

SURVEY OF THE BUSINESS AND MANAGEMENT
PRACTICES OF KANSAS ARBORISTS

BY

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INTRODUCTION

"There are a lot of men in the tree business, but there are few businessmen that are tree men." This statement was made by Robert Felix, Executive Secretary of the National Arborist Association, at the 50th International Shade Tree Conference in 1974 (8). Is this statement true of the Kansas arborists?

There is a vast difference in experience and knowledge in the arboriculture industry today. Most of this experience and knowledge centers around trees and their related problems, as it should, but management is one area of the arborists's business that has been neglected too long. Because of poor management practices many experienced, knowledgeable arborists have left the arborist profession.

Lack of business analysis is a problem in the Kansas arboriculture industry. The National Arborist Association (N.A.A.) has conducted some limited research; however, this research was national in scope and limited to members of the association. Since membership of Kansas arborists in the National Arborist Association is less than one percent, the N.A.A. research findings may not apply to arboriculture in Kansas.

Kansas has its own arboriculture association, the Kansas Arborists Association, in which a majority of the arborists in the state have membership. For the past three years the Kansas Arborists Association has conducted training programs concerning the technical aspects of arboriculture. However, little has been done to educate the novice arborist in business practices.

Membership in the Kansas Arborists Association is open to anyone with an interest in trees. When the Kansas arborists organized in 1958 there were 33 members and in 1979 the membership had leveled at 128.

The need for improved business practices by Kansas arborists was emphasized in a speech given before the Kansas Arborists Association in 1977 by Dr. Joseph Barton-Dobenin, a Kansas State University business professor. His presentation stirred the arborists' interest which led to the development of this study.

The purposes of this study were: 1) to establish statistical information concerning the arboriculture industry in Kansas, 2) to use this information as an educational tool to improve the industry, 3) to establish a data base which would allow individual arborists to compare their business and professional practices to a Kansas norm, and 4) to compare to national statistics whenever possible.

REVIEW OF LITERATURE

Very little has been written about management practices of the arborist. The National Arborist Association, a national association for the commercial arborist, is the leading organization doing research in this area. This group has conducted annual surveys gathering information pertaining to management practices (4, 5, 6, 7). The results of their surveys will be cited later in the manuscript.

In 1971 the Midwestern Chapter of the International Shade Tree Conference conducted a survey of the arborists in the midwest (9). These results will also be cited later in the manuscript.

PROCEDURES

The survey questionnaire was five pages long. Some of the questions were adapted from those asked on management surveys conducted by Dr. Barton-Dobenin (2). These surveys examined the business management operations of Kansas veterinarians. Dr. Ray Keen, Kansas State University horticulture professor, and the Kansas Arborists Association Board of Directors suggested other questions of interest to the arborists. Two Kansas State University professors experienced in survey design assisted in the development of the survey items.

The survey was limited to commercial arborists. The mailing list was comprised of commercial members of the Kansas Arborists Association and non-members who advertised in the yellow pages of Kansas telephone directories.

At the annual Kansas Arborists Conference in January, 1978, the survey was announced and participation was encouraged. A cover letter written by Gene Grey, President of the Kansas Arborists Association, accompanied the survey when it was mailed in June, 1978. Because response to the first mailing was low, a second mailing of the original survey was sent in September of the same year. The first mailing of the survey was not coded; therefore, the same mailing list was used for the second mailing. Ten days after the second mailing of the survey, post card reminders were sent. This was followed by telephone calls encouraging participation.

Data gathered from the returned surveys were compiled and analyzed. Percentages, frequencies, means or ranges were used to analyze data pertinent to a particular question.

MANUSCRIPT

This manuscript is written in the
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In 1978 a survey of the commercial arborists in Kansas was conducted under the sponsorship of the Kansas Arborists Association. The purposes of the survey were: 1) to establish statistical information concerning the arboriculture industry in Kansas, 2) to use this information as an educational tool to improve the industry, 3) to establish a data base which would allow individual arborists to compare their business and professional practices to a Kansas norm, and 4) to compare to national statistics whenever possible.

Initially, 136 survey questionnaires were mailed but due to reported reasons such as business failures, the number of active commercial arborist firms was reduced to 119. Of the 119 arborist firms that received the survey questionnaire, 36 responded resulting in a 30% return rate. Not all 36 respondents answered each item of the questionnaire, thus frequencies and percentages vary with each question. Data gathered from this survey are compared to data gathered from surveys conducted by the National Arborist Association (N.A.A.) (4, 5, 6, 7) and by the Midwestern Chapter of the International Shade Tree Conference (I.S.T.C.) (9).

Although only 30% responded to this survey, it is felt that this number is sufficient and can indicate trends. When a survey sponsored by the Midwestern Chapter of the International Shade Tree Conference was mailed to Kansas arborists only 27% responded (9). The National Arborist Association experienced similar results in its 1976 and 1977 surveys, with response percentages ranging from 21% to 44% (6, 7).

The majority of the arborists (75%) who responded to the survey were members of the Kansas Arborists Association. Several respondents reported memberships in other professional organizations. Eleven percent were members of the International Society of Arboriculture, 8% the Kansas

Association of Nurserymen, 5% the National Arborist Association, 5% the American Association of Nurserymen, and 2% the Western Association of Nurserymen.

Sixty-nine percent of the arborist firms identified their primary business interest as arboriculture, with the remaining 31% in landscape maintenance. There was an indication that many arborists are now expanding their businesses to include landscape maintenance.

Besides maintaining trees and shrubs, turf management would also be included in most landscape maintenance operations. The inclusion of turf management would likely result in increased business of a long term nature. More research needs to be conducted to determine if, in fact, more arborists are turning to landscape maintenance. Possibly arborists' training should be expanded to include this area.

Seventy-eight percent of the responding arborists are in business by themselves, with 6% in partnerships and 16% in corporations. Based on net income, the corporations were the most successful followed by partnerships, then individual ownerships. This may be somewhat misleading since it is the successful business whether it is individual or shared ownership, that expands and eventually incorporates.

Table 1 shows the relationship between number of years in business and the organization of the business.

Table 1

Organization of the Arborists' Business Related
to Number of Years in Business

Organization	Frequency	Number of Years in Business		
		Low	Mean	High
Corporations	6	5	14	21
Partnerships	2	8	9	10
Individuals	28	2	13	40
	N= 36			

Fifteen percent of the responding arborist firms serve populations from 1,000 to 5,000; 3% serve populations from 5,000 to 7,500; 34% from 7,500 to 25,000; 17% from 25,000 to 50,000; 14% from 50,000 to 100,000; and 17% serve populations of over 100,000. Twenty-three responding arborist firms reported income information. In Table 2 their net profits were correlated to the populations they served.

Table 2

Net Income of Arborist Firms Related
to Surrounding Population

Population Served	Frequency	Mean Net Income for Arborist Serving the Area
1,000 to 5,000	3	\$ 7,000
5,000 to 7,500	0	-----
7,500 to 25,000	7	\$ 10,500
25,000 to 50,000	6	\$ 6,043
50,000 to 100,000	3	\$ 19,333
100,000 +	4	\$ 22,140
	N= 23	

There was a correlation between net income and population served. The highest net earners were located in or near metropolitan areas. Metropolitan areas provide the arborists with a large number of potential customers--utilities, businesses, and homeowners.

The average number of additional arborists operating within the respondent's area of business was ten but the responses ranged from 0 to 100 with two being the number that occurred most often (mode).

The Midwestern Chapter of the International Shade Tree Conference conducted a survey dealing with the activities of the commercial arborists (9) in the following eleven states: Arkansas, Colorado, Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, and Wisconsin. Data obtained from the I.S.T.C. survey was compared to the Kansas survey in Table 3.

Table 3
Respondents' Number of Years in Business Compared
to Prior Midwestern Chapter of International
Shade Tree Conference Data

Years in Business	Kansas frequency	Kansas percent	I.S.T.C. frequency	I.S.T.C. percent
0 to 5 years	8	24	6	11
6 to 10 years	11	34	9	16
11 to 20 years	6	18	13	24
21 to 30 years	6	18	9	16
31 to 40 years	2	6	11	20
40 + years	0	0	7	13
	N= 33		N= 55	

The Kansas arborist is relatively new to his profession (Table 3). Fifty-eight percent have been in business ten years or less. Interestingly, the arborists in the midwest survey conducted by the International Shade Tree Conference reported only 27% in business ten years or less with many (49%) being in business 21 years or longer.

One explanation for the high percentage of new arborists in Kansas might be the spread of Dutch Elm Disease across the state. Because of increased numbers of dead and/or diseased trees, new arboriculture firms may have developed.

Another explanation is that Kansas is a prairie state. Agronomic crops have made Kansas an important agriculture state but this has been at the expense of trees. Fire was, and still is, a cause of a low number of trees in Kansas. The prairie Indians used fire as a method of halting enemy invasions (3). Every fall the Indians burned the prairie; the prospect of no game and no pasture was enough to halt the invaders. Burning is still done as a management practice to preserve the prairie and to destroy stubble in wheat and other field crops.

Tree populations in Kansas increased as the land was settled. The Timber-claim Act passed by Congress in the late 1860's offered a quarter section of land if a ten acre grove was established.

In 1887 the Experiment Station of Kansas State Agriculture College was organized and shortly thereafter research dealing with growth and adaptability of certain tree species was under way. The Clark-McNary Act provided trees suitable for wood lots, wind breaks, and shelter belts at a very small cost.

