

A STUDY OF CERTAIN ASPECTS OF LANDSCAPE
NURSERY OPERATIONS IN OKLAHOMA

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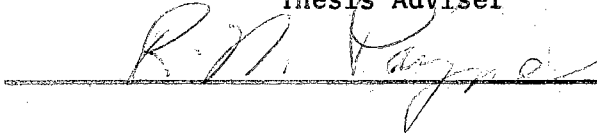
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Thesis Approved



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CHAPTER I

INTRODUCTION

A landscape nursery operation can be defined as a business that derives the major portion of its income from landscape activities such as: planning, installation, construction, and maintenance. It is a distinct type of business, although it is often carried on in connection with other nursery operations (26, 30).

The value of production of all horticultural specialities in the United States increased 14.6 percent from 1959 to 1964. The value of nursery products sold in the United States in 1959 was \$198,900,538.00 compared to \$240,127,822.00, the amount sold in 1964. This represented a 20.7 percent increase (37).

Total sales of all horticultural specialities in Oklahoma in 1959 was slightly over 6 million dollars, this compares with a value of \$3,851,872 in 1949 (38). The total sales of nursery products (trees, shrubs, vines, and ornamentals) in Oklahoma in 1964 was \$3,420,600 compared to \$1,004,167 in 1954 (39).

Many problems are involved in conducting a successful landscape nursery operation. The work reported herein represents an initial industry study of landscape nursery operations in Oklahoma relative to the amount of sales, size of business, services performed, labor requirements, and methods of management used in their operations.

The objectives of the study were to provide a clarification and analysis of:

- (1) the nature of landscape nursery operations in Oklahoma,
- (2) business management practices followed by Oklahoma landscape nursery operators, and
- (3) special problems of Oklahoma landscape nursery operations which might be more intensively studied in the future.

CHAPTER II

REVIEW OF LITERATURE

The past decade has been a period of rapid expansion in the United States for those who retail ornamental plants. Residential dwellings have been constructed at a rate in excess of one million units per year (17). This has created a tremendous demand for nursery products. Additional impetus has been provided by a trend toward more outdoor living and leisure time as well as increased appreciation of landscape developments.

Purchase of nursery products have also increased due to increase in consumer income. Nursery products have, what the economist calls, high income elasticity; that is, purchases expand rapidly as consumers' real income increases and conversely, decrease as income decreases (34). The growth and prosperity of the horticultural speciality industry ultimately rests upon the strength, nature, and direction of the consumer demand, and the ability of the industry to satisfy this demand (5).

The Horticultural Research Institute concluded that, "the single most vital aspect of any business, nursery or otherwise, is the customer. Knowing and targeting on the best potential customer will more favorably influence sales volume and thereby reduce unit overhead costs." (10)

Padgett and Aaron (22), in a study in Georgia, stressed the fact that any business, selling its products or services to a particular group of people can be much more effective if it knows something about the behavior of potential customers.

A study of Raleigh and Smith (31) in Delaware revealed that homeowners who use drawn landscape plans tend to spend more on landscaping than owners without drawn plans. Only slightly over one-quarter of the homeowners interviewed considered economic value as the most important reason for landscaping. Possibly, nurserymen should stress this reason for landscaping more often in their promotions.

A Pennsylvania study (15) revealed several reasons why homeowners make ornamental plantings. The most important reasons were that ornamental plantings add beauty, are necessary to complete the home, and increase the value of the property. Other reasons were that trees and shrubs provide shade and privacy and that homeowners like to work with them.

The study also revealed obstacles that cause homeowners to postpone and not complete landscaping or limit their desire for full planting. These factors include cost and prices of materials, time or concept of time involved in landscaping, and lack of knowledge concerning various aspects of landscaping.

Socio-economic aspects were focused upon in a Pennsylvania study by Bylund (4) and in a New York state study by Nyberg (19). They found that: (1) higher value homes tend to be better landscaped than those of lower value; (2) no statistical difference was found in level of landscaping and education of either husband or wife; (3) the respondents with well-landscaped houses were older than those with poorly landscaped

houses; (4) owners of well-landscaped homes more frequently tended to have no children than owners of poorly landscaped homes.

One study (4) also revealed that social aspects such as direct social pressure, self consciousness about landscaping, and the image created by landscaping also has effects on a majority of the respondents.

The matter of pride in appearance of one's home is the least fully exploited motivation for landscaping as reported by the Horticultural Research Institute, Inc. (10).

The study by Bylund (4) also showed that lack of knowledge or insecurity was a major deterrent in increasing the use of plant material.

Historically, nurserymen are reluctant to increase prices. Nurserymen agree that higher prices are needed not merely to keep up with rising costs, but to insure a reasonable profit. In spite of the overwhelming evidence to the contrary, many nurserymen still believe that they cannot increase prices because "the customer will not pay any more." Nurserymen who have raised prices recently report that there have been no appreciable unfavorable customer reactions (28). Furthermore, the Horticultural Research Institute states that "price as a purchase appeal is not uppermost in the minds of the customer (11).

A Georgia survey (27) pointed out reasons why people choose a particular garden center to purchase from. The reasons are:

Plant quality	25%
Line of products	16
Location	14
Price	12
Professional assistance	11
Store layout	8
Dependability	7
Other	7

Note that price is far from being the most important consideration, in fact, 55 percent placed other values ahead of it.

In another Study by the Horticultural Research Institute (10), reasons were given why people bought their last purchases where they did, rather than from another establishment. Thirty-one percent of the replies related to the purchase being made there because they "passed by" or it was "near-by" or "convenient." These responses far outnumbered the 17 percent who bought because of "price" or "special sale or trading stamps." Other reasons given were:

Recommended to me	9%
Advertisement	9
Knowledge of them	8
Regular customers	18
Variety	6
Reputable	6

The study also revealed that 10 to 16 percent of purchasings are done on impulse, stressing the importance of displays and opportunities to browse.

