



Research Trend of Horticulture Department, Assam Agricultural University, Jorhat, India during 1987-2020: A Bibliometric Analysis

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Introduction

- ❖ Horticulture is the science, art, and practice of cultivating garden crops, mainly fruits, vegetables, and ornamental plants. The word “horticulture” is derived from the Latin word “hortus” mean “garden,” and “cultura” mean “to cultivate” (Wikipedia, 2021).
- ❖ Assam Agricultural University, Jorhat, Assam, India is agricultural research university established in Jorhat, imparting education in agriculture and allied fields and also involve in conducting research. AAU, Jorhat established 52 years ago on 1st April, 1969.
- ❖ The Horticulture Department of AAU is one of the oldest department. The Department of Horticulture was established in 1948 as a part of Assam Agricultural College. The current study focuses on the scientific contributions made by the faculty members of the Department during the period 1987-2020.

The objectives of this research are to:

- Assess the research output of the Horticulture Department, AAU, Jorhat;
- Examine the distribution of papers;
- Analyze the authorship pattern;
- Evaluate the most cited journals during the period under study;
- Find out the most highly cited papers;
- Analyze keyword co-occurrence.

Methodology

- The data were downloaded from Scopus database.
- Relevant data were retrieved by using the “Affiliation search” “Assam Agricultural University India” and then limit the department to Horticulture Department manually.
- A total of 74 papers were downloaded and then the collected data were scrutinized with the help of MS- Excel.
- VOSviewer software employed to create a keyword co-occurrence map based on the retrieved bibliographic data.

Results and discussion

Objective1: Assess the research output of the Horticulture Department, AAU, Jorhat

Table 1: Year-wise productivity and citations

Year-wise productivity and citations				
Sl.no	Publication Years	Records	%	TC
1	1987	2	2.70	39
2	1997	3	4.05	2
3	1998	2	2.70	3
4	1999	2	2.70	8
5	2000	1	1.35	0
6	2001	1	1.35	18
7	2002	1	1.35	5
8	2003	1	1.35	244
9	2004	2	2.70	7
10	2005	2	2.70	3
11	2006	3	4.05	290
12	2007	1	1.35	0
13	2008	4	5.41	55
14	2009	3	4.05	14
15	2010	6	8.11	44
16	2011	1	1.35	7
17	2012	3	4.05	0
18	2013	1	1.35	1
19	2014	4	5.41	5
20	2015	6	8.11	6
21	2016	8	10.81	4
22	2017	9	12.16	3
23	2018	3	4.05	6
24	2019	3	4.05	1
25	2020	2	2.70	0
	Total	74	100	765

Objective 2: To examine the distribution of papers by types of document

Table 2: Types of Document

Sl. No.	Publications Forms	Records	Percentage
1	Article	67	90.54
2	Review	4	5.41
3	Conference Paper	3	4.05
	Total	74	100.00

Objective 3: To analyze the authorship pattern

Table 3: Authorship pattern

Sl. No	No. of Authors	No. of papers	Percentage (%)
1	Single Author	3	4.05
2	Two Authors	14	18.92
3	Three Authors	27	36.49
4	Four Authors	21	28.38
5	Five Authors and more	9	12.16
		74	100

Objective 4: To evaluate the most cited journals during the period under study

Table 4: Distribution of Journals

Rank	Journals	No. of Records (n=74)	Percent (%)	Cumulative No. of Articles	Cumulative Percentage (%)
1	Annals of Biology	15	20.27	15	20.27
2	Asian Agri- History	13	17.57	28	37.84
3	Biopesticides International	13	17.57	41	55.41
4	Current Science	10	13.51	51	68.92
5	Ecology, Environment and Conservation	9	12.16	60	81.08
6	Food Chemistry	7	9.46	67	90.54
7	5 Journals with 2 papers each	4	5.41	71	95.95
8	13 Journals with 1 paper each	3	4.05	74	100
Total		74	100		

