

A STUDY TO DETERMINE THE FEASIBILITY OF PLACING TRAINED
MENTALLY RETARDED INDIVIDUALS INTO HORTICULTURAL
JOBS IN THE PHILADELPHIA AREA

by

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A special mention must be made of the friends and family of Stanley Levin who believed in Stan's dream of horticultural employment for the mentally retarded, and who donated money in Stan's memory to support this effort.

INTRODUCTION

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In October of 1983 The Philadelphia Foundation approached the Morris Arboretum concerning a memorial fund donated by the friends and family of Stan Levin. Stan had operated a commercial horticultural business called Foliage Design Group, and he had a special interest in developing repetitive horticultural training programs for the mentally retarded as a means of providing future employment for the trainees in the horticultural field. Stan was killed in a car accident during the summer of 1983, and the fund was started to develop a program to continue his interests. As the Horticultural Therapy Consultant for the Morris Arboretum this author was asked to investigate the potential for this project.

With the goal of horticultural training and employment for the mentally retarded in mind and with the one restriction that any project be limited to the Philadelphia area, research was first conducted to determine what was currently happening in terms of training and placement in horticulture for the mentally retarded in Philadelphia. The few programs that trained mentally retarded clients in horticulture seemed to have few placements in the field ; they also had no plan for tailoring client training to meet the industry's needs. However, the idea of horticultural training generated a lot of interest, especially when the potential for questioning Philadelphia's horticultural employers concerning their needs was mentioned.

A national federally funded program titled Horticulture Hiring the Disabled (HHD) was operating in Washington, D.C. at that time. Steve Gallison of this project was called concerning his views on the best way to develop the study. Gallison consulted with the Morris Arboretum staff, and it was decided that the real need both in Philadelphia and nationally was for a pilot study that would survey professional horticulturists in a region to: 1) determine what the various segments of the horticultural industry in that area need in terms of employees, and 2) ask them how mentally retarded trainees can fit into these positions.

The Philadelphia Foundation approved the plan to develop a feasibility study to determine the role of horticultural vocational skill training and employment for the mentally retarded in the Philadelphia area. The goals of the project

were: 1) to consult with professional horticulturists in Philadelphia regarding the labor requirements and needs of their industry; 2) to create an awareness within Philadelphia's horticultural industry of the benefits of hiring trained mentally retarded workers; 3) to learn from vocational trainers in Philadelphia of the needs and trends in placing the mentally retarded; and 4) to provide information to vocational trainers concerning the real needs of Philadelphia's horticultural employers. The plan involved two workshops which were carried out in the spring of 1984. The first workshop was held for representatives of Philadelphia's horticultural industry, and the second one was conducted for local vocational trainers and job-placement coordinators for the mentally retarded. A final report was sent to all 160 participants. The funding nature of the Philadelphia Foundation limited the study to the five county Philadelphia area which includes Bucks, Chester, Delaware, Montgomery and Philadelphia counties. Throughout this report Philadelphia refers to this regional area.

The unique aspect of this feasibility study was the element that acted to inform potential employers about the qualifications of the mentally retarded employee, and then asked the employers for their input in developing a training plan for mentally retarded clients. This report describes that process and the results.

LITERATURE REVIEW

More than 30,000 disabled workers have been placed in private businesses during the past decade through the efforts of federally supported "Project with Industry" programs. These programs are no-cost government-sponsored employment services that assist in locating and recruiting disadvantaged employees who are suited to employers (Richman, 1983). However, there are still many millions of mentally retarded persons looking for a chance for permanent employment. Although these people vary in age, level of intelligence, and ability, studies have proved that mentally retarded workers can offer a great deal to the employer. In recent surveys of factors effecting job performance, mentally retarded workers demonstrated above average punctuality, attendance, and tenure. In on-the-job tests the mentally retarded worker often outstrips his/her non-retarded peers in task performance, fatigue resistance, motivation, and job satisfaction (Association for Retarded Citizens, undated).

Horticulture Hiring the Disabled (HHD) is a Project with Industry which was developed to assist the horticultural industry in finding job-related disabled employees. HHD operates through the National Council for Therapy and Rehabilitation through Horticulture, and it works to educate potential employers regarding the value of hiring the disabled and to learn from these employers about their labor needs. Charles Richman, the Director of HHD, states that the horticultural industry will need 102,000 new workers by the year 1990. Many of these positions will be semi-skilled or repetitive jobs. Although there are many vocational horticultural training programs for the disabled, these programs have not historically been successful in placing trainees because the industry is often not aware of the available labor force (Richman, 1983).

Two horticultural training programs for the disabled have been successful in placing clients. These are the Melwood Horticulture Training Program in Maryland and the Lofton Manor Rural Training Unit in Somerset, United Kingdom. In both cases the successfulness of the program is due to training that seeks to place clients into a specific niche in the local horticultural community. Melwood was founded in 1963 to: "offer many stimulating indoor and outdoor work training opportunities, which would lead to employment" (Copus, 1978). In the Melwood Manual (Mallory, 1980) the Melwood Horticulture Training Program is described; a unique aspect of this training program is the fact that it utilizes the high number of federal agencies in the Washington, D.C. area to create work training and employment opportunities for the Melwood workers. Melwood is run as a business model states Copus: "Our people are not patients, clients, or trainees. They're workers! And the therapist in charge is the foreman. Over 40 percent of the Melwood budget is self-earned each year -- over \$850,000 earned by mentally retarded men and women who cut grass and garden professionally for a living." By 1980 over 200 Melwood graduates had been employed in the community; 80 percent of these placements were in horticulture (Berman, 1980). Lufton Manor relies on local authorities to place trainees, as required by the Mental Health Act and the Chronically Sick and Disabled Persons Act. Lufton Manor is successful because it aims to place the disabled in rural communities where there is a need for horticultural and agricultural laborers, rather than attempting to find placements for trainees in urban areas with higher unemployment and less need for this type of work (Underhill, 1976).

The Melwood and Lufton Manor programs demonstrate that it is important to utilize regional horticultural peculiarities and local regulations in planning training programs for the disabled. Climate, population, availability of migrant workers, transportation, and a variety of other factors may influence the employability of horticultural trainees.