The same study shows without a doubt that there is general confusion in the minds of homeowners as to what a "nurseryman" really is. Ten percent believe that he is a "field hand", 11 percent believe he is a florist and 31 percent think, among other things, of a nurseryman as a gardener. Only 73 percent thought of a nurseryman as a plant grower, 53 percent as a landscaper and only 38 percent as a garden center operator. Sixty-two percent responded with "plant salesman."

It is interesting to note that the study revealed that the public indiscriminately lumps together wholesalers, landscapers, garden center operators, managers of sales yards and agents, all as "nurserymen."

A study by Conklin (6) in Portland, Oregon revealed that 72 percent of nursery stock purchased was from retail nurseries, with lesser amounts from other types of outlets. Garden supply stores led in the sale of fertilizers, pesticides, and allied products. Department,

hardware, and variety stores sold one-half of the tools purchased.

Another fact brought out by the study was that owners of newer homes made half the purchases and made larger average purchases; however, owners of older homes though more numerous made up the other half.

Favor, (8) in a study on sales promotion, pointed out that nurserymen should make a thorough analysis of the product, the market, and the organization or business prior to planning a sales promotion program. His study revealed that there were two distinct methods of selling: external; and internal. External selling is designed to get the customer in the nursery; internal selling seeks to have him buy once he has arrived rather than going elsewhere and to have him return for subsequent orders. External selling techniques include display advertising (newspaper, yellow pages, etc.), direct mail advertising, radio and television advertising and publicity such as public speaking and publications. Internal selling involves the sale of nursery plants and products through clean and attractive facilities, customer information, product displays, signs, labels, and tags, special sales and contests, and the offering of premiums.

Several sources (25, 26, 36) point out the importance of well landscaped grounds near the retail sales area and attractive weed-free nursery stock beds. They feel that these practices are the nursery's best form of advertising.

Displays and display areas (13, 14) have also proved to be very good forms of advertising for the purpose of increasing landscape business. It is important, however, that the displays be changed periodically and that they be kept seasonal.

Some of the suggestions given by homeowners to nurserymen for improved marketing of horticultural specialities include: more reliable service, salesmen calling at homes, improved replacement policies for plants that die, and providing programs that help guide homeowners in landscape planning (5).

A study conducted in the Eastern section of the United States (32) revealed that many firms did not have adequate records necessary for knowledgeable and profitable business management. The researchers recognized that record keeping was time consuming, but concluded that a successful business must have complete records for income tax purposes and as an aid in determining how costs may be reduced and returns increased.

The study also showed the need for a set of grades and standards sufficiently descriptive so that nurserymen could purchase nursery stock by grade rather than by personal inspection.

About two-thirds of the retailers in the study applied at 100 percent markup of wholesale catalog prices to their cost of production in arriving at their retail prices. One-fourth of the firms used more than 100 percent markup.

Another area of the study showed that most nurseries have a wide variety of plants available. This variety of material makes a program of consumer education a difficult but necessary job.

A study by Knight (16) regarding management and marketing practices of Tennessee nurserymen revealed the following seven possible ways of increasing profits through: (1) more and better advertising; (2) educational and promotional campaigns; (3) maintaining quality standards; (4) stabilization of prices; (5) elimination of irresponsible

dealers; (6) observing ethical standards; (7) developing new varieties and improving old ones.

The same study showed that shortage of labor was one of the major problems. Another problem revealed was the need for a better record keeping system.

Smith (35) also emphasized the importance of pricing by stressing the use of a cost record system for determining adequate selling markups. He pointed out three cost groups: cost of sales; overhead costs; and equipment costs. Each of these costs have variables and risks which should be taken into account when determining markup.

A study on the seasonal demand for nursery products pointed out that there appears to be three possible solutions to the problem: (1) a manager may close the business during periods when variable costs cannot be adequately covered; (2) sales promotion techniques may be employed in an attempt to change current seasonal demands for products; (3) new product lines may be merchandised that will "even out" the seasonal sales pattern. A case study in a Georgia garden center proved successful in solving problems of seasonality by adding product lines that would compliment plant items. (21)

The "full line" of products handled and services rendered by the case study garden center resulted in a business operation that could not be considered highly seasonal even though each of the individual items merchandised was generally a seasonal item.

Metz and Gully (17) reporting on 212 New York state nursery stock retailers revealed that most retail nursery outlets combine other enterprises such as plant installation and landscape accessories to minimize the effect of seasonality of business. About two-fifths of the firms

received less than 50 percent of their income from nursery products.

Three out of five retailers in the study stated that they had no important marketing problems. Among the balance of the retailers, quality was the most frequently mentioned problem. Competition was also considered a problem. The average annual gross income for the retailers in the study was \$55,000. One-fifth of the firms accounted for over one-half of all the sales.

W. R. Davidson (18) states, "too many nurseries are still oriented to the trade; in this case, growing plants, rather than to sound retail business principles. Much more attention should be given to store layout, display, and pricing.

A study conducted by Pease (24) showed that distribution of free literature about ornamentals probably increases good will among old customers as well as attracting new customers. Information of this nature is appreciated by middle and high status areas. The literature should be brief, well written, timely and preferably a product of the nurseries own efforts.

The mailing of consumer educational material has shown a definite increase in business for an eastern firm (1). Examples of educational materials used are: (1) how to buy nursery stock; (2) what, when, and how to fertilize; (3) proper watering techniques.

In the study by Pease (24), it was found that a free landscape sketching service exerted considerable impact upon homeowners: if it is limited to owner-occupants; if homeowners are generally in high status areas; and if homeowners take the initiative to make specific appointments. The chief impact of such service is to change intent to action,

perhaps influencing homeowners to choose a professional job instead of a "do-it-yourself" job.

Another promotional program study was conducted in the Northeastern region of the United States (12). The study revealed that promotion was most effective in stimulating inquiries about landscaping when directed to owners of relatively unplanted homes. Homes located in non-metropolitan cities where economic conditions were not depressive also stimulated more inquiries. However, the promotional program did not produce a significant change in the attitudes of a large percentage of the homeowners regarding landscaping or toward nurseries as a source of ornamental products.