By the late 1940's increased interest in trees and arboriculture developed. In 1954 the Department of Horticulture, Kansas State

University, held its first Kansas State Shade Tree Conference, and four years later the Kansas Arborists Association was organized. Through the impetus of the Urban Forestry Program of the State and Extension Forestry Department at Kansas State University, three tree commissions and 140 tree boards have been established and the number of arborists in the state has continued to increase.

In recent years there seems to be an increasing awareness of arboriculture. With the energy shortage a reality, homeowners are realizing that trees and shrubs can lessen their fuel bills while increasing their property values. With this increasing awareness of arboriculture comes an increasing number of arborists.

In Table 4 the distribution of work based on percentage of gross income by the Kansas arborists is compared to National Arborist Association data. Sixty-six percent of the 270 members of N.A.A. supplied information for this 1975 survey.

Kansas arborists spent more time removing trees and less time pruning when compared to N.A.A. data. The spread of Dutch Elm Disease across the state could account for the higher rate of tree removals. Once the diseased elms are removed the tree removal percentage should start decreasing. At that time more arborists might expand into landscape maintenance to compensate for the decrease in tree removals. An increase in pruning rates would also help compensate for the reduced tree removal rates. This is an area for future research.

The reporting arborists had an average of 448 jobs per year. Seventy-nine percent of these came from private individuals, 7 percent from utilities, and 14 percent of the jobs came from government.

Table 4

Distribution of Work Based on Percentage of Gross
Income by Kansas Arborists Compared to
National Arborist Association (N.A.A.)

Work Activities	Kansas	1975 N.A.A.
Pruning	22.0%	37%
Tree removal	26.0%	16%
Fertilizing	3.0%	6%
Spraying	14.0%	18%
Stump removal	8.0%	--
Cavity work	.7%	1%
Grade changes	.3%	--
Cabling/bracing	2.0%	2%
Line clearance	12.0%	8%
Other	12.0%	12%

When determining fees (Table 5), use of equipment, professional time, and cost of chemicals and materials were the three most important factors. Kansas arborists displayed good fee determination practices by basing their fees on these three factors.

Demand for the arborist's services is less important while competition is not considered important in determining fees. If competition was important it could price the arborist out of the business by reducing prices too much. The National Arborist Association and International Shade Tree Conference have not researched how fees are determined.

Table 5
Factors Important to Fee Determination as
Reported by Kansas Arborists

Factor	Very Important	Important	Not Important
Demand for services	34%	52%	14%
Competition	15%	38%	47%
Professional time	54%	43%	3%
Cost of chemicals/ materials	47%	41%	12%
Use of equipment	71%	26%	3%

A large percentage of Kansas arborists give free estimates (86%) and free consultations (78%). Free estimates are a method of increasing business. The arborist sells a service, not a product, and in selling this service he must sell himself. Free estimates bring the arborist and the prospective customer together. The arborist needs to determine what percent of free estimates actually become jobs. If the percentage is high then maybe the free estimates should continue. If the percentage is low, then possibly the arborists' fee structure needs to be examined.

Consultations often become very time consuming. If the arborist is consulted frequently with no compensation, his business could suffer. Since the arborist is a professional he should be compensated for the amount of time he devotes to consultations. Possibly the arborist should consider establishing a consultation fee. If his company is hired to do the work then this fee would be deducted from the bill.

Present fee structures were adequate for all operations listed: pruning (64%), tree removal (66%), cavity work (80%), grade changes (70%),

line clearance (76%) and cabling/bracing (80%). Using pruning as an example, this means that 64% of the responding arborists were satisfied with their present fee structure for pruning. Thirty-six percent of the responding arborists indicated they were not satisfied with their present fee structures for pruning. Prior research has not been done in this area.

When present fee structures were compared to net income of the reporting arborists, there was a correlation between adequate fee structures and high net income (Table 6). Arborists who reported their fee structures as being inadequate had lower net incomes than arborists who indicated their fee structures were adequate. This was true for all nine operations listed.

Table 6
Present Fee Structures Compared to Net Income
by Reporting Kansas Arborists

Operation	Adequate		Inadequate	
	freq.	mean net income	freq.	mean net income
Pruning	13	\$ 20,000	9	\$ 5,722
Tree removal	13	\$ 14,538	6	\$ 5,416
Fertilizing	11	\$ 18,681	6	\$ 6,083
Spraying	9	\$ 14,666	8	\$ 13,750
Stump removal	10	\$ 15,350	5	\$ 3,800
Cavity work	7	\$ 15,171	3	\$ 8,333
Grade change	4	\$ 35,250	3	\$ 8,333
Line clearance	9	\$ 14,000	2	\$ 8,500
Cabling/bracing	10	\$ 19,300	3	\$ 8,333

The areas of the arborist's operation that provided the highest and lowest net returns were so widely diversified that a clear trend was not observed. Because of the extensive list they will not be reported (see Appendix G).

When the area of lowest net return was compared to fee adequacy for that particular operation and then compared to net income the following was observed. Companies with low net incomes (\$10,000 or less) reported that the fee for the area providing the lowest net return was inadequate. Possibly these arborists should examine their fees and make adjustments. Companies with a higher net income (\$10,000 or more) indicated that the fee for the area providing the lowest net return was adequate.

The highest, lowest, and average fees charged for typical arboriculture services are given in Table 7. The range pertaining to the charge for removal of a twelve inch limb is quite wide. This charge ranged from \$13 to \$250. Location of the limb was not specific, which accounts for the wide range. The high rate reported in nine of the ten questions relating to charges for arboriculture services came from one arborist. Currently there are no national figures to compare with those obtained in this study.

Table 7

Average Charges for Arboriculture Services Reported
by Kansas Arborists (See p. 2-3 of attached
questionnaire for exact question.)

Service	Low	Mean	High
Removal of 3 ft. stump	\$15	\$33	\$100
Removal of 12 in. limb	\$13	\$47	\$250
Fertilizing			
Surface application	\$15	\$24	\$ 30
Water lance	\$10	\$24	\$ 35
Punch-bar	\$15	\$37	\$ 75
Triangle cable installation	\$35	\$60	\$150
Install first cable	\$15	\$34	\$100
Additional cables	\$10	\$17	\$ 25
Line clearance	\$25	\$75	\$225

After tree removal jobs, thirty-six percent of the firms haul the wood and trimmings to landfills, 58% sell the trees as firewood, and three percent use the trees for chips. Instead of disposing of the wood, the Kansas arborist might recycle the wood into a salable product. Wood rounds could be cut from trunks and large limbs while chips could be produced from the remainder. Both wood rounds and chips are used frequently in the landscape. In the 1974 National Arborist Survey over 1400 chippers were reported in use producing 4,000,000 cubic yards of chips. Fifty-four percent of the national companies sell their chips.

A majority (65%) of the arborist firms allocated funds for new equipment. Building funds were allocated by 28% of the arborists. The percent of gross income set aside for building was 6% while 11½% was

allocated for equipment. In 1977 a National Arborist Survey reported seven percent was set aside for equipment.

Kansas arborists in business for ten years or less budgeted an average of 13% of their gross income for equipment. Arborists in business more than ten years allocated seven percent of their gross income for equipment. New arborists need to budget a higher percent of their income until necessary equipment is obtained.

The number of days the owners spent attending professional meetings ranged from zero to thirty. The average was eight days. In Table 8 the percentage of time devoted to various activities by management, foremen, and laborers is summarized. As can be expected management is more involved with business activities than foremen and laborers, but less involved with on-the-job labor than foremen and laborers.

Table 8
Distribution of Time Among Types of Activities
as Reported by Kansas Owners

Activities	Management	Foremen	Laborers
Business activities	24%	7%	.1%
Maintenance of equipment	10%	15%	13.0%
Professional meetings	8%	6%	1.9%
Nonproductive time	12%	9%	10.0%
On-the-job labor	46%	63%	75.0%

The Kansas arborists reported an average of five percent of gross income being spent for advertising. This is consistent with the average of five percent of the National Arborist Association reported in their

1976 industry report. Most of this five percent was spent on yellow page ads and newspaper ads, but some companies advertised by radio, mail, advertisements on trucks, and by business cards.

The average number of employees and the hourly wage for employees is shown in Table 9. Hourly wages from the National Arborist Association's 1977 Industry Survey are given for foremen and laborers. National figures for office employees in arborist firms were not available. Many of the Kansas arborists employed no office employees.

Table 9
Number and Average Hourly Wage of Employees
Compared to National Arborist Association's
Average Hourly Wage

Employees	Number Employed	1978 Hourly Wage	1977 N.A.A. Average Hourly Wage
Office secretaries	1	\$3.18	-----
Manager	1	\$4.80	-----
Accountant	1	Seasonal	-----
Foreman	1.5	\$6.18	\$5.85
Laborers	2.5	\$4.04	\$4.94

In many instances accountants were hired but not on a year round basis. Payment of accountants varied from monthly payments to one annual payment. Thirty-two percent of the arborists hired an outside accountant to keep their records. This is much lower than the 1975 National Arborist Association figure of 69 percent. The majority (59%) of the Kansas arborists prepared their own records.

The corporations were separated from the individual and dual ownerships to examine the differences between their record keeping procedures. Corporations are required by the Internal Revenue Service to keep very accurate records and because of this they usually have more sophisticated accounting systems. This has proven true with the Kansas arborists.

One corporation utilized an electronic data processing service, but the majority of the corporations used an outside accountant and/or their own office personnel. Sixty-nine percent of the individual owners did their own record keeping, with 9% using office personnel and 22% using an outside accountant.

