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List of Chapters published in edited book/volume 2021-22

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1	Prin. S. S. Gurav	Investigating the effect of temperature and phase on properties of metal pseudo Brookite	2021-22	International	978-93-5547-353-0	B.P. International Publication India
2	Dr. S. D. Tupare	Avhan: Chancellors Brigade: NSS: State level Training Disaster Preparedness	2021-22	International	978-103-2-35552-8	Taylor & Francis Routledge
3	Dr. S. D. Tupare	Review on Synthetic Strategies of 1, 3, 4- Thiadiazine Derivatives and its Biological Activities.	2021-22	National	978-93-90005-30-7	Educational Publishers and Distributors, Chatrapati Sambhaji Nagar
4	Dr. V. S. Chavan Mr. H. F. Jadhav	National Education Policy - 2020 and Role of Libraries	2021-22	National	978-93-5777-343-0	Dr. Eknath Mundhe
5	Mr. H. F. Jadhav	Lib-CRM Software: Customer Relationship Management in Library Services	2021-22	National	978-93-81249-30-7	Shivaji University College Librarians Association, Kolhapur
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9	Dr. Vijay S. Chavan	Mycoflora From Rhizospheric soil of Lablab purpureus (L)	2021-22	International	978-620-4-95435-6	LAP LAMBERT Academic Publishing
10	Dr. Vijay S. Chavan	Ethnobotanical Investigation on Wild Edible Vegetables used by Thane Residents	2021-22	International	978-620-4-95435-6	LAP LAMBERT Academic Publisher
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K.E.S. Anandilal Pradhan Science College Nagothane Tal. Roha Dist. Raigad

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Volume 4

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Dr. S. Ananda Babu
President and Convenor
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CHAPTER 12

Avhan: Maharashtra Chancellors Brigade: NSS: State Level Training Camp on Disaster Preparedness

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Abstract

Maharashtra is one of the State of India with third highest population. First time in 1993, Maharashtra was known to world for Killari, Dist. Latur earthquake. The earthquake struck at about 3.56 am on September,30, 1993. About 52 villages were destroyed & 10,000 were killed. In this regard, in year 2007, Mr. S. M. Krishna, His Excellency Governor of Maharashtra and the Chancellor of the Universities of Maharashtra taken initiatives to start Avhan: Disaster Management Training preparedness in higher education. This Avhan aims to create a pool of trained young volunteers of National Cadet Crops (NCC) & National Service Scheme (NSS) to collaborate and join hands with civil administration to provide quick rescue and relief services in the event of sudden natural calamities and disasters. Avhan is providing focused and wholesome training of youths belonging to National Service Scheme (NSS) units of Universities of Maharashtra through professional trainers NDRF (National Disaster Response Force). This Disaster management training programme is role model & hope in future which will be consider as a national level training programme for National Service Scheme (NSS) wings like NCC.

This research paper to review some success stories, feedback of some volunteers those were working as a DM trainer under the guidance of NDRF. Interviews of State Liaison Officer & deputy Western Regional officer, Pune.

Keywords: Avhan, Chancellor, Disaster, NDRF, Rescue, University. Volunteer.

1. Introduction

National Service Scheme, popularly known as NSS is an extension of activities to the higher education system to orient the student youth to community Service while they are studying in education institutions, under the Ministry of Youth Affairs & Sports, Govt. of India. National Service scheme volunteers undertake various activities in adopted villages and slums for community service, Duration of these services is 240 hours in two years along with one special camp of seven or ten days. The NSS Units organize the regular as well as camping activities. Started initially in 37 Universities involving 40,000 volunteers, the scheme has grown over and it is implemented today with an involvement of more than 3.8 million volunteers spread over in 396 Universities, Polytechnics and 47 Councils of +2 level. [1]

The efforts of NSS volunteers have been widely respected by the community, Universities, Colleges and general Public as the NSS volunteers have been rendering selfless service to the community.

NSS Logo: The logo for the National Service Scheme has been based on the extremely large Rath Wheel of the world famous Konark Sun Temple (The Black Pagoda) situated in Orissa, India[2] The Red & Blue Colours contained in the logo motivate the NSS Volunteers to be active and energetic for the nation-building social activities. The wheel portrays the cycle of creation, preservation and release and signifies the movement in the life across time and space. The wheel thus stands for community as well as change and implies the continuous striving of NSS for social change.

REVIEW ON SYNTHETIC STRATEGIES OF 1,3,4-THIADIAZINE DERIVATIVES AND ITS BIOLOGICAL ACTIVITIES

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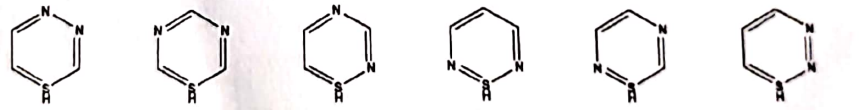
Abstract: Heterocycles containing nitrogen and sulphur known as thiazine plays a vital role in the field of pharmaceutical chemistry and agriculture chemistry. Thiadiazines compound contain one sulphur and two nitrogen atoms at varied position in six membered rings. Thiadiazines possesses an N-C-S linkage that is believed to be very useful units in the fields of medicinal and pharmaceutical chemistry. Sulphur containing drugs are known as sulpha drugs like sulfadiazine's silver used to treat burn infection, sulfacetamide for eye infection, dapsone for leprosy.In this review our aim is to summarize recent synthetic strategies and biological properties of 1,3,4-thiadiazines derivatives in last twenty years from 2000.

