

3.3.2.1 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during the last five years

2021-22

Sr. No.	Name of the teacher	Title of the book/chapters published	Title of the paper/Book	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Dr. C. B. Salunkhe	Nil	Morphological Variation in common Bluestem Grass	National conference on biodiversity and biosciences-Research book	National conference on biodiversity and biosciences	National	2022	978-81-956739-6-4	Krishna Mahavidyalaya, Rathare Bk	Prarup Publication Kolhapur
2	Dr. N. V. Gaikwad	Nil	Study of Agriculture land use and chemical fertilizer use in Satara District	Unnati International Journal of Multidisciplinary scientific Research	International conference on changing trends in Environmental, Agriculture and Impact on rural development	International	2022	2581-8872	Krishna Mahavidyalaya, Rathare Bk	International Scientific research solution

2018-19

1	Dr.S.H.Jadhav	A Handbook of Practical Botany, B. Sc. I, As per Revised Syllabus of Shivaji University, Kolhapur	NIL	NIL	NIL	National	2018	978-93-86077-84-4	Krishna Mahavidyalaya, Rathare Bk	ABS Publication, Varanasi
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NCOBAB -2022

The Research Book

Jointly Composed by the Department of Botany, Zoology, and Microbiology
BALWANT COLLEGE, VITA



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Morphological Variation in Common Bluestem Grass

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ABSTRACT: Number of racemes per inflorescence and hair pattern on the spikelet and pits on pairs of spikelets are most useful characters for the identification of *Bothriochloa*, although an obvious range of variation exists within certain species complexes. *B. pertusa* is commonly known as bluestem grass. It is a widespread species, found to occur in the plains, cultivated field bunds, along roadsides, and on forest floors. The present communication is part of the revisionary work of the genus *Bothriochloa* for India. A detailed description of the species and variations in inflorescence, habit, and hairy pattern on the spikelets are discussed.

KEYWORDS: Andropogoneae, *Bothriochloa*, variation, inflorescence, Poaceae.

INTRODUCTION: The genus *Bothriochloa* Kuntze belonging to the tribe Andropogoneae of the family Poaceae Barnhart is widely distributed throughout the world, and represented by 38 species (POWO, 2022; Swamy *et al.*, 2021; Mane *et al.*, 2022). The genus is represented in India by 13 species, of which six species, viz. *B. compressa* (Hook.f.)Henrard, *B. ensiformis* (Hook.f.) Henrard, *B. grahamii* (Haines)Bor, *B. jainii* Deshp. & Hemadri, *B. longifolia* (Hack.) Bor and *B. woodrovii* (Hook.f.)A.Camus are endemic (Prasanna *et al.*, 2020; Kellogg *et al.*, 2020; Mane *et al.*, 2022).

MATERIAL AND METHODS:

The exploratory investigations for the present study were undertaken during the years 2019-2022. During field studies, Each form was collected and processed for Herbarium preparation by standard methods (Jain & Rao, 1977). Also collected germplasm studies.

Every specimen was carefully studied by dissecting the floral parts of the duplicate specimens under dissection and stereomicroscopes. Detailed study of the dried specimens and their identification were carried with the help of various relevant literature such as, (Bor, 1960, Sreekumar & Nair, 1991, Kabeer & Nair, 2009, Potdar *et al.*, 2012) etc. Further, detailed revisions (Deshpande, 1984) and relevant taxonomic papers were consulted wherever required. The identified specimens were further confirmed by comparing them with the authentic specimens available at CAL, BSI, BSA, BLATT, BSID, MH, SUK, BSJO, etc. All the collected specimens during the present work are deposited in Krishna Mahavidyalaya and one set will be submitted to the Department of Botany, Shivaji University, Kolhapur. A detailed description of the species, phenology, distribution, and variation in inflorescence depicted in the photo plate (Figure 3).

RESULT AND DISCUSSION:

Bothriochloa pertusa (L.)A.Camus in Ann. Soc. Linn. Lyon Ser. 2, 76: 164. 1931; Bor, Grasses Burma, Ceylon, India & Pakistan 109. 1960; Bhattacharya (Sunanda Moulik), Grasses Bamboos India 1: 267. 1997; Prasanna *et al.*, Poaceae in Mao & Dash (eds.) Fl. Pl. India Annot. Checkl. Monocot. 328. 2020; *Holcus pertusus* L., Mant. Pl. Altera 301. 1771; *Andropogon pertusus* (L.) Willd., Sp. Pl. 4(2): 922. 1806; Hook.f., Fl. Brit. India 7: 173. 1896; *Amphilophis*

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The Study of Agricultural Landuse and Chemical Fertilizer Use in Satara District

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The agricultural activity is predominant vital sector which has big boost power to Indian economy, where nearly three-fifths Indian population has directly and indirectly engaged. About 157.35 million hectares are the total agricultural land of India which holds the second leading agricultural land in the world. For agriculture activity, land as well as chemical fertilizer is a very important factor. The large agricultural area size, physical and socio-cultural diversities, different types of land uses are found in India. In fact, agricultural land is a fixed asset which cannot be expanded as well as cannot be enlarged to complete the needs of an increasing population. But, use of chemical fertilizer rises highly agricultural productivity which can be complete the needs of an increasing population. The Satara district has taken for study which is located in the western part of the Maharashtra, where, agricultural land use is high. This research paper is an attempt to analyze the correlation between agricultural landuse and chemical fertilizer use in Satara District. The geographer Spearman's Rank Order method is used for evaluates the correlation of between agricultural landuse and chemical fertilizer. The correlation between agricultural landuse and chemical fertilizer in Satara District is $r = 0.78$. It is strong positive or direct correlation.