Eighty-eight percent of the Kansas arborists hired an accountant to prepare their income taxes. Again, the corporations were separated from the individual ownerships. An outside accountant was hired by 100% of the corporations to prepare income tax, by 83% of the corporations to prepare profit and loss statements, by 83% of the corporations to prepare balance sheets, and by 66% of the corporations to provide analysis and consultations.

This is an area of weakness for the individual owners. Ninety percent of the individual owners hired an outside accountant for income tax preparation while only 27% hired an accountant to prepare profit and loss statements. Only seventeen percent of the individual owners hired accountants to prepare balance sheets and/or provide analysis and consultation.

The frequency with which the responding arborists reviewed their accounts is shown in Table 10.

Table 10
Frequency of Review of Records
by Management in Kansas

Records	Daily	Weekly	Monthly	Quarterly	Yearly
Cash position	16%	52%	20%	3%	9%
Accounts receivable	20%	38%	35%	7%	---
Accounts payable	14%	40%	43%	3%	---
Chemical inventory	7%	44%	21%	7%	21%
Expenses	10%	25%	46%	13%	6%
Gross income	3%	10%	46%	25%	16%
Income statement	3%	7%	37%	37%	16%
Balance sheet	4%	4%	46%	25%	21%

There was considerable difference between corporation and individual owners when compared to the frequency of record review (Tables 11 and 12). Cash position, accounts receivable, and accounts payable should be reviewed at least monthly but preferably daily. In contrast, income statements and balance sheets should be reviewed quarterly. Due to tighter regulations, corporations have much better accounting systems.

Table 11
Frequency of Review of Records by Corporations

Records	Daily	Weekly	Monthly	Quarterly	Yearly
Cash position	40%	20%	40%	---	---
Accounts receivable	33%	---	67%	---	---
Accounts payable	40%	20%	40%	---	---
Chemical inventory	---	50%	---	---	50%
Expenses	---	20%	60%	20%	---
Gross income	---	20%	40%	40%	---
Income statement	---	---	20%	60%	20%
Balance sheet	---	---	20%	60%	20%

Table 12
Frequency of Review of Records
by Individual Owners

Records	Daily	Weekly	Monthly	Quarterly	Yearly
Cash position	12%	56%	16%	4%	12%
Accounts receivable	17%	50%	29%	4%	---
Accounts payable	8%	44%	44%	4%	---
Chemical inventory	7%	37%	21%	14%	21%
Expenses	13%	26%	43%	9%	9%
Gross income	4%	8%	46%	21%	21%
Income statement	4%	9%	41%	32%	14%
Balance sheet	5%	5%	52%	15%	20%

Fifty-three percent of the Kansas arborists indicated that they could determine from their accounting systems how much income they derived from various arboriculture activities. Seventy-three percent indicated they could determine what it cost to provide each type of service. These are conflicting answers. This could be due to weak accounting systems.

Retirement policies had been established by only five percent of the arborists, while 78% of the arborists had no sick leave policy. This differs greatly with the 1977 National Arborist Association Industry Survey which reported 22% had a retirement policy and 36% had a sick leave policy. The 1977 National Arborist Survey Industry Report also indicated that 84% of the companies had vacation policies; however, only 58% of the reporting Kansas arborists provide vacation policies. By establishing these policies, the Kansas arborists could attract and retain better qualified employees. Fifty-eight percent of the Kansas arborists did not pay employees for overtime work, while 48% of the arborists had no promotion policies.

Gross income for the responding Kansas arborists ranged from \$3,500 to \$200,000. The average gross income was \$50,000. Total expenses ranged from \$2,000 to \$140,000 with the average being \$37,607.

CONCLUSION

This survey has revealed that the typical Kansas arborist owns his own arboriculture business which has been in operation for less than ten years. He has 448 jobs a year but would like to obtain more clients. His fees are based on use of equipment, cost of chemicals/equipment, and his professional time. He provides free estimates and consultations. Five percent of his gross income is spent on advertising, which is done mainly by newspaper ads and yellow page ads. He is a member of the Kansas Arborists Association and spends eight days a year attending professional meetings. He employs seven people--one secretary, one manager, one part-time accountant, one foreman and three laborers. The accountant is hired to prepare the income tax but the actual bookkeeping is done by the arborist or his spouse. His gross income is approximately \$50,000 and his total expenses are \$37,600, so his net income is \$12,400.

On the basis of this survey the following recommendations are made:

1. Investigate the cost and possible market for production and sale of wood chips.
2. Investigate the possibility of eliminating or determining the value of free estimates.
3. Examine the possibility of setting a fee for consultations. The arborist should be compensated for his professional time.

4. Examine the possibility of attracting and retaining more qualified employees by implementing the following policies: vacation policies, overtime policies, promotion policies, and retirement policies.

5. Conduct more research to determine if, in fact, the arborists are turning to landscape maintenance. If the research indicates this, then include landscape maintenance in training sessions sponsored by the Kansas Arborists Association.

6. Provide training on record keeping and accounting procedures. Since a large majority of the arborists do their own record keeping this training could be very beneficial.

7. Invite accountants to speak at meetings or conferences to explain ways they can assist the small business owners. Arborists used outside accountants mainly for income tax preparation but they can provide many more services as discussed in the manuscript.

8. Provide speakers to discuss retirement plans (KEOUGH and IRA) available to the small business owners.

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APPENDIXES

APPENDIX A
COVER LETTER ACCOMPANYING FIRST
MAILING OF THE QUESTIONNAIRE



the
KANSAS ARBORISTS
Association, Inc.

DEPARTMENT OF HORTICULTURE, KANSAS STATE UNIVERSITY, MANHATTAN, KANSAS 66506
 AFFILIATE OF THE KANSAS STATE HORTICULTURE SOCIETY

March 6, 1978

Dear Arborist:

Enclosed is a survey of arborists in Kansas that is being conducted by Charlotte Jones, graduate student in horticulture at Kansas State University. This survey was reviewed and endorsed by the board of directors of the Kansas Arborists Association.

The survey should give a good picture of the business and practice of arboriculture in Kansas, and will help the Arborists Association and Kansas State University better meet the needs of arborists. We would very much appreciate your cooperation in filling it out.

The survey results will be made available to you in printed form, and will be presented at the Kansas Shade Tree Conference.

Very truly yours,

Gene W. Grey
 Gene W. Grey

President, Kansas Arborists Association

GWG/mjh

APPENDIX B

COVER LETTER ACCOMPANYING SECOND
MAILING OF THE QUESTIONNAIRE



Department of Horticulture

Waters Hall
Manhattan, Kansas 66506
913-532-6170

September 7, 1978

Dear Arborists,

In June you received a copy of the Kansas Arborist survey. It may have arrived during a busy time but for some reason not many surveys were returned. We are again sending the surveys out in hopes that each one of you will take a few minutes to fill it out.

The Kansas Arborist survey was not coded therefore every arborist on the mailing list is receiving this second survey. If you have already returned a copy of the survey, thank you for your assistance and do not fill out the enclosed survey. If you have not returned your survey, please take a few minutes to fill it out and return it in the enclosed envelope promptly.

By filling this survey out you can help us help you. Objectives of the survey included: to determine how fees are arrived at, areas of the business most and less profitable, and how fees vary statewide on certain jobs. The results will be made available to you as soon as enough surveys are returned. This survey is supported by the Kansas Arborists Association and your cooperation in completing it is vital to its success.

Thank you very much for your assistance.

Sincerely,

A handwritten signature in cursive script that reads "Charlotte Jones".

Charlotte Jones
Graduate Student in Horticulture

A handwritten signature in cursive script that reads "Steven M. Sill".

Steven M. Sill
Associate Professor in Horticulture

c

enclosure

APPENDIX C
QUESTIONNAIRE WITH RESULTS

SURVEY OF ARBORISTS IN KANSAS

PLEASE READ

This survey is conducted under guidelines established by Kansas State University and the Kansas Arborists Association. By cooperating, you will help the survey administrators find answers to important questions about the arborists industry. However, your participation is strictly voluntary. Confidentiality is guaranteed. Your name will not be associated with your answers in any public or private report of the results nor will the results be compiled by counties. Please answer the questions that apply to your particular situation. Even though you may not fill out all the survey, partial information is helpful.

SURVEY OF ARBORISTS IN KANSAS

I. General

- A. Are you a member of the Kansas Arborists Association? No - 9 (25%)
 If so, my membership is based on my interest/career in: Yes - 27 (75%)

20 (69%) Arboriculture
9 (31%) Landscape Maintenance
 _____ Nursery Operations
 _____ Extension and/or Education
 _____ Other (please specify) _____

- B. If you operate a business, please indicate how it is organized.

28 (78%) Individual ownership
2 (5%) Partnership
6 (16%) Corporation
 _____ Other (please specify) _____

- C. Your estimate of the gross income from the various segments of your operation is:

1. <u>22</u> % Pruning	6. <u>0.7</u> % Cavity work
2. <u>26</u> % Tree removal	7. <u>0.3</u> % Grade changes
3. <u>3</u> % Fertilizing	8. <u>2</u> % Cabling and Bracing
4. <u>14</u> % Spraying	9. <u>12</u> % Line clearance
5. <u>8</u> % Stump chipping	10. <u>12</u> % Other (please specify)

- D. Approximate population of the area in which you serve is:

0 to 1,000	<u>0</u>	25,000 to 50,000	<u>6 (17%)</u>
1,000 to 5,000	<u>5 (14%)</u>	50,000 to 100,000	<u>5 (14%)</u>
5,000 to 7,500	<u>1 (3%)</u>	100,000 and over	<u>6 (17%)</u>
7,500 to 25,000	<u>11 (34%)</u>		

- E. How many additional arborists are operating in your specific geographical area? Mean=10 Range 0 to 100

- F. How many years have you been in business? Mean=13.5 years

- G. How many jobs do you have per year? Mean=448 total

Government (state, federal, municipal) 14%
 Utilities and/or corporations 7%
 Private 79%

- H. Under present conditions (check one)

1. You would like to obtain additional clients 17 (50%)
 2. The number of your clients is about right 13 (38%)
 3. You are called upon by too many clients 4 (12%)

Page 2

- I. Tangible assets employed by your operation: (Please indicate approximate current values or monthly rent expense of tangible assets used in your operation during 1977. If land or building is owned please indicate as rent).