Keywords: Anti-cancer, Anti-microbial, Anti-tuberculosis,. Sulfadiazine, Thiadiazines

1.Introduction:

Thiadiazines compound contain one sulphur and two nitrogen atoms at varied position in six membered rings. 1,3,4-Thiadiazines, 1,2,6-thiadiazines and 1,3,5-thiadiazine are widely studied for biologically very active compoundsbut 1,2,3-thiadiazine, 1,2,4-thiadiazines, 1,2,5-thiadiazines derivatives are least known.This is in part due to their ease of formation and their stability.



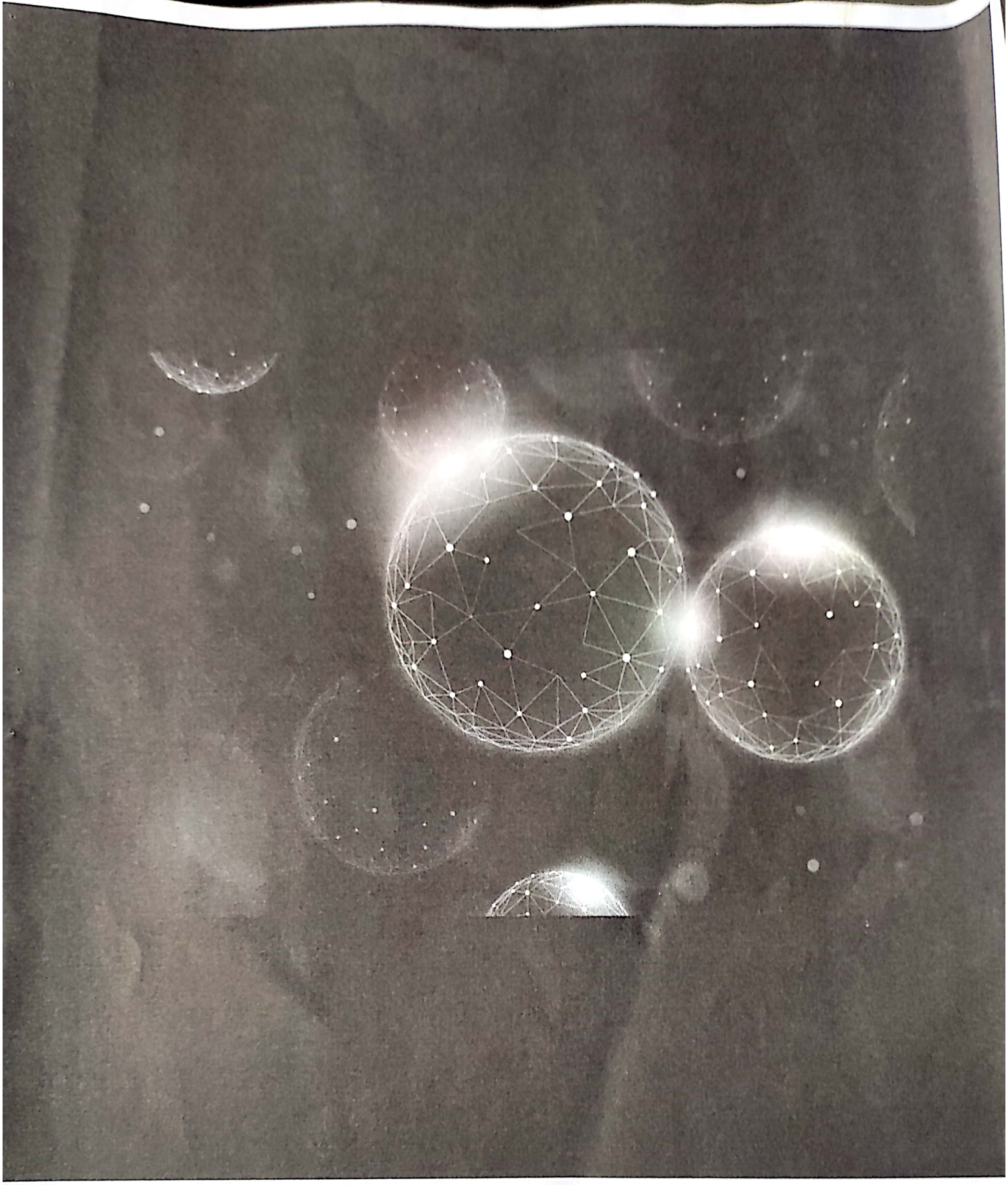
1,3,4-Thiadiazine 1,3,5-Thiadiazine 1,2,4-Thiadiazine 1,2,6-Thiadiazine 1,2,5-Thiadiazine 1,2,3-Thiadiazine

1,3,4-Thiadiazines widely studied for biologically very active compounds and shows excellent cardiotonic and hypertensive activities, some of their fused derivatives exhibit antibacterial, anti-inflammatory, fungicidal, anti-cancer, anti-tuberculosis antiepileptic,anti-malarial, anti-oxidant, anti-tubercular and trypanocide activities. Also used in agriculture as herbicides.

During the last decades, several thiadiazine derivatives have been developed as chemotherapeutic agents and have found wide clinical applications. Many thiadiazine and related heterocyclic compounds are found to possess a wide important pharmacophore and privileged structure in medicinal and agriculture chemistry.

2. Synthetic strategies:

Synthesis of the 1,3,4-thiadiazine system employing a reaction of α-bromoacetophenone with thiosemicarbazide was first reported by Bose.