In Philadelphia the horticultural vocational trainers described the need for information regarding labor needs and characteristics of local horticultural businesses. Of the 20 vocational training programs for the mentally retarded listed in the Horticulture Therapy Program Directory of the Delaware Valley Chapter of NCTRH, (Zadik, 1984), only two programs had a history of placing trainees in horticultural positions. One of these programs, Algonkin Gardens of the Bancroft Community, operated a retail/ wholesale plant, floral, and landscape business. Workers who were fully trained were first employed by Algonkin Gardens so that they could acquire on-the-job experience before working in the community (Tullis, 1977). Even with this experience it was often difficult to find horticultural placements because of the lack of communication between trainers and potential employers.

In compiling resources for the horticultural business people who participated in this study two federal programs stood out as excellent incentives for those who wish to hire the disabled employee. The Targeted Jobs Tax Credit was established by the Revenue Act of 1978 to offer new employers tax breaks for hiring and training CETA participants. These benefits were later extended to include nine categories of disadvantaged workers. Benefits can reach a maximum of \$3,000 for each worker who is paid \$6,000 or more in the first year of employment (Perlman, 1979). The Job Training Partnership Act was created in 1982 to establish a partnership between the public and private sector for planning and delivering employment and training services to the economically disadvantaged and the long-term unemployed. The Job Training Partnership Act reimburses employers up to 50 percent for on-the-job training (Laventhol and Horwath/CONSULT, 1983).

The Horticulture Hiring the Disabled office, the local horticultural business people, and area vocational trainers acted as resources throughout the study. In many cases it was their experience and knowledge alone that provided the information which was necessary to complete this study.

OBJECTIVES

When this study was first proposed the author interviewed all of the horticultural vocational trainers who were identified by the Delaware Valley Chapter of the National Council for Therapy and Rehabilitation through Horticulture in an attempt to learn the training methods and placement strategy of those programs which were producing trained mentally retarded clients for horticultural employment. It became clear that these programs had not considered the employment needs of their local horticultural businesses in planning the training programs for their clients. The horticultural trainers asked as many questions regarding the direction in which their vocational training should move as did the interviewer. The need for a method of obtaining information from the potential employers concerning the employment trends of their businesses was apparent. The purpose of this study was to bring together representatives from the major areas of the horticultural industry in Philadelphia, so that they could: 1) define trends in their field, and 2) help to develop a plan for training mentally retarded clients to do the work for which the industry has a real need.

MATERIALS AND METHODS

DESIGN

Three methods of data collection were utilized so that the information which was obtained from the horticultural business people would actually reflect the questions that the vocational trainers put forward. These included personal interviews with vocational trainers, group interviews with specific areas of the horticultural field meeting in separate groups, and a survey of selected horticultural business people.

Personal interviews were conducted with 20 representatives of vocational training programs for the mentally retarded. Each site was visited and methods of training were observed; questions were asked concerning the information that these trainers would need in order to adjust the training so that clients would be able to find employment in the horticultural field. Most of those interviewed were vocational horticultural trainers, although a few were representatives

of the state and federal agencies who oversaw the entire field of vocational training for the mentally retarded. The interviews were unstructured in nature. The information which was collected was utilized to form a list of questions that were used to survey the horticultural business people.

Group interviews were conducted with the 37 horticultural business representatives who attended a workshop which was held at the Morris Arboretum. These 37 horticulturists represented eight specialty areas of the local horticultural industry. Subjects for the workshop were recommended by the Morris Arboretum staff and by leaders in professional horticultural organizations (eg. Pennsylvania Turfgrass Council). Eighty people were invited to the workshop to represent eight areas of specialization. To insure that at least 50 percent of the professionals would actually attend each subject was called personally on the telephone; they each received a follow up letter three weeks before the workshop and were requested to return a card identifying the group that they would represent. Thirty-seven of those business people who were invited were able to attend the workshop, and an additional 20 people asked to contribute to the study although the workshop date was not convenient.

The 37 horticultural business representatives were introduced to the mentally retarded worker through a movie of a vocational training program in Maryland and through a talk by the author (See ADDENDUM A - A Description of the Mentally Retarded Employee). A representative of the federally funded project, Horticulture Hiring the Disabled, addressed the group regarding the financial advantages of hiring the disabled. This study focused specifically on the employability of the mentally retarded person. The business people then broke into eight groups dependent upon their area of specialization, and each group discussed the areas in which the mentally retarded employee could fit into their businesses. The eight groups were arboriculture, estate horticulture, florist, garden center, greenhouse production, grounds maintenance, interior design, and landscaping/nursery production. These specialty areas were recommended by the professional horticulturists during the phone interviews when they were invited to the workshop. They represent the top areas of horticultural concentration in Philadelphia. An area such as estate horticulture is distinct in Philadelphia, although it might not be representative of the country. Each group was given a

list of questions to discuss, and a member of the Arboretum staff or of the board of the Delaware Valley Chapter of NCTRH facilitated the groups and kept notes on the group discussion. Each of the 37 representatives completed a survey at the end of the discussion.

The author also met with the 20 other business people, who wished to participate but were not able to attend the meeting, so that they could also answer the survey. These 20 horticultural representatives received the same description of the mentally retarded trainee as did the representatives who attended the workshop. However, they did not see the movie of a vocational training program or meet the representative of HHD.

The survey contained 12 questions which were condensed from the questions supplied by the vocational trainers (See ADDENDUM B - Horticultural Industry Survey). The 12 questions related to the needs of the professional horticultural businesses in terms of employees. Questions addressed the kinds of tasks required, potential for contract work for a training program, starting salaries for the employees, available transportation, number of employees, preferred method of training, and the normal way in which these business people would hire new employees.

The information which was recorded during the group discussions with the specialty areas of the horticultural industry was written in descriptive form. The responses to the 57 surveys were tabulated. Results are according to total industry and also specialty areas.

RESULTS AND DISCUSSION

LABOR NEEDS

The eight horticultural industry areas represented in the survey listed a total of 70 responses for types of labor needed in their fields (See ADDENDUM C - Total Horticultural Industry Labor Need). Since the group represented businesses as diverse as florists and arborists, this large number is not surprising. However, as shown in Table 1 the labor tasks which were most often cited as continual labor needs of the horticultural industry were generally the same skills which were cited as the skills which mentally retarded employees would be hired to do. These included most of the manual labor or repetitive

tasks such as weeding, watering, mowing, raking, potting, pruning, spraying, trimming grass, and plant propagation.