	Value	Rent
Land and buildings	Mean=34,727	Mean= 333
Trucks	Mean=19,456	
Office equipment	Mean= 1,826	
Arboriculture tools and equipment	Mean= 6,526	
Other		

FEES

- A. How important are the following factors in determining your fees? (Check as many as appropriate)

	Very Important	Important	Not Important
Demand for services	12 (34%)	18 (52%)	5 (14%)
Competition	5 (14%)	13 (39%)	16 (47%)
Your professional time	19 (54%)	15 (43%)	1 (3%)
Cost of chemicals and materials	16 (47%)	14 (41%)	4 (12%)
Use of equipment	25 (71%)	9 (26%)	1 (3%)
Other factors			

(Please specify) cost of labor, risk, insurance

- B. Do you give free estimates? Yes 31 (86%) No 5 (14%)

Do you give free consultations? Yes 28 (78%) No 8 (22%)

- C. How does your present fee structure for services compare with what you consider ideal for your type of operation?

1. Pruning	Adequate 21 (64%)	Inadequate 12 (36%)
2. Tree removal	Adequate 19 (66%)	Inadequate 10 (34%)
3. Fertilizing	Adequate 17 (74%)	Inadequate 6 (26%)
4. Spraying	Adequate 14 (64%)	Inadequate 8 (36%)
5. Stump chipping	Adequate 15 (68%)	Inadequate 7 (32%)
6. Cavity work	Adequate 12 (80%)	Inadequate 3 (20%)
7. Grade changes	Adequate 7 (70%)	Inadequate 3 (30%)
8. Line clearance	Adequate 13 (76%)	Inadequate 4 (23%)
9. Cabling/Bracing	Adequate 16 (80%)	Inadequate 4 (20%)
10. Other	Adequate	Inadequate

- D. What area of your operation provides the lowest net return on investment?

Pruning - 16%, Tree removal - 34%, Cabling/bracing - 4%, Firewood sales - 9%
Spraying - 7%, Stump removal - 4%, Line clearance - 11%, Lawn service - 11%
Tree sales - 4%

What area of your operation provides the highest net return on investment?

Pruning - 17%, Tree removal - 20%, Cabling/bracing - 4%, Spraying - 22%,
Stump removal - 9%, Line clearance - 17%, Fertilizing - 9%, Contract work - 4%,

- E. What is your average charge for: General tree care - 4%

1. Removal of a 3 ft. diameter stump (2 ft. tall)? \$ Mean=34 Range 15-100

2. Removal of a large (12 inch diameter limb of a Cottonwood?

\$ Mean=47.53 Range 13-250

Page 3

3. An elm leaf beetle spray on a 60 ft. tall Siberian Elm with a 35+ ft. canopy? \$ Mean 13.93 Range 6-25
4. Fertilizing a 60 ft. tall Honeylocust (DBH = 28 inches and the diameter of the canopy is 40 ft.) using the methods below.
- | | | |
|----------------------------|----------------------|--------------------------|
| a. surface application | \$ <u>Mean=24</u> | Analysis <u>17-8-9</u> |
| b. water lance | \$ <u>Mean= 2</u> | Analysis <u>25-10-10</u> |
| c. punch-bar method | | <u>12-12-12</u> |
| (drill 18 inch deep holes) | \$ <u>Mean=36.75</u> | Analysis <u>26-16-8</u> |
| | | <u>18-5-9</u> |
5. What method do you use to treat a 50 ft. tall chlorotic Pin 16-10-9 Oak? N=14 Punch bar--61%, Medicaps--25%, Injection--14%

How much do you charge for this? \$ Mean=32.77 Range 10-45

6. Installing a triangle of cables in a Siberian Elm (40 ft. tall) with the branches approximately 3 ft. apart? \$ Mean=60.41 Range 35-150
- What do you charge for installing the first cable? \$ Mean=33.53
- What do you charge for each additional cable? \$ Mean=17.30
7. For line clearance work on a Siberian Elm (original height = to 40 ft. with 25 ft. diameter of canopy). Reduce the height to 5 ft. below the wires. \$ Mean=74.50

- F. After removing a tree what do you do with the wood? Explain.

Haul to dump--10 - 36%	Chip--1 - 3%
Firewood-----16 - 58%	Other--1 - 3%

MANAGEMENT

- A. Approximately what percentage of time is devoted to the following activities by:

	Manage- ment	Foremen	Laborers
1. Business activities	<u>24 %</u>	<u>7 %</u>	<u>0 %</u>
2. Repair and maintain equipment	<u>10 %</u>	<u>15 %</u>	<u>13 %</u>
3. Professional education (reading reports, attending trade meetings)	<u>3 %</u>	<u>6 %</u>	<u>2 %</u>
4. Non-productive time (driving to/from work site)	<u>12 %</u>	<u>9 %</u>	<u>10 %</u>
5. On job labor	<u>46 %</u>	<u>63 %</u>	<u>75 %</u>

- B. Do you set aside funds for new buildings or remodeling?

Yes 9 (23%) No 23 (72%)

For equipment? Yes 22 (65%) No 12 (35%)

- C. If so, what percent of gross income is for buildings 6.3 %
for equipment 11.5 %

- D. How much time do you devote to attending professional meetings annually? Mean=8 days

Page 4

- E. Do you advertise your business? Yes 31 (89%) No 4 (11%)

What percentage of your gross income do you spend on advertising? M=5 Z

What percentage of your advertising is done in the following methods?

- | | | |
|-----------------|----|---|
| 1. Newspaper | 44 | % |
| 2. Yellow pages | 56 | % |
| 3. Other | | % |

(Please specify)

- F. How many individuals do you employ in the following categories?

Business assistants	Number	Training	Gross Wages
Office secretaries	M=1		M=3.18 per hour
Manager	M=1		M=4.80 per hour
Accountant	M=1		Seasonal

- G. Labor assistants

Foremen	$M=1.5$	$M=6.18$ per hour
Laborers	$M=2.5$	$M=4.04$ per hour
Others		

How many crews do you have? 1-19 (61%), 2-3 (26%), 3-3 (10%), 6-1 (3%)

How many men are on a crew? 1-2 (6%), 2-8 (26%), 3-14 (45%), 4-7 (23%)

- H. For the above positions have you established:

	Yes	No
1. Training policies	19 (73%)	7 (27%)
2. Job descriptions	19 (73%)	7 (27%)
3. Promotion policies	12 (52%)	11 (48%)
4. Retirement policies	1 (5%)	21 (95%)
5. Sick leave policies	5 (22%)	18 (78%)
6. Overtime pay	10 (42%)	14 (58%)
7. Vacation policies	14 (58%)	10 (42%)
8. Pay scales	19 (76%)	6 (24%)
9. Employee education programs	16 (62%)	10 (38%)

1. To what professional magazines do you subscribe: Pest Control-1;

International Society of Arboriculture-4; Kansas Horticulture-5:

Feed, Tree & Turf-15; Grounds Maintenance-3; Pagan Quarterly-1; American Nurserymen-4; Florist Review-1; Lawn Industry-1; Lawn Fertility-1; Excavating

To what professional organizations do you belong? (check) Contractor-1;
26 (75%) Kansas Arborists Association Foresters-Arborists-1

- | | | |
|----|-------|--|
| 26 | (75%) | Kansas Arborists Association |
| 2 | (5%) | National Arborists Association |
| 2 | (5%) | American Association of Nurserymen |
| 3 | (3%) | Kansas Association of Nurserymen |
| 1 | (2%) | Western Association of Nurserymen |
| 4 | (11%) | International Society of Arboriculture |

Other (please specify)

- J. Do you set aside funds for retirement? Yes 14 (45%) No 17 (55%)

BUSINESS MANAGEMENT

- A. My records are kept: (check one)

1. 20 (59%) By myself or my spouse
2. 2 (6%) By my office personnel
3. 11 (32%) By an outside accountant
4. 1 (3%) By an electronic data processing service

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- B. If you are using a hired accountant, indicate which services he provides for you:

32 (88%) Prepares income tax
13 (36%) Prepares profit and loss statements
11 (30%) Prepares balance sheets
9 (25%) Provides business management analysis and consultation

- C. You review your:

