

Floristic Study Of The Family Poaceae Of The Sakra Block Of Muzaffarpur District, Bihar, India.

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ABSTRACT

The family Poaceae is one of the most important families among angiosperms, as it provides food and fodder to organisms. It plays an important role in the flora of any region. There are 826 accepted genera and 12352 accepted species worldwide. The analysis of the Botanical Survey of India in 2001 revealed 342 species of Poaceae. This family is growing in abundance in the Sakara Block of the Muzaffarpur district. The soil of this region supports the luxuriant growth of grasses. A survey from June 2024, to January 2026, by authors revealed 45 species of Poaceae belonging to 39 genera.

Keywords: Diversity, Poaceae, Sakara block, Muzaffarpur, Bihar.

INTRODUCTION

Poaceae (Gramineae), the most successful Angiosperms, is a large and nearly ubiquitous family of monocotyledonous flowering plants known as grasses. Poaceae are monocot grasses with fibrous root system, hollow jointed stem (culm), linear leaves with parallel venation, sheath and ligule, spikelet inflorescence with bisexual and/or unisexual flowers (with glumes, lemma, palea and lodicules) and grain-type fruits, making them one of the most economically important plant families. Poaceae includes cereals, bamboos, and the grasses of natural grasslands, cultivated lawns (turf), and pastures. This family comprises 750-770 genera and more than 11000- 12000 species distributed across 12 subfamilies and subtribes (Kellogg, 2015, Soreng et al., 2017) worldwide. India represents with 266 genera and more than 1506 species (Kellogg et al. 2020), while Bihar is represented by 80-120 genera and 200-350 species. Grasses continuously supply the soil with humus, supplying and boosting primary production. Many Poaceae species are cultivated as staple food crops worldwide, such as Rice, Wheat, Maize, Barley, and Millets (various species). These crops are essential sources of carbohydrates, proteins, and other nutrients for human consumption. Grasses of Sakra block of Muzaffarpur are economically,

ecologically, and socially vital. They provide food, fodder, income, soil protection, and raw materials, making them indispensable for the livelihood and sustainability of rural communities. Sakra block is surrounded by the following blocks: Muraul Bandra, Kudhani, Musahari, and Pusa. This block has 120 villages with a population of more than 3.5 Lakh. It covers approximately 216.68 sq. km. An extensive study on the family Poaceae will reveal the available species.

MATERIAL AND METHODOLOGY

The study was conducted in the Sakra Block of the Muzaffarpur district by dividing the whole area into 10 zones, each having 10-12 villages. The specific sampling sites were selected for intensive studies that included villages such as Chakrahi Urf, Maniyari, Majhauliya, Chandanpatti, Kesopur, Sarmastpur, Sakra Wajitpur, Faridpur, Sabaha, Bishanpur, Mura, Chakhazarat, and Sahdullapur. These areas are primarily agricultural fields, with major crops including wheat, maize, jowar, jawar, paddy, and seasonal grasses. The region experiences a subtropical climate with hot summers, moderate rainfall, and cool winters. The type of soil is mainly alluvial, supporting rich vegetation, including both cultivated and wild Poaceae species.

Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Regular field visits were conducted from June 2024 to January 2026. A random sampling method was used in agricultural fields. Grass species were collected from crop fields (wheat, maize, paddy, and sugarcane) and nearby areas. Photographs were taken with a GPS-enabled camera for geotagging. Specimens were identified based on morphological characters, including inflorescence type, spikelets, and leaf structure. Standard floras and taxonomic keys were used. Plants were collected from wheat fields, mustard fields, maize fields, cabbage fields,

cauliflower fields, roadsides, wetland areas, sugarcane fields, pond sides, etc.

A total of 35 plants were collected, out of which 31 were identified and listed.

All the grasses are growing along roadsides, in the margins of crop fields, in leftover grounds, near ponds, puddles, riversides, rail tracksides, etc. have been collected and identified. They are listed in the table 1.

