

Award-winning Fruit Publication in ASHS Journals across the Decades (1986–2023)

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ABSTRACT. Established in 1903, the American Society for Horticultural Science (ASHS) is a leading professional organization that serves a diverse horticultural community. With influence spanning both national and global domains, ASHS makes substantial contributions to various branches of horticulture. In 1985, ASHS introduced the annual Fruit Publication Award to honor exceptional research articles related to fruit. Reflecting on these awarded articles, especially in light of ASHS's 120-year history, not only serves as a congratulatory gesture to the recipients but also provides insight into the evolutionary progression of fruit science.

ASHS acknowledges the exceptional achievements of its members in horticultural research, extension, and education through its prestigious publication awards program. The Fruit Publication Award, an annual distinction, commends ASHS members who have authored exceptional research articles pertaining to fruit. Established by the ASHS Board of Directors in 1985, this award was first conferred in 1986. The award's evaluation rests on four primary criteria: 1) eligible articles are sourced from three ASHS journals—namely, *HortTechnology*, *HortScience*, and the *Journal of the American Society for Horticultural Science* (JASHS)—published in the year preceding the award presentation; 2) the authors corresponding to these articles must hold ASHS membership at the time of article publication; 3) the subject matter of the candidate articles must revolve around research concerning fruit crops or plants; and 4) the selection of the awarded article is entrusted to the Fruit Award Committee, comprising seven to nine distinguished ASHS members. These committee members

are volunteers, each having self-nominated and committed to serving for a 3-year tenure.

Each year, a five-person committee of ASHS members is presented with ~100 articles concerning fruit crops/plants from the three ASHS journals. These submissions undergo meticulous review and ranking. Subsequently, the committee identifies and prioritizes the three most outstanding articles, forwarding their recommendation to the ASHS Board of Directors for conferral of the awards. Typically, the highest ranked article is bestowed with this honor at the annual ASHS conference.

Over the past 38 years (1986–2023), the Award has been made annually, with the exception of 2007 when no award was conferred. As a result, 37 noteworthy papers have been honored, 29 from the JASHS and eight from *HortScience* (Fig. 1; Table 1). Notably, over the

recent 4-year span (2020–23), the there was an increase in awards from *HortScience*. This trend is predominantly attributed to the escalating numbers of articles published in *HortScience*.

In terms of thematic coverage, the 37 articles, were in four research domains: physiology (15 articles), breeding (10), production (nine), and postharvest (two). Among these contributions, 17 distinct fruit crops were the primary subjects of the research. Noteworthy were apple (featured in 11 articles), followed by citrus (four), blueberry (three), and pecan (three).

The articles stand out due to their scientific merit or the potential for practical application. This inherent diversity makes it challenging to ascertain the impact of awarded articles. One approach to gauge their significance is by considering their citation counts, which serve as indicators of their scientific value. Among the collection of 37 articles, the work authored by Warrington et al. in 2000, “Apple Fruit Growth and Maturity Are Affected by Early Season Temperatures,” is particularly noteworthy, with more than 200 citations underscoring its substantial influence (Fig. 1).

Collectively, the recipients for this award comprised 121 authors, contributing to 37 articles from four countries (based on the nationality of the corresponding authors). Among these, 29 articles were from groups in the United States, three from Canada, two from Germany, and two from New Zealand (Fig. 2). Notably, the 29 US papers, originated from 15 institutions. Remarkably, the US Department