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NATIONAL EDUCATION POLICY-2020: A BOOST OF EDUCATIO SYSTEM OF INDIA

V. S. Chavan, H. F. Jadhav
KES Anandibai Pradhan Science College, Nagothane

Abstract: *Ministry of Human Resource Development, Government of India has introdu National Education Policy-2020 to betterment of education system and to satisfying the n of advanced education in India. NEP has renew their structure in Streams, Pedagog structure, Board Exams, Award of Degree, Vocational course, Mark sheet Scoring, Entra Test. The NEP-2020 is mostly focused multi education and vocational education approa This NEP 2020 also focused on all educational content make available in regional languag*

Keywords – National Education Policy, Structure of National Education Policy.

Introduction

school in India, residential in nature, with pupils living in proximity to the teacher (guru). I gurukul students would reside together as equals. There was no any discrimination in socie Students were learn from the guru. They were distribute their work in themselves to help guru in his day-to-days life. There was also ancient Vedic universities like Nalanda a Taxila.

There was drastic change in Indian education system in British Era (1757-1947). that, time the British was establishes the teacher training school for all level institutions. T British increased number of government colleges, vernacular schools, high-schools, colleg and universities. After post-independence Indian education system, they have reformed t education policy.

National Education Policy

The National Policy on Education (NPE) is a policy formulated by the Government India to promote education amongst India's people. This policy has based on elementa education and colleges in both rural and urban India. The Government of India by Prim Minister Indira Gandhi introduced the first national education policy based recommendation Sir Kothari Commission in 1968. The second education policy by Prim Minister, Rajiv Gandhi in 1986, and the third education policy by Prime Minister, Narendr Modi in 2020.

National Education Policy -2020

The National Education Policy 2020 (NEP 2020), which was approved by the Unio Cabinet of India on 29 July 2020, outlines the vision of India's new education system. Th new policy replaces the previous National Policy on Education, 1986. The policy is comprehensive framework for elementary education to higher education as well as vocationa training in both rural and urban India. The policy aims to transform India's education syste by 2021.

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"Professional Challenges and Opportunities for Development of College Librarians"

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LibCRM Software: Customer Relationship Management in Library services

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Abstract : *21th century of academic libraries function has change for users. Users are main focus of libraries. The relationship between libraries and users are very essential for development of libraries as well as satisfaction of information need of users. This research paper is focused on current relationship between libraries and users. For develop and improve relationship between libraries and users this research paper provide some strategies. This paper is covered detail study of LibCRM software. This software is specially built for libraries. It is best customer relationship management software for connect with individual users of libraries.*

Keywords : *Customer Relationship Management, LibCRM*

INTRODUCTION :

21th century is known as Information communication technology era. Today's library users demand a high level of access to information. They are demands technology resources and high quality of library services. The old way of interacting with users is become untenable like expecting them to line up for hours. With influence of information communication technology the scenario has changed. The information has scattered in various formats. For providing a right information to right user at right time. The strong relationship between users and Library is very necessary.

Customer Relationship Management (CRM) :

Customer Relationship Management is a process or methodology used to learn more about users need and behavior in order to develop stronger relationships with them. Library CRM is a simple philosophy that places the users at the heart of a libraries process and activities to improve his satisfaction from the library services. Its main purpose of turn to maximum utilization of library resources. It manages to place the user at the focal point of library in order to cater to his needs and satisfied him.

Shaw)

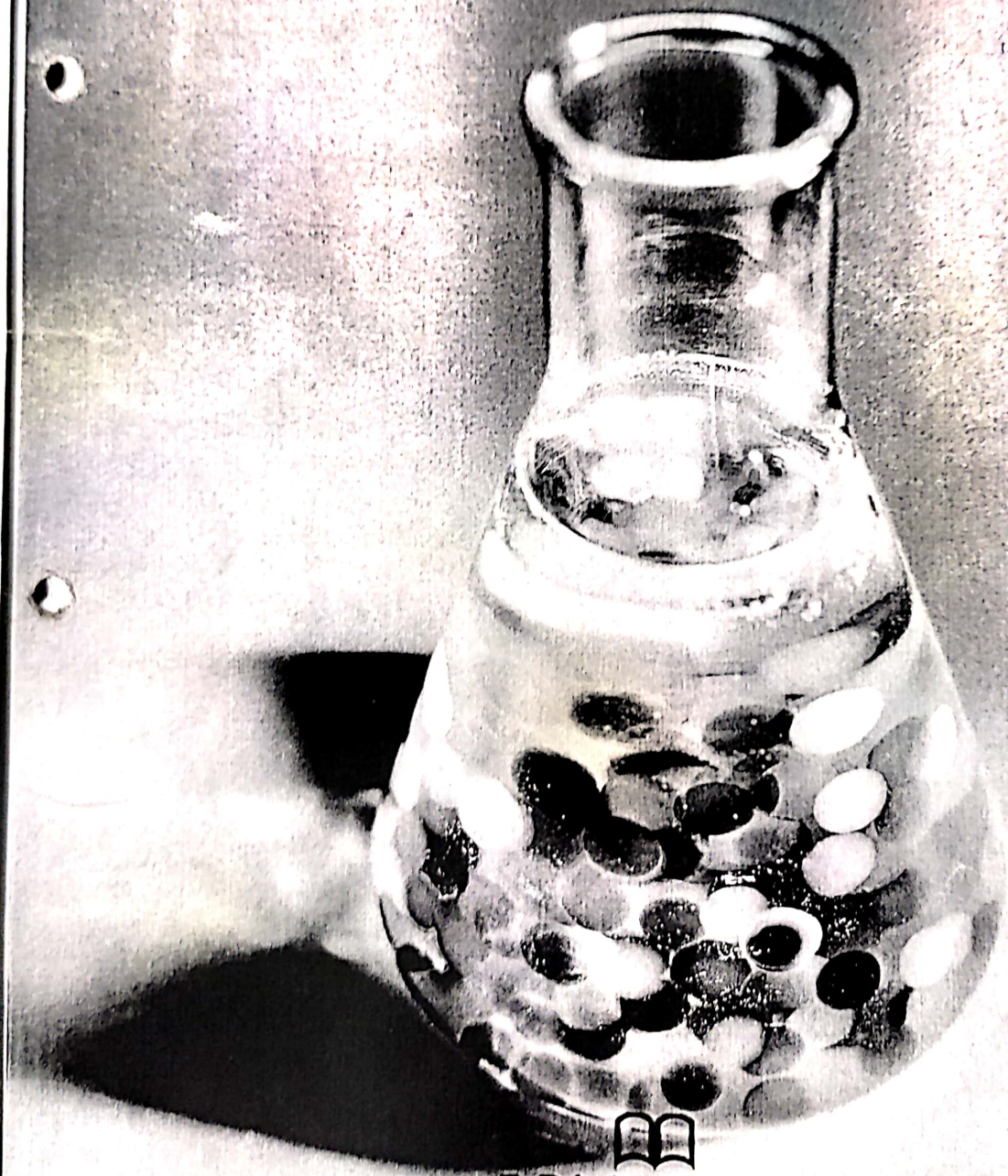
CRM is a comprehensive strategy and process of acquiring, retaining and pertaining with selective customers to create superior value for the company and the customer. (A.K. Banarjee)

