EDITORIAL

An overview of the Brazilian Journal of Plant Physiology: we need a push!

The Brazilian Journal of Plant Physiology is the scientific publication vehicle of the Brazilian Society of Plant Physiology, and its first issue was published in 1989. The initial volumes [volumes 1 to 13(1)], published as Revista Brasileira de Fisiologia Vegetal, can be found at http://www.cnpdia.embrapa.br/rbfv.html, where as volume 12 (2-3) and volume 13 (1-3) can be found at http://www.scielo.br/scielo.php?script=sci_issues&pid=0103-3131&lng=en&nrm=iso, still published as Revista Brasileira de Fisiologia Vegetal. With its current name in English, all volumes from 2002 (volume 14) onwards can be found at http://www.scielo.br/scielo.php?script=sci_serial&pid=1677-0420&lng=en&nrm=iso. BJPP is now on its 24th volume.

Since its birth, BJPP has had seven Editors-in-Chief: Dr. Márcio Carvalho Marques Porto, Dr. Adonai Gimenez Calbo, Dr. José Donizeti Alves, Dr. Paulo Mazzafera, Dr. Fábio Murilo DaMatta, Dr. Arnoldo Rocha Façanha and Dr. Ricardo Bressan-Smith. Although still striving to reach a broader range of readers and attract the attention of non-Brazilian authors, BJPP has published research from several countries from all continents. These articles have been cited in high quality journals.

Our aim here is to bring to your knowledge a brief summary of the data collected in the Scopus® database, where BJPP is indexed, which covers 19,500 peer-reviewed journals (including 1,900 Open Access journals), 400 trade publications and 360 book series. Moreover, using the information available in the Web of Science® (WoS) database (Thomson Reuters), we have also calculated an unofficial impact factor (IF) for BJPP.

In 2002, BJPP started to publish only articles in English. Although Scopus database has information about the articles published in BJPP since 1996, only seven articles were cited between 1996 and 2002. Starting in 2003, 288 articles published in BJPP were cited 2,326 times by 1,989 articles published in BJPP (Figure 1) and in other journals (Table 1). The ratio between the number of citations and articles citing BJPP is therefore higher than 1 over most of the period considered in Figure 1.

Among the articles which cited BJPP are: scientific (research) articles (1819), reviews (105), conference papers (50), short surveys (8), scientific notes (3), book chapter (1), editorials (20) and letter (1).

Table 1. Journals citing articles published in BJPP.

Journals citing BJPP	Citations
Brazilian Journal of Plant Physiology*	81
Environmental and Experimental Botany	41
Acta Physiologiae Plantarum	38
Journal of Agricultural and Food Chemistry	29
Photosynthetica	26
Ecotoxicology and Environmental Safety	25
Journal of Plant Physiology	24
Pesquisa Agropecuaria Brasileira*	23
Journal of Hazardous Materials	23
Chemosphere	23
African Journal of Biotechnology	22
Plant Physiology and Biochemistry	22
Plant and Soil	21
Acta Horticulturae	21
Journal of Experimental Botany	20
Pakistan Journal of Botany	20
Journal of Environmental Biology	20
Ciencia Rural*	19
International Journal of Phytoremediation	18
Revista Ciencia Agronomica*	18
Revista Brasileira de Fruticultura*	17
Australian Journal of Crop Science	17
Scientia Horticulturae	17
Revista Brasileira de Engenharia Agricola e Ambiental*	15
Biologia Plantarum	15
Experimental Agriculture	14
Food Chemistry	14
Plant Science	14
Journal of Plant Nutrition	13
Biological Trace Element Research	13
Revista Brasileira de Ciencia do Solo*	13
Plant Growth Regulation	13
Aquatic Toxicology	13
Physiologia Plantarum	12
Fresenius Environmental Bulletin	12
Ecotoxicology	12
Functional Plant Biology	12
Journal of the Science of Food and Agriculture	11
Journal of Agriculture and Environment	11
Trees - Structure and Function	11

*indicates Brazilian journals

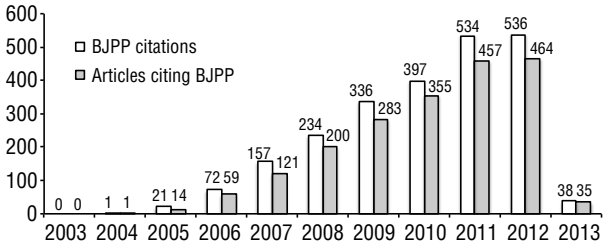

Figure 1. Number of citation received by articles published in BJPP and number of articles citing BJPP in the period 2002–2013.