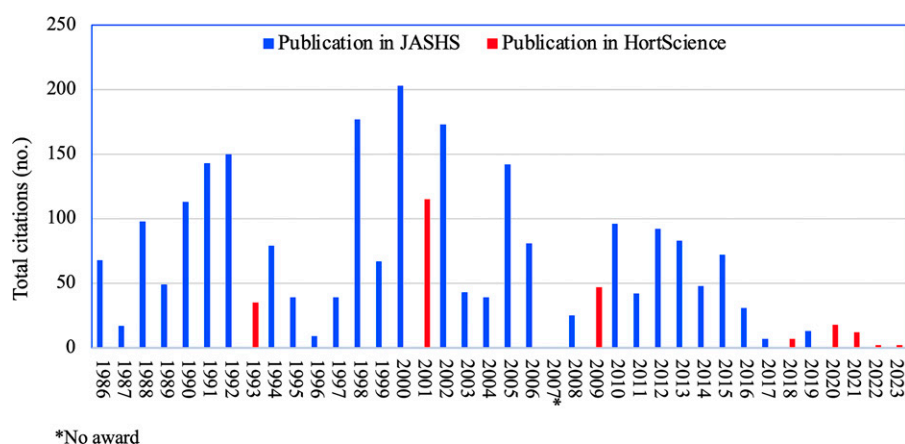


Fig. 1. Citation counts for American Society for Horticultural Science Fruit Publication Award articles from 1986 to 2023, as of 3 Aug 2023.

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25 Years of Publication Excellence Awards for ASHS Journals.

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Table 1. Details of 37 noteworthy papers honored by the American Society for Horticultural Science covering 1986 to 2023.