Advantages of Customer Relationship Managements in libraries :

1. It is helpful for build up library user's retention and loyalty.
2. It is useful to improve library user's acquisition rates.
3. It is helpful Improve the utilization of library resources.
4. It is clearly understand user requirements.
5. It is clearly understand strength of libraries.
6. It is helpful for rendering the qualitative services to users.
7. It is improve the cooperation between users and library staff.
8. It is easy to get suggestions and feedback from users.
9. It is useful for establishment personalized relationships

Challenges and Advances in Chemical Science

Vol. 3



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Investigating the Effect of Temperature and Phase on Properties of Metal Pseudobrookite

B. S. Gurav[1*] and S. V. Salvi[1]

DOI: 10.9734/bpi/cacs/v3/3397F

ABSTRACT

Iron titanate is a metal pseudobrookite with a number of unique features, including spin glass behaviour, thermal microcracking, magnetic texture, and high resistivity. The polycrystalline pseudobrookite has wide range of applications. This paper compares the electrical resistivity and dielectric properties as a function of temperature and relaxation spectra of pure iron titanates prepared with the rutile form of titanium oxide and sintered at two temperatures, 1000°C and 1250°C, as well as pure iron titanates prepared with the anatase form of titanium oxide and sintered at 1250°C. The iron titanates are made using A.R. grade oxides and a typical ceramic method.XRD and FTIR tests confirm the development of a single phase. In terms of structure, all of the samples are pseudobrookites with orthorhombic unit cells. The analysis of the relaxation spectra establishes the presence of space-charge, which increases with the sintering temperature for the pseudobrookite prepared from rutile TiO_2. The pseudobrookite made from anatase TiO_2 also has inferior dielectric and electric characteristics at lower frequency (1 kHz) and exhibits strong hysteresis, indicating slower microcrack healing, according to the research. The effects of structural changes on resistivity, dielectric constant, and dielectric loss are discussed and analysed.

Keywords: Pseudobrookite; electrical properties; dielectric properties.

1. INTRODUCTION

The Fe_2TiO_5 phase is formed by a solid-state reaction between Fe_2O_3 and TiO_2 [1]. Electrically, it is an n-type semiconductor [2]. This is mainly due to the random distribution of Fe^{3+} and Ti^{4+} ions [$(Fe^{3+}_{0.67}$ $Ti^{4+}_{0.33})$ 4c $(Fe^{3+}_{1.33}$ $Ti^{4+}_{0.67})_{8f}$] among two octahedral sites (viz. 8f and 4c) where Ti^{4+} ion acts as donor. Magnetic spin glass behaviour is observed in this compound [3].

The antiferromagnetic order is rendered short range by Ti layers and the compound has spin glass transition at about 55 K. This antiferromagnetic order is finally destroyed above 650 K. This compound has also been investigated for large thermal expansion anisotropy [4] thermodynamic equilibrium [5] and crystallographic texture [6]. This pseudobrookite exists in a orthorhombic or monoclinic phase [7]. TiO_2 exists in three different forms; anatase, rutile and brookite. Rutile is the stable form while the other two are meta stable. Anatase on heating transforms irreversibly to rutile. This transformation does not have a transformation temperature since there is no phase equilibrium involved. This transformation temperature varies, which strongly depends on many factors such as presence of impurity, deviation of stoichiometry, surface area, particle size, atmosphere, etc. Impurities having inhibiting action are chloride, sulphate and fluoride, whereas transition metal oxides like Fe_2O_3, CuO, MnO_2, etc. have accelerating power [8]. Fe_2TiO_5 compound has the potential of a wide range of applications such as photocatalyst [9] and photoelectrode for electrolysis of water [10,11]. This has encouraged us to pursue systematic investigation of electrical and dielectric properties of pure Fe_2TiO_5 prepared from rutile and anatase TiO_2 and sintered at two temperatures viz. 1000oC and 1250oC. These characteristics would increase the range of applications of the compound. Some updates in this area are available elsewhere and may find attention of the readers [12-15].

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Pratap Naikwade (Ed.)

