

ARBORICULTURE AT OHIO STATE UNIVERSITY

by T. Davis Sydnor

A formal arboriculture program featuring academic training in business, horticulture, and agricultural sciences as well as practical experience is available today. In fact, graduates of such a program are now in the job market. Several years ago, in response to requests by students, industry and faculty, changes were made in the landscape horticulture curriculum at The Ohio State University. Frequently, such modifications of academic programs go unnoticed as publicity is usually kept within the institution making the changes.

In a recent letter, Mr. Robert Felix, Executive Secretary, National Arborist Association, suggested that an ideal curriculum for arboriculture should contain courses in diagnosing plant disorders, soils, plant pathology, botany, entomology, arboricultural practices, woody plants,

equipment use, accounting, business law and technical writing. All of the above courses are presently included in the program followed by students pursuing a baccalaureate degree emphasizing arboriculture.

The Ohio State University faculty and the majority of students feel that industry experience is as important as academic training. An internship of 6 months or more is viewed as the practical experience needed for a student to compete in today's job market (Table 1). Two or more internships are sometimes included by students wishing to try a second area in the green industry or to gain further experience in their chosen field (Table 2). If desired, 3 or more internships could be included remembering that normal graduation would be delayed.

Four year institutions as a rule offer more flex-

Table 1. This course of study features a six month internship. Internship could actually occur during any six month period during enrollment.

<i>Autumn #1</i>		<i>Winter #1</i>		<i>Spring #1</i>	
Humanity (5)		Humanity (5)		Social Science (5)	
English Composition (5)		Mathematics (5)		Plant Science (5)	
Biology (5)		Economics (5)		Botany (5)	
Agricultural Survey (1)		Physical Education (1)		Physical Education (1)	
Physical Education (1)					
	<u>17</u>		<u>16</u>		<u>16</u>
<i>Autumn #2</i>		<i>Winter #2</i>		<i>Spring #2</i>	
Chemistry I (5)		Chemistry II (5)		Plant Physiology II (3)	
Elective (5)		Accounting II (5)		Plant Propagation (5)	
Accounting I (5)		Introduction to Art (5)		Intro. to Ag. Eng. (5)	
Communication (3)		Plant Physiology I (3)		Elective (5)	
	<u>18</u>		<u>18</u>		<u>18</u>
<i>Autumn #3</i>		<i>Winter #3</i>		<i>Spring-Summer #3</i>	
Deciduous Plant Material (5)		Evergreen Plant Materials (5)		INTERNSHIP (4)	
Landscape Architecture I (5)		Landscape Architecture II* (5)			
Plant Pathology (5)		Entomology (5)			
Business Marketing (4)		Business Law (4)			
	<u>19</u>		<u>19</u>		
<i>Autumn #4</i>		<i>Winter #4</i>		<i>Spring #4</i>	
Arboriculture (5)		Computers in Ag. Decisions (5)		Horticultural Elec. (5)	
Speech (5)		Soils (5)		Small Bus. Manage. (5)	
Small Engines (4)		Agricultural Employment (1)		Social Science (5)	
Business Elective (4)		Horticultural Elective (5)		Elective (2)	
	<u>18</u>		<u>16</u>		<u>17</u>

* An elective may be substituted

ibility in their academic offerings than the 2 year technical schools. One arborist asked if it was possible to work out an extreme schedule which would allow students to complete their degree requirements while attending only fall and winter quarters. The students would be employed during spring and summer when labor demands are the greatest (Table 3). This would allow students to finance most or all of their education. The results are maximum experience for the students and minimum labor costs for the employer. Of course, such a program would require students to spend six years in obtaining their degree.

All of the alternatives in Tables 1-3 allow students to complete the same program with near-

ly equal course work in horticulture, business, and agricultural science. This allows students to "grow with their firm." During the first several years, a student would draw heavily on his horticulture and agricultural science training. Later, as the young employee moves into a managerial role, the business training would be used more frequently.