Several homeowners participating in Raleigh and Smith's study (31) criticized nurserymen for having sales personnel who were relatively uninformed about the plants they were selling. The researchers indicated that a good training program, year-round employment of trained workers, and the hiring of college students may help alleviate this problem.

Several important points for consideration were reported by Sorensen (34) concerning a study conducted in Texas. (1) Consumers of nursery products rely on nurserymen for accurate information concerning ornamental plant material in preference to other sources. (2) Nurserymen rely heavily on oral instruction to provide information to the consumer. New or unfamiliar terms, names and materials can be forgotten or misunderstood unless recorded; thus printed instructions are a necessity. (3) Women customers are important to the nurseryman, since they are involved in 75 percent of the sales. (4) More education and understanding is needed concerning the services available for landscaping a home. (5) A portion of the population would use extended time and

credit to landscape a home. Consumers and nurserymen both need more information and education about loans available for residential landscaping.

A study by Pease (23) revealed that people feel a need for more information about plants and they believe that nurserymen could best improve their service by supplying this material. The study also indicated that customers would patronize a store if it provided necessary information even if the prices were slightly higher. Becker and Poorbaugh (3) pointed out that, in addition to its usefulness to customers, displays of more complete information about individual plants could help sales personnel with limited experience become more effective in advising customers on plant selection.

In another study in New York state, Goodrich (9) found that availability of information materials in the form of plant tags, bed markers, and pictorial posters, had no discernible effect on current shrub sales. The study concluded that the value to nurseryman of providing such plant information, therefore, lies in improving the image of the nursery, over the long run, and of maintaining and increasing the satisfaction of the customers.

A survey in Georgia conducted by Padgett (2)) indicated that the nursery industry should endeavor to provide the consumer with educational material concerning quality identification of plants. The researcher stated that "this should improve the competitive position of the reliable retail nurseryman with firms offering apparent bargains in plant material, usually low quality merchandise." As in other studies, the survey also indicated that the consumer public needs more technical information on fertilizers, insecticides, and other allied supplies.

Upgrading service was the theme of a Missouri meeting held in 1966 (33). The talks focused on charges for the nurseryman's time for such things as consultation. "We must be compensated" was the general statement of the nurserymen.

Other talks centered on meeting the needs of the industry for trained personnel. These points were brought out: (1) young qualified people must be offered suitable incentives; (2) vocational training programs must be expanded and improved; (3) a more effective means of counseling high school students must be developed regarding opportunities in the industry.

In connection with the need for trained personnel, Pinney (29) states that "the biggest problem in the nursery industry today is shortage of labor. The only solution to the problem is to pay wages as high as other industries competing in the same labor market. In order to do this, nurseryman must get more for their products and services."

Others (2, 16) also stressed the fact that there were not enough qualified people to fill the needs of the industry. They also pointed out that upgrading of wages and other benefits are needed in order to present a good "marketplace" image.

CHAPTER III

METHOD AND PROCEDURE

In June, 1968, personal interviews, with the assistance of a prepared questionnaire (see appendix pages 44, 45, 46, 47) were conducted with 12 landscape nursery operators in Oklahoma.

It was concluded that personal interviews would be most desirable for the following reasons: (1) permit more rigid control of the sample of respondents; (2) permit the use of questions of a wider scope and of a more complicated nature; (3) results may be obtained quickly; (4) possible for the interviewer to observe the operation; (5) it was thought that operators would be more willing to answer questions in more detail; (6) no follow-up is required; (7) causes for attitudes are not as difficult to obtain.

Since construction of the questionnaire was essential to the success of the study, questionnaires used in other research projects were studied to aid in preparation of questions.

It was considered important that each operator be assured that no information received through the questionnaire interview be individually identified, but rather would be used in collected form. In order to assure operators of this intention the title of the questionnaire was "Confidential Questionnaire For Landscape Nursery Operations."

The questionnaire was reviewed by faculty members of the Department of Horticulture and suggestions for improvement were made. After

revision, it was again given to the members of the department for reviewing and final approval. The questionnaire was then submitted to and approved by officials of the Oklahoma State Nurserymen's Association.

A letter of introduction was prepared to accompany the questionnaire (see appendix page 43). The letter introduced the interviewer and explained the nature of the study. It also emphasized that the information collected would be held in confidence.

Twelve landscape nursery operations which were thought to be a representative sample were selected from a list of nursery operations compiled by the Oklahoma State Board of Agriculture. The information collected was compiled and used to obtain the results of the study shown in the following chapter.

CHAPTER IV

RESULTS

Of the twelve nursery operations surveyed, ten were used in the study. Two were not used because they were considered atypical of the landscape nursery operations being studied. The ten nursery operators answered all questions except where noted.

Since many of the businesses surveyed varied in number and kinds of services which they offered to the public, the first question asked was "What services does your business encompass? Please note approximate percentages for each." The averages and ranges for the services listed are shown in Table I.

It was found that most nursery operators choose to combine landscape planning and landscape installation services. They also choose to combine retail nursery sales and garden center sales.

Ten operators answered question 2 which was "How many full-time personnel does your business employ?" The total employment for the ten operations was 55 with an average of 5.5 each and a range of 2 to 12. When operators were asked to estimate their division of labor according to the services listed in Table I, only seven were able to do so fully. Table II shows the average and range for the breakdown of labor for various services performed.

It is interesting to note that an average of 44.3 percent of employee time is spent on retail nursery and garden center sales. This indicates that these phases of the total operation are relatively time

TABLE I
 SERVICES BUSINESS ENCOMPASSES - AVERAGES AND RANGES
 OF PERCENTAGES FOR SERVICES LISTED

Services	Average	Range
Landscape Planning and Landscape Installation	41.8%	20 - 70%
Landscape Maintenance	10.2	2 - 35
Landscape Construction	7.0	0 - 24
Retail Nursery sales and Garden center sales	39.5	5 - 75
Other ¹	1.5	0 - 10

¹Damage estimates and wholesale sales

TABLE II
 FULL-TIME PERSONNEL - DIVISION OF LABOR, AVERAGES
 AND RANGES OF TIME SPENT
 ON SERVICES LISTED

Services	Average	Range
Landscape Planning Landscape Installation	37.14%	20-80%
Landscape Maintenance	14.28	5-50
Landscape Construction	4.28	0-20
Retail Nursery Sales Garden Center Sales	44.30	10-75
Other	-----	-----

consuming. Ways should be initiated to reduce the time required to provide these services.