Recent Advances in Basic and Applied Research

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Basic research focuses on the advancement of knowledge rather than solving a problem. However, applied research directs its efforts toward finding a solution to a specific problem. Applied research is driven by a specific question to direct application, while basic research is fueled by curiosity and knowledge expansion. This book comprises of research and review papers written by professors and researchers on recent advances in basic and applied research such as overview of COVID-19 Outbreak, Environment and Human Health, Study of Sulphate Water Quality Analysis of Residual Chlorine in water sample, Role of Data Science in Modern World, Dietary Intake and Nutritional Status among Adolescents, Battery recycles future gains in performance and lifetime, Water Harvesting System, Renewable Energy Sources, Kinetic studies of adsorption of Fe (II) metal ions, Influence of Spent Wash with Bio Compost on the Growth and Nutrient Uptake, Sustainable Technique for Selected Live Feed Cultures etc.

Dr. Pratap V. Nakwade is editor of this book. He has completed post doc research from USA. He is author of several research papers and books, worked as invited speaker in many international conferences. His research work got international recognition and received Young Scientist, Outstanding Researcher, The Environmentalist and many other Awards.

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CHAPTER 12

Kinetic studies of adsorption of Fe (II) metal ions from its aqueous solution with natural adsorbent Saw dust

S.V. Choudhari

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Dist- Raigad, Maharashtra, India

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Abstract

In water purification technology, adsorption is important process for removal of toxic heavy metals from river water, industrial effluents etc. So use of natural adsorbent like Sawdust have been investigated for adsorption of Fe (II) metal ions from its aqueous solution.During Batch experiment studies natural pH, normal temperature and horizontal viabrator machine at 200 RPM is used and metal concentrations in solutions are determined U.Vspectrophotometrically. Uptake of Fe (II) ions increased from 0.2 to 1.4 mg/g of adsorbents in 40 minutes and then was almost constant. Adsorption process followed Pseudo second order kinetic model (R^2= 0.711) than Pseudo first order kinetic model .Saw dust proved to be an efficient adsorbent.

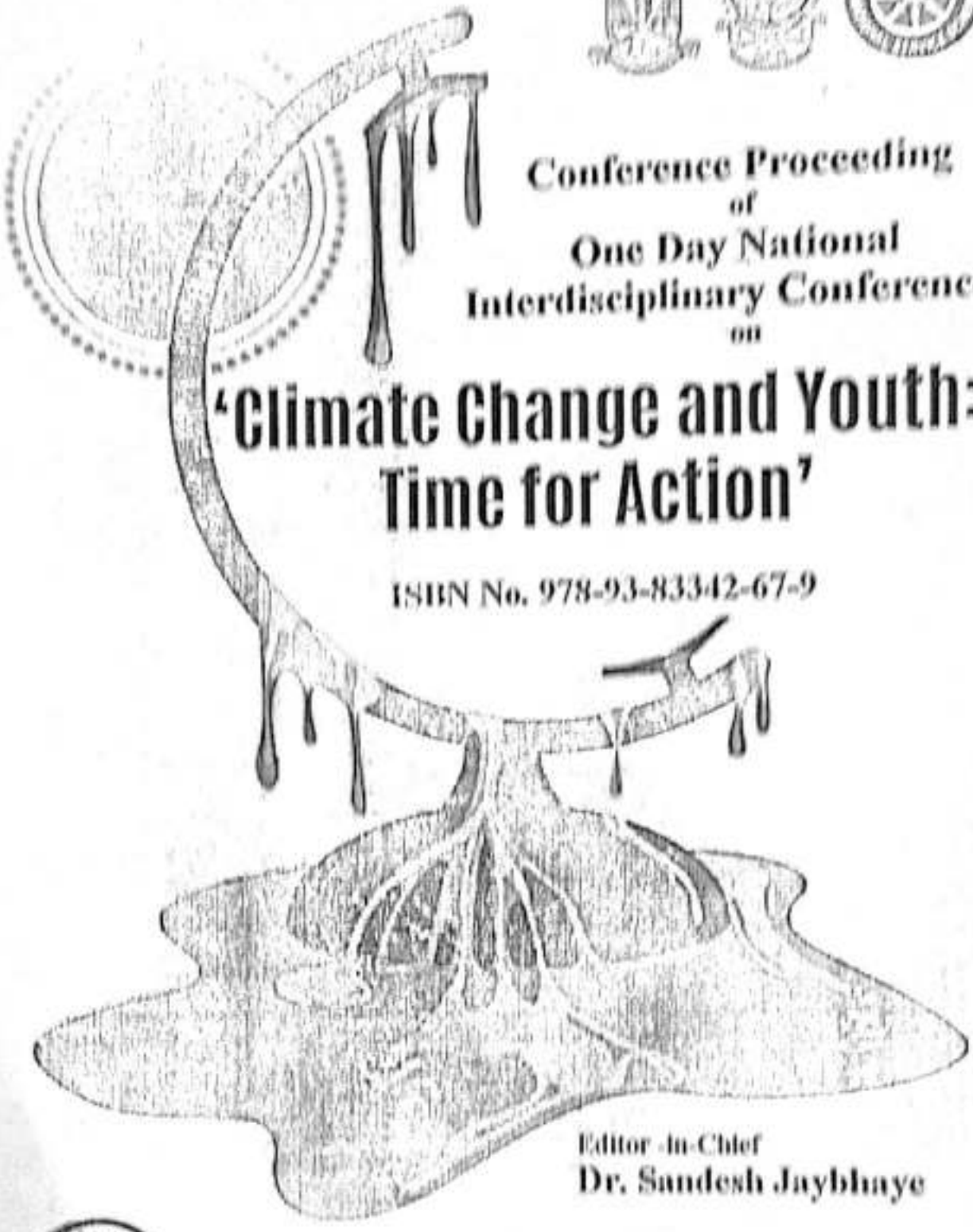
Key words: Fe (II) metal ions, adsorption, natural adsorbent, Saw dust Kinetic models