Only those tasks which require a greater contact with customers or a specific high level skill were not listed as potential areas of employment for the mentally retarded. These were shown in Table 2; they included customer service, loading, sales, equipment maintenance, inventory, advertising, and delivery. A few skills such as janitorial/building maintenance and foliage cleaning were not specified as immense labor needs within the industry, but when these skills were cited they were recommended as potential jobs for the mentally retarded employee. Other skills which were recommended as potential areas of employment for a few mentally retarded trainees are transplanting, mulching, brush removal, pinching, equipment cleaning, fertilizing, and greenhouse care.

SEASONAL WORK

A major concern of vocational trainers was that of the seasonal quality of horticultural work. This seemed to vary within the industry. Most employers had a full-time staff and a part-time staff. They kept the full-time staff working throughout the winter by taking on extra projects such as cutting wood, Christmas shops, inventory, and general maintenance. The florists and interior design industries were the least seasonal. Garden centers that do not do Christmas work, landscaping, and grounds maintenance were the most seasonal. Percentages of seasonal labor are shown on Table 3.

CONTRACT WORK

Contract work was not recommended for most businesses. The few business people who did support contract work suggested seasonal or part-time work such as installing ground covers, making labels, watering, splitting and stacking firewood, and disbudding. A few of the participants were more interested in the potential for hiring an extra employee on a part-time basis when there is a real labor shortage. They suggested an employment file to help meet periodic labor shortages, and also to assist more advanced trainees through on-the-job experience.

Table 1. Types and availability of horticultural jobs for mentally retarded workers.¹

Horticultural job skills	Total horticultural labor needs	Continual semi- or skilled labor needs	Potential jobs for mentally retarded	Other repetitive tasks for mentally retarded
Weeding	26	11	17	4
Watering	19	9	7	0
Raking	15	2	4	4
Mowing	15	15	6	4
Potting	10	2	5	2
Pruning	10	7	5	1
Spraying	9	2	1	0
Trimming grass	9	9	1	3
Plant propagating	8	8	5	0

¹ No. of responses based on 57 respondents. Seventy job skills were identified; only the top nine are shown.

Table 2. Types and availability of service-related jobs within the horticultural industry for mentally retarded workers.¹

Service-related job skills	Total horticultural labor needs	Potential jobs for mentally retarded	Other repetitive tasks for mentally retarded
General upkeep	11	4	5
Customer service	11	0	0
Sales	7	0	0
Greenhouse care	5	1	0
Equipment maintenance	5	1	3
Loading	5	1	0
Inventory	5	0	0
Advertising	3	0	0
Delivery	3	0	0
Janitorial	2	8	4

¹ No. of responses based on 57 respondents.

Table 3. Percentages of seasonal labor needs by horticultural industry.

Seasonal Labor force (%)	Spring only	Spring to summer	Summer only	Spring to fall
less than 25	0	6	0	3
25 to 49	1	3	0	3
50 to 74	0	6	2	0
more than 75	0	0	0	3

Note: Nine respondents indicated year-round employment.

AVAILABLE TRANSPORTATION

Twenty-five businesses had transportation available within one mile of their facility. Only 15 stated that they had no public transportation that the employee might be able to use. They wanted to know more about alternative transportation.

SALARY

Most horticultural businesses paid minimum wage for semi-skilled work on a starting basis. There was a range from \$3.35 per hour to \$5.00 per hour. Only a few of the employers indicated that they paid benefits. Since this question was not asked it is not assumed that all of the others do not pay benefits.

TYPE OF TRAINING PREFERRED

On-site training was as desirable as hiring a fully trained employee. Those who preferred on-site training assumed that the employee would already have most job skills as well as horticultural training. However, they wanted the employees to learn their particular business.

NUMBER OF EMPLOYERS WHO WOULD HIRE A TRAINED MENTALLY RETARDED EMPLOYEE

Fifty-two of the participants stated that they would be willing to hire a mentally retarded employee. The assumption was made that the employee would have the required skills. Seven of these employers have hired mentally retarded employees in the past, and they would be willing to hire a mentally retarded employee again. Only four of the participants said that they would not be willing to hire a mentally retarded employee. Only one of these employers had done so before and would not do so again.

BUSINESS SIZE

The size of the businesses varied considerably. The garden centers seemed to hire the largest number of employees. Business size ranged from 3 to 175 employees. Among these businesses seasonal number was great.

MEANS OF LOCATING NEW EMPLOYEES

Most employers used traditional hiring techniques to find new employees. They

contacted the news media, called schools, and talked with other professionals in the field. Only the arborists had a training program that sought placement for its trainees. These placements were found within the landscaping and arboriculture fields.

JOB POTENTIAL WITHIN INDUSTRIES

The following is a discussion of the eight horticultural specialty groups compiled from the information collected in the group discussion and through the survey. Those jobs selected with the highest frequency by each of the horticultural industry representatives are presented in Table 4.

Table 4 Types and availability of horticultural and service-related jobs for mentally retarded workers within eight horticultural industries.¹

Job skills within horticultural industries	Total horticultural labor needs	Continual semi- or skilled labor needs	Potential jobs for mentally retarded	Other repetitive tasks for mentally retarded
ARBORISTS (n = 5)				
Tree climbers	5	4	0	0
Brush removal	5	2	3	0
Equipment maintenance	5	1	0	1
ESTATE HORTICULTURISTS (n = 5)				
Lawn care	4	4	4	0
Care of greenhouse	4	0	0	0
Raking	4	1	2	0
Mulching	4	0	0	0
Weeding	4	2	4	0
FLORISTS (n = 7)				
Customer service	4	0	0	0
Flower arranging	3	2	1	0
Floral container preparation	3	1	2	1
Inventory	3	1	0	0
GARDEN CENTERS (n = 7)				
Customer service	7	5	0	0
Sales	5	3	0	0
Watering	3	0	0	0
GREENHOUSES (n = 9)				
Watering	8	8	5	0
Weeding	8	7	4	0
Plant propagation	7	7	5	0

Job skills within horticultural industries	Total horticultural labor needs	Continual semi- or skilled labor needs	Potential jobs for mentally retarded	Other repetitive tasks for mentally retarded
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GROUNDS MAINTENANCE (n = 10)

Mowing	9	9	2	3
Trimming grass	9	8	8	2
Weeding	9	9	8	3
Raking	9	0	1	2

LANDSCAPE NURSERY (n = 10)

Watering	3	0	0	0
Weeding	3	2	1	1

INTERIOR DESIGN (n = 3)

Care of plants	3	1	1	1
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¹ Actual number of jobs/category. Seventy job skills were identified, only the highest ranking jobs are shown.

