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SCIENTOMETRIC ANALYSIS AND TITLES WORD LINKAGE IN DOCTORAL THESIS OF VEGETABLE PATHOLOGY DURING THE PERIOD OF 2007-2019

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ABSTRACT

There 2,327 citations were identified from 12 doctoral theses the highest 5(41.67%) number of theses submitted in 2009. Out of 2,327 Citations there are 1,408(60.50%) citations from "Journal Articles", 400(17.19%) are from "Books", 317(13.63%) are from "Conference proceedings", 172(7.40%) are from "Thesis and Dissertations", 236(16.76%) were "j.of.Phytopatholohy" from "United Kingdom", is published 78(2.84%) were from "Indian j.mycol.pl.Pathol" Published from "India". 14(14.15%) from "USA" is the second top country, 412(29.27%) were highest from the period "2008-1998", 391(27.77%) references from the period "1997-1987".

Keywords: Citations, Submitted, Journal Articles, Conference, Dissertations, Phytopathology, India, References

1. INTRODUCTION

In the field of Library and Information Science bibliometrics/ Scientometrics as it is presently known is of recent origin through its roots could be traced to a study made 85 years ago in 1917 since then it has come a long way and attained much importance and significance for library and information managers. Researchers in bibliometrics has also given birth to a couple of other terms scientometrics and informatics which are used today in place of bibliometrics Earlier the term statistical bibliography was also used for it while Ranganathan prepared to call it Librametry all these terms are the same. Bin Li et al. (2020)Bibliometrics has practice

applications in the evaluation of library operations and surveys through statistical techniques to make the quantitative analysis possible. There are some Bibliometrics techniques are used they are to study research trends and growth of knowledge in the field of Library and information science, to estimate comprehensiveness of secondary periodicals, to identify users of different subjects, to identify authorship trends in documents on various subjects, to measure the usefulness of retrospective and current awareness services.

2. SCOPE METHODOLOGY

The present study is limited to Scientometric analysis and titles word linkage in doctoral thesis of vegetable pathology during the period of 2007-2019. Data has been collected from Krishikosh Website. The citation technique is adopted for the study there are 12 thesis and their 2,327 references were analyzed according to citation method. The collected data were tabulated presented, analysis and interpreted with the help of tables and graphs. The present data is entered in MS Excel sheet. According to AACR2 cataloguing code. The ranking of periodicals are checked country of publications in SCIMAGO Website and there were 06 thesis titles selected for linking of words in universe of knowledge. Garga & Tripathib (2018)

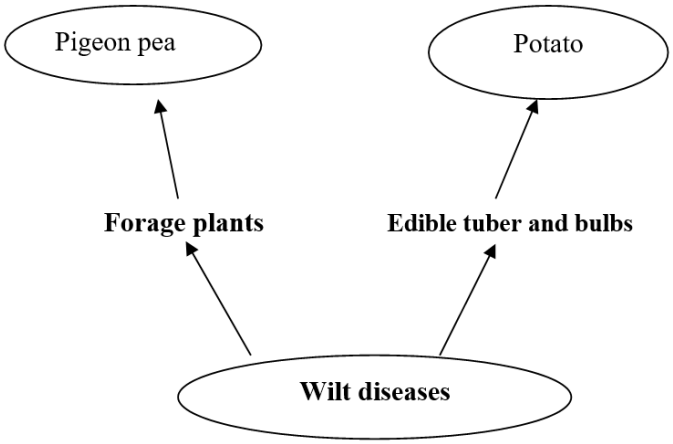
3. OBJECTIVES OF THE STUDY

- To know Year wise Submission of Doctoral thesis in Vegetable Pathology
- To find out Average number of Citations in each thesis
- To verify Types of documents cited by researchers
- To know Authorship pattern of citations and degree of collaboration
- To know Ranking of Periodicals
- To find out Geographical wise distribution of journal articles
- To verify Age wise distribution of journal references.