Most students currently graduating from The Ohio State University have followed a program very similar to those described. Qualified graduates are available each quarter of the year including summer quarter in programs ranging from arboriculture to landscape construction, nursery management and horticultural retailing. As the employer, you must remember that when a

Table 2. This course of study allows a student to take 2 internships. A student would have 1 year of practical experience prior to graduation if this course of study was followed.

<i>Autumn #1</i>		<i>Winter #1</i>		<i>Spring #1</i>	
Humanity	(5)	Humanity	(5)	Social Science	(5)
English Composition	(5)	Mathematics	(5)	Plant Science	(5)
Biology	(5)	Economics	(5)	Speech	(5)
Ag. Survey	(1)	Phys. Education	(1)	Phys. Education	(1)
Phys. Education	(1)				
	<hr/>		<hr/>		<hr/>
	17		16		16
<i>Autumn #2</i>		<i>Winter #2</i>		<i>Spring and Summer #2</i>	
Chemistry I	(5)	Chemistry II	(5)	INTERNSHIP	(4)
Botany	(5)	Introduction to Art	(5)		
Accounting I	(5)	Accounting II	(5)		
Communication	(3)	Physical Education	(1)		
	<hr/>		<hr/>		
	18		16		
<i>Autumn #3</i>		<i>Winter #3</i>		<i>Spring and Summer #3</i>	
Deciduous Plant Material	(5)	Evergreen Plant Material	(5)	INTERNSHIP	(2)
Landscape Architecture I	(5)	Computers in Ag. Decisions	(5)		
Plant Physiology I	(3)	Landscape Architecture II*	(5)		
	<hr/>	Plant Physiology II	(3)		
	13		<hr/>		
			18		
<i>Autumn #4</i>		<i>Winter #4</i>		<i>Spring #4</i>	
Horticultural Elective	(5)	Entomology	(5)	Intro. to Ag. Eng.	(5)
Plant Propagation	(5)	Social Science	(5)	Mathematics	(5)
Plant Pathology	(5)	Soils	(5)	Horticultural Elec.	(5)
	<hr/>	Bus. Law	(4)		
	15		<hr/>		<hr/>
			19		15
<i>Autumn #5</i>		<i>Winter #5</i>			
Small Business Management	(5)	Elective	(3)		
Arboriculture	(5)	Business Elective	(4)		
Business Marketing	(4)	Small Engines	(5)		
	<hr/>	Agricultural Employment	(1)		
	14		<hr/>		
			13		

* An Elective may be substituted.

student looks for a job that they are, in part, looking for the highest bidder for their experience and training. Thus, an arboricultural firm is in direct competition with firms involved in maintenance, landscape construction and design, production and sales for the services of a well trained student. The skills required for job success are similar for all firms in the green industry. Arborists must sell themselves and their firms to students with better than average qualifications as these

students will always be in demand in the industry.

Wages are a factor in determining which job a student would take, but I think employers will find that it is not the primary concern of a student seeking employment. Potential for vertical advancement is usually the primary consideration and is required to hold top flight students. Other factors which may enter into the decision of "Which job do I take?" include the following:

- 1) Where is the firm located?

Table 3. A course schedule allowing a student to complete his/her degree requirements while attending college Autumn and Winter quarters only.