Arborists

The five arborists who participated in the study represented various aspects of their field. Two worked at non-profit institutions, two ran tree service businesses, and one worked for a large national tree care company which also trained arborists. The predominant feeling among the group was that there are some smaller aspects of the arboriculture field that could employ one mentally retarded person, but that most tree work is too dangerous. There was a fear of the safety of the mentally retarded employee, the safety of other employees, and the rights of the home owner on whose property the tree crew works. The skill involved in tree work requires good judgement and a high degree of trust in the abilities of team workers. Arborists pay four times the normal rate in workman's compensation insurance.

The following aspects of the arboriculture field were suggested as potential employment areas:

Equipment cleaner: A person could be hired to clean, paint, and gas trucks and equipment. The arboriculture field receives much of its business by word of mouth, therefore it is important always to send out clean and well-maintained trucks. Chain saws must also have continual maintenance. A driver's license may be required for this work. The person should also be responsible enough to close the shop (25 hours per week).

Recycled Material Handler: A person could be hired to load materials into patrons' vehicles, turn compost piles, and direct depositors to appropriate sites. This requires the ability to operate a front-end loader and some social skills. If possible this person would collect and record fees.

Wood Splitter: The individual or group would split and stack firewood by the hour or by the cord (This could also be contract work).

Janitorial: A person could be hired to clean the office three days a week during the day or evening. Some general grounds clean-up such as raking or sweeping could also be included.

Clean-up Brush: Someone could be hired to do chipping, brush carrying, and offer general aid to the tree crew. This person would only work after the tree

work was finished, so that safety is assured.

One national arboricultural company which has an office in Philadelphia trains unskilled laborers to do many of these chipping and simple tree-care skills. This company guarantees employment for these trainees and finds the positions for them. This semi-skilled labor force would be in competition with the mentally retarded trainee.

Estate Horticulturists

Three of the five participants worked for private estates and two were affiliated with universities. All five participants felt that the non-profit estate horticulture area is well suited to the mentally retarded because this type of horticulture is non-stressful and there are always manual tasks to be done. Three of these horticulturists have hired mentally retarded employees in the past; one of these employees has worked at the estate for the last seven years. This group felt that estate owners would be very receptive to hiring mentally retarded employees because they tend to be humanitarians. One of the estate owners had a "Read and Weed Program": he paid high school students a full-day's salary to weed in the morning and then read all afternoon provided that the student wrote a book report at the end of each week.

The participants recommended general grounds tasks such as mowing, weeding, and raking as potential areas of employment for the mentally retarded person on the estate. Equipment maintenance, grounds maintenance, painting, and other manual tasks were also suggested. At the estate which employed a mentally retarded grounds person, he mows grass with both a push and a riding mower, rakes, waters the greenhouse, weeds, mulches, cares for flower beds, cleans equipment, seeds, removes snow, oils the woodwork in the house, paints, and assists with general building maintenance. The overseer of the estate felt that this employee did an excellent and thorough job at any of the tasks which were assigned providing that adequate explanation had been given.

Florists

The seven participants in this group represented a variety of sizes of floral business. One florist was strictly wholesale and the other six were primarily retail. The general feeling of the group was that the floral industry is one of

the most labor intensive areas of horticulture with all employees working under a pressure to produce. Workers must be versatile and independent. Most participants were concerned that the mentally retarded employee would require a good deal more supervision than the typical employee.

The tasks which the florists felt would be best suited to the mentally retarded employee involved care and preparation of plants and cut flowers. This included: cutting flowers, sorting flowers, bundling flowers, removing leaves from flower stems, putting greens into floral containers as a preparation for arrangements, making very simplistic arrangements, and watering. It was also suggested that they might work in the greenhouse production area of the floral business.

This group was interested in learning more about programs that work with floral training for the disabled. They also raised the following questions:

1. What are the specific financial advantages of hiring the disabled?
2. What degree of supervision is required on the part of the employer of the mentally retarded person?
3. More information on the degree of the disability is needed. The potential for employment would rest on the capabilities of the individual.
4. What type of support systems are available to supplement public transportation?
5. Is there research available, specific to the floral industry, citing statistics and other information regarding employment of the mentally retarded?
6. Can the mentally retarded employee function in a labor intensive business such as the floral industry? If the employee is not working out what is the recourse for the employer?

One of the florists suggested the possibility of calling on a vocational training horticultural programs for the mentally retarded to supply part-time employees during peak seasons when extra labor is needed. This person would green containers or prepare flowers. The contact with the public would provide on-the-job training for the mentally retarded trainee.

Garden Centers

All seven participants represented wholesale and retail garden centers of various size. Because the primary need within this business is for an employee who can answer questions, select appropriate merchandise, work with inventory, and do sales work; they felt that there is not a large place for mentally retarded employees in this area of business. However, most participants felt that there are manual tasks such as potting, planting, transplanting, care of tropical plant materials, cleaning foliage, and general grounds maintenance that could be done by one mentally retarded employee. One large chain of garden stores is starting a soil testing service for customers. The representative feels that mentally retarded employees could do these simple tests.

One other concern of this group is the seasonal nature of the garden center business. Unless the center does a large Christmas business the employer must find work for full-time employees during the slow seasons. These employees must be versatile. Many of the maintenance and clean-up jobs are done during the slow times. Reading, counting, and customer service skills are also very important in this area of horticulture.

Greenhouses

The nine greenhouse participants represented wholesale, retail, and non-profit operations. The group felt that most greenhouse businesses in Philadelphia are small and have a small full-time staff. Therefore the full time employee must be able to perform a variety of functions at a steady pace. Since chemicals were used it was important that employees were aware of safety precautions for working with pesticides. Non-profit greenhouse operations were suggested as the best area of greenhouse production for employment of the mentally retarded clients. It was felt that the atmosphere would be less stressful, and there would be the time for extra supervision. This group was also concerned that trainees have the necessary skills for the specific greenhouse industries; therefore they liked the idea of having a trainer come to the site to finish the training. However, they felt that the employer would also need some form of training, and they did not think that most greenhouse growers would have the time to take courses.