Using Vegetable Pathology thesis Titles for Subject Relation

Sl. No	Type Of Crop		Name Of Diseases	Organism Attacked
1	**Edible tuber and bulbs**			
	a.	Potato	Wilt	Bacteria
2	**Forage plants**			
	a.	Pigeon pea	Wilt	Bacteria
3	**Cereals**			
	a.	Sorghums	Root	Virus
4	**Other crops grown for industrial processing**			
	a.	Vanilla	Stem Rot	Virus
5	**Flowers and ornamental plants**			
	a	Sunflower	Necrosis	Virus
6	**Tropical and Sub tropical fruits**			
	a	**Pomegranate**	**Bacterial Blight**	Virus

This is one example of single disease Wilt Causing Two Different Crops like Potato and Pigeonpea.

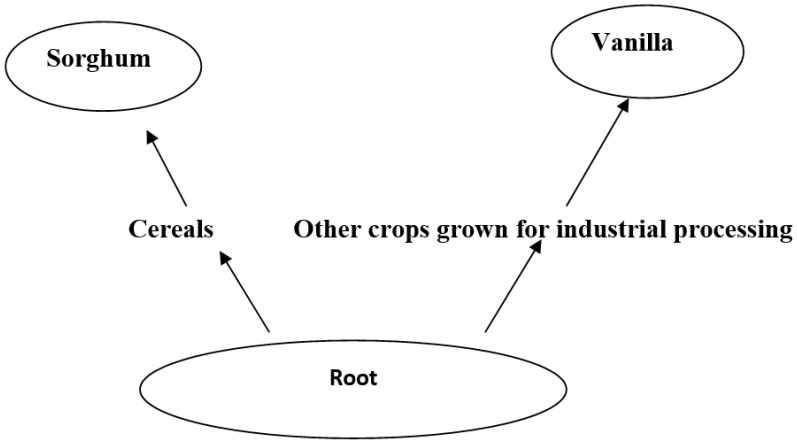


Thesis titles Referred

Epidemiology and integrated management of Potato WILT caused by Sclerotium rolfsii Sacc. Jozi & Nourmohammadi (2022)

Identification of strains of Fusariumudam Causing WILT of Pigeonpea Through cultural, morphological and molecular approaches and its management.

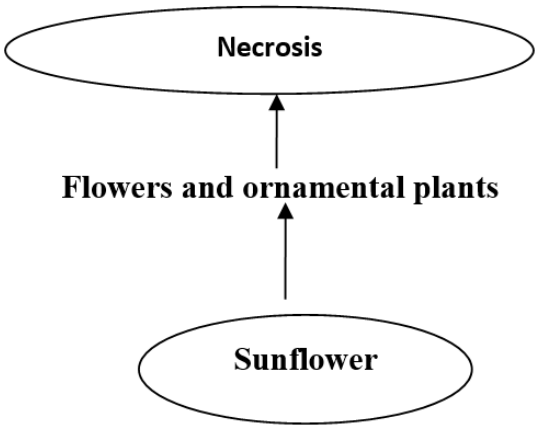
This is another example of Single disease Root causing Two different Crops like Sorghum and Vanilla.



Referred thesis titles

1) Studies on etiology, variability, epidemiology and management of Stem Rot of Vanilla (Vanilla planifolia) caused by Fusarium oxyxporum schlecht ex.Fr.f.xp.ounillac
2) Variability and management of charcoal Rot of Sorghum Caused by Macrophoomina phaseolina (Tassi) Goid.

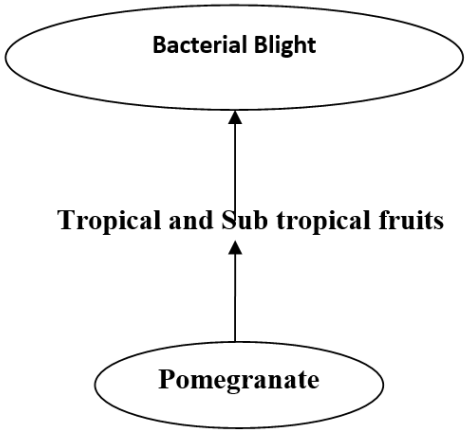
This is another example of Single disease Necrosis causing one crop Sunflower.