<i>Autumn #1</i>		<i>Winter #1</i>		<i>Spring-Summer #1</i>
Humanity	(5)	Humanity	(5)	INTERNSHIP
English Composition	(5)	Social Science	(5)	
Biology	(5)	Economics	(5)	
Ag Survey	(1)	Phys. Education	(1)	
Physical Education	(1)			
	<hr/>		<hr/>	
	17		16	
 <i>Autumn #2</i>		 <i>Winter #2</i>		 <i>Spring-Summer #2</i>
Chemistry I	(5)	Chemistry II	(5)	INTERNSHIP
Botany	(5)	Introduction to Art	(5)	
Mathematics	(5)	Plant Science	(5)	
	<hr/>	Phys. Education	(1)	
	15		<hr/>	
			17	
 <i>Autumn #3</i>		 <i>Winter #3</i>		 <i>Spring-Summer #3</i>
Deciduous Plant Materials	(5)	Evergreen Plant Materials	(5)	INTERNSHIP
Speech	(5)	Computers in Ag. Decisions	(5)	
Landscape Architecture I	(5)	Landscape Architecture II*	(5)	
Plant Physiology I	(3)	Plant Physiology II	(3)	
	<hr/>		<hr/>	
	18		18	
 <i>Autumn #4</i>		 <i>Winter #4</i>		 <i>Spring-Summer #4</i>
Plant Propagation	(5)	Horticulture elective	(5)	INTERNSHIP
Accounting I	(5)	Accounting II	(5)	
Intro. to Ag. Engineering	(5)	Soils	(5)	
	<hr/>		<hr/>	
	15		15	
 <i>Autumn #5</i>		 <i>Winter #5</i>		 <i>Spring-Summer #5</i>
Plant Pathology	(5)	Entomology	(5)	INTERNSHIP
Horticulture elect	(5)	Business Law	(4)	
Business Marketing	(4)	Elective	(5)	
Small Engines	(4)	Agricultural Employment	(1)	
	<hr/>		<hr/>	
	18		15	
 <i>Autumn #6</i>		 <i>Winter #6</i>		
Elective	(5)	Social Science	(5)	
Arboriculture	(5)	Communication	(3)	
Small Business Mngement	(5)	Elective	(5)	
	<hr/>	Business Elective	(4)	
	15		<hr/>	
			17	

* An Elective may be substituted

- 2) What is the location of friends and family?
 - 3) Do I enjoy this kind of work?
 - 4) How many hours per week are required on the job?
 - 5) Does the firm offer year round employment?
- Often knowing what a student is seeking will enable you to attract the student as an employee. One other word of caution — a highly qualified

newcomer is a threat to existing employees. Problems can develop, although if properly handled, everyone should benefit by hiring the most highly qualified people that can be obtained.

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ABSTRACTS

Anonymous. 1973. **The metro forest.** Natural History Special Supplement 82(9): 45-83.

After the glacier retreated on North America some 11,000 years ago, a giant green carpet of trees crept northward, covering the continent from the Atlantic to the edge of the Plains. When the first European settlers arrived, only three centuries ago, they launched a struggle against the primeval forest: girdling and burning, cutting and consuming, tearing out and overturning. It was an unequal contest; man destroyed the forest in waves rolling from east to west. By the beginning of this century The Great American Forest had been reduced to a remnant of its former majesty. In the twentieth century, man rapidly became urbanized, abandoning rural areas and agriculture in many regions. The irrepressible forest has gradually returned, taking over the abandoned fields, encircling the dying villages of Appalachia, rising above the houses of older neighborhoods, even approaching stages of its former glory in parks, cemeteries, woodlots, and undisturbed watershed. The rise of The Metro Forest in America heralds a new relationship between man and trees. The types of dominant trees may be changing; certainly the distribution of wildlife is different. And people are developing a new ethic toward trees, as they perceive the physical and — possibly most important — the spiritual value of the forest in the life of modern man.

Fretz, T.A. 1978. **Chemical identification of woody ornamental plants.** Ohio Report 63(2): 23-25.

The identification and classification of plants has traditionally been based on morphological differences. Morphological descriptions of the leaves, twigs, buds, vestiture, and inflorescence provide a wealth of relatively easily observed differences among groups of plants to use in plant identification and to develop a system of classification. All of these morphological features of plants which are used in their classification, have chemical foundations. In our own studies, we have been interested in the cultivars of creeping juniper. The ultimate purpose of these studies has been to identify creeping juniper cultivars by analysis of their foliage monoterpenes. The results demonstrate that 54 of the 55 possible species pairs can be distinguished from one another on the basis of their monoterpene composition. There is a clear evidence that an analysis of the foliage monoterpenes can be a valuable tool in the separation and identification of the cultivars of creeping juniper.