The participants recommended tasks such as watering, propagation, weeding pots, pinching, potting, spacing plants, cutting, fertilizing, packing plants, and general clean-up as the best areas for employment of the mentally retarded trainee in the greenhouse industry. The group also asked two questions:

1. How much extra supervision does the mentally retarded employee require?
2. How much red tape and government interference is involved in the tax incentives which are available?

Grounds Maintenance

The ten participants represented cemeteries, golf courses, hospital grounds, and botanical institutions. This group felt that there is definitely a place for the mentally retarded employee in the grounds maintenance field providing that the employee meets a few criteria. The employee should be able to function somewhat independently within a grounds crew and not be inclined to wander off. The employee should be able to operate basic machinery such as a lawn mower and a weed eater. He/she should be able to follow basic instruction, such as paint this or edge this garden; he/she should have an attention span long enough to complete an assigned task (i.e., weed this flower bed). The group also felt that contract work would not be appropriate. Grounds work is seasonal and job security is a concern for most employees. They felt that union employees, in particular, would feel that a contract crew was taking labor from those who are already employed.

The participants recommended weed eater operation, janitorial work, hand weeding, mowing, raking, digging, trimming grass, dead heading, sweeping, pruning, and policing for trash as work that a mentally retarded employee would be hired to do. The group also raised a few questions which are relevant to their field.

1. What are the legal restrictions on a mentally retarded employee in regards to the operation of machinery (mower, weed eater)?
2. Is there an added insurance cost for a mentally retarded?
3. Transportation is a must; will the mentally retarded employee have his/her own transportation?

Interior Design

The three participants represented interior landscaping and maintenance companies. The major need in this field was for trained horticultural maintenance technicians who can water, groom plants, and diagnose and treat foliage plant insect and disease problems. Because of the judgement required and the fast pace of traveling from contract to contract, mentally retarded employees were not considered appropriate. The one company had hired them in the past and the trainees were not able to meet the many job responsibilities. This group felt that the area where mentally retarded employees might be useful was as workers in the greenhouse or warehouse where they would groom plants and clean the foliage. In this capacity they would also help to load and unload trucks and do some general maintenance.

Landscaping and Nursery Production

The 10 participants represented nurseries, landscaping companies, and educational institutions which trained in these areas. This group had mixed feelings about the role that a mentally retarded employee could fill in their industry. The major concern was that the general public, on whose property these contractors work, might not understand if a mentally retarded employee was sent to their site. There was also some concern that the crew foreman would be taking on an additional responsibility for the extra supervision of the mentally retarded employee. Landscaping and nursery production requires hard work and some versatility.

They felt that the mentally retarded employee could do some of the repetitive work that most employees do not like to do; such as mulching, raking, planting annuals, planting ground covers, or digging plants from the nursery. There was also a lot of general work in the nursery which these employees could do; potting, mowing, trimming grass, pinching, planting out field crops, and general maintenance were recommended. Some members of the group felt that contract work, such as installing ground covers or mulching, would be helpful to their businesses. One of the participants suggested the creation of an employment file or agency that would provide workers when there is a real need. This would offer trainees an opportunity for on-the-job experience.

The group also raised a few questions:

1. Is it the duty of the employer to tell the homeowner or hirer that there is a mentally retarded person on the crew?
2. How does the client become assigned to the horticultural vocational training program? Is there a real interest on the part of the trainee?

Discussion

This study was initiated to develop a network to determine the feasibility of horticultural vocational skill training and placement for the mentally retarded in the Philadelphia area. It was found that there were definitely areas of the horticultural field in which employers saw a place for the mentally retarded employee. These were primarily the manual outdoor labor areas and some of the greenhouse and nursery crop production areas. The vocational rehabilitation group was also interested in the job skill training aspects of the horticultural field because of the stimulation of the greenhouse, garden, and nursery environment. Potential employers raised a number of questions. These were answered in Addendum D.

All comments by potential employers reflected those individuals' perceptions of what the mentally retarded employee could do. All 57 of the horticultural business people who participated in the study received the same definition of the mentally retarded. However, the 37 people who attended the workshop at the Morris Arboretum also saw a film of a vocational horticultural training program. The film was presented by the Horticulture Hiring the Disabled representative. It showed a group of "trainable" mentally retarded individuals working in a greenhouse. Even though the business people received a definition of both the 89 percent of the mentally retarded who are "educable" and the six percent who are "trainable", their perception was probably affected by the film.

In selecting horticultural representatives to participate in this study the staff of the Morris Arboretum and top representatives of professional horticultural organizations were consulted. Therefore many of the participants were people who were active in their profession or who had an affiliation with the Morris Arboretum. An attempt was made to get a representative sample of both

large and small businesses, and of a wide geographic distribution within the five county Philadelphia area. Some bias may have occurred because only 57 of the original 80 horticultural business people selected for the study chose to participate. These 57 may have been more sympathetic to the idea of employing the mentally retarded. However, those people who spoke against the concept during the telephone interview were encouraged to add their views.

The following recommendations were made at the time the study was completed in June of 1984. Some of these recommendations have been carried out by the Horticulture Hiring the Disabled group, which received funding for a one-year demonstration project in the Philadelphia area. The purpose of the project was to enhance and improve training, placement, and employment of developmentally disabled workers in the horticultural field. This project was funded under the Department of Health and Human Services - Discretionary Funds Program, (See ADDENDUM E - Horticulture Hiring the Disabled Project/NCTRH).

Recommendations

1. Bring horticultural industry and vocational trainers together.

The horticultural business group was very enthusiastic about helping to develop an employment and training study for the mentally retarded. However, most participants did not really understand the abilities and limits of the mentally retarded employee. They wanted to talk with people who have trained and employed mentally retarded clients so that they could learn more about what skills clients could develop and how much supervision is required. Both groups should be invited to meet and talk together about the abilities, special needs, and other issues that arise when hiring the mentally retarded.

2. Vocational horticultural training programs and specific industry groups should develop a linkage.

The vocational horticultural programs should establish a link with the specific industry groups. The floral representatives wanted to learn more about the vocational horticultural flower shops such as The Enchanted Florist and The Yellow Daffodil. Allied Florist would be receptive to helping these

shops present a short description of their programs and the benefits at a floral industry meeting. The Horticulture Hiring the Disabled Project should assist with the development of these links.

3. Develop a joint horticultural industry and vocational rehabilitation council.

Each person who participated in the study had his/her own level of interest in horticultural training and employment for the disabled. There are some participants from the horticultural field and some vocational trainers who would be willing to work on a special council to promote training and employment for the mentally retarded.