Table 1 clearly shows that traditional and highly appraised journals by the scientific community in the field of plant biology have used the information published in BJPP, many of them with high JCR® (Journal Citation Reports) IF. We listed only the first 40 journals, but it is worth mentioning that BJPP has also been cited in top journals like Nature, Cell, Annual Review of Phytopathology, Critical Reviews in Plant Science, Plant Cell, Plant Physiology, Plant Journal, Plos One, just to cite a few.

The journals citing BJPP are broadly distributed in different areas. Table 2 shows the top ten areas from which the majority of the articles published in BJPP has been granted. The total number is higher than the number of articles because some papers are classified in more than one area.

Most of the articles citing BJPP are published in English (1,846), but others also in Portuguese (228), Spanish (20), Chinese (18), French (8), Turkish (8), Croatian (2), Japanese (1) and Polish (1). The total number of articles in this case (2,132) is also higher than the 1,989 articles citing BJPP previously mentioned because some cited BJPP articles probably were counted twice.

The language does not really show from where are the readers of BJPP. Table 3 shows the broad range of researchers in the world that cited BJPP articles. As expected, the majority is in Brazil, but it is a surprise to observe that about 19% of the readers are based in two Asian countries, India and China, whereas authors in the USA appear in fourth place. It is important and nice to see the presence of France, Spain and UK among the top ten countries.

Altogether the above information extracted from the Scopus database shows in a solid manner that BJPP has been useful to a large and varied audience, what we understand is the main reason for a scientific journal to exist; in other words, more than a data repository, the information published has been proven useful to the society.

Table 2. Research areas in which the articles citing BJPP are classified in Scopus database.

Research Area	Articles citing BJPP
Agricultural and Biological Sciences	1480
Biochemistry, Genetics and Molecular Biology	541
Environmental Science	443
Chemistry	154
Medicine	106
Pharmacology, Toxicology and Pharmaceutics	90
Immunology and Microbiology	57
Engineering	50
Chemical Engineering	46
Earth and Planetary Sciences	46
Total	3013

As a complement to this information, we should mention that, in total, the articles published in the 39 issues freely available in the SciELO database, found as Brazilian Journal of Plant Physiology, have been downloaded 1,131,415. Three special issues devoted to reviews on Toxic Metals in Plants [17(1)2005], Coffee [18(1)2006] and Ecophysiology of Tropical Tree Crops [19(4)2007] had their articles 167,136, 120,411 and 82,522 times downloaded, to a total of 370,069 downloads, which means 32.7% of all downloads. Such numbers clearly indicates that special issues devoted to specific topics are welcome by the BJPP readers.

All these data certainly are enthusiastic as seen from the point of view of Scopus, the database in which BJPP is indexed. However, how well is BJPP ranked in the WoS database? The Impact Factor of a journal calculated by Journal Citation Reports (JCR) database has been a worldwide reference, and the quality of a journal may also be measured by how well a journal ranks in its field in the JCR. For the sake of bringing the numbers to a common sense, we listed the IF of some journals: Nature – 36.280; Science – 31.201; Annual Review of Plant Biology – 25.962; Plant Physiology – 6.535; Planta – 3.000; Biologia Plantarum – 1.991; Photosynthetica – 1.000; Acta Botanica Brasilica – 0.462.

