Diversity of Weedy Grasses of Washim District, Maharashtra

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Abstract
The present study deals with the diversity of weedy grasses associated with agricultural habitats in Washim District, Maharashtra. The study was conducted during 2022–2026 to document the occurrence and diversity of grasses associated with cultivated and disturbed habitats. A total of 36 species belonging to 19 genera were documented from cultivated fields, irrigated fields, unirrigated fields, field bunds and other agricultural or disturbed habitats. Among the recorded genera, Eragrostis was the most diverse with seven species, followed by Sporobolus with four species, while Setaria and Urochloa were represented by three species each. Dichanthium, Digitaria, Panicum and Paspalidium were represented by two species each, while the remaining genera were represented by one species. The study gives useful information about the diversity of weedy grasses in Washim District and helps in their identification and further field study.

Keywords: *Poaceae, weedy grasses, agricultural weeds, grass diversity, agricultural fields, Washim District, Maharashtra.*

1. Introduction

Grasses are an important group of plants and are widely distributed in different habitats such as agricultural fields, grasslands, wastelands, field bunds and other open areas. They form an important part of vegetation and are commonly found in areas affected by agricultural activities and other types of disturbance.

Some grass species grow naturally along with crop plants and are considered as weeds in agricultural fields. These weedy grasses may compete with crops for water, nutrients, light and space. Their occurrence and growth are influenced by soil moisture, cultivation practices, cropping conditions and the degree of disturbance.

Agricultural fields provide different conditions for the growth of weedy grasses. Irrigated and unirrigated fields, field bunds, fallow areas and other disturbed sites may support different grass species. Therefore, these habitats contribute to the diversity and distribution of weedy grasses.

Washim District is situated in the Vidarbha region of Maharashtra and has a predominantly agricultural landscape. The district contains cultivated fields under different conditions along with field bunds and other disturbed habitats. These varied habitats provide suitable conditions for the occurrence of different weedy grasses.The present study was undertaken to document the diversity of weedy grasses associated mainly with cultivated and disturbed habitats of Washim District.

2. Study Area

The study was carried out in Washim District of Maharashtra. Washim District is a part of the Vidarbha region. Agriculture is common in the district, and many cultivated fields and disturbed areas are found throughout the district.

The study mainly included weedy grasses growing in cultivated fields, irrigated and unirrigated fields, field bunds, fallow areas and other disturbed places. These places provide suitable conditions for the growth of different weedy grasses.

Washim District has six talukas, namely Washim, Malegaon, Risod, Manora, Mangrulpir and Karanja. The different agricultural practices and moisture conditions in these areas support the growth of various weedy grasses.

3. Review of Literature

Patunkar (1980) studied the grasses of Marathwada and reported 167 species belonging to 76 genera.

Naik (1998) published "*Flora of Marathwada*," which reported 203 species belonging to 81 genera of grasses.

Deore (2010) conducted a "*Floristic Survey of Washim District*" and reported 63 species of Poaceae.

Yadav (2010) published "*Know Your Grass Genera Through Hand Lens*," which provides simple characters and keys for the identification of different grass genera.
Potdar et al. (2012) published "*Grasses of Maharashtra"*, reporting 415 species belonging to 125 genera and providing information on grass diversity in Maharashtra.
Masatkar (2018) studied wild members of Poaceae from Amravati District and provided information on their morphological and taxonomic characters.
Tathod (2019) carried out a morphotaxonomic study of Poaceae from Nagpur Division of Maharashtra.
Deore and Bhogaonkar (2023) published "*Flora of Washim District"*, providing updated information on the flora and plant diversity of Washim District.

4. Materials and Methods

Field work was carried out in cultivated fields, irrigated and unirrigated fields, field bunds, fallow areas and other disturbed habitats of Washim District. Field observations were recorded and specimens were collected for identification.
The collected specimens were studied for their morphological characters. Identification was confirmed with the help of standard floras and relevant literature, such as *Flora of British India* by Hooker (1872–1897), *Flora of the Presidency of Bombay* by Cooke (1901–1908), *Grasses of Marathwada* by Patunkar (1980), *Flora of Marathwada* by Naik (1998) and *Grasses of Maharashtra* by Potdar *et al.* (2012).
The collected specimens were dried, preserved and mounted using standard herbarium methods. The identified grasses were arranged genus-wise and species-wise, and locality and habitat details were recorded.
An identification key was prepared wherever necessary, and the recorded grasses were studied to understand their occurrence and diversity in the study area.

