as ecological and socio-economic importance. These are main source of food such as cereals, vegetables and are also used as medicine by poor peoples those who are unable to afford expensive medicine and they have no facilities as in modern life. Present review article is based on uses of grasses in different area of Uttar Pradesh.

Keywords Grasses, Poaceae, Medicine, Uttar Pradesh.

Introduction

Grasses are spread like hairs on planet which are belongs to the family Poaceae and constitute the 5th largest family of flowering plants in the world, with 11,500 species 768 genera (Soreng et al. 2017). In India there are about 262 genera and 1,110 species of family Poaceae (Hooker 1872, 1897) and Uttar Pradesh Poaceae is represented by 110 genera and 301 species (srivastava 2011) and 118 genera and 300 species (Khanna 2015). Poaceae form the most fascinating families of flowering plants, with a wide range of diversity and plays a significant role in the lives of human being and animals (Mitra and Mukherjee 2005). Grasses also have ecological importance dominating several of the natural and artificial landscapes of the world. Some are annual while other are perennial herbs also. The members of this group are present in all tenable habitats,and suitable for the growth of plant communities, and in every climatic region (Ahmad et al. 2010).

Grasses are source of food, fodder, shelter, medicine and other useful things.These are like a boon for humans, but there are some grasses also which are neglected by peoples due to lack of knowledge about their uses. Grasses are the main source of all the cereals and millets which are cultivated grasses, sugarcane is the source of sugar, besides these grasses constitute the main source of forage and food livestock and they are also to extract of aromatic oils and scents (Kaul and vats 1998, Khanuja et al. 2005, Kim et al. 2005, Bhuiyan et al. 2008, Sujatha 2010). All parts of grasses are used in different ways while some parts are used as fodder.

Materials and Methods

Uttar Pradesh is dominated by rich diversity of many medicinal and economical plants. It is the 4th largest State of India with a total area of 240,928 sq hm. It is geographically well placed and represents three

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distinct regions- Terai and Bhabhar area in foot hills of Himalaya, Gangetic plains and Deccan peninsula demarcated by Vindhyan hill and plateau. State is located between 23^0 52´ - 30^0 28´ N latitudes and 77^0 05´ - 84^0 38´ E longitudes in the Indo-Gangetic Plain of North Central India. The state priod to carving out of Uttarakhand from it, was a unique region in having all the three physiographic in homogeneities of India : The northern Extra- Peninsular mountains, The Himalaya, the southern Peninsular Uplands and extensive intervening Indo- Gangetic Plain (Tripathi and Sikarwar 2013). The state has been divided into 17 division which is further divided in to 75 districts.

The state has a tropical monsoon climate which is characterized by a warm wet season from the end of June or beginning of July to the end of September, followed by a dry season for the rest of the year. Middle of October to end of February is regarded as the cold season and April to the end of June as the hot season. During the dry cold season after rains the temperature and relative humidity of day and night are very variable, which result in heavy dew falls. The rivers are main source of agriculture in Uttar Pradesh. The Ganga and Jamuna are the major rivers of the state. Uttar Pradesh has one of the biggest fertile alluvial plains of the world.

Results and Discussion

In investigation there are total 68 species of 55 genera in which 32 species of 23 genera of grasses are very common which are used in day today life (Table 1).

These are as a boon for humans and are need for every peoples. We use grassed viz., Wheat, Rice, Oat, Bajra, Jowar, Corn in our daily life. These are nutritious, rich in carbohydrates and essential elements without these we cannot survive.

36 species of 32 genera which are not commonly used by modern culture although they are used by poor peoples. Some of these grasses are neglected by peoples due to lack of knowledge about their use and qualities like food, vegetables, spices, oil medicine and some other house hold uses in rural areas. The poor peoples are untouched by modern civilization and they depends on forest and grasses for their

Table 1. Grasses used as boon.