Nine nursery operators answered question 3 as to "What do you estimate your total amount of extra hired help (in man hours) used to cover peak work periods to be (selling, maintenance, etc.)?" The total man hours used by all operations was 27,492 hours with an average of 3,055 hours each and a range of 300 to 7,200 hours.

All ten operators answered part a. of question 3 which was "What is the estimated wage rate per hour for this extra help?" The average rate paid was \$1.38 per hour and the range was \$1.25 to \$1.65 per hour. Some of the operators indicated that they have had to raise their wage rates recently in order to secure adequate extra help.

Question 4 was "What do you estimate your 1967 gross income to be from your business? Estimate percentages attributable to services listed in Table I." The average gross income for the ten operations was \$78,000 with a range of \$30,000 to over \$100,000. Four businesses had gross incomes of over \$100,000, two had gross incomes between \$75,000 and \$100,000, two between \$50,000 and \$75,000, and the remaining two had gross incomes between \$30,000 and \$50,000. The averages and ranges of percentages attributable to the services listed are shown in Table III.

Question 5 read "What do you estimate your net income in 1967 to be? Estimate percentages attributable to services listed in Table I." The average net income was \$10,300 and the range was from below \$3,000 to over \$15,000. Two businesses had net incomes over \$15,000, three had between \$10,000 and \$15,000, one each had between \$9,000 and \$10,000; \$8,000 and \$9,000; \$5,000 and \$6,000; \$4,000 and \$5,000; while one had a

TABLE III
 ESTIMATED GROSS INCOME - AVERAGES AND RANGES OF
 PERCENT ATTRIBUTABLE TO SERVICES LISTED

Services	Average	Range
Landscape Planning Landscape Installation	41.7%	19-70%
Landscape Maintenance	9.8	1-35
Landscape Construction	7.1	0-25
Retail Nursery Sales Garden Center Sales	40.9	5-80
Other ¹	0.5	0-5

¹Damage estimates

net income below \$3,000. The averages and ranges of percentages attributable to services listed are shown in Table IV.

It is of interest to note some of the comparisons of average percentages of services business encompasses, labor used for services, and gross and net incomes derived from services listed. Shown in Table V are these comparisons.

Question 6 asked "Do you propagate or grow plant material to be sold in your retail business?" Nine operators answered yes and one answered no. Part a. of the question asked "If so, what percentage of total sales?" The average percent grown or propagated was 20.2 percent and the range was 2 to 75 percent.

Seven operators indicated that they employ a landscape designer while 3 do not. Of the 7 who do, 6 of these were the owners of the business and 1 was hired at a base wage plus a commission of 5 to 7 percent of total job sales. (Question 7, appendix page 45).

Question 8 asked "Does your business provide for the drawing of landscape plans?" All ten operators answered yes, although some indicated that they merely drew sketches or contacted a private landscape designer to work on a commission basis. Part a. of the same question asked "Is there a charge for this service if the plant materials are purchased from you?" One operator answered yes and 9 answered no, however, all ten operators stated that there was a charge for this service if the plant materials were purchased elsewhere. Some of the charges mentioned by the operators were 7 percent of the total job, 6 percent of the total job, 1 to 5 percent of the total job, \$7.50 per hour, \$60.00 minimum charge, \$200.00 to \$750.00, and \$35.00 to \$75.00. These charges varied greatly since the size of the project and the extent to

TABLE IV
 ESTIMATED NET INCOME - AVERAGES AND RANGES
 OF PERCENT ATTRIBUTABLE
 TO SERVICES LISTED

Services	Average	Range
Landscape Planning and Landscape Installation	44.7%	19-70%
Landscape Maintenance	9.8	1-35
Landscape Construction	9.8	0-25
Retail Nursery Sales and Garden Center Sales	35.5	5-80
Other ¹	1.0	0-5

¹Damage estimates and wholesale sales

TABLE V

COMPARISON OF AVERAGE PERCENTAGES OF SERVICES ENCOMPASSED,
LABOR USED, AND NET AND GROSS INCOME
DERIVED FROM SERVICES LISTED

Services Business Encompass	Percentages			
	Avg. Services Business Encomp.	Avg. Labor ¹ Used For Services	Avg. Gross Income Derived From Services	Avg. Net Income Derived From Services
Landscape Planning Landscape Installation	41.8%	37.14%	41.7%	44.7%
Landscape Maintenance	10.2	14.28	9.8	9.8
Landscape Construction	7.0	4.28	7.1	9.0
Retail Nursery Sales Garden Center Sales	39.5	44.30	40.9	35.5
Other ²	1.5	0.0	0.5	1.0
	100.00%	100.00	100.00	100.00

¹7 operators responded

²Damage estimates and wholesale sales

which the plan was developed also varied considerably. For example the \$35.00 charge might be a simple residential sketch, whereas the \$750.00 charge might include complete detail plans, plus construction plans, topographic survey, and grading plans for a large commercial firm.

All ten nursery operators answered the question "What do you estimate your percentage markup to be on retail landscape nursery stock?" With the question, an explanation of markup was included, in order that markups could be standardized. (Question 9, appendix page 45). The average percent markup was 160 and the range was from 100 to 250. It is interesting to note that operations with gross incomes of over \$100,000 had an average of 150 percent markup, 10 percent lower than the overall average of 160 percent.

Question 10 asked "What do you estimate your total capital investment in your business to be?" This excluded land because of variation in value. For the 9 respondents, the average was \$53,444 with a range of \$14,000 to \$75,000. Those operations having the greatest gross income proved to have the greatest capital investment.