5. Observations on Weedy Grasses

Table 1. Weedy grasses recorded from Washim District, Maharashtra

Sr. No.	Species	Habitat	Locality
1	*Chloris barbata* Sw.	Cultivated fields	Karanja
2	*Cynodon dactylon* (L.) Pers.	Irrigated fields	Manora
3	*Dactyloctenium aegyptium* (L.) Willd.	Unirrigated fields	Karanja
4	*Dichanthium annulatum* (Forssk.) Stapf	Irrigated fields	Karanja
5	*Dichanthium pertusum* (L.) Clayton	Unirrigated fields	Poha
6	*Digitaria ciliaris* (Retz.) Koeler	Unirrigated fields	Karanja
7	*Digitaria stricta* Roth	Unirrigated fields	Manora
8	*Dinebra retroflexa* (Vahl) Panz.	Irrigated fields	Sakhra
9	*Echinochloa colona* (L.) Link	Wet/agricultural habitats	Pasarni
10	*Eleusine indica* (L.) Gaertn.	Field bunds	Washim
11	*Eragrostis ciliaris* (L.) R.Br.	Unirrigated fields	Karanja
12	*Eragrostis japonica* (Thunb.) Trin.	Cultivated fields	Sakhra
13	*Eragrostis minor* Host.	Agricultural/disturbed habitats	Risod
14	*Eragrostis nutans* (Retz.) Nees ex Steud.	Agricultural/disturbed habitats	Girda
15	*Eragrostis pilosa* (L.) P.Beauv.	Unirrigated fields	Poha
16	*Eragrostis unioloides* (Retz.) Nees ex Steud.	Agricultural/disturbed habitats	Malegaon
17	*Eragrostis viscosa* (Retz.) Trin.	Unirrigated fields	Vilegaon
18	*Leptochloa panicea* (Retz.) Ohwi	Agricultural/disturbed habitats	Karanja

Sr. No.	Species	Habitat	Locality
19	*Panicum paludosum* Roxb.	Moist agricultural habitats	Dhanora
20	*Panicum psilopodium* Trin.	Irrigated fields	Washim
21	*Paspalum paspalodes* (Michx.) Scribn.	Moist/agricultural habitats	Kinhi
22	*Paspalidium flavidum* (Retz.)	Agricultural/moist habitats	Karanja
23	*Paspalidium punctatum* (Burm.f.)	Agricultural/moist habitats	Dhanora
24	*Rottboellia cochinchinensis* (Lour.) Clayton	Field bunds	Sakhra
25	*Setaria intermedia* Roem. & Schult.	Field bunds	Dhanaj
26	*Setaria pumila* (Poir.) Roem. & Schult.	Irrigated fields	Sakhra
27	*Setaria verticillata* (L.) P.Beauv.	Field bunds	Sakhra
28	*Sporobolus capillaris* Miq	Agricultural/disturbed habitats	Kinhiraja
29	*Sporobolus coromandelianus* (Retz.) Kunth	Irrigated fields	Dhamni
30	*Sporobolus festivus* Hochst. ex A.Rich	Agricultural/disturbed habitats	Kawardari
31	*Sporobolus indicus* (L.) R.Br.	Irrigated fields	Morgavhan
32	*Themeda quadrivalvis* (L.) Kuntze	Field bunds	Karanja
33	*Tragus roxburghii* Panigr.	Agricultural/disturbed habitats	Dongarkhed
34	*Urochloa panicoides* P.Beauv.	Irrigated fields	Mangrulpir
35	*Urochloa ramosa* (L.) T.Q.Nguyen	Cultivation/agricultural fields	Masola
36	*Urochloa reptans (*L.)Stapf	Agricultural/disturbed habitats	Karanja

A total of 36 species belonging to 19 genera were recorded.

6. Results and Discussion

The present study recorded 36 weedy grass species belonging to 19 genera of Poaceae from Washim District. The recorded grasses were found in cultivated fields, irrigated and unirrigated fields, field bunds, moist agricultural areas and other disturbed habitats. Among the recorded genera, *Eragrostis* was the most represented with 7 species, followed by *Sporobolus* with 4 species. *Dichanthium*, *Digitaria*, *Panicum*, *Paspalidium*, *Setaria* and *Urochloa* were represented by two or three species, while the remaining genera were represented by single species. The study indicates that agricultural and disturbed habitats of Washim District support a diverse range of weedy grasses.

7. Conclusion

The present study documented 36 weedy grass species belonging to 19 genera from Washim District. The grasses were recorded from different agricultural and disturbed habitats. The diversity of genera and species indicates the presence of a varied weedy grass flora in the district. The study provides useful information for the identification and documentation of weedy grasses and may serve as a basis for further floristic studies.

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