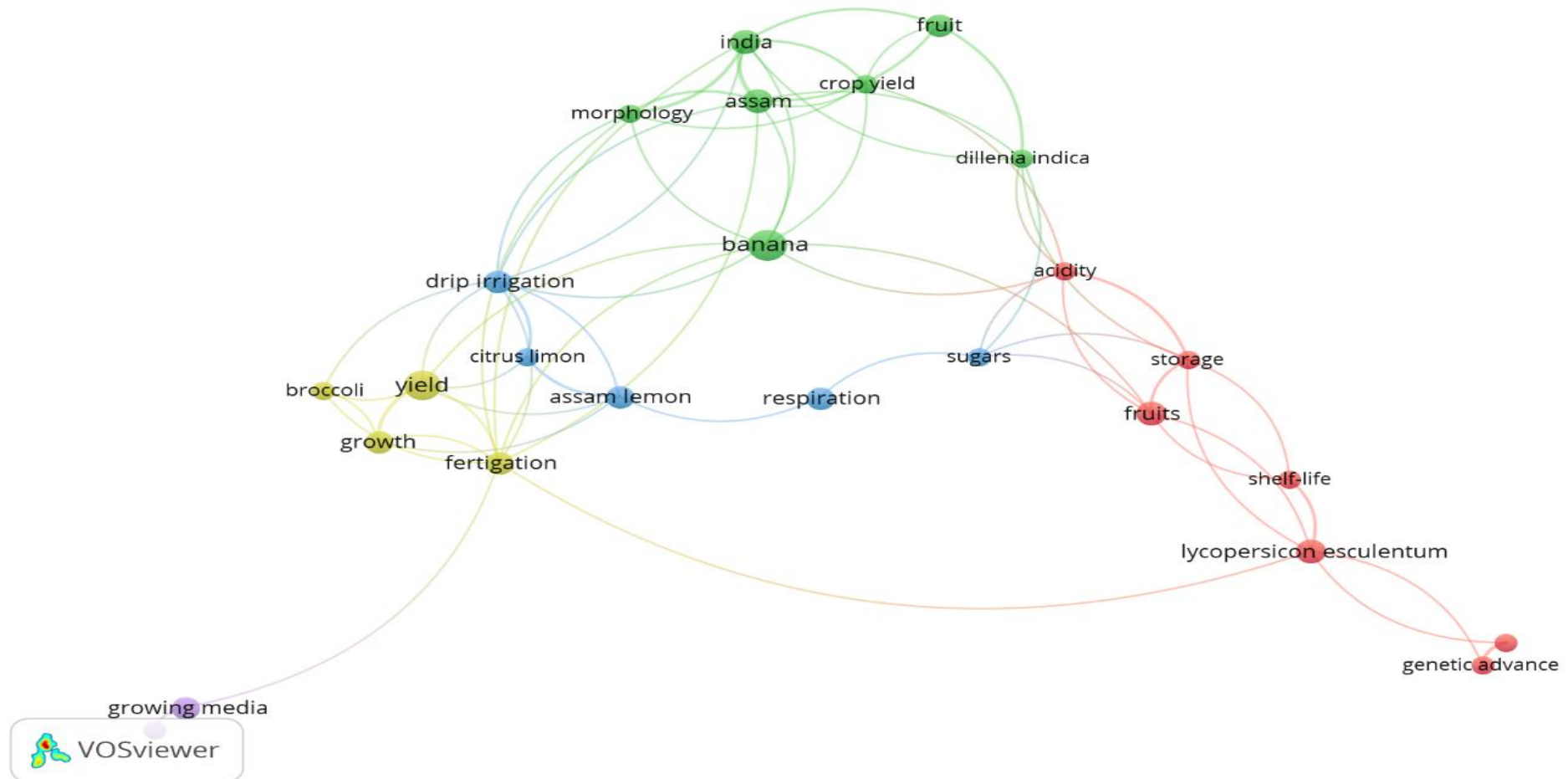
Objective 5: Find out the highly cited papers

Table 5: Highly cited paper

Rank	Title of the paper	Authors	Source title	Publication Year	Times Cited
1	Morpho-physiological disorders in in vitro culture of plants	Hazarika B.N.	Scientia Horticulturae	2006	287
2	Acclimatization of tissue-cultured plants	Hazarika B.N.	Current Science	2003	244
3	Antibacterial activity of the crude extract of Chinese green tea (<i>Camellia sinensis</i>) on <i>Listeria monocytogenes</i>	Mbata T.I., Debiao L.U., Saikia A.	African Journal of Biotechnology	2008	50
4	Control of post-harvest pericarp browning of litchi (<i>Litchi Chinensis</i> Sonn)	Neog M., Saikia L.	Journal of Food Science and Technology	2010	31
5	Changes in chemical composition of the kew cultivar of pineapple fruit during development	Kermasha S., Barthakur N.N., Allil., Mohan N.K.	Journal of the Science of Food and Agriculture	1987	29
6	Application of mixtures methodology for beverages from mixed fruit juice/pulp	Deka B.C., Sethi V., Parsad R., Batra P.K.	Journal of Food Science and Technology	2001	18
7	Chemical composition and proposed use of two semi-wild tropical fruits	Kermasha S., Barthakur N.N., Mohan N.K., Arnold N.P.	Food Chemistry	1987	10

Objective 6: To analyze keyword co-occurrence

Figure 1: Frequently occurred keywords



Major Findings:

- Authorship pattern that reveals that majority of Faculty members of Horticulture Department, AAU Jorhat preferred to publish the research results in joint authorship mode than single authorship.
- The maximal number of papers (19) were appeared in Annals of Biology, followed by Asian Agri-History, etc.
- The paper authored by B.N. Hazarika received highest number of citations i.e. 287 and the paper was included in “Scientia Horticulturae” in 2006.
- VOSviewer (version 1.6.16) was used for visualizing the co-occurrence of all keywords (author keywords and index keywords) for the current study. The top 5 keywords appeared in the visualization map were banana (8) followed by yield (7), India (5), Assam (5) and lycopersicon esculentum (5).

Conclusion

Horticultural research became one the vital field of study in the last few decades. Several bibliometric studies have been conducted to distinct disciplines. Based on the bibliographic data appeared Scopus, this study highlights the research productivity of Horticulture Departments of AAU, Jorhat. This study shows that the researchers are very active in their research investigation. The major findings manifest a trend of growth in publications associated with horticulture productivity.

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