Introduction

Now day's water pollution is a big problem, so water treatment and management have increasing importance. Many old methods of water treatment like Ion exchange, Biological methods, Electro coagulations and electro dialysis are costlier methods. But in last decade adsorption technique proved to be cost-effective .Innovative use of natural adsorbents like leaf powder, different husks, agricultural and industrial wastes is environment friendly also. Present studies involved the use of Saw dust obtained from nearby saw mill for adsorption of Fe (II) ions from its aqueous solution.

Material and Methods

Chemicals used for experiments are of AR grade. Standard Fe (II) solution was prepared by dissolving Ferrous Ammonium Sulphate, ($FAS.6H_20$) in double distilled water. Saw dust powder used as adsorbent in these studies is obtained locally from



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NSS: Special camping for personality development an overview

Shrikrishna D Tupare[1]

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shritupare@yahoo.com

ABSTRACT:

The National Service Scheme (NSS) is an Indian government sector public service program conducted by the Ministry of Youth Affairs and Sports of the Government of India. It was launched in 1969 to commemorate the birth centenary of Mahatma Gandhi. This programme aims to develop the personalities of students *via* community work. With increased participation of students, it is now conducted as a two-year filled with different activities and a residential camp. There are two types of activities Regular Activities (120 hours) and Annual Special camp (7 or 10 days). The annual residential camp is conducted in an adopted area which is predominantly rural villages or slums or small Adivasi Wadi's. organizing and managing these residential camps is a very exciting and challenging task. With the help of such camps students as well as teachers are able to understand their problems and help the people in the community to improve their social conditions as well learn new aspects of life from them.

So, this article gets a take on a field level and overviews of the actual work of NSS special camping and how it helps volunteers to develop their personality.

Keywords: Adiwasi Wadi, Birth centenary, community, overviews, Personality, Residential, volunteers.

1. INTRODUCTION

National Service Scheme, popularly known as NSS is an extension of activities to the higher education system to orient the student youth to community Service while they are studying in education institutions, under the Ministry of Youth Affairs & Sports, Govt. of India.[1] National Service scheme volunteers undertake various activities in adopted villages and slums for community service, Duration of these services is 240 hours in two years along with one special camp of seven or ten days. The NSS Units organize the regular as well as camping activities. Started initially in 37 Universities involving 40,000 volunteers, the scheme has grown over and it is implemented today with an involvement of more than 3.8 million volunteers spread over in [illegible] Universities, Polytechnics and 47 Councils of +2 level.[2] The efforts of NSS volunteers

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DETECTION AND SEPARATION OF FEWMETAL IONS FROM THEIR AQUEOUS MIXTURES WITH THIN LAYER CHROMATOGRAPHY TECHNIQUE

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Abstract:

The reversed phase thin layer chromatography is employed in detection and separation of some few toxic metal ions like Cu(II), Fe(III),Ni(II) ions from their two-three component aqueous mixtures. Silica gel-G is used as stationary phase & monochloro acetic acid is used as mobile phase. Effect of different concentrations and pH are studied to optimize the conditions of the technique. Best metal ions separation is achieved at optimum pH 3.3 and concentration of0.1 M monochloro aceticacid.

Keywords: Thin Layer Chromatography, Silica gel-G, mobile phase etc.

Introduction:

Water is Life. Water is basic need of human being. For increasing need of pure water, existing water reserves in the area should be protected and so that potable water is available to local residents. Even though industrialization provides new opportunities of employments, increased industrialization and population had led problems like contamination of water bodies. Researchers searched for better water treatment processes, but required cost, machinery and manpower is big problem. Thin layer chromatography canbe effective technique than older methods of heavy metal ions detection and separation ion exchange chromatography, Atomic emission spectroscopy, precipitation etc which will help in water purification system (Wanjari, 2012).

Metals with specific density more than 5 g/cm^3 are called heavy metals. Trace amounts of above mentioned metals are required for biochemical and physiological activities inhuman body, however if their amounts cross permissible limits of concentrations, then they cause toxicity to our health leading to long lasting adverse effect. Now days this has become global environmental issue. (Jaishankar *et al.*, 2013) (Monisha Jaishankar 2014).

Industrialization and urbanizationhas led to different problems like dumping of waste and domestic effluents and solid waste, destruction of catchment area, accidental chemical spills. So chances of contamination are increased.

CHAPTER 2

Mycoflora From Rhizospheric soil of *Lablab purpureus* (L)

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Abstract

In this study mycoflora of four different localities of raigad district were carried out. During this study sixteen different types of fungal spores was observed. They belong to Family Acaulosporaceae, Gigasporaceae. The genus Acaulospora was dominant with six species, as well as Glomus with six species.

Keywords: Isolation, Mycoflora, Rhizosphere

Introduction

Soil has different types of microorganisms which increase the fertility of soil. This living population increase the humus in soil to produces enzymes and liberate CO_2, Organic acids etc. They are responsible for bringing about numerous transformations which change the nutrients in to readily available forms which can be formed by plants. Hence the biological population has an important role to play in this planet.