Referred thesis titles

1) Molecular Detection of **sunflower Necrosis** virus in weeds and its vector thrips prevalent in **Sunflower** Ecosystem. Koteppa et al. (2013)

This is another example of Single disease Bacterial Blight causing one crop Pomegranate.



Referred thesis titles

Molecular characterization of Xanthomonos axanopodha pv.punicae, causing Bacterial Blight of pomegranate, its Epidemiology and integrated Management.

4. DATA ANALYSIS

Table 1

Table 1 Year Wise Submission of Doctoral Thesis in Vegetable Pathology

Sl. No	Year of Submission	No of citations	No. of Thesis Submission	%
1	2007	534	3	25
2	2008	861	4	33.33
3	2009	932	5	41.67
Total		2,327	12	100

It is observed in T1 that Year wise Submission of Doctoral thesis in Vegetable Pathology. A total of 2,327 citations were identified from 12 Thesis. The highest 5(41.67%) number of thesis submitted in 2009. Followed by 4(33.33%) Submitted in 2008 and 3(25%) Submitted in 2007.

Table 2

Table 2 Average Number of Citations in Each Thesis

Sl. No	No. of Thesis	Average Citations per volume	%
1	12	**2,327**	**193.91**

It is observed in T2 that the Average number of Citations in each thesis the total number of 12 thesis were called 2,327 Citations. Their average citations in each thesis is 193.91%.

Table 3

Table 3 Types of Documents Cited by Researchers

Sl. No	Ranking No	Type of documents	Citations	%	Cumulative of citations	%
1	1	Journal Articles	1,408	60.5	1,408	60.5
2	2	Books	400	17.19	1,808	77.69
3	3	Conference proceedings	317	13.63	2,125	91.31
4	4	Thesis and Dissertations	172	7.4	2,297	98.71
5	5	Annual Reports	16	0.68	2,313	99.39
6	6	Electronic Sources	7	0.3	2,320	99.69
7	7	Incomplete References	7	0.3	2,327	100
Total			**2,327**	**100**		

It is observed in T3 that Types of documents cited by researchers. A total of 2,327 Citations there are 1,408(60.50%) citations from "Journal Articles", Followed by 400(17.19%) are from "Books", 317(13.63%) are from "Conference proceedings", 172(7.40%) are from "Thesis and Dissertations", 16(0.68%) are from "Annual Reports", 7(0.30%) are from "Electronic Sources" and 7(0.30%) are from " Incomplete References". Norma et al. (2020)

Figure 1

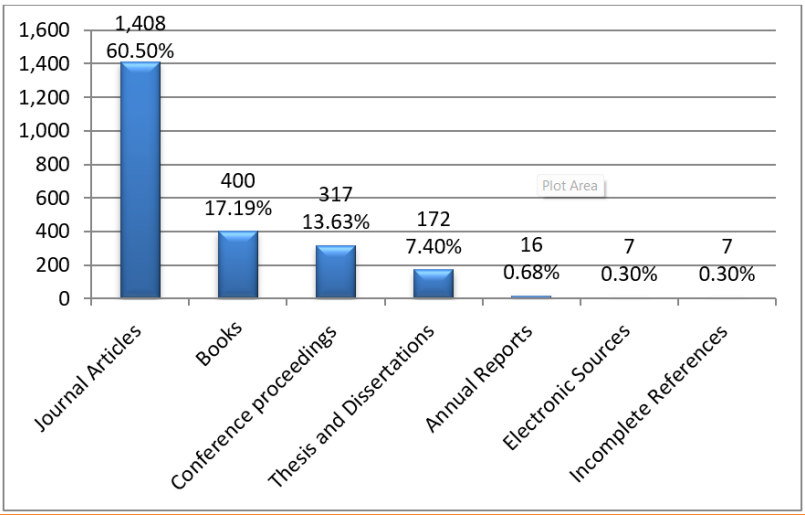


Figure 1 Types of Documents Cited by Researchers

Table 4

Table 4 Authorship Pattern of Citations and Degree of Collaboration

Sl. No	No. of Authors	No. of Citations	%
1	Single Author	232	16.48
2	Multi Authors	1,176	83.52
Total		1,408	100

It is observed in T4 that Authorship pattern of citations. A total of 1,408 Citations there were 232(16.48%) citations are from "Single Author" and 1,176(83.52%) are "Multi Authors".