All operators reported having delivery services; however, they varied greatly both in distances and minimum purchases required for free delivery. Nursery operators reported maximum distances for free delivery of 5, 7, 10, and 15 miles. Minimum purchases required for the free delivery mentioned above were \$2, \$3, \$5, \$7.50, and \$10.

In most cases, all nursery operators charged for delivery if the distance was extended beyond those mentioned above. Charges by operators were 20, 35, and 45 cents per mile one way and 6, 10, and 20 cents per mile two ways. Other charges mentioned were \$5 and \$10.

Question 12 was, "What percentage of your business do you estimate to be cash? Credit?" The average cash business was 46.5 percent and the range was from 5 to 80 percent. The average credit business was 53.5 percent with a range of 20 to 95 percent. Part a. of the question asked "What credit terms do you offer?" Most often mentioned was a 30-60-90 day plan. Other terms mentioned were 4 months-6 percent interest, 60 days-1 percent per month, 60 days, 90 days, and one-third and one-fourth down.

Question 13 asked the operators "What is the total number of hours that your business is open each week?" Ten operators answered and the average was 59.8 hours per week with a range of from 48 to 80 hours per week. Six operators did not open on Sunday, one was open one-half day, one was open on Sundays only during the busy seasons, while two indicated their operations were open all day on Sundays.

All operators answered the question "What method(s) of record keeping do you use?" (Question 14, appendix page 45). Eight indicated that they kept their own books while two said that they employed a bookkeeper. Nine operators replied that they employ an accountant on a part-time basis while one did not.

Questions 15 and 16 related to populations of towns/cities and trade areas. There was no relation between population and income. All businesses were located in areas where populations could support them. The trade areas varied greatly, from sections of cities to large sections of the state, depending on the geographic location of the operation.

"How long have you been in business?" was question 17. The average was 14 years and the range was 3 to 34 years. There appeared to be no

relationship between number of years in business and income. 

Operators were asked "What types of customer information do you use?" (Question 18, appendix page 46). Eight said they used bed markers to identify plants and 3 said they used landscape displays. Other things mentioned were "how to plant" and other commercial pamphlets. The other categories, plant packets and landscape panels, were not mentioned. The operators were also asked "Do you consider these effective for better customer relations? Increased sales?" Eight replied in the affirmative to both questions.

Question 19 asked the operators "Could you utilize customer information ideas (landscape panels, bed markers, etc.) for better customer relations?" Nine operators answered yes and one replied that he did not know how he could use them.

All ten operators responded to the question "What are some of the major problems which you encounter?" A list of possible problems followed the question. (Question 20, appendix page 46). The percentages of operators replying yes to the problems listed are shown in Table VI. Other problems mentioned by operators were inadequate operating capital, lack of people who want to work, licensing program for landscape designers and poorly informed public.

Question 21 asked "What do you estimate your yearly expense for advertising to be?" The average was \$1,950.00 and the range was from \$300.00 to \$4,000.00. Shown in Table VII are the averages and ranges of percentage spent for advertising media categories.

✓ Operators were asked "Do you think a promotional program which offers free information and advice would change customer attitudes towards landscaping?" Eighty percent of the operators replied yes and 20 percent replied no.

TABLE VI
 PROBLEMS ENCOUNTERED BY NURSERY OPERATORS - PERCENTAGES
 REPLYING YES TO CATEGORIES

Categories	Percent operators replying yes
Lack of trained personnel	100%
Poor customer relations	10
Poor facility design (grounds, beds, etc.)	50
Seasonality of enterprise	80
Nursery stock losses	10
Nursery stock quality	40
Competition (chain, supermarket, etc.)	30

TABLE VII
 AVERAGE PERCENT AND RANGE OF EXPENDITURES UTILIZED
 FOR VARIOUS ADVERTISING MEDIA

Categories	Average	Range
Newspaper	61.0%	20-100%
Radio	15.0	10-45
Direct Mail	.2	0-2
Television	----	-----
Others ¹	23.8	5-100

¹Newspaper column, handouts, telephone yellow pages, calendars, talks to garden clubs, churches, etc.

✓ Question 23 asked the operators "Do you have a training program for employees?" One operator replied yes to the question and 9 replied no. The nine operators that replied no said that they do have informal "on the job" training.

✓ Question 24 was "Were your facilities and grounds designed for your specific type of business?" Seven operators replied yes and 3 replied no. Referring back to Table VI, it is interesting to note that 50 percent listed poor facility design as one of their major problems.

✓ All operators answered yes to the question "Would design layout plans or ideas help you plan expansion or re-design of your facilities and grounds."

✓ The next question asked "What do you think of landscape displays for increasing customer understanding of uses, beauty, and importance of landscaping?" (Question 26, appendix page 47). All operators favored the use of displays; however, some indicated that lack of space was the biggest obstacle to their use.

✓ All operators replied yes to the question "Do you think aesthetically pleasing grounds and bed design would help plant sales?"

✓ The final question asked "Do you feel that offering the use of your grounds or sales yard as a study area for community organizations would be worthwhile financially as well as provide a public service?" All ten operators answered yes.

CHAPTER V

DISCUSSION AND CONCLUSIONS

The survey of Oklahoma landscape nursery operations presented in Chapter IV indicates that considerable employee time was used for retail nursery and garden center sales in relation to income. It is believed that the time requirement could be reduced if more customer information devices were used. Information in the form of plant labels, bed markers, and educational literature could be used very effectively in answering many customer questions rather than by verbal communications. In this way, less employee time would be spent per customer on matters such as price, plant names, etc. Many surveys show that more information is desired by the consumers and that nursery operators could best improve their service by offering it.

Better record keeping practices should be initiated to identify employee time spent on different services that the business offers to the public. Complete records should be kept on how much of the gross and net income is derived from these different services. If records were kept for at least one complete season, it would be possible to more correctly identify which segments of the total operation constitute profit or loss to the business.