Award yr	Awarded article
1986	Glenn GM, Poovaiah BW, Rasmussen HP. 1985. Pathways of calcium penetration through isolated cuticles of ‘Golden Delicious’ apple fruit. <i>J Am Soc Hort Sci.</i> 110(2):166–171. https://doi.org/10.21273/jashs.110.2.166 .
1987	Rabe E, Lovatt CJ. 1986. Relative phosphorus dependency of citrus rootstocks is reflected in leaf nitrogen metabolism. <i>J Am Soc Hort Sci.</i> 111(6):922–926. https://doi.org/10.21273/jashs.111.6.922 .
1988	Weeden NF, Lamb RC. 1987. Genetics and linkage analysis of 19 isozyme loci in apple. <i>J Am Soc Hort Sci.</i> 112(5):865–872. https://doi.org/10.21273/jashs.112.5.865 .
1989	Marquard RD. 1988. Outcrossing rates in pecan and the potential for increased yields. <i>J Am Soc Hort Sci.</i> 113(1):84–88. https://doi.org/10.21273/jashs.113.1.84 .
1990	Manshardt RM, Wenslaff TF. 1989. Zygotic polyembryony in interspecific hybrids of <i>Carica papaya</i> and <i>C. cauliflora</i> . <i>J Am Soc Hort Sci.</i> 114(4):684–689. https://doi.org/10.21273/jashs.114.4.684 .
1991	Paull RE, Chen NJ. 1990. Heat shock response in field-grown, ripening papaya fruit. <i>J Am Soc Hort Sci.</i> 115(4):623–631. https://doi.org/10.21273/jashs.115.4.623 .
1992	Rallo L, Martin GC. 1991. The role of chilling in releasing olive floral buds from dormancy. <i>J Am Soc Hort Sci.</i> 116(6):1058–1062. https://doi.org/10.21273/jashs.116.6.1058 .
1993	Bridges DC, NeSmith DS. 1992. Modeling chilling influence on cumulative flowering of rabbiteye blueberry. <i>HortScience.</i> 27(6):609e. https://doi.org/10.21273/HORTSCI.27.6.609e .
1994	Beaver JA, Iezzoni AF. 1993. Allozyme inheritance in tetraploid sour cherry (<i>Prunus cerasus</i> L.). <i>J Am Soc Hort Sci.</i> 118(6):873–877. https://doi.org/10.21273/jashs.118.6.873 .
1995	Wang SY, Faust M, Line MJ. 1994. Apical dominance in apple (<i>Malus domestica</i> Borkh): The possible role of indole-3-acetic acid (IAA). <i>J Am Soc Hort Sci.</i> 119(6):1215–1221. https://doi.org/10.21273/jashs.119.6.1215 .
1996	Sparks D, Yates IE. 1995. Anatomy of shuck abscission in ‘Desirable’ pecan. <i>J Am Soc Hort Sci.</i> 120(5):790–797. https://doi.org/10.21273/jashs.120.5.790 .
1997	Percival DC, Proctor JTA, Tsujita MJ. 1996. Whole-plant net CO ₂ exchange of raspberry as influenced by air and root-zone temperature, CO ₂ concentration, irradiation, and humidity. <i>J Am Soc Hort Sci.</i> 121(5):838–845. https://doi.org/10.21273/jashs.121.5.838 .
1998	Conner PJ, Brown SK, Weeden NF. 1997. Randomly amplified polymorphic DNA-based genetic linkage maps of three apple cultivars. <i>J Am Soc Hort Sci.</i> 122(3):350–359. https://doi.org/10.21273/JASHS.122.3.350 .
1999	Stevenson MT, Shackel KA. 1998. Alternate bearing in pistachio as a masting phenomenon: construction cost of reproduction vs. vegetative growth and storage. <i>J Am Soc Hort Sci.</i> 123(6):1069–1075. https://doi.org/10.21273/jashs.123.6.1069 .
2000	Warrington IJ, Fulton TA, Halligan EA, de Silva HN. 1999. Apple fruit growth and maturity are affected by early season temperatures. <i>J Am Soc Hort Sci.</i> 124(5):468–477. https://doi.org/10.21273/jashs.124.5.468 .
2001	Sholberg P, Haag P, Hocking R, Bedford K. 2000. The use of vinegar vapor to reduce postharvest decay of harvested fruit. <i>HortScience.</i> 35(5):898–903. https://doi.org/10.21273/hortsci.35.5.898 .
2002	Dalbó MA, Ye GN, Weeden NF, Wilcox WF, Reisch BI. 2001. Marker-assisted selection for powdery mildew resistance in grapes. <i>J Am Soc Hort Sci.</i> 126(1):83–89. https://doi.org/10.21273/jashs.126.1.83 .
2003	Scorza R, Bassi D, Liverani A. 2002. Genetic interactions of pillar (Columnar), compact, and dwarf peach tree genotypes. <i>J Am Soc Hort Sci.</i> 127(2):254–261. https://doi.org/10.21273/jashs.127.2.254 .
2004	Yoo S-D, Gao Z, Cantini C, Loescher WH, van Nocker S. 2003. Fruit ripening in sour cherry: changes in expression of genes encoding expansins and other cell-wall-modifying enzymes. <i>J Am Soc Hort Sci.</i> 128(1):16–22. https://doi.org/10.21273/jashs.128.1.0016 .
2005	Barry GH, Castle WS, Davies FS. 2004. Rootstocks and plant water relations affect sugar accumulation of citrus fruit via osmotic adjustment. <i>J Am Soc Hort Sci.</i> 129(6):881–889. https://doi.org/10.21273/jashs.129.6.0881 .
2006	Gao Z, Jayanty S, Beaudry R, Loescher W. 2005. Sorbitol transporter expression in apple sink tissues: implications for fruit sugar accumulation and watercore development. <i>J Am Soc Hort Sci.</i> 130(2):261–268. https://doi.org/10.21273/jashs.130.2.261 .
2007	Olmstead MA, Lang NS, Ewers FW, Owens SA. 2006. Xylem vessel anatomy of sweet cherries grafted onto dwarfing and nondwarfing rootstocks. <i>J Am Soc Hort Sci.</i> 131(5):577–585. https://doi.org/10.21273/JASHS.131.5.577 .
2008	Smith MW, Wood BW, Raun WR. 2007. Recovery and partitioning of nitrogen from early spring and midsummer applications to pecan trees. <i>J Am Soc Hort Sci.</i> 132(6):758–763. https://doi.org/10.21273/jashs.132.6.758 .
2009	Pusey PL, Rudell DR, Curry EA, Mattheis JP. 2008. Characterization of stigma exudates in aqueous extracts from apple and pear flowers. <i>HortScience.</i> 43(5):1471–1478. https://doi.org/10.21273/hortsci.43.5.1471 .
2010	Glenn DM. 2009. Particle film mechanisms of action that reduce the effect of environmental stress in ‘Empire’ apple. <i>J Am Soc Hort Sci.</i> 134(3):314–321. https://doi.org/10.21273/jashs.134.3.314 .
2011	Zhu H, Yuan R, Greene DW, Beers EP. 2010. Effects of 1-methylcyclopropene and naphthaleneacetic acid on fruit set and expression of genes related to ethylene biosynthesis and perception and cell wall degradation in apple. <i>J Am Soc Hort Sci.</i> 135(6):402–409. https://doi.org/10.21273/jashs.135.6.402 .
2012	Hooijdonk BV, Woolley D, Warrington I, Tustin S. 2011. Rootstocks modify scion architecture, endogenous hormones, and root growth of newly grafted ‘Royal Gala’ apple trees. <i>J Am Soc Hort Sci.</i> 136(2):93–102. https://doi.org/10.21273/jashs.136.2.93 .
2013	Balal RM, Khan M, Shahid M, Mattson N, Abbas T, Ashfaq M, Garcia-Sanchez F, Ghazanfer U, Gimeno V, Iqbal Z. 2012. Comparative studies on the physiobiochemical, enzymatic, and ionic modifications in salt-tolerant and salt-sensitive citrus rootstocks under NaCl stress. <i>J Am Soc Hort Sci.</i> 137(2):86–95. https://doi.org/10.21273/jashs.137.2.86 .