Figure 2

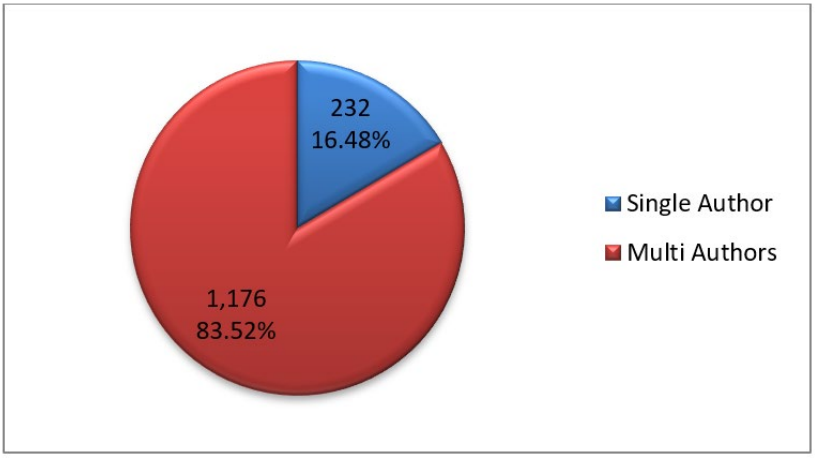


Figure 2 Authorship Pattern of Citations

It determining the degree of collaboration in quantitative term the formula given by K.Suramanyam (1982) was used .

Formula $\frac{NM}{NM+NS}$

Where C= Degree of Collaboration

NM = Number of Multi Authored papers

NS=Number of Single authored papers

In the present study

NM=1,176

NS= 232

Thus C=0.83

Table 5

Table 5 Ranking of Periodicals

Sl. No	Ranking. No	Journal Name	No. of Citations	%	Cumulative of Citations	%	Country
1	1	J.of Phytopathology	236	16.76	236	16.76	United Kingdom
2	2	Indian j.mycol.pl.pathol	78	5.53	314	22.3	India

3	3	Plant disease	40	2.84	354	25.14	USA
4	4	Curr Sci	23	1.63	377	26.77	India
5	4	Research in Plant Disease	23	1.63	400	28.4	South Korea
6	5	Nature	18	1.27	418	29.68	United Kingdom
7	6	j.seed.sci.tech	14	0.99	432	30.68	Switzerland
8	6	Karnataka journal of Agricultural science	14	0.99	446	31.67	India
9	7	Fitopathologia Brasileira	12	0.85	458	32.52	Brazil
10	7	Indian j.phytopathology	12	0.85	470	33.38	India
11	7	Ann.Rev.phytopath	12	0.85	482	34.23	USA
12	8	Mycologia	11	0.78	493	35.01	United kingdom
13	9	Indian j. Microbial	10	0.71	503	35.72	India
14	9	Journal of Plant pathology	10	0.71	513	36.43	Italy
15	10	Pl.cell. Reports	09	0.63	522	37.07	Germany
16	10	World.j.microbiol Biotech	09	0.63	531	37.71	Nether lands
17	10	Indian j.pl. pathology	09	0.63	540	38.35	India
18	10	Asian Journal of Plant Pathology	09	0.63	549	38.99	USA
19	10	Nature Biotechnology	09	0.63	558	39.63	United Kingdom
20	10	Malaysian Agricultural journal	09	0.63	567	40.26	Malaysia
21	11	Indian j.Agric.Sci	08	0.56	575	40.83	India
22	11	Journal of Ecology and Environment	08	0.56	583	41.4	United Kingdom
23	11	Harayana j.Horti.Sci	08	0.56	591	41.97	India
24	11	Korean j.pl.path	08	0.56	599	42.54	Korea
25	12	Journal of Japanese society for horticultural sciences	07	0.49	606	43.03	Japan
26	12	Indian j.pl.prot	07	0.49	613	43.53	India
27	12	Ann.of Appl.biol	07	0.49	620	44.03	United Kingdom
28	12	Archive of virology	07	0.49	627	44.53	Austria
29	12	Archives of Virology, Supplement	07	0.49	634	45.02	Germany

