Opportunities and Challenges in Horticultural Science and Their Impact on the American Society for Horticultural Science

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Reflecting on the discipline of horticultural science over the past 60 years, one can make the case that it is in a period of great opportunity. Recognition of the role of fruits and vegetables in a healthful diet has led to food for health initiatives that encourage diets rich in horticultural crops, which can play a very positive role in maintaining good health and reducing healthcare costs. There are many programs established by nutrition departments to encourage gardening in elementary schools, thereby introducing young people to the concept of growing and eating

fresh fruits and vegetables. The “locavore movement” fosters the popularity of purchasing locally and has spurred an increased interest in farmers’ markets and urban gardening. On the international scene, the idea of peri-urban gardening recognizes the value of horticultural crops in improving nutrition and income on relatively small areas of land in developing nations. In the fall of 2009 the Agency for International Development established a Horticulture Collaborative Research Support Program managed by a consortium including the University of California–Davis, the University of North Carolina, University of Hawaii, and Cornell University. Environmental issues, including concerns for climate change and the reduction of energy consumption, provide an opportunity for ornamental horticulture to design not only a pleasing visual environment, but also to use plants for shade and cooling as well as a habitat for wildlife. Finally, through the efforts of ASHS and the horticultural industry, a Specialty Crops Research Initiative and Specialty Crop Block Grants have been established by the U.S. Department of Agriculture. In fact I see on the web site a new Society subtitle, “ASHS—Horticultural Science for Specialty Crops.” Horticulture is being recognized at the local, national, and international levels by nutritionists, journalists, the public, and by lawmakers. We are very fortunate to have this broad base of interest.

On the other hand, there is a critical challenge that does need to be addressed on a sustained basis by members and officers of our Society and the horticultural industry. The challenge was identified in a series of excellent “Reflections” articles written by Cary Mitchell in 2003–04 (Mitchell, 2003). He observed that the membership of ASHS had declined from a high of ≈5000 members in 1990 to 3000 members in 2003, and that a third of the membership was from countries other than the United States. Cary launched a number of initiatives during his presidency to increase membership in what he referred to as the “new ASHS” (Mitchell, 2004). However, the downward trend has continued. Executive Director Mike Neff noted in 2012 that there were 2400 members and that graduate student membership had dropped from 800 to 231 (Bosland, 2012); many of us joined the Society when we were graduate students.

Reductions in state and federal support of universities and university research have led to consolidation of departments and a reduction in the number of horticultural science faculty. When a horticulturist retires—if the position is filled—a scientist in molecular biology or another fundamental plant science discipline is likely to be appointed because such individuals are more competitive for the diminishing source of federal grant funds. Faculty, departments, and colleges are rewarded and ranked for the number of papers published, how frequently their papers are cited, and how much grant money they have generated. This is fine for self-esteem and recognition from peers, but it has limited value for the clientele land grant universities were established to serve. There is no question that the new fundamental sciences are essential for research in horticulture, but it is also essential for administrators at the department, college, and university levels to recognize that part of the research and extension effort must be devoted to problems being faced by the horticultural industry if we are to retain its support. In the past we called this “applied research,” which unfortunately carried negative connotations in the academic community. Now medical schools are setting up “translational research” centers that can more quickly translate fundamental research into products and techniques for patient care. We need to develop horticultural translational research centers that can conduct transdisciplinary research to address some of the complex problems facing our industry. Among these areas are such topics as pest resistance, drought tolerance, increased nitrogen efficiency, food safety, bee colony collapse, and a myriad of issues addressing environmental impact and sustainability. These are complex problems that take time to solve and do not lead to rapid publication. Some federal granting agencies and legislators are requiring evidence of a return on the investment made by publicly supported grants. There is some hope that balance between fundamental research and translational research can be restored. We need both. It is urgent that we make this argument to university administrators, lawmakers, and the horticultural industry to maintain our primary source of membership. It is in their interest as well as ours.