	<u>Daily</u>	<u>Weekly</u>	<u>Monthly</u>	<u>Quarterly</u>	<u>Yearly</u>
Cash position	<u>5=16%</u>	<u>15=52%</u>	<u>6=20%</u>	<u>1= 3%</u>	<u>3= 9%</u>
Accounts receivable	<u>6=20%</u>	<u>12=38%</u>	<u>11=35%</u>	<u>2= 7%</u>	
Accounts payable	<u>4=14%</u>	<u>11=40%</u>	<u>12=43%</u>	<u>1= 3%</u>	
Inventory of chemicals	<u>1= 7%</u>	<u>6=44%</u>	<u>3=21%</u>	<u>1= 7%</u>	<u>5=21%</u>
Expenses	<u>3=10%</u>	<u>7=25%</u>	<u>13=46%</u>	<u>4=13%</u>	<u>2= 6%</u>
Gross Income	<u>1= 3%</u>	<u>3=10%</u>	<u>13=46%</u>	<u>7=25%</u>	<u>5=16%</u>
Income Statement	<u>1= 3%</u>	<u>2= 7%</u>	<u>10=37%</u>	<u>10=37%</u>	<u>4=16%</u>
Balance Sheet	<u>1= 4%</u>	<u>1= 4%</u>	<u>11=46%</u>	<u>6=25%</u>	<u>5=21%</u>

- D. Can you determine from your accounting system how much income you are deriving from various activities (such as tree removal produces 30% of gross, chipping produces 8% of gross)? Yes 16=53% No 14=47%

- E. Can you determine what it costs to provide each of your services?
 Yes 24=73% No 9=27%

- F. Your gross income for 1977 was \$ Mean=50,000.80
 Your total expenses for 1977 were \$ Mean=37,606.66

APPENDIX D
NUMBER AND PERCENT RESPONSE TO
THE KANSAS ARBORIST SURVEY

Response to the Kansas Arborists Survey
(Number and Percent)

Response	Number	Percent
Response to first mailing	16	13
Response to second mailing	17	14
Response at Arborist Conference	3	3
TOTAL	36	30

APPENDIX E

BUSINESS ORGANIZATION OF THE
RESPONDING KANSAS ARBORISTS

Business Organization of the
Responding Kansas Arborists

Business Organization	Number	Percent
Individual ownership	28	78
Partnership	2	6
Corporation	6	16
TOTAL	36	100

APPENDIX F

APPROXIMATE POPULATION AREA
THE KANSAS ARBORISTS SERVE

Approximate Population Area the
Kansas Arborists Serve

Population	Number	Percent
0 to 1,000	0	0
1,000 to 5,000	5	15
5,000 to 7,500	1	3
7,500 to 25,000	11	33
25,000 to 50,000	6	17
50,000 to 100,000	5	15
100,000 and over	6	17
TOTAL	34	100

APPENDIX G

RATING OF PRESENT FEE STRUCTURE
BY REPORTING KANSAS ARBORISTS

Rating of Present Fee Structure
by Reporting Kansas Arborists

Work Activity	Adequate	Inadequate
Pruning	64%	36%
Tree removal	66%	34%
Fertilizing	74%	26%
Spraying	64%	36%
Stump chipping	68%	32%
Cavity work	80%	20%
Grade changes	70%	30%
Line clearance	76%	23%
Cabling/bracing	80%	20%

APPENDIX H

AREAS OF THE OPERATION THAT PROVIDE
THE LOWEST AND HIGHEST NET RETURNS
AS REPORTED BY KANSAS ARBORISTS

Areas of the Operation that Provide the
Lowest and Highest Net Returns as
Reported by Kansas Arborists

Area	Providing Lowest Net Return	Providing Highest Net Return
Pruning	16%	17%
Tree removal	34%	20%
Cabling/bracing	4%	4%
Firewood sales	9%	---
Spraying	7%	22%
Stump removal	4%	9%
Line clearance	11%	14%
Lawn service	11%	---
Tree sales	4%	---
Fertilizing	---	9%
Contract work	---	4%
General tree care	---	4%

APPENDIX I
NATIONAL ARBORIST ASSOCIATION SURVEYS



NATIONAL ARBORIST ASSOCIATION, INC.

3537 STRATFORD ROAD, WANTAGH, NEW YORK 11793 • TELEPHONE (516) 221-3082

ROBERT FELIX
Executive Secretary

1974 INDUSTRY STATISTICS

During 1974 the Membership of the National Arborist Association received numerous questionnaires from the Industry Statistics Committee. Some were designed to feed back information that would be useful to you, others were needed for specific industry problems and projects and still others were needed for comparative purposes and future reference.

All of the input is summarized in the following pages. Not all of the information is necessarily important to each of you. However, it all has a purpose. It is interesting to note that there are no longer regional differences as there used to be with respect to wages and benefits. There is no significant differences in input from any geographical area of the United States.

In accumulating this information we have learned many things about collecting information from our membership. We acknowledge the fact that some questionnaires were sent out at an inconvenient time of the year. We also recognize the fact that some were confusing. Your Executive Secretary has discussed this with various groups in different sections of the country and hopefully we will gain from suggestions that he has received.

In 1975 we will endeavor to collect additional information that will be of value to you. However, without your input, the information is not representative. When industry surveys cross your desk fill them out immediately and return them. You know as well as I do that when you put them aside they never get filled out.

Often this information is necessary in order for your Association to properly represent you with OSHA, the Environmental Protection Agency or in the Congress. We can only have impact in any area if our Association has the figures to give it meaningful credentials. In these days of excessive regulations of our industry it is imperative that we have your cooperation.

In addition, the information regarding equipment, pesticides and other materials is very important in the development and retention of Associate Members. The purpose of Associate Members is to work with them in order for them to better supply you with the tools, equipment and materials that you require. In order for the National Arborist Association to have any impact with our suppliers we must be in a position to tell them not only the problems but the number of units, pounds or gallons involved.

We hope you find the 1974 Industry Statistics helpful in the operation of your business and that you will participate more diligently in the collection of information in the future.

Respectfully submitted,

Erik Haupt, Chairman

FROM

"MEMBER FACT SHEETS"

1. 45% of Membership responded
2. Volume of Sales:

		FACT SHEETS	DUES ROSTER
\$50,000 per year or less		21.4% of Membership	45.9% of Membership
over \$50,000 but less than \$100,000		28.1% " "	22% " "
over \$100,000 " " "	\$200,000	29.1% " "	17.5% " "
over \$200,000 " " "	\$500,000	13.5% " "	8.7% " "
over \$500,000 " " "	\$1,000,000	4.4% " "	2.7% " "
over \$1,000,000		<u>3.5%</u> " "	<u>3.2%</u> " "
		100%	100%

It is impossible to determine what the total volume of sales is for the National Arborist Association because we do not know how much over a million dollars each of our maximum dues paying members does annually. However, if the Dues Roster which totaled \$40,900.00 as of 12/31/74 was commensurate with the volume of sales reflected in the Fact Sheets our Annual dues billing as of 12/31/74 would be in excess of \$45,000. This discrepancy could be a result of the random distribution of the returns.

3. Areas of Operation
72% of the Members operate in one State
28% " " " " " more than one State
4. Home Study Program:
30% of the Membership is using the Home Study Program as a training aid.
5. NAA Logo
70% of the Membership uses the NAA Logo on business cards, letterheads, trucks or in advertising.
6. Employees:
Eighty-five companies reported a total of 3905 employees per company. However, three of these companies reporting had 2875 employees. Removing these three we find an average of 12 employees per company.
7. Distribution of work:
Of the total volume of work reported we find that the services that you render are distributed as follows:

Pruning	35%	Feeding	4%
Spraying	19%	Cabling & Bracing	2%
Tree Removal	14%	Diagnosis	2%
Landscaping	13%	Tree Moving	1%
Utility Trimming	9%	Cavity Work	1%

WAGES & BENEFITS

1. 31% of Membership responded
2. There are no differences in average wages regionally as there used to be. Wages paid in California are the same as those paid in New England, Florida or the Mid-West.
3. In the survey, various wage rates were asked for under similar titles. This was done to accomodate everyone and should be applied accordingly.
4. Average Hourly Rates:

	Starting	Maximum
Trainees	\$2.68 per.hr.	\$3.62 per. hr.
Brushmen	2.77 " "	3.30 " "
Groundsmen	2.90 " "	3.62 " "
Climbers	3.50 " "	4.97 " "
Tree Trimming Foremen	4.03 " "	5.40 " "
Utility "	3.52 " "	4.48 " "
Spray "	3.92 " "	5.13 " "
Landscape "	3.79 " "	5.24 " "
Stump Cutter Operator	3.37 " "	4.65 " "
Bucket "	3.92 " "	4.38 " "
Crane "	3.89 " "	5.21 " "
Landscape Laborer	2.91 " "	3.78 " "

5. Hospitalization:
76% of the companies provide their employees with Hospitalization and 69% of those require their employees to contribute
6. Major Medical Insurance:
65% of the companies provide their employees with Major Medical Insurance and 70% of those require their employees to contribute.
7. Life Insurance:
56% of the companies provide their employees with Life Insurance and 71% of those require their employees to contribute.
8. Pensions:
30% of the companies provide their employees with Pension Plans and 40% of those require their employees to contribute.
9. Profit sharing:
3% of the companies reported profit sharing plans.
10. Sick Days:
30% of the companies provide their employees with paid sick time ranging from 1 day per year up to 20 days to 10 days after 1 year. The average was 6 days after 1 year.
11. Vacation Days:
86% of the companies provide their employees with paid vacations ranging from 1 day per year of employment to 14 days after 1 year. The average was 6 days after 1 year.

