

nevertheless they are most beneficial in helping the young person to choose a job. They provide a personal and social challenge as well as an educational one, which many young people appreciate. In a recent survey of sandwich students in Business Studies, sandwich students generally earned substantially more than their full-time colleagues. There are strong indications that this is equally true of growers.

MODERATOR HARAMAKI: Thank you, Mr. Martyr; I think you have an excellent approach to teaching horticulture in England and I was quite impressed with the facilities which are available at the colleges we visited on our tour last year. Our next speaker is going to talk about a field which is quite different. Dr. Tereshovich is going to tell us about horticultural therapy.

HORTICULTURAL THERAPISTS

GEORGE TERESHKOVICH
*Texas Tech University
Lubbock, Texas*

REVIEW OF LITERATURE

Horticulture, both a science and an art, has proven to be therapeutic to many people. Working with plants has a healing quality that is relaxing and satisfying. "There is nothing new about Horticultural Therapy; it is not proposed as a new therapy but merely as a supplement to the already recognized forms of occupational therapy" (19).

Man's early interest in plants was centered on their healing properties and many of our earliest horticulturists were physicians who sought to grow plants of medicinal value. This early work was initiated at Oxford University. Their Botanic Garden was the first of its kind in the British Isles, established in 1621 — primarily to strengthen the faculty of medicine (9). People have long practiced garden therapy as preventive medicine. Before the science of psychiatry, physicians prescribed work in the garden for ills of the mind and nervous system (17).

Progress during the 20th century centered around the development of horticultural activities in programs of many hospitals and institutions in the United States. Soon horticultural therapy gained sufficient approval for an effort to be made to plan special activities, many of which were not necessary for the institution's maintenance.

Three books published between 1912 and 1919 recommend gardening as one of the activities for therapy. In 1917, an instructor in gardening had been added to the Women's Occupational Therapy Department at Bloomingdale Hospital, White Plains, New York. Placing the primary emphasis on diversional and psychiatric rather than functional activities, veteran's hospitals made increased use of gardening therapy in treatment and re-education for disabled soldiers of World War I. Between 1920 and 1940 almost all books on occupational therapy mentioned gardening. After 1940, garden therapy was considered a separate treatment and during the forties the term "Horticultural Therapy" became recognized as horticultural skills were used in rehabilitating the injured from World War II (18, 20).

In the 1950's Michigan State University pioneered in the development of a masters degree program in horticultural therapy for occupational therapists. About the same time the National Federation of Garden Clubs took up the activity as a volunteer project, and many of its members, working in hospitals throughout the country made life more interesting for patients who had little other activity (16).

In 1971, the first undergraduate program in horticultural therapy in the United States was offered at Kansas State University in the Department of Horticulture and Forestry in cooperation with the Menninger Foundation (2). Presently undergraduate programs in hort-therapy are also offered at Texas Tech University, Clemson University, and the Universities of Florida and Maryland.

Psychological articles on garden therapy are rarely found, although at the present time almost all psychiatric hospitals have some form of horticultural therapy as a well developed activity, usually providing a greenhouse as well as outside facilities. Today the single word "Hortitherapy" is used to refer to "rehabilitation through contact with nature" (1).

Horticulture is not a new therapy; it is a tool to supplement already existing forms of therapy. Horticulture has a broad appeal. It may be practiced in the home, garden, hospitals, and convalescent homes. It has great elasticity and probably its greatest value as a therapy is in the form of preventive medicine. Limited programs including plant growth, propagation, bulb pot culture, plant identification (herbs for the blind), flower arrangements, terrarium culture, desert gardens, outdoor and greenhouse gardening, hydroponics, hybridization, and plant nutrition have been used in patient treatment (4, 21).

Children and adults who become mentally or physically ill, are benefiting from horticultural therapeutic activities through work and recreation. Through the many plant-related programs

the individual becomes acquainted with the plant world and his relationship to the environment (5, 6, 7, 13, 20).