30	12	j.Austrain virology	07	0.49	641	45.52	Austria
31	12	New Zealand journal of agricultural research	07	0.49	648	46.02	NewZeland
32	13	Madras Agricultural journal	06	0.42	654	46.44	India
33	13	European j.pl. pathol	06	0.42	660	46.87	Europe
34	13	Current Research in Biotechnology	06	0.42	666	47.3	Nether lands
35	13	Indian j.of Agricultural sciences	06	0.42	672	47.72	India
36	13	Inter.j.trop.pl.Dis	06	0.42	678	48.15	Netherlands
37	13	International Arabic Journal of Antimicrobial Agents	06	0.42	684	48.57	Spain
38	13	j. Maharashtra Agri univ	06	0.42	690	49	India
39	13	Journal of nematology	06	0.42	696	49.43	USA
40	13	Mysore journal of Agricultural sciences	06	0.42	702	49.85	India
41	13	Seed sci technology	06	0.42	708	50.28	Switzerland
42	14	Trop pest management	05	0.35	713	50.63	India
43	14	Journal of soil and crops	05	0.35	718	50.99	India
44	14	Virology	05	0.35	723	51.34	USA
45	14	Bangladesh journal of plant pathology	05	0.35	728	51.7	Bangladesh
46	14	Canadian j.bot	05	0.35	733	52.05	Canada
47	14	Appl. Environ. microbial	05	0.35	738	52.41	USA
48	14	Journal of Dispersion Science and Technology	05	0.35	743	52.76	USA
49	14	Journal of Agricultural Science	05	0.35	748	53.12	United kingdom
50	14	Journal of American society of horticultural science	05	0.35	753	53.48	USA
51	15	Netherland j.pl.pathol	04	0.28	757	53.76	Netherland
52	15	Journal of eco toxical and environ monitoring	04	0.28	761	54.04	United Kingdom
53	15	Journal of biological control	04	0.28	765	54.33	India
54	15	Journal of applied biology and biotechnology	04	0.28	769	54.61	India

55	15	j. oilseeds. Res	04	0.28	773	54.9	India
56	15	Indian j.pulses Res	04	0.28	777	55.18	India
57	15	Ann.pl.prot.Sci	04	0.28	781	55.46	Belgium
58	15	Horticulture Journal	04	0.28	785	55.75	Japan
59	15	Canadian j. plant pathology	04	0.28	789	56.03	Canada
60	15	Canadian j. microbial	04	0.28	793	56.32	Canada
61	15	World.j.Agric.Sci	04	0.28	797	56.6	Egypt
62	15	Biological Control	04	0.28	801	56.88	USA
63	15	Acta phytopathologica Sinica	04	0.28	805	57.17	China
64	15	Adv.Sci	04	0.28	809	57.45	Germany
65	15	Agri.Res.j.kerala	04	0.28	813	57.74	India
66	15	Indian j. pharmaceutical sci	04	0.28	817	58.02	India
67	15	Philippian journal of Science	04	0.28	821	58.3	Philippians
68	16	Phytopathologia mediterranea	03	0.21	824	58.52	Italy
69	16	Punjab horticultural journal	03	0.21	827	58.73	India
70	16	Pakistan j.phytopathology	03	0.21	830	58.94	Pakistan
71	16	Journal of horticultural science	03	0.21	833	59.16	India
72	16	Journal of general virology	03	0.21	836	59.37	United Kingdom
73	16	Egyptian Journal of Biological Pest Control	03	0.21	839	59.58	Egypt
74	16	Indian j.of horticulture	03	0.21	842	59.8	India
75	16	Indian journal of biotechnology	03	0.21	845	60.01	India
76	16	Australian journal of plant pathology	03	0.21	848	60.22	Australia
77	16	Australian j.Agric.res	03	0.21	851	60.44	Australia
78	16	Annals of plant protection science	03	0.21	854	60.65	India
79	16	Annals of mycological	03	0.21	857	60.86	United Kingdom
80	16	Ann.Agri.sci	03	0.21	860	61.07	Egypt
81	16	Andhra Agricultural journal	03	0.21	863	61.29	India
82	16	American potato j	03	0.21	866	61.5	USA