4. Establish an employment file.

Several of the horticultural business participants were interested in the possibility of hiring trainees on a part-time basis. The suggestion of an employment file was made. The employers could contact someone so that they could hire trainees when there is a need for a specific skill. It was recommended that horticultural vocational programs supply a list of trained clients to Horticulture Hiring the Disabled. The geographic area, job skills, and any special precautions could be supplied to the employers. This list can also serve for full-time placements.

5. Adjust vocational training to meet industries labor needs.

The vocational horticultural programs should work to adjust their job skill training to the industry needs which have been indicated. Because horticultural employers do not perceive the mentally retarded individuals as candidates for customer service and sales positions, it is likely that the clients will not be hired to do this work. Manual grounds maintenance skills were most often cited by the horticultural business people as potential employment areas. Greenhouse and nursery skills were also recommended. These are the areas where training should occur.

EPILOGUE

In the summer of 1984 the Horticulture Hiring the Disabled office received funding from the Department of Health and Human Services Discretionary Funds Program to open a branch office in Philadelphia. This funding was awarded based on the results of the horticultural industry meeting described in this study. The Morris Arboretum had fulfilled its commitment to the Philadelphia Foundation, and it seemed most appropriate that this national organization should continue the project.

A full report of the study was sent to all 160 people who had participated including the Horticulture Hiring the Disabled staff. HHD was given a complete list of all participants, all people who had been called even though they had not been able to participate, and all local vocational horticultural training programs.

In the spring of 1985 a contract was awarded to ARC Rainbow, the Philadelphia Association for Retarded Citizens. They became the Philadelphia office of HHD, and they were called "Project Plantwork". This one-year pilot study sought to place 66 developmentally disabled clients into the horticultural field: (developmentally disabled refers to any person who has a physical or mental disability which was acquired before, during, or after birth up to the age of 20). The Project Plantwork staff and the HHD staff from Washington began to implement the program using resources from the Morris Arboretum study. One year later they have placed 63 of the required 66 developmentally disabled employees. Some of the original recommendations were utilized in order to carry out the project. The following is a discussion of those recommendations.

The first recommendation, to bring Philadelphia's horticultural industry and vocational trainers together, was not fulfilled. The HHD staff again advised that the vocational trainers would place unwanted pressure on the potential employers. After one year the Project Plantwork staff in Philadelphia also recommends that there is a need for communication between the two groups in order that the industry might better understand the disabled employee.

The second recommendation was to have the horticultural vocational training programs go out to talk with the specific horticultural industries. Project

Plantwork staff offered to speak to each of the local industry councils, and they were invited to be present at some of these meetings.

The third recommendation, to develop a joint horticultural industry and vocational rehabilitation council, was partially fulfilled. HHD advised that the council consist solely of professional horticulturists. There is still a perception problem for this group which makes it difficult to fully understand the options for the disabled. Project Plantwork staff plan to select vocational representatives to add to the council if their funding is continued.

The fourth recommendation was for the development of an employment file. Project Plantwork collects this information from vocational training programs throughout Philadelphia. They also keep a file of potential jobs, and they match employee to job when skills and location coincide.

The fifth recommendation, to adjust training to the industry needs, has not been catalogued. All programs in the Philadelphia area received a copy of the report, and any new program that contacts the Delaware Valley Chapter of NCTRH also receives this information. It is hoped that the information in the report has been used, but it is difficult to determine the degree of training adjustment.

This pilot study was successful in that it helped to identify some of the trends in the horticulture industry and vocational training fields in Philadelphia. It is hoped that other cities will be able to use this information, and adapt it in order to learn their own unique vocational horticulture potential.

This author strongly recommends that vocational trainers and business representatives work together to conquer the perceptual difficulties that arise when two professions with such different purposes collaborate to combine training and employer needs. The business people need to understand who the mentally retarded are, and to learn what they can achieve. Vocational trainers need to recognize that business professionals are willing to learn about the needs and values of the mentally retarded, and that they will work to create a place for the disabled in their professions.

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ADDENDA

ADDENDUM A	A DESCRIPTION OF THE MENTALLY RETARDED EMPLOYEE
ADDENDUM B	HORTICULTURAL INDUSTRY SURVEY
ADDENDUM C	TOTAL HORTICULTURAL INDUSTRY LABOR NEEDS
ADDENDUM D	RESPONSES TO QUESTIONS RAISED BY HORTICULTURE INDUSTRY
ADDENDUM E	HORTICULTURE HIRING THE DISABLED PROJECT/NCTRH

ADDENDUM A

A DESCRIPTION OF THE MENTALLY RETARDED EMPLOYEE

A Description of the Mentally Retarded Employee

Mentally retarded individuals make up approximately three percent of the population of the United States. Causes may be birth trauma, biochemical disorder, hydrocephalus, Down's syndrome, cretinism, or infections. Depending upon the severity of the disability symptoms may be present soon after birth, or they may not become apparent until the child is in school. Eighty-nine percent of the individuals who are termed mentally retarded are categorized as "educable" or mildly retarded. Another six percent of the individuals labeled mentally retarded are considered "trainable" or moderately retarded.

The "educable" or mildly retarded person has the ability to develop normal social and communication skills. He/she usually has minimal sensory or motor retardation and rarely has any form of physical disability. The mildly retarded person has the ability to learn general academic skills and is rarely distinguished from other children until he/she is in school. With proper training the mildly retarded person can easily learn a vocation, and become an asset.

The "trainable" or moderately retarded individual can learn to talk and communicate. His/her motor and social development is limited, but he/she can learn fundamental academic skills up to the fourth grade level. The "trainable" mentally retarded person usually does not have any physical disability beyond some limitation in fine motor coordination. This person can learn semi-skilled tasks with proper training and will function with some supervision.

In order for the mildly and moderately retarded person to achieve independence they must learn a vocational skill that will lead them to future employment. Schools and programs for the mentally retarded are working to develop new vocational training areas in which the mentally retarded can become productive members of the work force. Too often trained individuals continue to depend on state and federal support programs because employment is not available for them in the area in which they have been trained.

Vocational trainers for the mentally retarded are excited about the possibility of horticulture as a training option for the mentally retarded

because it would give their clients a chance to work in a field where the mentally retarded person can see the progress of his/her work. Training programs can offer fully trained candidates to fill the employment needs of the horticulture field. In order to do this trainers need some guidance from representatives of the horticultural industry so that the training will meet the actual needs of that industry. Any mentally retarded employee supplied by these training programs will have learned both job skills and the horticultural tasks on which they are seeking employment.

