

Viewpoints and Letters to the Editor are published in *HortScience* to provide members of the American Society for Horticultural Science an opportunity to share their experiences and comments

on matters of concern to horticulturists. These are not statements of official Society policy nor do they necessarily reflect the views of a majority of the Society's members.

## Women in Horticulture

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Why aren't there more women horticulturists in the United States? The large number of European women in this field always astonishes Americans traveling abroad. In certain Asian countries, e.g. Taiwan and Thailand, women are represented in horticulture classes in much larger numbers. (This may partly account for the extraordinarily high proportion of Oriental women graduate students in the U.S.) Recently, in our country there has been a noticeable increase in high school girls enrolled in agriculture and participating in FFA. There is also a substantial increase in number of college women majoring in horticulture. A poll of 43 Land Grant Institutions showed that women constitute 22% of undergraduate majors and 14% of our graduate students. A comparison of the present meager representation of women in academic positions (2%), employed by USDA (1.5%), and members of ASHS (1.7%) with the proportion of young women training for careers in horticulture demands a reevaluation of long-held assumptions that horticulture is a masculine occupation. Why such a high rate of attrition between undergraduate training and professional employment?

Even the most traditional persons do not have to subscribe to *Ms.* magazine to discover that we are in the midst of a social revolution. Because of technological advances minimizing household chores and recent legislation finally enabling complete freedom of choice about child-bearing, the modern woman is no longer locked into the sole occupation of housekeeper and baby-sitter for the major portion of her life. It is inevitable that with changing realities there emerge changing values. One reality of modern life is that women *are* working outside the home. In 1968, 41% of the labor force was women. The predictions are that this trend will increase (1). Women's interests and capabilities are as varied as men's; they do not all strive to become secretaries, nurses, teachers, or home economists (occupations traditionally open to women). Some young women

are choosing to be pharmacists, geologists, engineers, and horticulturists, and there will be an increasing number of them seeking employment in these fields. Is it not time to question the traditional concepts of a woman's role and capabilities which developed in a primitive rural society, and which persist today only because of culturally conditioned sex stereotypes? Some women *do* prefer to work with plants rather than typewriters or vacuum cleaners, to be outdoors rather than confined to a desk, to get their hands dirty rather than remaining forever manicured, to go to work in blue jeans rather than mini skirts and high heels.

Another reality is that women *are* combining a career with marriage and family. In a poll of women majoring in horticulture all anticipated marriage, most wanted children, and 93% expected to pursue a career also. The evolution from women's total economic dependence upon men to a growing independence necessitates a further change in our value system. Self-realization is replacing self-sacrifice as the ultimate goal of womanhood. Young women no longer feel guilt for aspiring to interesting work outside the home. A young man's ego is not crushed if he is not the sole support of his family. Not only does he welcome the additional income, but at the end of his day he does not return home to a boring recitation about children, household trivia, and neighborhood gossip.

What are some of the problems facing a young woman wanting to become a horticulturist? As an undergraduate she faces little difficulty. Professors accept her on the basis of academic achievement which is comparable to that of male students. On the graduate level, she is also allowed to proceed with her studies. However, during this pre-professional training period she begins to encounter the subtle "put-downs" generated, often unconsciously, by male professors. In spite of observing comparable performance in their women students, somehow, deep within themselves they find great difficulty in considering women seriously as future professional horticulturists. One of the most powerful stimuli for maximum student

endeavor is a respected professor's high expectations. Yet some professors deny this type of encouragement. They may be reluctant to be as demanding of their women students, thinking that "*it doesn't really matter.*" In competition for a fellowship the odds are greatly in favor of a male student because of his assumed greater potential contribution to the profession. Thus, with less faculty encouragement, a woman completing a graduate program in horticulture is apt to be a highly self-motivated, more dedicated person than the average man. It is a fact, however, that equal opportunity for education at all levels does exist.

Having successfully completed training in her chosen field, what does the young woman horticulturist encounter when seeking employment? One initial obstacle is that a male professor is less apt to sponsor a female protegee, which is one of the most critical avenues of entrance into the profession. Because of recent Civil Rights legislation today she is not apt to be told "*Well, you certainly have the qualifications but we're looking for a man,*" as was experienced by a woman applicant a few years ago. But it is not necessary to relate to my virtually all-male audience the vast array of "*excuses,*" more subtly expressed than the above remark, that can be conjured up to keep a woman "*out of the club.*" I will give but one example - "*lack of physical strength.*" What proportion of the positions in horticulture require heavy manual labor? Is a man with back trouble or a weak heart excluded from the profession because of physical limitations? Physical strength is a *difference* between men and women; it is not a *limitation* for most horticultural jobs. Some of the most significant advances in horticultural research are being made with sophisticated laboratory techniques in biochemistry, electron microscopy, or statistics. This work requires extremely careful attention to minutiae and patience to perform routine repetitive analyses. Masculine or feminine? Laboratory conclusions often require follow-up field studies. Again, tedious recording of observations on plants in the field, followed by a synthesis of the two types

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of data. Masculine or feminine? Another major activity of horticulturists is teaching. Masculine or feminine?