Sl. No.	Botanical name	Common name	Edible parts	Uses as
1.	*Alloteropsis cimicina* (L.) Stapf	Basanti ghas	Grains	Food
2.	*Avena sativa* L.	Jai	Grains	food
3.	*Bambusa bambos* (L.) Voss	Bans	Young Buds & Grain	Food
4.	*Bambusa vulgaris* Schrad.	Basini bans	Young Buds	Food-vegetable
5.	*Bambusa tulda* Roxb.	Peka	Young culms	Food-vegetable
6.	*Cenchrus setiger* Vahl	Modadhaman	Grains	Food-vegetable
7.	*Coix aquatic* Roxb.	Samkru, Gurlu	Grains	Food-vegetable
	Cymbopogon martini (Roxb.) W. Watson	Rosha	Whole plant	Fodder
8.	*Cymbopogon nardus* (L.) Rendle	Lemon grass	Leaf	Food-spices
9.	*Cymbopogon citratus* (DC.) Stapf	Oil grass, lemon grass	Leaf	Food-spices
10.	*Dendrocalamus strictus* (Roxb.) Nees	Bans	Stem	Food-vegetable
11.	*Dendrocalamus hamiltoni*i Nees & Arn. ex Munro	Tama Bamboo	Shoot	Food-vegetable
12.	*Digitaria longiflora* (Retz.) Pers.	Kaua	Grains	Food
13.	*Echinochloa colonum* (L.) Link	Samak	Grains	Food
14.	*Echinochloa crus-galli* (L.) P. Beauv.	Samak	Grains	Food
15.	*Echinochloa frumentacea* Link	Sanwa	Grains	Food
16.	*Echinochloa stagnina* (Retz.) P. Beauv.	Banti	Grains	Food
17.	*Eleusine coracana* (L.) Gaertn.	Mandal, Mandua	Grains	Food and Baverages
18.	*Eragrostis tremula* (L.) Beauv. ex.		Grains	Medicine
19.	*Hordeum vulgare* L.	Jau, Barley	Grains	Food and Medicine
20.	*Hygroryza aristata* (Retz.) Nees ex Wight & Arn.	Janglidhan, Uridhan	Grains	Food
21.	*Oryza sativa* L.	Chawal, Dhan	Grains	Food
22.	*Oryza rufipogon* Griff	Psai Dhan	Grains	Food
23.	*Panicum miliaceum* L.	China, Morha, Anu	Grains	Food
24.	*Panicum antidotale* Retz.	Sawa, Kutki	Grains	Food

Table 1. Continued.

Sl. No.	Botanical name	Common name	Edible parts	Uses as
25.	*Paspalum scrobiculatum* L.	Kodra	Grain	Food
26.	*Pennisetum typhoides* (Burm. f.) Stapf & C. E Hubb.	Bajra	Grains	Food
27.	*Phragmites karka* (Retz.) Trin. ex Steud	Narkul	Stem	Food-vegetable
28.	*Saccharum officinarum* L.	Ganna, Ikh	Stem	Food
29.	*Setaria glauca* (L.) P. Beauv.	Bandra	Grains	Food
30.	*Setaria italica* (L.) P. Beauv.	Foxtail millet	Grains	Food
31.	*Sorghum bicolor* (L.) Moench	Jowar	Grains	Food
32.	*Zea mays* L.	Makka	Grains	Food

social cultural and economic survival. Due to lack of facilities and transportation for patients of these areas suffer for long time because they can't afford expensive medicine that's why they collect and use as traditional healer and they play a vital role to provide them as an alternative source of therapeutic facilities to meet Their primary healthcare (Table 2).

There are some grasses which are also useful as food in our daily life like *Cenchrus setiger* Vahl, *Digitaria longiflora* (Retz.) Pers., *Hygroryza aristata* (Retz.) Nees ex Wight & Arn, *Paspalum scrobiculatum* L. grains used as flour in bread industry, stem of *Dendrocalamus strictus* (Roxb.) Nees, *Dendrocalamus hamiltonii* Nees & Arn. ex Munro and *Phragmites karka* (Retz.) Trin. ex Steud used as vegetable.

Roots of *Desmostachya bipinnata* (L.) Stapf (Halfa grass) are used in the Indian traditional system of medicine as cooling, sweet, astringent, diuretic and galactagogue (Kirtikar and Basu 1918). They are also useful in dysentery, diarrhoea, urinary calculi, dysuria, other diseases of bladder and skin diseases (Joshi 2004). Mridudarbha (*Eragrostis ciliaris* (L.) R. Br.) Regveda (RV 1.191.3). The Atharvaveda (AV) cites that its efficacy is to calm anger (AV 6.43); it is rich in roots, has 1000 leaves and 100 stalka (Av 19.32.1) and used as soil binder.

Table 2. Depreciated taxa and their uses.