ADDENDUM B

HORTICULTURAL INDUSTRY SURVEY

1. What are the labor needs of your business?
2. Are there areas of your horticultural business for which there is a continual need for skilled or semi-skilled labor?
3. Do you feel that trained mentally retarded workers would be able to do any of these jobs for which you have a need?
4. Are there any other job requirements within your business that would be well suited to the mentally retarded worker because of the repetitive nature of the work?
5. What percentage of your labor need is seasonal? Please indicate the season.
6. If a vocational training workshop is interested in doing contract work as a means of training the mentally retarded, are there needs within your business that a vocational training program could supply?
7. Is there public transportation near your business?
8. What is the starting salary for semi-skilled workers in your business?
9. Would you prefer to hire fully trained workers, or would it be preferable to have a trainer come to your site to finish the training with the clients?
10. Do you think that you would personally be willing to hire a mentally retarded employee in the future?
11. How many people work in your business? How many of them are seasonal?
12. Is there a labor pool from which you normally hire new employees?

ADDENDUM C

TOTAL HORTICULTURAL INDUSTRY LABOR NEEDS

Horticultural Industry (57 participants)

1. What are the labor needs of your business?

<u>26</u> weeding	<u>3</u> advertising
<u>19</u> watering	<u>3</u> care of flower beds
<u>15</u> raking	<u>3</u> container plant production
<u>11</u> general upkeep	<u>3</u> delivery
<u>15</u> mowing	<u>3</u> flower arranging
<u>11</u> customer service	<u>3</u> plant maintenance technician
<u>10</u> potting	<u>2</u> bedding plant production
<u>10</u> pruning	<u>2</u> digging
<u>9</u> spraying	<u>2</u> grounds assistant
<u>9</u> trimming grass	<u>2</u> janitorial
<u>8</u> propagation	<u>2</u> machinery operation
<u>7</u> care of plant materials	<u>2</u> packing
<u>7</u> sales	<u>2</u> refueling chain saws
<u>5</u> brush removal	<u>2</u> stock control
<u>5</u> care of greenhouse	<u>2</u> wood splitting
<u>5</u> equipment maintenance	<u>1</u> bookkeeping
<u>5</u> fertilizing	<u>1</u> box making
<u>5</u> foliage cleaning	<u>1</u> building maintenance
<u>5</u> mulching	<u>1</u> care of vegetable garden
<u>5</u> tree climbing	<u>1</u> chipping
<u>5</u> loading	<u>1</u> computer operation
<u>5</u> inventory	<u>1</u> container preparation
<u>4</u> lawn care	<u>1</u> cut flower preparation
<u>4</u> planting	<u>1</u> cutting
<u>4</u> transplanting	<u>1</u> dispatching

Horticultural Industry (page 2)

1. (Continued)

<u>1</u> electrical rose cutting	<u>1</u> paper work
<u>1</u> filling holes in the nursery	<u>1</u> recycling yard debris
<u>1</u> growing	<u>1</u> removal of trees
<u>1</u> help to lower branches	<u>1</u> rose grading
<u>1</u> installation	<u>1</u> spacing plants
<u>1</u> knowledge of plant materials	<u>1</u> teaching classes
<u>1</u> landscaping	<u>1</u> total tree care
<u>1</u> making labels	<u>1</u> wiring
<u>1</u> moving equipment	<u>1</u> writing
<u>1</u> nursery care	

ADDENDUM D

RESPONSES TO QUESTIONS RAISED BY HORTICULTURAL INDUSTRY

Questions for Discussion

The following questions were raised by horticultural business representatives. Many were discussed at the Vocational Rehabilitation Workshop and the answers were listed on the surveys. In some cases the questions were researched further to seek official answers from responsible agencies.

1. What degree of supervision is needed on the part of the employer of the mentally retarded person?

The vocational rehabilitation group felt that the degree of supervision would vary a great deal with the individual's ability and the task which is involved. Each individual will be working at his/her own level. Because the trainers work with both the "trainable" mentally retarded and the "educable" mentally retarded there is a lot of variation within the group. While each situation is different, it can be said that a high degree of supervision would be required initially. Both demonstration and verbal instruction will be required; and consistency, feedback, and a clear definition of the task are essential. If the client has already been trained specifically to do the task which is assigned, he/she should be able to work by himself and complete the job.

2. Would there be a transportation system to supplement public transportation if transportation is unavailable or if the employee can not utilize the public system?

Most respondents felt that Paratransit is the only reasonable option other than arrangements with private individuals such as parents, volunteers, or civic groups. There are private companies in most areas, but these are quite expensive.

In Philadelphia Paratransit is available with advanced reservation. They will take written bookings two weeks in advance and calls one week in advance. They are almost always booked one week in advance. Paratransit will take continual service clients. The cost is \$1 each way; a book of ten tickets at \$10 per book must be purchased. There is no mileage limit; the cost is for a oneway ride.

In Delaware County The Delaware Transportation Consortium will provide transportation. The cost for a book of ten tickets is \$2 if you are over 65

years of age, and \$20 if you are younger. They charge according to zone, but feel that a normal round trip would cost four tickets or \$8. They are not allowed to take anyone where Septa would normally travel.

In Montgomery County Paratransit has a contract with the Office of Mental Health and Mental Retardation. Transportation for mentally retarded individuals would therefore be free.

In Chester County a Paratransit system opened on July 1, 1984. The Pennsylvania lottery system offers free transportation for those over 60 years of age. Other people may buy into the system. It is currently very expensive, and costs \$1.50 a grid mile (this is approximately one mile). They are hoping to arrange contracts with county offices to help reduce the costs.

3. Do you feel that trained mentally retarded employees can fit into the labor intensive aspects of business? Could the employee be versatile in several different skills?

Most respondents felt that the mentally retarded employee would be versatile and fit into a labor intensive business. The aim of the training programs is to teach the clients a variety of skills that they can do well. However, each individual is different and the complexity of the tasks will vary.

4. Are there additional insurance costs for the mentally retarded employee?

All respondents felt that there is no additional insurance cost, and to charge extra would be against the law. It was the feeling of the speakers and those who train the mentally retarded that the mentally retarded have better safety records; they do not take short cuts but will repeat skills over and over in the same manner in which they learned.