Gardening also is useful in rehabilitation of prison inmates. Experience in the use of hort-therapy at several state prisons has shown that some can profit by this activity. In simple terms it may be nothing more than a means of giving men a way of doing time in a constructive way. There are some whose handicaps of body, mind, and attitude can be compensated or modified if their activities keep them out of trouble, make them feel useful, and help them gain the experience of worthwhile accomplishment (14, 15).

A new sense of values in human dignity has come about in this country in recent years. Change in the physical environment by the addition of plants and flowers has resulted directly in a noticeable improvement in the psychological environment. Inner-city residents have found a way to improve their environment with neighborhood garden projects. Some efforts are sparked by metropolitan housing authorities, however, more often the local garden club initiates projects.

The public housing gardens, window boxes and flower bays have offered more than beauty. They have created a new vision for the mind and have been a torch to the spirit, kindling a striving for a better way of life. It has brought to the city values that have been enjoyed by individual's of all ages; a sense of order, beauty, and self-esteem (8, 10, 11, 12).

Karl Menninger said, "I want to be on record as believing strongly in this program of training in Horticulture Therapy. It is one type of what we call adjunctive therapy which brings the individual close to the soil, close to Mother Nature, close to beauty, close to the mystery of growth and development. It is one of the simple ways to make a cooperative deal with nature for a prompt reward" (5).

The general purpose of horticultural therapy has been the improvement of physical and mental well being. It has never been thought of as a direct therapy or one that would supersede existing forms of therapy. It is one form of activity that has been used for treatment or prevention of illness and for the improvement of mental and physical well being of the individual (19).

NATIONAL COUNCIL FOR THERAPY AND REHABILITATION THROUGH HORTICULTURE

In the past several years considerable interest has been generated in the use of horticulture and its related activities for therapy and rehabilitation that leaders in the field from across the United States, Canada and Great Britain have banded together to form and help organize a Council for Therapy and Rehabilitation Through Horticulture. The Council has for its basic goals the promotion

and encouragement of interest in the development of horticulture and related activities as a therapeutic and rehabilitative medium, the coordination of professional, educational, therapeutic and rehabilitational programs and organizations striving to use horticulture in the course of human development and the provision of services including a newsletter, a resource library and national clearinghouse, a speakers bureau, meetings and seminars, a manpower exchange bank and program consultation services for any interested individual or organization.

The Council was founded over a year ago in Washington, D.C., and its membership has grown to include over 350 individuals and organizations representing a broad cross section of the greater horticultural community. Included in this membership are professional horticulturists, personnel of ongoing horticultural, vocational and therapeutic training programs, students in special education and horticulture, private horticultural enterprises and a host of just interested people involved in some phase of the people/plant interaction.

MELWOOD TRAINING CENTER

At the Melwood Community Vocational Training Center, retarded young people are taught simple horticultural skills and self-reliance needed for future jobs. Using a combination of horticultural activities and community on-the-job training sites, young people destined for lives spent in institutions or supported by public assistance are rehabilitated and prepared for a self-sustaining life of productive work. Presently Melwood's program consists of five training areas: grounds-keeping, greenhouse/plant and flower shop work, building and grounds maintenance, vehicle and equipment maintenance, and craft production.

Prior to entrance into the preliminary training stage, every potential trainee undergoes a 6 week evaluation session, sampling each training area for a brief period. During this time a psychologist/evaluator closely oversees the evaluation — considering specific evaluation reports prepared by individual instructors as they closely supervise the work sampling. After parent conferences and staff briefings recommendations are made either for placement into a specific Melwood program or into other more appropriate ones.

All training areas seek to accomplish two basic vocational necessities — appropriate work attitudes and a strong sense of job responsibility. Basic skills are stressed to the extent that they make work easier and therefore more satisfying, but specific skill training can be more successfully accomplished by employers.

Social survival skills are taught in conjunction with the vocational training program — usually by an instructor who accom-

panies crews as they work in the community. This course in basic academics stresses those academic abilities mandatory for an individual to survive in the working world.

Evening enrichment courses and extensive travels help to round out and complete an individual's training. By learning what one may do with money after one becomes productive and employed, a trainee begins to develop a sense of inner motivation so essential for everyday living.

