Review of ReseaRch
ISSN: 2249-894X
Impact Factor : 5.7631(UIF)
Volume - 11 | Issue - 4 | January - 2022

AEROMYCOLOGICAL STUDY OVER INTRAMURAL ENVIRONMENT OF LIBRARY FIELD IN RENAPUR TEHSIL OF LATUR DISTRICT

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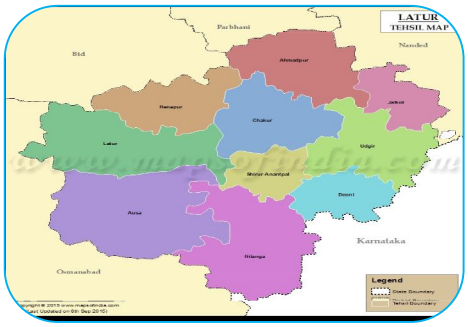
ABSTRACT:

Fungal contamination can be prevented by considering some very important measures when designing a library building. Although care is generally taken to prevent books from all possible avenues of water damage, damage occurs in unexpected ways. Books borrowed from the library sometimes go through various unhygienic conditions and many times carry fungal spores with them when they return to the library.At present aerobiological examination was carried out in Renapur, Tehsil of Latur district using Tilak air sampler. The Tilak air sampler was used to capture aerobic biological components, which incidentally provided continuous quantitative and qualitative data.

INTRODUCTION:



There is no doubt that digital library is a wonderful gift of science to human beings. It accommodates readers with millions of books at a click. He doesn't need to be away from his computer. Just sit in front of the computer and the whole library is open to everyone. This saves the reader time and energy as he does not have to stand in line and wait for the librarian to get his favorite book. Sometimes even a librarian takes a long time to find a book. The list of books remains in the hands of the reader, he can open and read any book. If the library is connected to other libraries, it allows the reader to access that library as well. The digital library, along with all the other facilities, provides freedom from the use of paper. Due to the growing population and literacy, the use of paper has reached dangerous levels, where the existence of forests has been threatened and it has become a cause of concern for mankind. Wood or cotton are the main ingredients for making paper, which are used for newspapers, magazines and books. The distribution of newspapers, books and magazines is so large that many acres of forest are required for one day's use. Digitization may provide an option to greatly reduce the use of paper. Digital protection is very different from physical protection. Efforts are being made to transfer all necessary valuable data indefinitely for future generations.

Digital libraries free you from many of the problems that physical libraries constantly face. The sustainable elements we have discussed cannot affect the way digital libraries affect physical libraries. The paper of books falls prey to various influences of nature. Light, humidity, temperature all affect the life of the paper. Temperature differences also have a significant effect on paper. There is no doubt that these environmental factors also have some effect on digital literature, but many advantages like low space, easy imitation (copying) etc. allow us to overcome the disadvantages of physical libraries. Physical boundaries are undone by digital libraries. One does not have to physically go to the library but one can access all the contents of the person who is physically present in the library. The only requirement is the ease of internet connectivity.

Another great advantage of digital libraries is that they do not have time to close and open, but are always ready to serve readers. In a digital library, a single book can be given to multiple readers at

the same time. Sometimes a resource may be made available for a limited time after which the beneficiary loses access to the book, such as books being returned to the library after expiration in the physical library. With accessibility, the user can also retrieve information, as digital libraries provide us with a user-friendly interface. Digital libraries take up less space than traditional libraries. Traditional libraries require a lot more space than digital libraries, as digital information can be stored in very little space compared to books in traditional libraries. When more space is not required, staff costs, maintenance and rent are reduced. There is no doubt that a regular large budget is required without any additional achievement for the maintenance of staff and maintenance of library materials. The money saved is the money earned, so the money saved in these heads can be invested in some other improvements and to facilitate the readers. Other means of communication like blogs can also be provided to the readers.

AIRSPORA STUDY OVER INDOOR ENVIRONMENT OF LIBRARY:

Air is a mixture of various gases, water vapor and solid suspended particles. It is a natural environment for microorganisms but does not contain the required amount of moisture and nutrients. Airborne organisms come from a variety of sources such as soil, organic waste, dead and decaying layers, and infected hosts. Similarly, they enter the air through the oral, nasal, pus-filled passages after excreting animal excrement. The two elements of nature i.e. organisms and their environment are interdependent which include inorganic elements of the atmosphere like air, water, soil, temperature, light.

Now with significant improvements in industrialization, urbanization and agriculture, most of the organic and inorganic pollutants are exposed to environmental pollutants such as fungal spores, bacteria, viruses, molds and pollen that are important to initiate disorders not only in humans. Animals, however, play an important role in infecting the plants of many important crops causing severe damage to the quality and quantity of produce. In fact, it is man's responsibility to bring about change in ecosystems. Ecological system imbalances require aerobiological surveys so that further necessary steps can be taken to prevent serious damage to living systems by pathogens. Predictions of various diseases have been developed that eventually led to “prevention rather than disease”. The history of aerobiology is already given in detail in the preface to the first part.

MATERIAL AND METHOD:

Tilak sampler materials and methods are followed for this investigation. Air samples were taken for two seasons,the first season from 1stOctober 2016 to 25thDecember 2016 and the second season from 5th October 2017 to 15thDecember 2017. By running Tilak air sample. The sampler was 4 feet high in ainternal environment of library and was running on electricity. Air sampling was done on cellophane tape coated with five liters of air petroleum jelly per minute.