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Table 1. (Continued)

Award yr	Awarded article
2014	Stover E, Stange RR Jr, McCollum TG, Jaynes J, Irey M, Mirkov E. 2013. Screening antimicrobial peptides in vitro for use in developing transgenic citrus resistant to huanglongbing and citrus canker. <i>J Am Soc Hort Sci.</i> 138(2):142–148. https://doi.org/10.21273/jashs.138.2.142 .
2015	Fazio G, Wan Y, Kviklys D, Romero L, Adams R, Strickland D, Robinson T. 2014. Dw2, a new dwarfing locus in apple rootstocks and its relationship to induction of early bearing in apple scions. <i>J Am Soc Hort Sci.</i> 139(2):87–98. https://doi.org/10.21273/jashs.139.2.87 .
2016	Grimm E, Knoche M. 2015. Sweet cherry skin has a less negative osmotic potential than the flesh. <i>J Am Soc Hort Sci.</i> 140(5):472–479. https://doi.org/10.21273/jashs.140.5.472 .
2017	Nunez GH, Rodríguez-Armenta HP, Darnell RL, Olmstead JW. 2016. Toward marker-assisted breeding for root architecture traits in southern highbush blueberry. <i>J Am Soc Hort Sci.</i> 141(5):414–424. https://doi.org/10.21273/jashs03798-16 .
2018	Clark M, Hemstad P, Luby J. 2017. ‘Itasca’ grapevine, a new cold-hardy hybrid for white wine production. <i>HortScience.</i> 52(4):649–651. https://doi.org/10.21273/hortsci1692-16 .
2019	Ayala M, Lang G. 2018. Current season photoassimilate distribution in sweet cherry. <i>J Am Soc Hort Sci.</i> 143(2):110–117. https://doi.org/10.21273/jashs04200-17 .
2020	Strik BC, Vance A, Bryla DR, Sullivan DM. 2019. Organic production systems in northern highbush blueberry: II. Impact of planting method, cultivar, fertilizer, and mulch on leaf and soil nutrient concentrations and relationships with yield from planting through maturity. <i>HortScience.</i> 54(10):1777–1794. https://doi.org/10.21273/hortsci14197-19 .
2021	Ferrarezi RS, Jani AD, James III HT, Jill C, Ritenour MA, Wright AL. 2020. Sweet orange orchard architecture design, fertilizer, and irrigation management strategies under huanglongbing-endemic conditions in the Indian River citrus district. <i>HortScience.</i> 55(12):2028–2036. https://doi.org/10.21273/hortsci15390-20 .
2022	Khanal BP, Acharya I, Knoche M. 2021. Progressive decline in xylem inflow into developing plums. <i>HortScience.</i> 56(10):1263–1268. https://doi.org/10.21273/hortsci16012-21 .
2023	Myers A, Gunderman A, Threlfall R, Chen Y. 2022. Determining hand-harvest parameters and postharvest marketability impacts of fresh-market blackberries to develop a soft-robotic gripper for robotic harvesting. <i>HortScience.</i> 57(5):592–594. https://doi.org/10.21273/hortsci16487-22 .