We are fortunate in California to have the California Commodity Committee (CCC) representing 50 commodity-based organizations. This group has increased awareness of the importance of agricultural research and extension to California and has developed strategies for promoting and funding commodity research and extension programs in recognition of declining state and federal support. A coalition of walnut, pistachio, and almond growers conducted a detailed study on the demographics of extension specialists and farm advisors critical to tree nut research and extension and it developed priorities for filling these positions in partnership with the University of California. The concern about the replacement of faculty and extension specialists in horticultural crops

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Following are Dr. Hess’ remarks concerning the Hall of Fame recognition on 22 July 2013 at the ASHS Conference in Palm Desert, CA.

It is a tremendous honor to be named to the ASHS Horticultural Hall of Fame. I thank Jules Janick for preparing the nomination and all those who wrote supporting letters: J. Patrick Jordan, former administrator of the USDA Cooperative State Research Service; ASHS past presidents Randy Woodson, Allen Stevens, Fred Bliss, and Adel Kader; former students Bruno Moser and Charles Heuser; and a Purdue/Cornell colleague, Ed Oyer. I also thank the Horticulture Hall of Fame Selection Committee, the Awards Committee, and the Board of Directors for their approval of the nomination. Finally I want to recognize my wife, Eva Hess, who has been a tremendous source of love, support, and encouragement for the past 32 years.

I am very proud to become a member of the Hall of Fame, whose members include Liberty Hyde Bailey and Gregor Mendel, the original appointees when the Hall of Fame was established in 1989. There have been 34 members appointed in the past 24 years, four of whom are still living—Jules Janick, 2009; James Moore, 2007; John Bukovac, 2001; and Buck Gabelman, 1999. For a period of time, the policy was that you had to be deceased to be named to the Hall of Fame, but fortunately for those of us who are still alive, that was changed. I would say that the recipient who I feel comes closest to meeting the standards set by Liberty Hyde Bailey is Jules Janick. As a graduate student at Cornell, I remember a photograph of Dr. Bailey next to a stack of books he had written that was equal to his height. At the rate of approximately two books a year, I think Jules has already exceeded that publication record in addition to his many other contributions to our Society and the field of horticultural science.

has become so great that commodity groups are beginning to partially fund positions they feel are critical to their industry.

There are two other approaches I promoted in my presidential address in 1973, one of which I believe would be worthwhile to revisit. The first one was moving ASHS headquarters from Michigan to Washington, DC, to increase the influence of our Society on federal legislation and funding. Our Society's leadership and the National Issues Task Force have had some important success as Paul Bosland wrote this past June in an article—"Democracy, the Farm Bill, and Horticulture" (Bosland, 2013).

The second approach was to establish a closer working relationship with the American Horticultural Society (AHS). The ASHS move to Washington, DC, did take place in 1974 and the initial location was River Farm in Alexandria, VA, originally established by George Washington and the new headquarters of AHS. David Leach was president of AHS and had a vision of creating a National Center for Horticulture. He was very

supportive of forming a closer relationship between our Society and his. The AHS provided space, secretarial support, and public relations services. It also provided an opportunity for synergy with a major public horticultural organization, which could facilitate the delivery of horticultural research and extension to the public and potentially generate an enlarged base of public support. Unfortunately, the tenant/landlord relationship between the two societies did not go smoothly and a decision was made in 1979 to purchase an independent ASHS headquarters building. However, I think the concept of working together with AHS as well as with other "public horticultural" organizations is still worthy of exploration.

To conclude, we have a challenge to maintain the membership of ASHS. We are in a period in which there is a growing recognition that horticulture has an important impact on everyone. We must make the case to university administrators, state and national legislators, and the horticultural industry that a balance between fundamental

and translational research is essential. Industry funding and support can play a role in helping to improve the balance between fundamental and translational research, particularly in a period of declining federal and state grant support. In addition, we should seek to broaden our base of support by establishing closer working relationships with industry and public horticulture. There is no quick fix to the membership issue, but it is essential that we take the time to address it on a sustained basis.

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