This survey confirms the fact that a major problem of landscape nursery operations in Oklahoma is the lack of trained employees. To cope with this problem, the nursery industry must raise wage standards

to compete with other industries. This, no doubt, would require either an increase in efficiency and/or an increase in price for materials and services sold. Nurserymen as a general rule appear to be reluctant to increase prices; however it appears that this must be done to keep up with rising overhead costs, material costs and wages.

Training programs prior to rush periods should be initiated to alleviate the problem of inadequately trained employees. The survey revealed that all businesses had informal "on the job" training; however none had formal training sessions for new or inexperienced personnel.

Seasonality of business is another major problem of Oklahoma nursery operations. To some extent, the problem can be alleviated by bringing in new product lines and services. Items and services such as maintenance work, pruning, Christmas tree sales, pet supplies, gift items, patio supplies, and house plants could be utilized to minimize seasonality. The problem of low sales volume will no doubt continue through certain winter months, but this time period could be used to prepare for the spring rush season.

Many operators in the survey listed facility design as a major problem. Proper design and layout of facilities and grounds could help relieve problems such as parking, customer traffic congestion, inadequate product and plant display area, inadequate storage space, etc. The nursery operator should appraise his present and future needs, taking into account expected growth of the establishment and problems with which he may be confronted. This appraisal will allow the business to make changes and expand in an orderly and workable manner. Consulting with planners and others in the industry may provide answers to problems of design and layout.

Plant and product display areas should be flexible to allow for seasonal changes in customer viewing of the merchandise. Displays should be relatively simple, timely, easily seen, and when needed properly lighted. The old adage, "I see, I buy" has a meaningful message for retailers of nursery stock.

In addition to displays, clean facilities and grounds are very important to the successful landscape nursery operation. Plant beds and containers should be kept free of weeds and trash. Walk-ways should be either gravel or hard surface and should be kept clean at all times. Landscape plantings on the premises should be well designed and maintained throughout the year. This will provide customers with good impressions and will serve as an excellent method of advertising.

Since most customers live within ten miles of the establishment where they trade, it is mandatory that a retail nurseryman be aware of the necessity for locating close to large population centers, especially with reference to residential districts and with families of high incomes. An easily accessible retail location is normally desired although a less desirable out-of-the-way location can be offset with a higher level of advertising and merchandising. Being close to a well-traveled highway or within sight of a highway and having adequate space for parking and displays is a distinct advantage.

The Horticultural Research Institute (11) states that "More business orientation is needed on management and marketing aspects. Labor efficiency, credit, inventory, adequate records for analysing the business, cost control, personnel management, location, expansion, display, meeting competition, pricing, accounts receivable, sales analysis-- these and many other business features can be handled better by the manager who has general business training."

CHAPTER VI

SUMMARY

The objectives of this study were to provide a clarification and analysis of: (1) the nature of landscape nursery operations in Oklahoma; (2) business management practices followed by Oklahoma nursery operators; and (3) special problems of Oklahoma landscape nursery operations which might be more intensively studied in the future.

Various sources of literature concerning the nursery industry were studied. Most numerous were those relating to consumer preferences and demands.

A questionnaire was developed and personal interviews were conducted with 12 selected landscape nursery operators. Due to the nature and completeness of their response ten were used in the study.

Questions dealt with such items as services offered, employment, gross and net income, markup, delivery practices, cash and credit sales, business hours, record keeping, population, wages paid, age of the business, customer information used, major problems encountered, advertising expenses, and personnel training programs.

The replies given by the nursery operators indicated a wide range of variation in many of the areas listed above.

The areas which differed most widely included net and gross income, capital investment, wages paid, markup, advertising, business hours, and the amount of labor employed.

A typical or average retail business represented by the landscape nurserymen in this survey would likely possess the following characteristics:

(1) Landscape planning and installation would encompass 41.8 percent of the business, retail nursery and garden center sales would make up 39.5 percent, landscape maintenance would represent 10.2 percent and landscape construction would account for 7.0 percent of the business while 1.5 percent was either wholesale sales or damage estimate charges.

(2) The business would have 5 or 6 full-time employees. These would spend 55.7 percent of their time on landscape operations and 44.3 percent on retail nursery and garden center sales.

(3) The business would hire 3,055 hours of extra help at an hourly wage rate of \$1.38.

(4) The annual gross income of the business would be \$78,000. Landscape operations would make up 58.6 percent of this income and retail nursery and garden center sales would account for 40.9 percent, while 0.5 percent was classified as preparing damage estimate.

(5) The annual net income from the business would be \$10,300. Landscape operations would make up 63.5 percent of the net income and retail nursery and garden center sales would be responsible for 35.5 percent with 1.0 percent coming from wholesale sales and damage estimates.

(6) The business would provide landscape plans by trained designers.

(7) There would be no charge for landscape plans when plant materials were purchased from the business.

(8) Retail nursery stock would have a 160 percent markup.

(9) The business would have a free delivery service when purchases were adequate and distances reasonable.

(10) Cash business would be 46.5 percent with credit accounting for the remainder.

(11) The owner would keep his own books and hire a part-time accountant for income tax purposes.

(12) The owner would have been in business 14 years and have over \$53,000 invested, plus the value of the land.

(13) The business would use bed markers to identify plants with few additional customer information forms other than verbal communication.

(14) The major problems of the business would be lack of trained personnel, poor facility design, and seasonality of business.

(15) The owner would spend \$1,950 annually for advertising. Sixty-one percent of this would be spent for newspaper advertising.