It is time for horticulturists to ask themselves these questions. Are my excuses for not accepting a woman really valid? Are they truly justification for denying an enthusiastic well-trained young person the opportunity to utilize her skills and to enjoy the rewarding life in a profession of her choice? Or are they, in fact, based on out-moded concepts of what a woman's role in society *should* be, or on assumed female limitations, or on suppositions about what might happen if a woman were to become a colleague? Try to be honest and objective because the aspirations and future contributions of many talented young horticulturists are at stake.

There is one *real* difficulty that a woman faces when she attempts to combine a career and a family. The time when maximum performance is demanded for completion of studies and embarking upon a career happens to coincide with the age of child-bearing. Because of the difficulty of accomplishing both successfully, career plans often get buried in the diaper pail. Dropping out for even 5-10 years (a relatively short period in a person's productive life) presents a serious handicap. She becomes out-of-date scientifically and loses professional contacts. Even more important, she has lost the most important ingredient to successful job-seeking — self-confidence. The solution to this problem is very simple. It is one that I have advocated for many years and is now being championed by all groups concerned with expanding women's opportunities (2, 3). Serious consideration should be given to establishing part-time jobs at all levels of responsibility in order to utilize this source of trained talent. These part-time jobs must have the same pay scale, status, and benefits of a full-time job, and have the potential of eventually becoming a full-time job, as circumstances permit. (I am *not* proposing an expansion of the practice of exploiting an available woman Ph.D. as a part-time assistant to a professor.) There would be definite advantages to proceeding with this scheme. Two or more women part-time, each having a different area of specialization would provide greater diversity in the department than one full-time person. The greater efficiency of two half-time employees as compared to one full-time would easily compensate for the extra bookkeeping.

Universities commonly split the responsibilities of a full-time faculty member into various fractions of teaching and research, or even between 2 different departments. Why not assign various fractions to part-time

employees? Research budgets are often sufficient to pay only half of a lab technician's salary. There should be no serious obstacles to establishing permanent, part-time positions in universities or in industry. Young women should then be actively recruited for these positions. They should be encouraged to enter and to remain in the field of horticulture so that in future years they may express comments similar to those of two established women horticulturists. "*It's been a whale of a lot of fun. I wouldn't have missed it for the world,*" and "*It's like an intriguing hobby for which I*

*receive a salary.*" And after several delightful years in the profession, *I* have lost the sense of being a *woman* horticulturist and have gained an image of being a *horticulturist*. This is as it should be!

#### Literature Cited

1. Gold, S. S. 1973. Alternative national goals and women's employment. *Science* 179:656-660.
2. Goldsmith, N. F. 1970. Women in science: symposium and job mart. *Science* 168:1124-1127.
3. Graham, P. A. 1970. Women in academe. *Science* 169:1284-1290.

## NOT LETTERS LETTERS

### Minorities in Horticulture in Land Grant Institutions

In preparing an editorial on women in horticulture, I made a poll of Land Grant Institutions in order to find out the proportion of women at all levels of training and employment. In order for this poll to have a broader significance, I also obtained information on minorities. Several heads of departments,

who kindly completed the questionnaire, requested a summary of the results. This information could be valuable for all departments involved with affirmative action programs.

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Distribution of racial and ethnic groups by sex in Horticulture in 45 Land grant Institutions, January, 1973.

Classification	White Caucasian		Negro		American Indian		Spanish American		Oriental		Other	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Undergrad. student	2451	711	12	0	3	0	15	1	26	9	9	2
Graduate student	490	73	25	1	1	0	24	1	70	31	65	5
Laboratory technician	184	69	2	1	0	0	2	2	6	3	1	2
Instructor	34	3	0	0	0	0	0	0	0	0	0	0
Assistant Professor	145	4	1	0	0	0	0	0	6	0	1	0
Associate Professor	214	1	0	0	0	0	1	0	6	0	1	0
Professor	314	3	0	0	0	0	0	0	7	0	0	0
Other academic <sup>2</sup>	68	7	0	0	0	0	1	0	12	0	2	0

<sup>2</sup>Includes full-time research assistants, postdoctorals, etc.

### Correction

In *HortScience* 7(1):59-60, 1972 in the paper by Craker and Feder entitled "*Development of the inflorescence in petunia, geranium and poinsettia under ozone stress*" and in *HortScience* 7(5):484, 1972 in the paper by Craker entitled "*Decline and recovery of petunia flower development from ozone stress*," the ozone concentrations were not translated from ppm correctly and in both papers are 100 times lower than stated. For instance, 5 µl/liter should be 0.05 µl/liter.

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### ASHS Membership Survey

The following analysis of ASHS membership was made by checking the 1971-72 *Agr. Handbook* 305, *Professional Workers in State Agricultural Experiment Stations* against the ASHS membership list as given in the 1970-71 Directory. All workers in "Horticulture" departments were considered to be horticulturists. In "sub-stations" and in "Plant Science" departments only those whose title clearly indicated a major connection with horticulture are included. Obviously this is a judgment decision and it is recognized that certain personnel in horticulture departments have major interest in other disciplines, for example Landscape architecture, forestry, food science. The listing does