83	16	American j.bot	03	0.21	869	61.71	USA
84	16	Agricultural journal of india	03	0.21	872	61.93	India
85	16	Agricultural biological chemistry	03	0.21	875	62.14	Japan
86	16	Scientia Agricola	03	0.21	878	62.35	Brazil
87	16	Agria. J. of india	03	0.21	881	62.57	India
88	16	Agri.Appl.biol.sci	03	0.21	884	62.78	Belgium
89	16	Organic Agriculture	03	0.21	887	62.99	USA
90	16	African j. Biotech	03	0.21	890	63.21	Africa
91	16	Adv.Res.plant pathologenic.Bacteria	03	0.21	893	63.42	USA
92	16	Acta Horti	03	0.21	896	63.63	Belgium
93	16	Indian j. Genet	03	0.21	899	63.84	India
94	16	Indian.j. entomology	03	0.21	902	64.06	India
94	16	Indian j. pulses. Res	03	0.21	905	64.27	India
95	16	British journal of Experimental pathology	03	0.21	908	64.48	USA
96	16	Chinese j. entomology	03	0.21	911	64.7	China
97	16	East African Agric for j	03	0.21	914	64.91	Africa
98	16	Egyptian journal of Agricultural Research	03	0.21	917	65.12	Egypt
99	16	Advances in Geosciences	03	0.21	920	65.34	Germany
100		175 journals Cited 2 times 175*2=350	350	24.85	1,270	90.19	
101		138 journals Cited 1 time 138*1=138	138	9.8	1,408	100	
Total			1,408	100			

T5 shows that Ranking of Periodicals. A total of 1,408 Journal articles were identified out of which 236(16.76%) were "j.of.Phytopatholohy" from "United Kingdom", is published followed by 78(2.84%) were from "Indian j.mycol.pl.pathol" Published from "India" 40(2.84%) were from "Plant Disease" published from "USA" and so on. Ozra et al. (2016)

Table 6

Table 6 Geographical Wise Distribution of Journal Articles

Sl.	Ranking No	Country Name	No. of Citations	%

1	1	India	31	31.31
2	2	USA	14	14.15
3	3	United Kingdom	10	10.1
4	4	Netherlands	5	5.05
5	5	Germany	4	4.04
6	5	Egypt	4	4.04
7	6	Belgium	3	3.03
8	6	Canada	3	3.03
9	6	Japan	3	3.03
10	7	Africa	2	2.02
11	7	Australia	2	2.02
12	7	Austria	2	2.02
13	7	Brazil	2	2.02
14	7	China	2	2.02
15	7	Italy	2	2.02
16	7	Korea	2	2.02
17	7	Switzerland	2	2.02
18	8	Bangladesh	1	1.01
19	8	Europe	1	1.01
20	8	Malaysia	1	1.01
21	8	Pakistan	1	1.01
22	8	Philippians	1	1.01
23	8	Spain	1	1.01
	Total		99	100

T6 shows that Geographical wise distribution of journal articles. A total of 1,408 Journal articles 99 Countries were identified out of which the highest 31(31.31%) are From “India” followed by 14(14.15%) from “USA” is the second top country, 10(10.10%) from “United Kingdom” is the Third top country and 5(5.05%) “Nether lands” is the fourth top country and So on. Rajendran et al. (2011)