Table 5.1

The difference in total airspora concentration, the percentage of different spores in the first and second year in internal environment of Library and their percentage is the contribution.

First Season 1st October 2016 to 25th December 2020 and Second Season 5th October 2017 to 15th December 2017

Spore type	Total concentration of spores / m³ of air		Percentage contribution to the total airspora		Mean % contribution
	1st Season	2nd Season	1st Season	2nd Season	
Phycomycetes					
Albugo	211	113	0.052	0.033	0.043
Ascomycetes					
Bitrimonospora	583	103	0.144	0.030	0.087
Chaetomium	2947	1748	0.727	0.510	0.618
Didymosphaeria	2036	4758	0.502	1.389	0.945
Erysiphae	156	107	0.038	0.031	0.035
Hlypoxylon	142	25	0.035	0.007	0.021
Leptosphaeria	95	109	0.023	0.032	0.028
Lophiostoma	117	615	0.029	0.179	0.104
Pleospora	341	487	0.084	0.142	0.113
Pringsheamia	23	712	0.006	0.208	0.107
Sporormia	207	682	0.051	0.199	0.125
Sordaria	2141	6894	0.528	2.012	1.270
Xyleria	219	234	0.054	0.068	0.061
Basidiomycetes					
Ganoderma	236	148	0.058	0.043	0.051
Rust spore	4025	2947	0.993	0.860	0.926
Smut spore	7783	2961	1.920	0.864	1.392
Telitospore	0	56	0.000	0.016	0.008
Deuteromycetes					
Alternaria	79856	21541	19.695	6.287	12.991
Annelophora	69	94	0.017	0.027	0.022
Aspergili	2017	72658	0.497	21.205	10.851
Beltrania	94	53	0.023	0.015	0.019
Bispora	806	482	0.199	0.141	0.170
Botryodiplodia	32	61	0.008	0.018	0.013
Brachisporiurr.	30	0	0.007	0.000	0.004
Ceratophorum	66	0	0.016	0.000	0.008
Cercospora	2641	3367	0.651	0.983	0.817
Cladosporium	142530	110964	35.153	32.385	33.769
Cordana	1326	1357	0.327	0.396	0.362
Curvularia	17964	12637	4.431	3.688	4.059
Deigthoniella	95	96	0.023	0.028	0.026
Diplodia	48	709	0.012	0.207	0.109

Epicoccum	5241	2863	1.293	0.836	1.064
Fusariella	784	206	0.193	0.060	0.127
Fusoma	32	16	0.008	0.005	0.006
Haplosporella	45	78	0.011	0.023	0.017
Harknessia	113	34	0.028	0.010	0.019
Helminthosporium	7028	4263	1.733	1.244	1.489
Heterosporium	32	88	0.001	0.026	0.013
Memnoniella	3017	539	0.744	0.157	0.451
Nigrospora	20541	13964	5.066	4.075	4.571
Periconia	3486	2193	0.860	0.640	0.750
Pestalotia	108	153	0.027	0.045	0.036
Pithomyces	18942	2680	4.672	0.782	2.727
Pseudotorula	685	94	0.169	0.027	0.098
Pyricularia	103	59	0.025	0.017	0.021
Ramularia	2149	4028	0.530	1.176	0.853
Spegazzinia	3532	3241	0.871	0.946	0.909
Stemphyllium	18	30	0.004	0.009	0.007
Tetraploa	134	139	0.033	0.041	0.037
Torula	16984	14329	4.189	4.182	4.185
Trichothecium	169	119	0.042	0.035	0.038
Other types					
Fungal hypha	30584	24836	7.543	7.248	7.396
Insect parts	3347	1482	0.825	0.433	0.629
Pollen grains	17324	17852	4.273	5.210	4.741
Protozoan cyst	1276	984	0.315	0.287	0.301
Trichomes	212	1542	0.052	0.450	0.251
Unclassified group	732	114	0.181	0.033	0.107
	405454	**342644**	**100.00**	**100.00**	**100.00**

RESULT AND DISCUSSION:

The current investigation relates to the study of aerosporasin the intramural environment of Library of Shivaji Mahavidyalay. The library is in Renapurtaluka of Latur district in Maharashtra. Air samples were taken using Tilak Air Sampler rabbi season i.e., November 2015 to January 2016 and Second season from November 2016 to January 2017.Of the 57 trapped aerobic components, 01 belong to phycomycetes, 12 to escomycetes, 04 to basidiomycetes and 34 to deuteromycetes and 06 to other types.

Spores of Deuteromycetes contributed the most to 80.637% of the total airspace in internal environment of library of Shivaji college fields, followed by other varieties 13.425%, Ascomycetes 3.515%, Basidiomycetes 2.377% and Phycomycetes 0.08%.Cladosporium was found to be the major spore type in selected period. (33.769%). It is followed by Alternaria (12.991%), Aspergillus (10.851%), Negrospora (4.571%), Torula (4.85%) and Carvularia (4.18%) in Library environment. The influence of environmental parameters on spore release was discussed, where it has been found to be

responsible for qualitatively and quantitatively influencing aerospora composition under climatic conditions.In the current investigation, the new record in the region is the leaf spot disease of lycopersicon (groundnut) caused by Alternaria solani and the purple spot disease of allium (groundnut) caused by Alternaria pori (III) CIF. The epidemiology of some diseases has been discussed in relation to aerobiological aspects.

This aerobiological survey helped to provide an adequate composition of the components of the aerospora during both seasons.

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