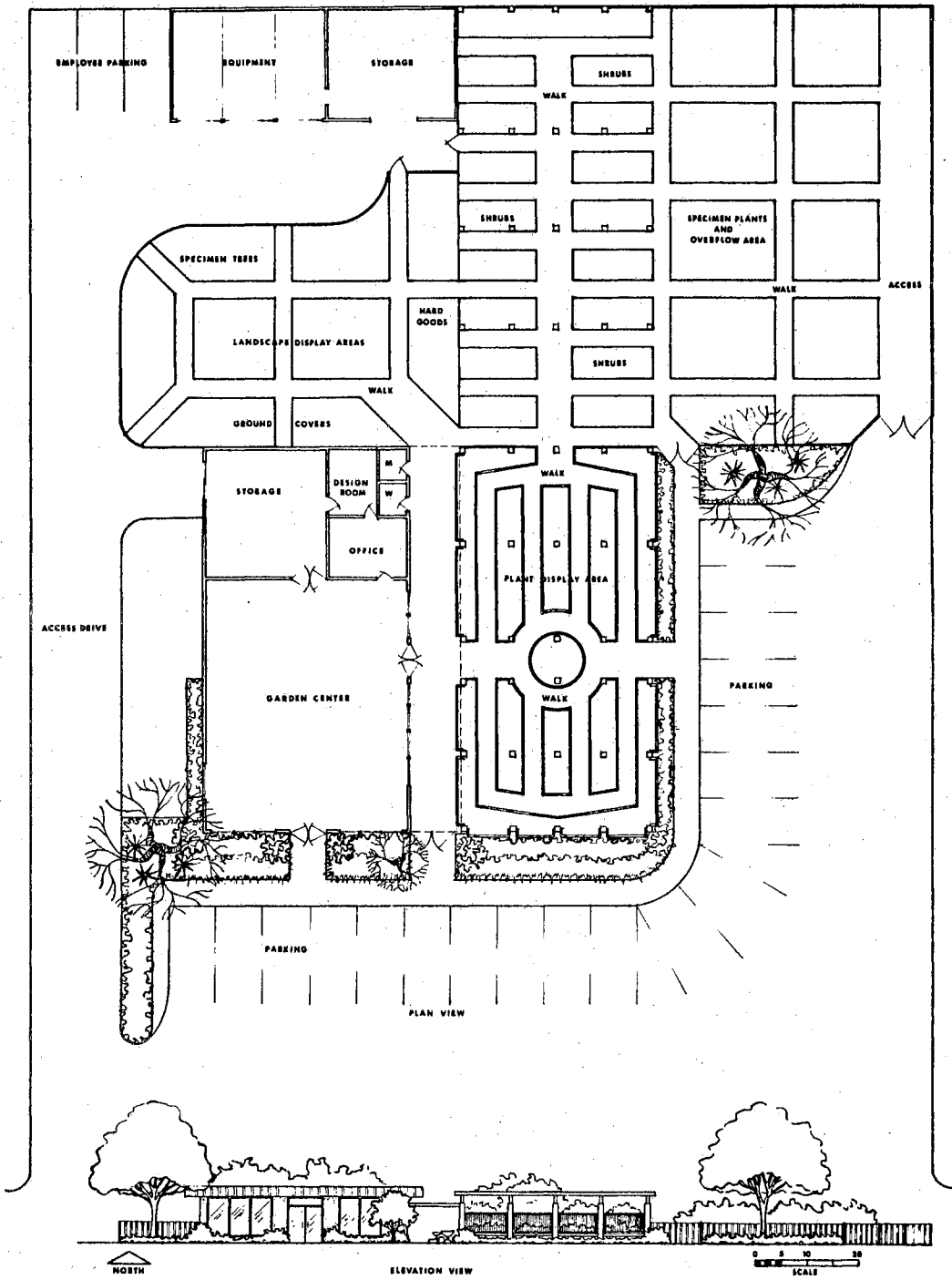
(16) The business would have "on the job" training for employees.

(17) The business would be open a total of 58.9 hours per week.

The characteristics mentioned above are not meant to be suggested for each landscape nursery operation, but rather to represent averages compiled from the data given in Chapter IV.

The layout on the following page is a suggested design for a landscape nursery operation. It is an attempt to emphasize the importance and potential value of planning and design layout with respect to landscape nursery operations. Circulation, customer convenience, esthetics and feasibility should be utmost in the planners mind.

Walks should be adequate both in width and in number. They should be hard surfaced, either with concrete or asphaltic material. In more remote areas, where less selling takes place, gravel walks may be used.



SUGGESTED DESIGN FOR A LANDSCAPE NURSERY

Referring to the plan, walks in the plant display area, the shrub area, and the landscape display area should be hard surface. Gravel walks could suffice in the specimen plant and overflow area. Traffic circulation from one area to another is accomplished by adjoining walks. Rolling carts may be used to transport plant items to customer automobiles. If items purchased are large, the access drives may be used to facilitate loading of materials. Specimen plant and tree purchases, could be more easily loaded and delivered by utilizing the access drives where equipment might be used.

The plant display area on the suggested design utilizes raised beds 18 inches in height. This was done to place plant materials closer to the customer's view to enable him to make more selections more easily. All other beds in the layout would remain at ground level. The plant display area and the shrub area should be covered with lath to provide partial shade.

The landscape display areas are useful to illustrate how plant materials, garden figures, stepping stones, and other landscape accessories might be used by the customer. One area might in a given season illustrate a patio setting while the other might display a potential entrance planting. These areas might also be used to display seasonal bedding plants or unusual and exotic plants.

Another important aspect of any retail business is supplying adequate customer parking and back-out area. Nineteen parking spaces have been provided on the suggested design. In addition to customer parking, three employee parking spaces were provided.

A fence has been used to inclose all of the plant material for the purpose of protection from loss, and to provide wind protection. Gates

could remain open during business hours to insure freedom of movement to customers. The fence inclosing the specimen tree area was designed to be constructed as removable sections thus making the movement and loading of larger trees much easier.

The breezeway area between the garden center and the plant display area is covered with the fiberglass to protect fertilizers, peat moss, and other hard items which might be displayed there. Restrooms have been centrally located at the north end of the breezeway for customer convenience.

Glass affords a clear view of the plant display area from the garden center. Customers seeking only garden center items might be induced to purchase plant items if they were attractive and in direct view.

The garden center building would also house an office. This would provide a place where conferences might be held with clients in comfortable and pleasant surroundings. A design room has been conveniently located near the office to provide ample space for preparation of landscape plans. A large storage room will provide space for currently used equipment and supplies. More storage and equipment space is located at the back of the lot.