■ Canada ■ Germany ■ New Zealand ■ USA

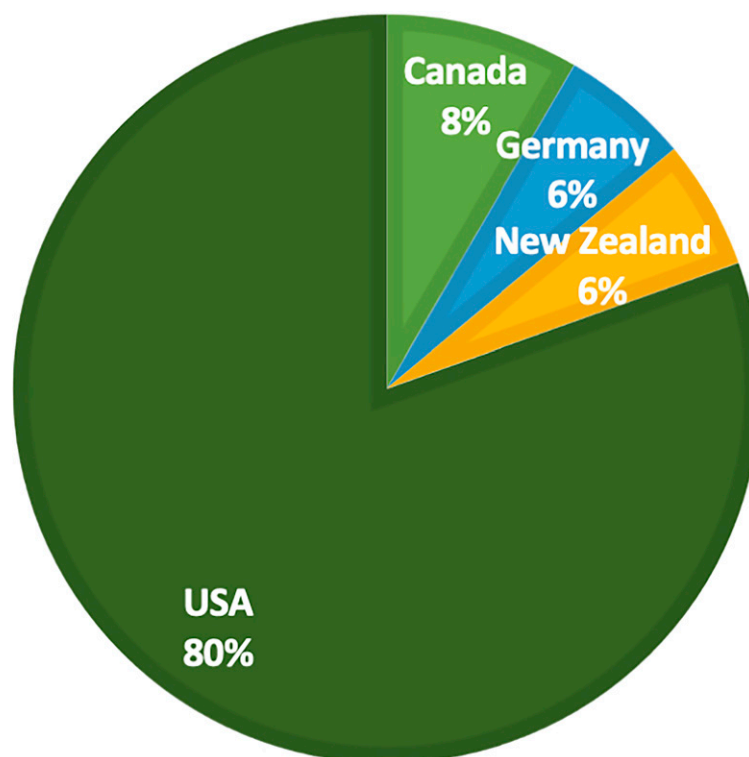


Fig. 2. The American Society for Horticultural Science Fruit Publication Awards (1986–2023) were initiated by four countries, with the author's country of origin being employed as the criterion for attribution to specific countries.

Table 2. American Society for Horticultural Science Fruit Publication Awards, 1986–2023, originated from 15 corresponding institutions.

Institutions	Locations	Awarded articles (no.)
US Department of Agriculture, Agricultural Research Service	Five locations, USA	6
Michigan State University	East Lansing, MI, USA	4
Cornell University	Ithaca, NY, USA	3
University of Florida	Gainesville, FL, USA	3
University of California, Davis	Davis, CA, USA	2
University of Georgia	Athens, GA, USA	2
University of Hawaii	Honolulu, HI, USA	2
Oklahoma State University	Stillwater, OK, USA	1
Oregon State University	Corvallis, OR, USA	1
Texas A&M University	College Station, TX, USA	1
University of Arkansas	Fayetteville, AR, USA	1
University of California, Riverside	Riverside, CA, USA	1
University of Massachusetts	Amherst, MA, USA	1
University of Minnesota	Minneapolis, MN, USA	1
Washington State University	Pullman, WA, USA	1

of Agriculture, Agricultural Research Service Laboratories had five research groups being recognized with six awards. Among

US institutions, Michigan State University (East Lansing, MI, USA) had four awarded articles, and Cornell University

(Ithaca, NY, USA) and the University of Florida (Gainesville, FL, USA) each received three awards (Table 2).