Materials and Methods

The isolation of spores of AM fungi was carried out by wet sieving and decanting method (Gerdemann and Nicolson, 1963) from 100 g rhizosphere and non-rhizosphere soil. 100 gram soil was suspended in 1 liter of tap water. The mixture was stirred well and the coarse particles were allowed to settle down 15-20 minutes. The supernatant was decanted through a series of sieves arranged in descending order of mesh size (400, 350, 210, 150 and 75 µm). The spores from each sieve were collected

in a beaker containing tap water separately. The supernatant from each beaker was then separately filtered through Whatman No.1 filter paper. The filter papers were placed in the Petri-plate; care being taken to ensure that they remain moist. The contents of the filter papers were examined for spores and sporocarp under Leica upright Trinocular Research microscope (Model DM750) with EC3 digital camera.

Results

During this study sixteen different types of fungal spores was observed. They belong to Family Acaulosporaceae, Gigasporaceae.

1.*Acaulospora dilatata* Morton

It belongs to Family Acaulosporaceae. Spores formed singly in the soil, borne laterally on hyphae, each ending in a globose to sub globose hyphal terminus 110 to 130 µm diameter (Morton, 1986) contents of the terminus sub hyaline to yellow, emptying during spore formation and then collapsing; terminus radially detaching from immature as well as mature spores during extraction of soil. Spores deep yellow when examined under reflected light, mostly globose to sub globose, (69)-100-(126) µm diameter, but occasionally elliptical, 65-115 x118-151 µm diameter. Spore wall consists of 5 walls in three groups.

2.*Acaulospora foveata* Trappe and Janos

It also belongs to Family Acaulosporaceae. Species *foveata* (pitted) refers to the pitted spore surface. Azygospores formed singly in the soil, sessile borne laterally on a hyaline, thin walled. Spores inflated globose to ellipsoidal, 170µm in diameter, yellowish brown when young and becoming reddish brown to brownish black at maturity (Janos and Trappe 1982). Spore surface uniformly pitted with round to oblong or irregular depressions separated by brown ridges. Outer spore walls reddish to brown 09µm in thickness with inner wall 1 to 2µm thick, fine hyphae below the point of spore attachment. Spores are orange brown in Melzer's reagents.

3.*Acaulospora nicolsonii* Walker, Reed and Sanders

Acaulospora nicolsonii was named in honor of Dr. T. H. Nicolson,University of Dundee, in recognition of his important pioneering contributions to the study of endomycorrhizal (Endogonaceae). Spores formed singly in the soil, neck of

CHAPTER 3

Ethnobotanical Investigation on Wild Edible Vegetables used by Thane Residents

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Abstract

A field research study was conducted in the years 2020–21. This type of comprehensive survey technique could help aspiring scientists learn about the health benefits of wild edible plants, which can then be combined to create profitable crop plants. The reduction of food shortages, the regeneration of barren regions, and the strengthening of rural economies will get benefitted from such a system. A total of 23 wild edible plant species from 18 families and 20 genera were discovered, identified, and discussed in this study. The botanical names of plants, as well as their common names, habits, families, parts used, modes of uses, ethnomedicinal applications and tribal recipes, are arranged alphabetically. With three species Amaranthaceae followed by Dioscoreaceae and Malvaceae with two species and the rest with one species each. Leaves (09), followed by fruit (06), tuber (04), stalk (02) and the rest with one species each, were the most commonly used among 23 wild edible plants.

Key Words: Ethnobotany, healers, traditional knowledge, tuber, vegetables, wild vegetables

Introduction

The term "wild edible plants" refers to plants that can be used as food if collected at the appropriate stage of growth and properly utilized. (Kallas, 2010). WEPs (wild edible plants) are species that are not farmed or domesticated but are available in their native habitat and exploited as food sources (Beluhan and Ranogajec, 2010). Wild edible plants have played an essential role in human life from ancient times; they have been utilized for food, medicine, fiber and other purposes, as well as feed for domestic animals (Kanchan, 2011). Several studies have revealed that wild edible plants are a possible source of nutrients and are often more nutritious than conventionally consumed crops. (Grivetti and Ogle, 2000).

Wild edible plants serve an important role in providing food for poor rural populations, particularly tribal people who live near woodlands. Forest dwellers'/tribal populations' subsistence methods rely heavily on wild food plants. While these plants are not widely available, though they are important for nutrition and food security in many countries, including China, India, Southeast Asian countries, Africa and Australia. Several wild edible plants are consumed alongside domesticated in many countries, including China, India, Southeast Asian countries, Africa and Australia (Mazhar et al., 2007). Edible wild plants have always been used as the first food source, providing the necessary energy for human growth, development and reproduction (Rai et al., 2012).

Forests play a vital role in ensuring tribal food security. Forest dwellers' livelihood methods rely heavily on wild edible fruits as a source of nourishment. India has a large forest region and more than 4 million tribal people rely on wild edible plants.

The monsoon season is when uncommon wild foods are most plentiful. From July through September, these vegetables can be found in abundance in forests, along hill slopes, near river banks, surrounding ponds and in and around their hamlets, where cow dung is plentiful. During the first two months of the monsoon, most wild vegetables are available for good development. Though most wild vegetables are available to tribals during the first two months of the monsoon, due to high demand at the local taluka market, just a handful are left behind for their family members. The