Though not shown in detail on the plan, the landscaping of the premises should be well designed, attractive, and easily maintained to provide a desirable first and lasting impression for customers.

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APPENDIX

OKLAHOMA STATE UNIVERSITY STILLWATER

Department of Horticulture
FRontier 2-6211, Ext. 302

May 31, 1968

State Nurserymen:

This letter is to introduce to you, Mr. Eddie Pledger, a graduate student in the Department of Horticulture at Oklahoma State University. He is majoring in landscape design and has undertaken a study of landscape nursery operations for his thesis problem. We have secured the approval of the State Nurserymen's Association and will be happy to make the results available to those that participate.

None of the firms will be identified and all information gathered will be used collectively, rather than separately.

Your cooperation in the research project is appreciated.

Sincerely,

W. R. Kays, Head
Department of Horticulture

J. Steve Ownby,
Advisor and Instructor

JSO/ea

CONFIDENTIAL QUESTIONNAIRE FOR LANDSCAPE NURSERY OPERATIONS

1. What services does your business encompass? Please note approximate percentage for each.

- a. Landscape planning _____ %
- b. Landscape installation _____ %
- c. Landscape maintenance _____ %
- d. Landscape construction _____ %
- e. Retail nursery sales _____ %
- f. Garden center sales _____ %
- g. Others (specify) _____ %

2. How many full-time personnel does your business employ? _____ For division of labor, refer to services listed in No. 1 above:

- a. _____ %
- b. _____ %
- c. _____ %
- d. _____ %
- e. _____ %
- f. _____ %
- g. _____ %

3. What do you estimate your total amount of extra hired help (in man hours) used to cover peak work periods (selling, maintenance, installation, etc.) to be? _____

a. What is the estimated wage rate per hour for this extra help?

4. What do you estimate your gross income from your business in 1967 to be? _____. Estimate percentage attributable to the services listed in No. 1 above.

- a. _____ %
- b. _____ %
- c. _____ %
- d. _____ %
- e. _____ %
- f. _____ %
- g. _____ %

5. What do you estimate your net income from your business in 1967 to be? _____. Estimate percentage attributable to the services listed in No. 1 above.

- a. _____ %
- b. _____ %
- c. _____ %
- d. _____ %
- e. _____ %
- f. _____ %
- g. _____ %

6. Do you propagate or grow any plant material to be sold in your retail business? Yes _____ No _____
- a. If so, what percentage of total sales? _____%
7. Do you employ a landscape designer? Yes _____ No _____
- a. If so, what is the wage rate? \$ _____ per () hour () day () week () month () percentage basis @ _____% of retail sales.
8. Does your business provide for the drawing of landscape plans? Yes _____ No _____
- a. If so, is there a charge for this service if the plant materials are purchased from you? Yes _____ No _____. If purchased elsewhere? Yes _____ No _____. What is the general charge range? _____
9. What do you estimate your percentage markup* to be on landscape retail nursery stock? _____% *Example: If you buy a plant for \$1 and sell it for \$2, this would be a 100% markup.
10. What do you estimate your total capital* investment in your business to be? _____. *This includes plants, buildings, vehicles, tools, etc. (Exclude land - too variable)
11. Do you have a delivery service? Yes _____ No _____
- a. Approximate maximum distance? _____ miles _____ blocks
- b. Is there a charge for this service? Yes _____ No _____
If so, how much? _____
12. What percentage of your business do you estimate to be cash? _____% credit? _____%
- a. What credit terms do you offer? _____
13. What is the total number of hours that your business is open each week? _____
14. What method (s) of record keeping do you use?
- a. Keep your own books? Yes _____ No _____
- b. Employ a bookkeeper? Yes _____ No _____
- c. Employ an accountant? Yes _____ No _____
If so, full-time? _____ Part-time? _____
15. What is the approximate population of your city or town? _____
16. What is the approximate population of your trade area? _____

17. How long have you been in business? _____
18. What types of customer information do you use? Please check:
- a. Bed markers _____
 - b. Plant packets _____
 - c. Landscape panels _____
 - d. Landscape displays _____
 - e. Other (specify) _____
- Do you consider these effective for better customer relations?
 Yes _____ No _____ Increased sales? Yes _____ No _____
19. Could you utilize customer information ideas (Landscape panels, Markers, etc.) for better customer relations? Yes _____ No _____
20. What are some of the major problems which you encounter? For example:
- a. Lack of trained personnel _____
 - b. Poor customer relations _____
 - c. Poor facility design (grounds, beds, etc.) _____
 - d. Seasonality of enterprise _____
 - e. Nursery stock losses _____
 - f. Nursery stock quality _____
 - g. Competition (chain, supermarket, etc.) _____
 - h. Other (specify) _____
-
21. What do you estimate your yearly expense for advertising to be?
 \$ _____
- a. What percentage is spent for each of the following?
- 1. Newspaper _____%
 - 2. Radio _____%
 - 3. Direct mail _____%
 - 4. Television _____%
 - 5. Other (specify) _____%
22. Do you think a promotional program which offers free information and advice would change the consumer attitudes toward landscaping?
 Yes _____ No _____
23. Do you have a training program for employees? Yes _____ No _____
24. Were your facilities and grounds designed for your specific type of business? Yes _____ No _____
25. Would design layout plans or ideas help you plan expansion or redesign of your facilities and grounds? Yes _____ No _____

26. What do you think of landscape displays such as corner plantings, entrance plantings, courtyard plantings, etc. for increasing customer understanding of uses, beauty, and importance of landscaping? _____

27. Do you think aesthetically pleasing grounds and bed design would help plant sales? Yes _____ No _____

28. Do you feel that offering the use of your grounds or sales yard as a study area for community organizations would be worthwhile financially as well as providing a public service? Yes _____
No _____

29. Please include any comments or suggestions which you may have.

VITA

Edward Lewis Pledger

Candidate for the Degree of

Master of Science

Thesis: A STUDY OF CERTAIN ASPECTS OF LANDSCAPE NURSERY OPERATIONS IN
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