Sl. No.	Botanical name	Common name	Part used	Uses as
1.	*Apluda mutica* L.	Panoi	Whole plant	Medicine
2.	*Aristida setacea* Retz.	Dodda	Whole plant	Fibers
3.	*Arundo donax* Linn.	Nara bans, Nar	Rhizome	Medicine
4,	*Avena fatua* L.	Jangli jai	Grains	Medicine
5.	*Axonopus compressus* (Sw.) Beauv.	Cow grass	Whole plant	Prevent soil erosion
6.	*Bambusa arundinacea* Willd.	Bans	Culm	Medicine
7.	*Cenchrus ciliaris* L.	Kusha	Root	Medicine
8.	*Chrysopogon aciculatus* Trin.	Chorant, Gorio	Rhizome	Medicine
9.	*Cymbopogon jwarancusa* (Jones.) Schult	Khavi	Whole plant	Medicine
10.	*Cymbopogon flexuosus* (Nees ex Steud.) W. Watson	Fever grass	Leaves	Food
11	*Cynodon dactylon* (L.) Pers.	Doob	Leaves	Medicine
12.	*Dactyloctenium aegyptium* (Linn.) Willd	Koora	Grains	Medicine
13.	*Dactyloctenium scindicum* Boiss.	Bhobra	Grains	Medicine
14.	*Dichanthium annulatus* Stapf.	Zargha	Ash of inflorescence	Medicine
15.	*Eleusine indica* (L.) Gaertn.	Phulwa	Whole plant	Medicine
16.	*Elytrophorus spicatus* (Wild.) Camus	–	Whole plant	Medicine
17.	*Eragrostis gangetica* (Roxb.) Steud.	–	Root	Medicine
18.	*Heteropogon contortus* L.	Bawalighas	Root	Medicine
19.	*Hemarthria compressa* (L.f.) R.Br.	–	Root	Medicine
20.	*Imperata cylindrica* (L.) Beauv.		Rhizome	Medicine
21.	*Lolium temulentum* L.	Luk cha	Whole plant	Medicine
22.	*Melinis minutiflora* Beauv.	–	Leaf	Medicine
23.	*Ochthochloa compressa* (Forssk.) Hilu	–	Grains	Medicine
24.	*Panicum antidotale* Retz.	Bansi	Ash of whole plant	Medicine
25.	*Panicum milliare* Lamk.	Sama	Grains	Medicine
26.	*Phalaris minor* (L.) Retz.	Chirya ka bajra	Leaf	Medicine
27.	*Urochloa panicoides* P. Beauv.	Kuri	Grains	Medicine
28.	*Saccharum*	Sarkanda	Root	Medicine

Table 2. Continued.

Sl. No.	Botanical name	Common name	Part used	Uses as
	spontaneum L.			
29.	*Saccharum robusta* L.	–		
30.	Sacciolepis interrupta (Willd.) Stapf	–	Grains	Food
31.	*Setaria etalica* (L.) P. Beauv	yarka cha	Grains	Medicine
32.	*Sporobolus diandrus* (Retz.) P. Beauv.	–	Grains	Food
33.	*Sorghum halepense* (L.) Pers	Baru	Whole plant	Medicine
34.	*Themeda gigantea* (Cav.) Hack. ex Duthie	Ulla		Fibers
35.	*Thysanolaena latifolia* (Roxb. ex Hornem.) Honda	–	Grains	Food
36.	*Vetiveria zizanioides* (L.) Nash	Khus	Root	Erosion control Food

Grasses are also used in religious purposes, and like *Desmostachya bipinnata* (L.) stapf; Cogon grass, *Imperata cylindrica* (L.) Raeusch. appering in sacred texts, and both of them are regarded as sacred because of their medicinal value and use in ritualistic practices (Manilal 2003) It is also referred in AV 14.2.22. Damanaka (*Phragmites karka* (Retz.) Trin. ex Steud) Skandha Purana (II.2.38.13) mentions this grass sprung from a place where a demon of the same name was killed by Lord Vishnu. China grass (cheena; *Panicum miliaceum* L.) as food in marriage (Pal 1986) *Cymbopogon martini* (Roxb.) W. Watson (Rosha) grass is offered during Govardhan Pooja which falls on next day of Diwali festival for the prosperity of their cattle. *Paspalum scrobiculatum* L. grains along with other crop grains are used as *Ahuti* offering in Havan Pooja.Kasha (*Saccharum spontaneum* L.):It is used for mats (RV 10.100.10). Sara (*Saccharum bengalense* Retz.): It is referred in RV 1.191.3 and AV 4.7.4. It is a reed generally used for making arrow shafts. Balvaja (*Eleusine indica* (L.) Gaertn.) : Baskets are made out of it (RV 8.55.3) (Arya and Joshi 2005, Bhatt 1993). Salt was extracted from white variety of *(Cynodon dactylon) doorva* grass (Sharma 1931).

These can also be uses as alternative food, vegetables, spices, oils and medicine in our life, due to this over exploitation of food and traditional crops will be checked and the efforts will be made for conservation of some neglected taxas.

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