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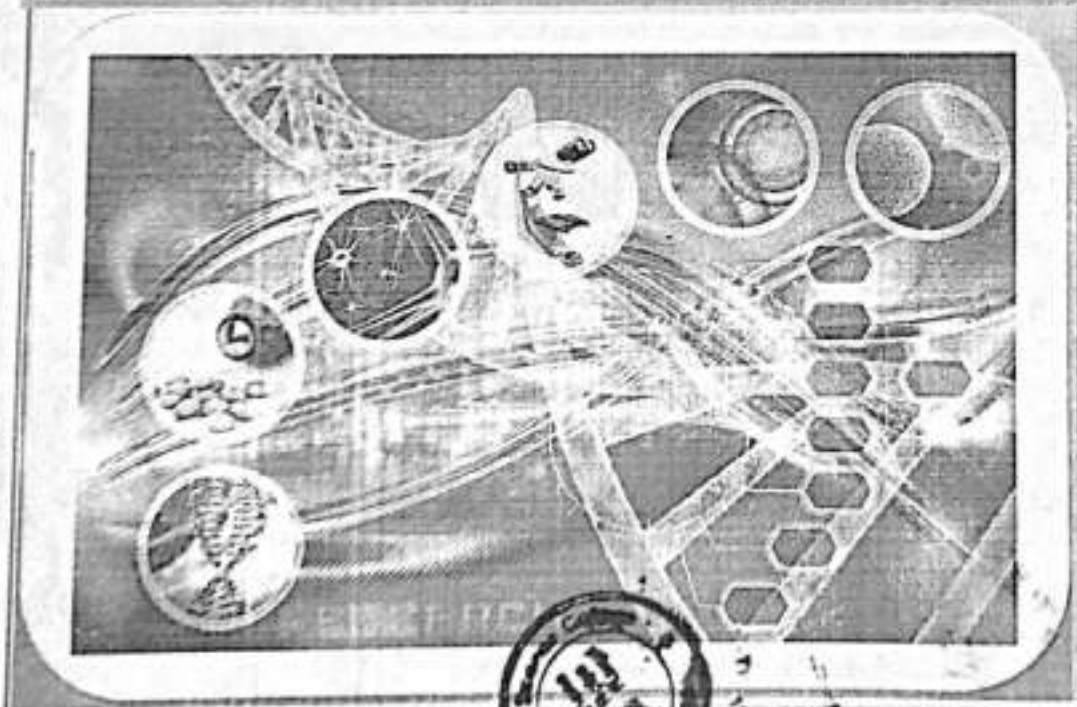

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Seasonal Concentration of Different Spore over Paddy Fields. (*Oryza Sativa* L.)

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Abstract: Aeromycological study over paddy fields was carried out for complete one rabbi season by using Tilak's Air sampler starting from 11th Jan 2003 to 30th Apr 2003at Raigad District of Maharashtra in Konkan region. During this study total **1143073** (Conversion factor 14) fungal spores were counted. These fungal spore causes different types of diseases to paddy crop which leads to decrease in production.
Key Words: Tilak's Air sampler, Paddy, Meteorology etc

Introduction

Aeromycological study was carried over paddy (Oryza sativa L) fields in Raigad district for complete two years kharif season followed by rabbi season. During this study different type 43 of fungal spores occurred. All these fungal spores were grouped to their respective classes like Deuteromycotina, Basidiomycotina, Ascomycotina and Other types. These types of fungal spores causes different types of diseases e.g. Brown spot (Helminthosporium species), Blast (Pyricularia species), Grain Discoloration (Phoma species,Cercospora species,Fusarium species, Nigrospora species) etc. Due to different types of these diseases productivity of paddy (Oryza sativa L) decreases. "Rice is life" due to importance in global food security, alleviated, poverty and hunger, ruler employment generation and preserve world heritage.

Materials and methods:

This study was carried out in paddy fields with the help of volumetric Tilak's Air sampler. This instrument was installed in field at constant height of 1.5 meter above the ground level [4].The apparatus is run on electric power supply (Ac 230v) and provides continuous sampling of air for eight days. The electric clock was fitted in the instrument is synchronized with the drum. Air is sucked through orifice of projecting tube at the rate of 5 lit /min and it impinges on transparent cello tape. Which is of 1.5 cms in breath and sticked on circumference of 67.2 cms, of slowly rotating drum. The drum complete one circle in eight days the tape is slightly coated with petroleum jelly and faces the orifice of the projecting tube 0.5 cms away from it. Before the tape is mounted on glass slide, at the end of eight days, it is divided into eight equal parts, measuring 4.2 cms, in length and then cut. Each piece, thus obtained, represents the 12 hours sampling area for a day or night accordingly. The tape was mounted on slide with glycerin jelly and made permanent.

Scanning was done by dividing this tape in to six equal parts, each part representing 2 hours' trace area. The air is sucked through the tube with the help of small fan having three prongs and having fixed in the circular opening cover of the sample. So as to force air out of the collection, chamber, causing negative pressure. An exhaust hole measuring 6 X 2.7 cms is kept in a lid of apparatus.

Scanning:

Scanning was done regularly, areas 9600 sq. microns of total area as the trace obtained in a day, scanned under 10X × 40X eyepiece objective combination of the microscope. Assuming the trapping efficiency to be 75 % and counts were converted in to number per m3 .the identification of spores caught was based on (1) Microscopic character, (2) Comparison with parasitic and saprophytic fungal material collected in and around the field, (3) Comparison with cultural characters.

Sampling site

Raigad is one of the important districts in Maharashtra. It lies at the bank of Arabian Sea. The geographical position of it is 170 51' north 190 80' north latitude and 720 51' east to 730 40' east longitude. The total length of south–north is 150 km and east–west width is 48 km. The total geographical area of Raigad District is 6750 km2. Hilly area is one of the important salient features of Raigad district. In monsoon there is regular rainfall. In this district there are 14 Talukas. This investigation was carried out at Nagothane, Roha taluka for this investigation hybrid variety of rice was selected.