The Pennsylvania Compensation Rating Bureau, Underwriters Division, responded to this question. Workman's Compensation Insurance Rates will always be the same. They are based on set fees for the type of work. The only reason that these rates would be raised for an individual employer is if that employer's business has a history of accidents. Liability insurance rates are set by the state; it would be illegal and discriminatory if an insurance company were to raise these rates based on disabled employees.

5. Can the mentally retarded employee become a union employee?

All respondents felt that the mentally retarded employee would be able to join the union providing that he/she meets age, time limit, or any other requirements that the union has. He/She must also pay dues. One participant had a trainee join a union after meeting basic time and absence requirements.

6. How does a mentally retarded employee become assigned to a specific occupational training program? (Is it the person's real interest?)

The answer to this question seems to be based on a variety of factors. The capability and interest of the client is foremost, but prevocational and vocational assessment and the input of counselors and family also have an influence. In some cases the type of contracts and funding that are available effect the number of positions for trainees in different areas. In the school systems there are restrictions based on geography, space, special education teacher assignments, and skill level taught in the vocational areas.

7. Can a mentally retarded adult operate machinery legally? In some cases driver's licenses are required, does the mentally retarded trainee have a driver's license?

All individuals must meet the specific requirements of the state in order to receive a driver's license. In most cases only the highest level of trainee will be able to meet the requirements. In the case of farm machinery there is a license required for some farm equipment. The individual must be over 18 years of age and must have 10 hours of instruction. The high school vocational programs teach these skills. The pesticide application license would most likely not be appropriate since there is a great potential of harm to both people and crops if an error is made.

8. What type of funding or supplemental support is available to the employer?

Most participants listed the Targeted Jobs Tax Credit and the On-The-Job Training Credit. There are also some non-monetary supports such as the assistance of a training counselor, a mobile work force, peer group support, and follow up.

The Targeted Jobs Tax Credit offers up to \$3,000 in tax credits for a disabled

employee in the first year, and \$1,500 in tax credits for the disabled employee the second year. There are also tax credits of \$2,250 for summer youth employment.

The On-The-Job Training Credits are offered to assist disabled employees to adjust to the work situation. The credits offer a percentage basis of the salary paid to a trainee for the first 160 hours; 50 percent of the first 160 hours; 25 percent of the next 160 hours are reimbursed to the employer.

9. How much red tape or government interference is associated with these tax credits?

There is paper work associated with both of these tax credits. However, in some cases the training program will do all of the appropriate paper work in order to assist with the placement.

10. If a mentally retarded employee is not working out, what is the recourse for the employee?

The mentally retarded employee should be treated as any other employee would be treated.

ADDENDUM E

HORTICULTURE HIRING THE DISABLED PROJECT/NCTR



National Council for Therapy and Rehabilitation through Horticulture

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June 27, 1984

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Ms. Debi Hogan
c/o Morris Arboretum
9414 Meadow Brook Avenue
Philadelphia, PA 19118

Dear Ms. Hogan:

It has been a personal pleasure to work with you over the past months. Your dedication to the grant provided by the Philadelphia Foundation to conduct a feasibility study of horticulture employment opportunities for the developmentally disabled was a huge task which you accomplished beyond our expectations.

As a result of this valiant and dedicated effort I am pleased to announce that NCTRH has been awarded a one year demonstration grant that will improve training, placement and employment of developmentally disabled workers in the horticulture industry. The grant provides for wage subsidies to employers for the hiring of developmentally disabled workers, the development of a Regional Horticulture Industry Council based in Philadelphia and funds to publish the project's results over the 17 month period.

Again I want to thank you and the Philadelphia Foundation on behalf of NCTRH for the effort of planting and cultivating the seed for this project. I'm sure that the family and friends of the late Stan Levin are proud that the grant stimulated a national demonstration project based upon the Foundation's initial efforts.

We look forward to working with the industry and rehabilitation facilities in Philadelphia, the project is scheduled to begin in November of this year.

Sincerely,

Stephen R. Gallison
National Industry Specialist

SRC/clp

A STUDY TO DETERMINE THE FEASIBILITY OF PLACING TRAINED
MENTALLY RETARDED INDIVIDUALS INTO HORTICULTURAL
JOBS IN THE PHILADELPHIA AREA

by

DEBORAH C. HOGAN
B.S., WILSON COLLEGE, 1977

AN ABSTRACT OF A MASTER'S THESIS
submitted in partial fulfillment of the
requirements for the degree

MASTER OF SCIENCE

Department of Horticulture

KANSAS STATE UNIVERSITY

Manhattan, Kansas

1986

ABSTRACT

In the spring of 1984 a study was conducted by the Morris Arboretum to determine the feasibility of placing trained mentally retarded individuals into horticultural jobs in the Philadelphia area. Fifty-seven professional horticulturists, from eight areas of the horticultural industry, provided information on the needs of their businesses in order to help develop a plan for future training and placement of mentally retarded clients in vocationally oriented settings.

The horticultural business representatives were asked to describe the labor needs of their industry and to list the types of work skills which a trained mentally retarded employee might do. They also answered questions relating to the seasonal quality of employment, transportation availability, contract work, and salary. The responses of these horticultural representatives indicated that there are potential jobs for the trained mentally retarded employee in the manual grounds care areas of estate horticulture, grounds maintenance, and landscaping. There is a continual need for people who can rake, mow, trim grass, weed, and do general maintenance. Mentally retarded trainees could also be employed in the non-technical areas of the greenhouse, garden center, or nursery production business. They would be hired to use skills such as potting, transplanting, propagating, planting, and pinching. Mentally retarded trainees were not perceived as potential candidates for positions which require a large amount of customer contact or technical skill. Therefore, they would most likely not be hired to do floral design, interior design, arboriculture, or most garden center work.

The information which was obtained from these horticultural business people was summarized, and it was presented to 104 vocational trainers from the Philadelphia area to encourage client training in skills for which the industry has a need. The Horticulture Hiring the Disabled project staff who consulted on this study were awarded funding for 1984-86 to open a pilot training office in Philadelphia. This office has worked with the area horticulture industry and vocational trainers to assist with horticultural employment for the developmentally disabled. A number of recommendations which were suggested in this study were utilized in an effort to continue the network of communication between Philadelphia's horticultural industry and vocational trainers.