12. Paid Holidays:
85% of the companies provide their employees with paid holidays ranging from seven immediately to 2 after 1 year. The average was 5 days after 1 year.
13. Uniforms:
60% of the companies provide uniforms for their employees and 45% of those require their employees to contribute.
14. Supervisors:
46% of the companies utilize supervisors. The average wage paid supervisors was \$12,700 per year the low being \$7800 per year and the high \$19,760. The average number of employees to a supervisor was 6. 25% were paid by the year and 75% by the hour. 66% were provided with full time transportation, 16% with part-time transportation and 18% had to provide their own. There was no apparent relationship to supervisors wages and transportation.
15. Salesmen:
28% of the companies employ salesmen. 37% of those pay a straight salary ranging from \$7500 per year to \$18,000 per year with the average being \$10,340. 42% pay a salary plus commission with the salary ranging from \$7800 per year to \$15,000 per year and the average was \$8800, the commissions paid vary from 2% to 10% on sales with increased commission after a given plateau to as high as 12%. In some cases the commission is based on profitability with the range from 18% to 60% of profit. 21% pay on a straight commission basis with an average of 10%. 52% of the companies provide full-time transportation, 26% part-time and 22% no transportation. Again there was no relativity between transportation and earnings. All salesmen and supervisors get the same benefits under the same terms as the wage earners mentioned earlier. 52% of the companies allow their productive employees to sell and they are paid either a 5% or 10% commission.
16. Bonuses:
7% of the companies pay an annual bonus and 24% pay an incentive bonus based on profitability.

DEBRIS DISPOSAL EQUIPMENT

1. 22% of Membership responded
2. Two NAA Members indicated that they owned log chippers: 1 Moreback and 1 Vermeer
3. Over 1400 chippers were reported in use producing almost 4,000,000 cubic yards of chips per year. 54% of the companies sell their chips.
4. Chippers in use are as follows:

ASPLUNDH	12"	-	80%
"	16"	-	6%
MITTS & MERRILL	12"	-	3%
"	16"		1%

WOODCHUCK	12"	-	8%
"	16"	-	1%
FITCHBURG	12"		1%

5. 28% of the companies sell their logs for pulpwood or other purposes and 39% convert their logs to firewood.
6. Log splitters in use are as follows:

Lickety splitters	61%
Bles Stump Axe	11%
Powerful Paul	5%
own design	23%
7. 8% of the companies have semi-trailers and 80% have front end loaders for handling debris.

CHAIN SAWS

1. 44% of membership responded.
2. We use 173 different models of chain saws manufactured by 18 different companies. Of 8200 chain saws in use the distribution by manufacturers is as follows:

Homelite	48.76%	McCulloch	21.30%
Stihl	11.63%	Kioritz	9.53%
Poulan	4.60%	Pioneer	2.18%
Jonsred	.63%	Disston	.45%
Danarn	.15%	Husquarna	.25%
Frontier	.15%	Partner	.15%
Lombard	.06%	Echo	.05%
Dayton	.05%	Mall	.02%
Remington	<u>.02%</u>	Ward	<u>.02%</u>

100% -

SAFETY STATISTICS

1. 21% of membership responded.
(It is apparent that for the most part the responses were made by companies that had a chance to win the Safety Awards.)
2. A 83% of those reporting specialized in General Commercial Arboriculture.
B 17% specialized in Utility Line Clearance.
3. A In the area of General Commercial Arboriculture we have 1843 employees averaging 1807 hrs. each per year.
B In the area of Utility Line Clearance we have 9871 employees averaging 1950 hrs. each per year.
4. A The following is a summary of OSHA Form 102 as reported:

	General Commercial Arboriculture	Utility Line Clearance
Fatalities	0	1
Number of Lost Workday Cases	69	172
Case involving transfers or terminations	7	6
Lost workdays	402	5150
Cases without lost workdays	111	265
Frequency Rate of Disabling Injuries	54 per million hours of exposure or .02 per man per year or 1 every 10 years	23 per million hours of exposure or .01 per man per year or 1 every 22 years.

PESTICIDE SURVEY

1. 41% of the Membership responded.
2. The lack of and diversity of response makes the summary of information inconclusive to the Membership. Also the current diversity of State Extension Service recommendations could create misinterpretation of the materials listed. However, the information received does indicate that we are a very minor use industry and that we must take every step possible to insure the fact that our uses remain on labels. In addition it is apparent that more attention must be paid to State recommendations as the variations reach absurd proportions. For example:

Number of Insecticides used	-	48
" " Fungicides "	-	15
" " Herbicides "	-	48

3. If projected the National Arborist Association used:

350,000lbs. of Insecticides
 170,000gal. " "
 69,000lbs. " Fungicides
 136,000lbs. " Herbicides
 42,000gal. " "

4. Hopefully future pesticide surveys will be more complete.

CONCLUSION

All of the information gathered, summarized and reported has value, some to you and some to your Association. In those areas covered you can measure your company against the industry. Your Association will use the information in the development of Associate Members, relations with EPA, OSHA and other Regulatory Agencies as well as Legislative Bodies.

In future years we will be collecting additional information as well as updates of information included here. Your cooperation is necessary in order to make any of this material meaningful.



NATIONAL ARBORIST ASSOCIATION, INC.

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ROBERT FELIX
Executive Secretary

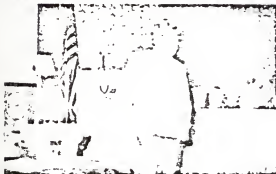
1975 INDUSTRY STATISTICS

We begged, pleaded and pestered you to respond to our Industry Statistics Questionnaire all fall and winter. As a result we have had a 66% response. To those who responded we say THANK YOU for your cooperation. In 1976 we hope to have an even better response.

Some questioned the length, detail, timing and value of the survey. All of this is information that your trade association needs to properly represent you with OSHA, EPA and other regulatory agencies. In addition, many members call your Executive Secretary for information and the only way that he can answer their questions is to have the facts from the Members. Development and retention of Associate Members is also dependent upon information resulting from this annual survey.

Many of you made constructive comments that are being referred to the Planning Committee for study. The many compliments about "Arbor Action" and NAA Member Services indicates that you value your National Arborist Association Membership. This is the only true way that we have of measuring the pulse of the membership.

The most important aspect of this whole project is to provide you with data that you can use for ideas, comparisons and general support information. In the not too distant future we hope to develop an operating ratio survey that will enable you to measure your business against the rest of the industry.



In order to make this information more meaningful, your Executive Secretary thought that it would be valuable to have an expert on statistics as a speaker at our Annual Meeting. We were privileged to have Dr. William Sherrard, pictured at left, Chairman of the Statistics Department of San Diego State University, as a speaker in San Diego. If the picture is somewhat fuzzy, so were we when Dr. Sherrard finished.

We had asked Dr. Sherrard to explain how our statistics could be best used by the members. However, he spent most of his time explaining how to present statistical data. We feel that it is appropriate to publish that portion of his talk here that is meaningful to the membership rather than in "Arbor Action" as will be the case with the other Annual Meeting speakers.

Roger Finn, Chairman
Industry Statistics Committee

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The following remarks are not only paraphrased but include those items which are considered pertinent to our needs.

How can the data that you submit to NAA on your Industry Statistics Questionnaire be presented back to you in ways that are meaningful and how then can you use it? How do you use distributions effectively and analyze what is going on in your industry?

Averages are familiar to most people. An average always exists and can be calculated for any kind of data. However, averages are often distorted by items in the data that are far removed from the bulk of the data. The average doesn't tell you anything about the data.

The Mode is the number that occurs most often. It requires no calculation and gives the most prevalent aspect of the data.

The Median describes the middle or center of the data. Half of the data are below and half above. It is useful where extreme values distort the data and can be helpful in evaluating open ended questions.

The following example illustrates the three definitions:

Question: What is the hourly rate of your tree climbers? (Based on the following eleven responses your answers would be as follows:)

\$5.00, 4.50, 5.00, 4.00, 6.00, 4.50, 8.00, 5.25, 4.75,
4.50, 4.50 - Total \$56.00

Average - \$5.09

Mode - 4.50

Median - 5.00

The average is distorted by the \$8.00 hourly rate. The mode is that number which appears most frequently. The median is in the exact center of the data. Five responses are below it and five beyond it.

Quartiles divide the data into 4 equal parts of which the median (second quartile) is the center. It provides a better measure of location than any one other measure.

All of this information can be readily developed from the system that you are currently using. However, the use of marked sense cards would enable you to have all of this done on a computer.

The mode and the median are most useful when there are significant differences in the responses.

A normal distribution provides a completely symmetrical curve with the average at the center and the data distributed equally on either side of center. (This is a situation that NAA responses will never achieve.)

The Standard Deviation describes the dispersion of the data in a normal distribution. It allows the user to determine percentages above or below a point on a curve.

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The questionnaire keeps the officers of the National Arborist Association informed on issues of concern for the industry and provides them with invaluable statistical data for identifying problems that can be better solved at the industry level.

When firms obtain the results of the questionnaire they can compare their firm's performance with the industry. Distributions formed from questionnaire data allow firms to compare their company's statistics and hence performance with that of the industry. The anonymity provided by the questionnaire allows firms to make this comparison without releasing data considered of a proprietary nature by individual firms.

Dr. William R. Sherrard

NOTE: It was the consensus of opinion that questions or surveys should be limited to those areas which are important to the members. (As is the case) Marked sense responses should be considered and questionnaires should be sent out at a time of year when members will have an opportunity to respond.

It was also agreed that future reports should include averages, modes, medians and curves where significant.

FACTS ABOUT MEMBERSHIP FROM PROFESSIONAL SERVICES FACT SHEETS:

1. 124 Companies reported a total of 3269 employees
2. Distribution of work:

A. Pruning	- 37%	G. Tree Moving	- 2%
B. Spraying	- 18%	H. Bracing	- 2%
C. Removal	- 16%	I. Planting	- 2%
D. Utility Trimming	- 8%	J. Cavity Work	- 1%
E. Landscaping	- 7%	K. Diagnosis	- 1%
F. Feeding	- 6%		
3. 61% reported that they are certified as commercial applicators.
4. 69% have training programs.
5. 46% of those use the National Arborist Association Home Study Program.
6. 84% use the NAA Logo in advertising.
7. 60% use NAA decals on their equipment.