SN	Scientific Name	Common Name	Uses of the plant
1	<i>Avena sativa</i> L.	jai	fodder and food grains
2	<i>Bambusa bambos</i> (L.) Voss.	bans	Stem used for house making
3	<i>Brachiaria ramosa</i> (L.) Stapf	Brown top grass	Fodder
4	<i>Brachiaria mutica</i> Forssk. Sta f	Para ghas	Fodder
5	<i>Cynodon dactylon</i> (L.) Pers.	Doob grass	Fodder and lawn grass
6	<i>Dactyloctenium aegyptium</i> (L.) Willd	Makra ghass	fodder
7	<i>Dendrocalamus strictus</i> (Roxb.) Nees	Nar bans	Baskets, mats, fencing
8	<i>Desmostachy bipinnata</i> (L.) Staf	kush	Vedic rituals
9	<i>Digitaria sanguinalis</i> (L.) Scop	Kankauwa San inalis	Fodder
10	<i>Echinochloa colona</i> (L.) Link.	Sawa ghaas	Fodder
11	<i>Echinochloa crus-galli</i> (L.) P.Beauv.	Samak ghaas	Fodder
12	<i>Echinochloa frumentacea</i> Link	Sanwa	Food grain, Fodder
13	<i>Eleusine coracana</i> (L.) Gaertn	Mandua	Food grain, Fodder
14	<i>Eleusine indica</i> (L.) Gaertn.	Makra ghash	Fodder
15	<i>Eragrostis minor</i> Host	Little love grass	Fodder

16	<i>Eragrostis tenellula</i> (Kunth) Steud.	Patli ghaas/ Love ass	Fodder
17	<i>Hordeum vulgare</i> L.	jau	Food grain, fodder
18	<i>Imperata cylindrica</i> (L.) P.Beauv.	Darbh	Fodder
19	<i>Oryza sativa</i> L.	Rice/Dhaan	Food grain, Fodder
20	<i>Panicum miliaceum</i> L.	Cheena	Food grain, Fodder
21	<i>Paspalum distichum</i> L.	Nadi ghaas	Fodder
22	<i>Paspalum scrobiculatum</i> L.	kodo	Food grain, Fodder
23	<i>Pennisetum glaucum</i> (L.) RBr	Bajra	Food grain, Fodder
24	<i>Phalaris minor</i> Retz.	Gulli danda ghaas	Fodder
25	<i>Saccharum officinarum</i> L.	Ganna ekh	Sugar, Bagases, Alcohol
26	<i>Saccharum spontaneum</i> L.	Kans grass	Fodder
27	<i>Setaria verticillata</i> (L.) P.Beauv.	Kangni	Fodder
28	<i>Sorghum bicolor</i> (L.) Moench	Jwar	Food grain, Fodder
29	<i>Triticum aestivum</i> L.	wheat	Food grain, Fodder
30	<i>Vetiveria zizanioides</i> (L.) Roberty	khas	Decorative items, perfume
31	<i>Zea mays</i> L.	makka	Food grain, Fodder

Table 1. Different species of Poaceae and their uses

CONCLUSION

The Sakra block exhibits a rich diversity of Poaceae species, including both economically important crops and associated weeds. Proper management of weed species is necessary to enhance agricultural productivity.

ACKNOWLEDGEMENT

I express my sincere and profound gratitude to H.O.D. Botany, M.S.M. College, Jandaha, Vaishali, for providing all facilities of research work on Family Poaceae. I am also thankful to farmers and local people of the area for their support and help.

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HOW TO CITE: Kaushal Kumar^{1*}, Satyendra Kumar Gupta², Floristic Study Of The Family Poaceae Of The Sakra Block Of Muzaffarpur District, Bihar, India, *Int. J. Sci. R. Tech.*, 2026, 3 (10), 356-359. <https://doi.org/10.5281/zenodo.23163089>