Using information from the WoS database, we calculated an unofficial IF for BJPP during the period between 2005 and 2011, in which 251 articles were published. During this period, 173 articles were granted at least 1 citation in the WoS. It is necessary to mention that the WoS covers a smaller number of journals (coverage

Table 3. Affiliation of the readers citing BJPP.

Country	Citations	Country	Citations
1 Brazil	588	21 Australia	27
2 India	256	22 Belgium	26
3 China	190	23 Thailand	24
4 USA	179	24 Egypt	22
5 France	107	25 Slovakia	22
6 Spain	76	26 Netherlands	21
7 UK	58	27 Saudi Arabia	21
8 Pakistan	55	28 Malaysia	19
9 Turkey	51	29 South Africa	18
10 Portugal	51	30 Switzerland	16
11 Iran	50	31 South Korea	15
12 Germany	48	32 Costa Rica	14
13 Argentina	46	33 Serbia	13
14 Italy	43	34 Hungary	12
15 Tunisia	42	35 Taiwan	12
16 Poland	39	36 Ethiopia	10
17 Japan	39	37 Austria	10
18 Canada	38	38 Croatia	9
19 Mexico	37	39 Chile	9
20 Colombia	31	40 Nigeria	9

encompasses over 12,000 journals, from which 8,336 are in the JCR 2011 Science Edition) than Scopus.

Among the 173 articles cited, the range of citations per article was distributed as follows:

- 10–30 citations: 31 articles
- 31–50 citations: 5 articles
- 51–100 citations: 3 articles
- >100 citations: 2 articles

The 173 articles received 1,300 citations, a mean of 7.51 citations/article. When considering all articles (251) published between 2005 and 2011, the mean drops to 5.18 citations/article.

The IF is simply calculated by dividing the number of citations received by articles published in two consecutive years from articles published on the following year by the number of articles published in the two years considered. For example, Plant Physiology received in 2011 (published articles with data of 2011), 3,729 and 2,845 citations for articles published in 2009 and 2010, respectively. In 2009, Plant Physiology published 498 articles and, in 2010, 508 articles. Then, the IF is (2845 + 3729) / (498 + 508) = 6.535.

Below, we list the IF predicted for BJPP for each year, starting from 2005, as if it was indexed in the JCR:

- IF 2012 (to be published in June 2013): 0.323
- IF 2011 (current JCR): 0.250
- IF 2010: 0.375
- IF 2009: 0.828
- IF 2008: 0.695
- IF 2007: 0.798
- IF 2006: 0.750

The natural question expected would be how well BJPP would rank among its peers if it was indexed in the JCR. In order to answer that, we list the position of BJPP among all Brazilian journals indexed in JCR Science Edition for each respective year. In parenthesis, it is shown the BJPP position among the total number of journals in the JCR Science Edition, but with their IFs re-calculated without self-citation.

- JCR 2011: 74/96 (64/96)
- JCR 2010: 56/89 (41/89)
- JCR 2009: 15/65 (9/65)
- JCR 2008: 9/28 (6/28)
- JCR 2007: 7/27 (5/27)
- JCR 2006: 4/21 (4/21)

It is quite obvious that BJPP's performance when IF is concerned is not making progress, on the contrary, suffered significant drop in predicted IF. Yet, it is also easy to see how well BJPP was performing up to four years ago ranking exceptionally well. More importantly, it must be made clear that the predicted IF for BJPP has zero self-citation rate since the journal is not indexed in the WoS.

There is no other conclusion that, although BJPP has been cited in the Scopus database, which has a broad spectrum of indexed journals, we need urgent action in order to recover BJPP's performance in the WoS database, since if it is not the most important scientific database available, the WoS is certainly the most recognized and largely used scientific database. One rule will and should never change: the journal has to publish high quality research and BJPP needs to receive these high quality manuscripts from Brazil and abroad in order to get indexed in the WoS database. Our unofficial IF shows that we had a confortable position some years ago to get indexed, but we may have lost it along the way. However, we still can make it happen. On the other hand, Scopus shows that we are attaining the main objective of a scientific journal, as BJPP is read by the scientific community from different areas and from different countries. So BJPP needs a push! Your push!

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