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A. WAGES & BENEFITS

1. <u>HOURLY RATES</u>	<u>AVERAGE</u>	<u>MODE</u>	<u>MEDIAN</u>
Trainees	\$3.03 per hr	\$3.00 per hr	\$3.00 per hr
Brushmen	3.08 " "	3.00 " "	3.00 " "
Groundmen	3.34 " "	3.00 " "	3.25 " "
Climbers	4.27 " "	5.00 " "	4.00 " "
Tree Trimming Foremen	4.98 " "	5.00 " "	5.00 " "
Utility Trimming Foremen	4.47 " "	5.00 " "	4.36 " "
Spray Foremen	4.70 " "	4.00 " "	4.75 " "
Landscape Foremen	4.50 " "	4.00 " "	4.50 " "
Landscape Laborer	3.24 " "	3.00 " "	3.00 " "
Equipment Operator	4.45 " "	4.00 " "	4.50 " "

NOTE: The average is only the sum of the entries divided by the number of entries. The mode is the entry that occurred most frequently. The median is that rate which is the exact center of the data, 50% of the entries were below and 50% above this figure.

If you are paying your climbers \$4.25 per hour your rate is average nationally but actually 6.25% higher than 50% of the companies reporting.

OBSERVATIONS: 1975 wages were 3% higher than the average in 1974.

There were no differences in wages on a regional basis.

Spray foremen are responsible for a much higher profit operation but are paid less than tree trimming foremen.

2. (a) HOSPITALIZATION:

71% of the companies provide their employees with hospitalization and 52% of those require their employees to contribute.

(b) MAJOR MEDICAL INSURANCE:

61% of the companies provide their employees with Major Medical Insurance and 64% of those require their employees to contribute

(c) LIFE INSURANCE:

40% of the companies provide this for their employees and 58% of those require their employees to contribute.

(d) PENSIONS:

22% of the companies provide this for their employees and 22% of those require their employees to contribute.

(e) ANNUAL BONUS:

56% of the companies pay this to their employees and 75% of the companies make employees eligible after 1 year or less.

3. PROFIT SHARING:

16% of the companies have Profit Sharing Plans.

4. SICK LEAVE:

36% of the companies provide their employees with paid Sick Leave averaging 5 days after 1 year.

5. VACATIONS:

84% of the companies provide their employees with Paid Vacations averaging 5 days after 1 year.

6. PAID HOLIDAYS:

76% of the companies provide their employees with Paid Holidays averaging 6 days per year. In 13% of the cases the employees are eligible immediately, 23% after 3 months, 14% after 6 months, 39% after 1 year and 11% have miscellaneous time criteria.

7. UNIFORMS:

53% of the companies provide their employees with uniforms and in 36% of the cases the employee contributes.

8. SUPERVISORS:

25% of the companies utilize supervisors. The range of personnel they are responsible for is from 4 to 150 men. Average pay is \$13,400 per year, the mode is \$12,000 and the median \$12,500. Rate of pay is not a reflection of the number of men they are responsible for. In 71% of the cases, supervisors are provided with full time transportation.

9. SALESMEN:

30% of the companies utilize salesmen. Of those 57% are on salary, 38% on salary plus commission and 5% on commission only. Average Annual income is \$13,260, per year, the mode is \$15,000 and the median \$12,500. 74% of these salesmen are provided with full time transportation.

10. UNIONS:

4% of the companies reported having union contracts.

11. % OF 1974 EXPENSES PAID TO LABOR:

Average - 39%, Mode - 35%, Median - 40%

OBSERVATIONS: Compared to the previous year the % of companies providing fringe benefits has decreased about 5%. Supervisors wages have increased about 5% and salesmen about 30%. A substantially greater number of the companies reporting pay an Annual Bonus!

B. EQUIPMENT

1. CHIPPERS: The units reported in use exceed 1900 distributed as follows:

ASPLUNDH	12"	-	32%
	16"	-	4%
MITTS & MERRILL	12"	-	22%
	16"	-	1 1/2%
WOODCHUCK	12"	-	17%
	16"	-	1 1/2%

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FITCHBURG	12"	-	2%
	16"	-	1%
WAYNE	12"	-	$\frac{1}{2}$ %
	16"	-	$\frac{1}{2}$ %
CHIPMORE	12"	-	20%

2. CHAINSAWS: The units reported in use exceed 5700 distributed as follows:

HOMELITE	53.44%	ECHO	.39%
MCCULLOCH	18.40%	HUSQUVARNA	.34%
STIHL	14.99%	REMINGTON	.21%
PIONEER	4.25%	DANARM	.18%
POULAN	4.20%	FRONTIER	.13%
LOMBARD	1.15%	DAYTON	.10%
PARTNER	.71%	SEARS	.09%
DISSTON	.68%	SKILL	.03%
JONSARED	.68%	WRIGHT	.03%
			<hr/> 100.00%

3. CHAIN BRAKES

15% of the companies responding preferred chain brakes, 62% did not and 23% didn't care.

4. SPRAYERS:

460 sprayers were reported in use distributed as follows:

BEAN - 70%, HARDIE - 12%, MEYERS - 9%, FRIEND - $1\frac{1}{2}$ %, OTHER - $7\frac{1}{2}$ %

Pump capacities range from 4 G.P.M. to 70 G.P.M.

The distribution is as follows:

10 G.P.M.	4%	50 G.P.M.	9%
20 "	4%	55 "	5%
25 "	3%	60 "	23%
35 "	32%	OTHER "	<hr/> 19%
40 "	1%		100%

Tank capacities vary from 50 gallons to 1000.

The distribution is as follows:

300 gal	7%	1000 gal	21%
400 "	9%	OTHER	<hr/> 21%
500 "	11%		100%
600 "	32%		

Spray tank construction was distributed as follows:

Stainless	- 16%	Fiberglass	- 12%
Steel	- 61%	OTHER	- <hr/> 4%
Wood	- 7%		100%

6. MIST BLOWERS:

25 Bean mistblowers and Meyers were reported in use, 6 were Bean Model 300, 16 Model 100, 1 Model 150 and 2 Model 50.

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7. AERIAL LIFTS:

686 aerial lifts were reported as follows:

Hi-Ranger	-	49%	Hot Stick	-	3%
Skyworker		36%	Reach All	-	1/2%
Line Lift		5%	OTHER		2%
Asplundh		4%			<u>100%</u>

The information reported was not such that a distribution could be made of the various models.

8. TREE CRANES:

41 tree cranes were reported ranging from 45' to 115' in length. The distribution was as follows:

National	-	39%	OTHER (14)	-	44%
Arlo	-	17%			<u>100%</u>

9. LOG LOADERS:

40 grapple type log loaders were reported distributed as follows:

Prentiss	38%	OTHER (9)	35%
Hiab	27%		<u>100%</u>

10. LUBRICATION:

47% lubricate equipment on a time available basis
 41% on a mileage basis
 12% on an hourly basis

11. % OF 1974 VOLUME SPENT ON EQUIPMENT:

(depreciation, gas, oil, vehicle insurance and maintenance and repairs)

Average	18%
Mode	20%
Median	16%

C. SMALL TOOLS & MATERIALS:1. PURCHASING:

54% of the companies reported purchasing small tools from local suppliers and 46% from National suppliers.

2. PESTICIDES:

A. In 1974, 93 companies reported buying \$874,000 worth of pesticides
 B. In 1975, 93 companies reported buying \$910,000 worth of pesticides

3. FERTILIZER:

17% of the companies use liquid fertilizer only
 28% " " " dry " "
 55% " " " both types of fertilizer

4. % OF 1974 VOLUME SPENT ON SMALL TOOLS AND MATERIALS:

Average	-	5%
Mode	-	1%
Median	-	3%



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ROBERT FELIX
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1976 INDUSTRY STATISTICS

The following data has been compiled from the Industry Statistics that have been turned in by the membership in 1976. We had a 37% response as compared to a 66% response in 1975.

We have had many comments as to the length and depth of the questions. Some have suggested mini-surveys. We even tried to develop a computerized system. Unfortunately, the nature of the information that your association needs to provide you with the information that you request is such that we have been unable to find an easier way. Keep in mind that it is the members that ask the questions that we seek answers for.

Further, as we have stated many times, in order to represent the industry in national affairs, such as with EPA and OSHA, it is necessary to have accurate support data. Without your input, this is almost impossible. For example, the staff has published several lists of pesticides that EPA is considering removing from the list of spray materials available to you. We have an opportunity to preserve that availability but many of our members who do considerable spraying either returned no survey or left the list of spray materials blank. How can your association serve you without adequate data?

However, to those of you who did take the time to respond, we thank you very much. We hope that all of you find the data helpful and that we can count on your support in the future.

As was the case last year, where applicable the data is presented three ways:

The average which is the mean for the data submitted.

The mode which is the number that occurs most often and gives the most prevalent aspect of the data.

The median which is the center of the data. Half of the input is above and half below. This is useful where extreme values distort the data.

Also, to make the data more meaningful, we have separated the data in groups representing companies that gross less than \$200,000, Companies that gross between \$200,000 and \$500,000 and companies that gross over \$500,000. In the interest of clarity, these are listed as small companies, medium companies and large companies, respectively, in the data.