Table 7

Table 7 Age Wise Distribution of Journal References

Years	No. of years	No. of Citations	%
2008-1998	10	412	29.27
1997-1987	10	391	27.77
1986-1976	10	282	20.02
1975-1965	10	141	10.01
1964-1954	10	83	5.9
1953-1943	10	43	3.05
1942-1932	10	22	1.57
1931-1885	46	34	2.41
Total		1,408	100

T7 shows that Age wise distribution of journal references out of 1,408 references there are 412(29.27%) were highest from the period “2008-1998” followed by 391(27.77%) references from the period “1997-1987”, 282(20.02%) references from the period “1986-1976”, 141(10.01%) references from the period “1975-1965” and so on. Yildi & Kadir (2016)

Figure 3

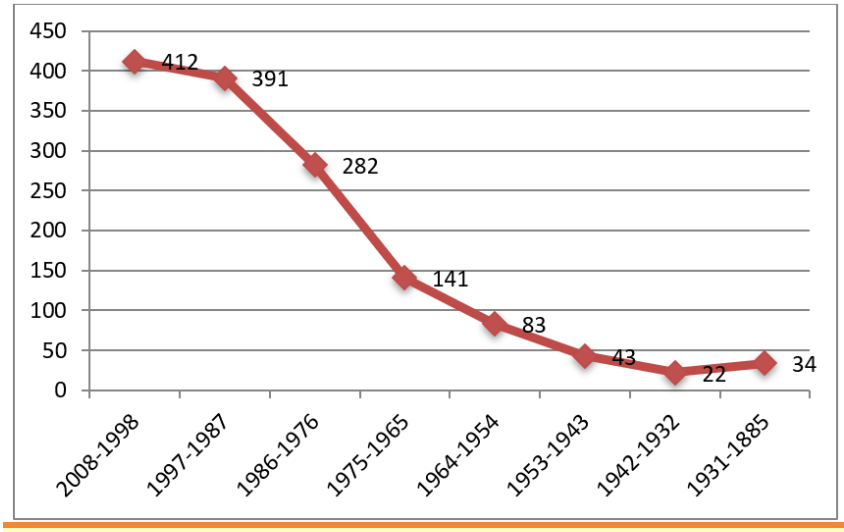


Figure 3 Age Wise Journal Citations Distribution

5. FINDINGS AND CONCLUSION

1) It is observed in T1 that Year wise Submission of Doctoral thesis in Vegetable Pathology. A total of 2,327 citations were identified from 12 Thesis. The highest 5(41.67%) number of theses submitted in 2009.
2) It is observed in T2 that the Average number of Citations in each thesis the total number of 12 thesis were called 2,327 Citations. Their average citations in each thesis is 193.91%.
3) It is observed in T3 that Types of documents cited by researchers. A total of 2,327 Citations there are 1,408(60.50%) citations from "Journal Articles", Followed by 400(17.19%) are from "Books", 317(13.63%) are from "Conference proceedings", 172(7.40%) are from "Thesis and Dissertations".
4) It is observed in T4 that Authorship pattern of citations. A total of 1,408 Citations there were 232(16.48%) citations are from "Single Author" and 1,176(83.52%) are "Multi Authors".
5) T5 shows that Ranking of Periodicals. A total of 1,408 Journal articles were identified out of which 236(16.76%) were "j.of.Phytopatholohy" from "United Kingdom", is published followed by 78(2.84%) were from "Indian j.mycol.pl.pathol" Published from "India".
6) T6 shows that Geographical wise distribution of journal articles. A total of 1,408 Journal articles 99 Countries were identified out of which the highest 31(31.31%) are from "India" followed by 14(14.15%) from "USA" is the second top country,
7) T7 shows that Age wise distribution of journal references out of 1,408 references there are 412(29.27%) were highest from the period "2008-1998" followed by 391(27.77%) references from the period "1997-1987".

CONFLICT OF INTERESTS

None.

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None.

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