HORTICULTURAL THERAPY AT TEXAS TECH

The College of Agricultural Sciences at Texas Tech University is people-oriented. It has a strong program of training in areas related to natural resource use for the ultimate benefit of society. One particular phase of this effort is training young people to work in the field of horticultural therapy. Students are trained to help people achieve a better understanding of themselves and of the world around them through horticulture. Graduates work with the physically ill, aged, handicapped, retarded, emotionally ill, and prison inmates in psychiatric institutions, rehabilitation centers, correctional institutions, mental health centers, veterans hospitals, geriatric homes, urban communities, and in community development programs.

At Texas Tech, students in horticultural therapy obtain a broad interdisciplinary background in horticulture (a minimum of 24 semester hours), and basic plant sciences (28 semester hours) supported by courses in psychology, sociology, special education, family relations and child development (30 semester hours), in addition to the general university requirements. The student also receives valuable internship training in the program coordinated through the Department of Park Administration, Landscape Architecture and Horticulture in conjunction and cooperation with the Texas Tech University School of Medicine, the Lubbock State School of Mentally Retarded Children, and convalescent homes in the community.

To put it simply, the common goal of the professional horticulturist, the horticultural therapist, the institutional director and possibly the volunteer worker, is to bring it all together, that is, to share with each other, to learn from one another and to assist in developing new programs, techniques, and activities for people and horticulture.

LITERATURE CITED

1. Anonymous. 1968. The forest city of the sixties. The Holden Arboretum, Cleveland, Ohio.
2. —————. 1971. Kansas State U. offers new programs in hort. therapy. *Flor. & Nur. Exch.* 155:15.

3. _____. 1973. Melwood training center. Upper Marlboro, Maryland. Misc. paper.
4. Black, B. 1971. Horticultural therapy comes of age. *Gard. J.* 21:8-11.
5. Bond, Charles A. 1972. Older citizens bring young thumbs to a wide range of gardening. U.S.D.A. Yearbook of Agri. House Doc. No. 29:287-292.
6. Burlingame, Alice W. 1959. Gardening brings new hope and health. *Horticulture* 37:482.
7. _____. 1962. Companion gardening. *Horticulture* 40:455.
8. Bush-Brown, L. 1962. Philadelphia's garden blocks and 4-H Clubs. *Plants & Gard. N.S.* 18:27.
9. Carew, John H. 1966. The composition of horticulturists. *Proc. 17th Inter. Hort. Cong.* 2:89-95.
10. Conklin, Everett. 1972. Plants serve basic human need. *Sou. Flor. & Nur.* 85:19-21.
11. _____. 1972. Plants and flowers — fundamental essentials? *Landscape Ind.* 17(6):28-29.
12. _____. 1972. Man and plants — a primal association. *Amer. Nur.* 136:42.
13. Hamilton, L., P.J.R. Nichols and A.S. White. 1970. Gardening for the disabled and elderly. *J. Royal Hort. Soc.* 95:358-369.
14. Hoffman, J.F., and C.E. Ervin. 1965. Roses and rehabilitation. *Plants & Gard.* 21:68-71.
15. Lemme, J. 1972. Reformatory program teaches horticultural skills. *Amer. Nur.* 136:62.
16. McCandliss, Rhea. 1967. The plant-man — the environment. Misc. paper. C.F. Menn. Mem. Hosp.
17. O'Conner, Andrey H. 1958. Horticulture as a curative. *The Cornell Plant.* 14(2):42.
18. Tartakoff, S. 1953. Garden therapy. *Horticulture* 31:256.
19. Watson, Donald P. 1966. Therapy through horticulture. *Proc. 17th Inter. Hort. Cong.* 2:191-193.
20. _____, and Alice W. Burlingame. 1960. Therapy through horticulture. The MacMillan Co. New York, N.Y.
21. _____, and H.B. Tukey, 1953. Horticulture as a therapy. *J. Royal Hort. Soc.* 78:202-208.

MODERATOR HARAMAKI: Thank you, Dr. Tereshkovich. Our next speaker is our esteemed program chairman, Mr. Larry Carville, who will tell us about horticultural science in the high school.