Keywords :- Agricultural Landuse, Chemical Fertilizer, Landuse, Agricultural Productivity, Satara

The study of agricultural landuse and chemical fertilizer use in satara district

Introduction :- The agricultural activity is

predominant vital sector which has big boost power to Indian economy, where almost three-fifths Indian population has directly and indirectly engaged. About 157.35 million hectares are the total agricultural land of India which holds the second leading agricultural land in the world. For agriculture activity, land as well as chemical fertilizer is a very important factor. The large agricultural area size, physical and socio-cultural diversities, different types of land uses are found in India. In fact, agricultural land is a fixed asset which cannot be expanded as well as cannot be enlarged to complete the needs of an increasing population. But, use of chemical fertilizer rises highly agricultural productivity which can be complete the needs of an increasing population. The fertile soil, high yield varieties crop and chemical fertilizer is the main facts of present agriculture in India. Hence, agricultural landuse and chemical fertilizer use is certainly correlated to each other.

The Satara district is situated in the western region of the Maharashtra state where, about 823855 hect. land of district occupied by agricultural land use. Where, Krishna river is main river, also, other including rivers are - the Koyna, the Tarali, the Nira, the Venna, the Man, the Vasna, the Urmodi, the Yerala, the Kudali, etc. are the important water source of agriculture through Veer Dam, Koyna Dam, Morana Dam, Kanher Dam, Mhaswad Dam, Dhom Dam, Yeralwadi Dam, Uttarmand Dam, etc. especially for agricultural belts of district.

Study Area :- The Satara district selected for the study of agricultural landuse and chemical fertilizer. The research study area- Satara district

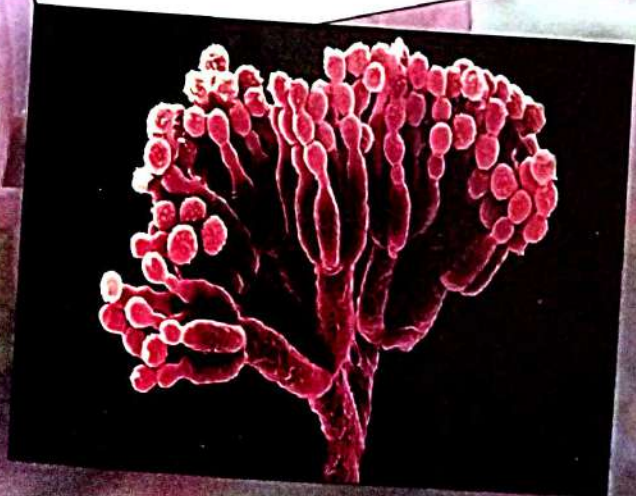
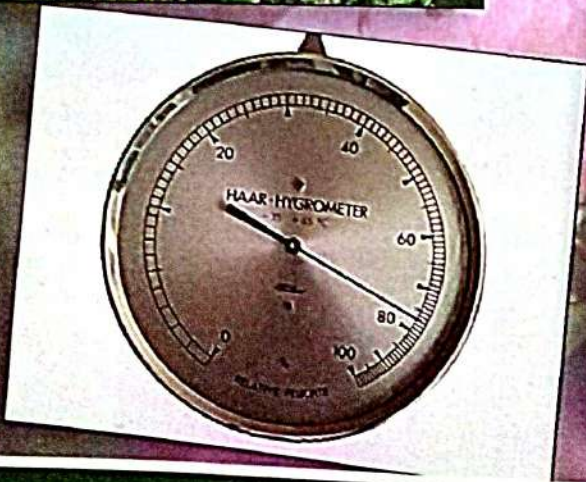
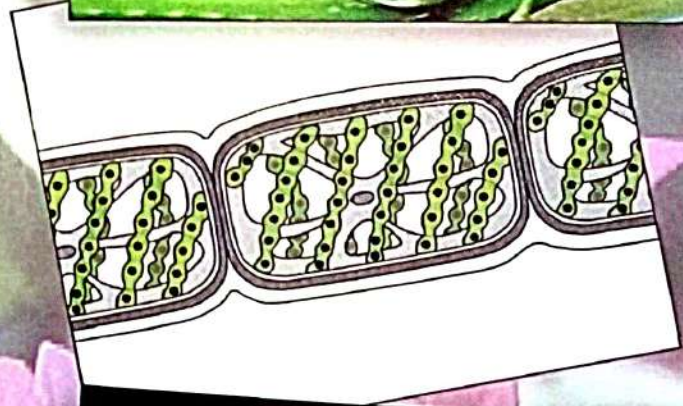
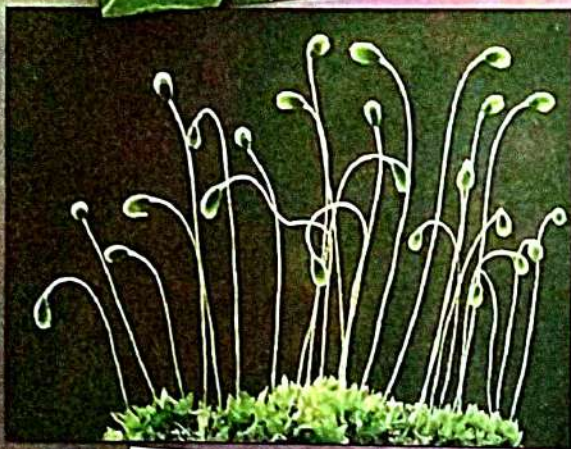
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BOTANY

B. Sc. I

AS PER REVISED SYLLABUS OF SHIVAJI UNIVERSITY, KOLHAPUR



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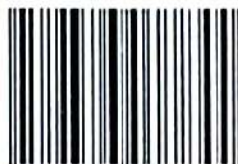


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