Roger Finn, Chairman
Industry Statistics Committee

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A. 1. WAGESSMALL COMPANIES

	<u>Average</u>	<u>Mode</u>	<u>Median</u>
Trainees	3.02 per hr.	3.00 per hr.	3.00 per hr.
Groundmen	3.40 " "	3.00 " "	3.30 " "
Climbers	4.53 " "	5.00 " "	4.50 " "
Tree Trimming Foreman	5.22 " "	5.00 " "	5.25 " "
Utility " "	4.74 " "	4.25 " "	4.50 " "
Spray Foreman	4.91 " "	5.00 " "	4.75 " "
Landscape Foreman	4.62 " "	5.00 " "	4.50 " "
Laborer, Landscape	3.16 " "	3.50 " "	3.50 " "

MEDIUM COMPANIES

Trainees	3.35 " "	3.00 " "	3.25 " "
Groundmen	3.77 " "	3.50 " "	3.50 " "
Climbers	5.01 " "	5.00 " "	4.75 " "
Tree Trimming Foreman	5.58 " "	5.50 " "	5.70 " "
Utility " "	4.86 " "	5.00 " "	5.00 " "
Spray Foreman	5.08 " "	4.50 " "	5.00 " "
Landscape Foreman	5.43 " "	5.50 " "	5.50 " "
Laborer, Landscape	3.54 " "	3.50 " "	3.50 " "

LARGE COMPANIES

Trainees	3.42 " "	3.00 " "	3.40 " "
Groundmen	3.55 " "	3.75 " "	3.50 " "
Climber	4.54 " "	4.00 " "	4.50 " "
Tree Trimming Foreman	4.67 " "	5.57 " "	5.57 " "
Utility " "	5.60 " "	4.85 " "	4.85 " "
Spray Foreman	5.18 " "	4.75 " "	4.75 " "
Landscape Foreman	5.40 " "	5.50 " "	5.50 " "
Laborer, Landscape	3.82 " "	3.75 " "	3.75 " "

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TOTAL INDUSTRY

	<u>Average</u>	<u>Mode</u>	<u>Median</u>
Trainees	3.16 per hr.	3.00 per hr.	3.12 per hr.
Groundmen	3.53 " "	3.23 " "	3.38 " "
Climbers	4.68 " "	4.90 " "	4.58 " "
Tree Trimming Foremen	5.27 " "	5.21 " "	5.42 " "
Utility " "	4.86 " "	4.48 " "	4.68 " "
Spray Foremen	4.92 " "	4.83 " "	4.83 " "
Landscape Foremen	4.94 " "	5.20 " "	4.90 " "
Laborer, Landscape	3.34 " "	3.53 " "	3.53 " "

OBSERVATIONS: As compared to 1975 wages have increased as follows:

Trainees	4%
Groundmen	4%
Climbers	15%
Tree Trimming Foremen	9%
Utility " "	7%
Spray Foremen	2%
Landscape "	9%
Laborer, Landscape	18%

This reflects an overall industry increase in wages of about 8%.
Last year the wage increases averaged 3%.

2. PERCENTAGE OF VOLUME PAID TO PRODUCTION LABOR

	<u>1975</u>	<u>1976</u>
<u>SMALL COMPANIES</u>		
Average	32%	32%
Mode	35%	20%
Median	30%	30%
<u>MEDIUM COMPANIES</u>		
Average	35%	36%
Mode	34%	30%
Median	34%	33%
<u>LARGE COMPANIES</u>		
Average	40%	39%
Mode	53%	39%
Median	41%	39%

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3. PERCENTAGE OF VOLUME PAID IN FRINGE BENEFITS

	<u>1975</u>	<u>1976</u>
<u>SMALL COMPANIES</u>		
Average	4%	5%
Mode	1%	2%
Median	2%	3%
<u>MEDIUM COMPANIES</u>		
Average	6%	6%
Mode	5%	4%
Median	5%	5%
<u>LARGE COMPANIES</u>		
Average	6%	6%
Mode	5%	5%
Median	5%	5%

B. EQUIPMENT1. TRUCKS

	<u>Ford</u>	<u>Chev</u>	<u>Int</u>	<u>GMC</u>	<u>other</u>
<u>SMALL COMPANIES</u>					
Make preference	33%	25%	17%	12%	13%
Median Age	6 yrs.	7 yrs.	6 yrs.	5 yrs.	5 yrs.
Median G.V.W.	5 T.	3 T.	3 T.	5 T.	5 T.
<u>MEDIUM COMPANIES</u>					
Make preference	42%	22%	19%	12%	5%
Median Age	5 yrs.	6 yrs.	7 yrs.	7 yrs.	7 yrs.
Median G.V.W.	8 T.	6 T.	10 T.	9 T.	5 T.
<u>LARGE COMPANIES</u>					
Make preference	81%	12%	2%	4%	1%
Median Age	6 yrs.	5 yrs.	7 yrs.	5 yrs.	6 yrs.
Median G.V.W.	13 T.	7 T.	7 T.	10 T.	10 T.
<u>TOTAL INDUSTRY</u>					
Make preference	69%	16%	6%	6%	3%
Median Age	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.
Median G.V.W.	7 T.	4 T.	6 T.	7 T.	6 T.
Projected # of Trucks owned by NAA Members	3500	800	330	320	180

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2. YEARS DEPRECIATED & ANTICIPATED LIFE OF SLECTED EQUIPMENT

	<u>Depreciation years</u>	<u>Anticipated life</u>
<u>SMALL COMPANIES</u>		
Hydraulic sprayers	7 yrs.	12 yrs.
Chippers	6 "	10 "
Aerial lifts	7 "	10 "
Truck Chassis	5 "	10 "
Company cars	4 "	4 "
<u>MEDIUM COMPANIES</u>		
Hydraulic sprayers	6 "	10 "
Chippers	5 "	10 "
Aerial Lifts	6 "	10 "
Truck chassis	5 "	10 "
Company cars	4 "	5 "
<u>LARGE COMPANIES</u>		
Hydraulic Sprayers	5 "	15 "
Chippers	7 "	10 "
Aerial Lifts	7 "	10 "
Truck chassis	7 "	7 "
Company cars	3 "	3 "
<u>TOTAL INDUSTRY</u>		
Hydraulic sprayers	6.5 "	11.7 "
Chippers	5.8 "	10.0 "
Aerial lifts	6.7 "	10.0 "
Truck chassis	5.2 "	9.7 "
Company cars	3.9 "	4.2 "
3. <u>REBUILD CHIPPERS</u>		
<u>SMALL COMPANIES</u>	62% do	
<u>MEDIUM COMPANIES</u>	86% do	
<u>LARGE COMPANIES</u>	70% do	
4. <u>EMPLOY FULL TIME MECHANICS</u>		
<u>SMALL COMPANIES</u>	12% do	
<u>MEDIUM COMPANIES</u>	32% do	
<u>LARGE COMPANIES</u>	68% do	
5. <u>EMPLOY PART TIME MECHANICS</u>		
<u>SMALL COMPANIES</u>	50% do	
<u>MEDIUM COMPANIES</u>	48% do	
<u>LARGE COMPANIES</u>	35% do	

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6. SEND SOME OR ALL VEHICLES OUT FOR REPAIR

<u>SMALL COMPANIES</u>	65%
<u>MEDIUM COMPANIES</u>	87%
<u>LARGE COMPANIES</u>	90%

7. MEDIAN # OF VEHICLES EACH MECHANIC IS RESPONSIBLE FOR

<u>SMALL COMPANIES</u>	10
<u>MEDIUM COMPANIES</u>	15
<u>LARGE COMPANIES</u>	25

8. MEDIAN HOURLY RATE PAID TO MECHANICS

<u>SMALL COMPANIES</u>	\$4.50
<u>MEDIUM COMPANIES</u>	\$5.50
<u>LARGE COMPANIES</u>	\$5.20

9. MAINTENANCE FUNCTIONS PERFORMED IN HOUSE

	<u>SMALL COMPANIES</u>	<u>MEDIUM COMPANIES</u>	<u>LARGE COMPANIES</u>
Lubrication	81%	85%	81%
Light replacement	83%	100%	72%
Tire maintenance	30%	25%	72%
Change Chipper blades	72%	95%	55%
Brakes	30%	75%	72%
Tune ups	72%	100%	72%
Clutches	24%	82%	73%
Engine Overhauls	7%	41%	64%
Sprayer repairs	63%	100%	55%
Power Saw repairs	52%	100%	55%

10. a. MEDIAN % OF VOLUME PAID FOR PARTS & REPAIRS

	<u>1975</u>	<u>1976</u>
<u>SMALL COMPANIES</u>	6%	6%
<u>MEDIUM COMPANIES</u>	6%	6%
<u>LARGE COMPANIES</u>	4%	5%

b. MEDIAN % OF VOLUME PAID FOR MECHANICS WAGES & BENEFITS

<u>SMALL COMPANIES</u>	1%	1%
<u>MEDIUM COMPANIES</u>	4%	4%
<u>LARGE COMPANIES</u>	1%	2%

c. MEDIAN % OF VOLUME PAID FOR GAS & OIL

<u>SMALL COMPANIES</u>	4%	5%
<u>MEDIUM COMPANIES</u>	4%	4%
<u>LARGE COMPANIES</u>	4%	3%

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d. MEDIAN % OF VOLUME PAID FOR VEHICLE & EQUIPMENT INSURANCE

	<u>1975</u>	<u>1976</u>
<u>SMALL COMPANIES</u>	2%	2%
<u>MEDIUM COMPANIES</u>	2%	2%
<u>LARGE COMPANIES</u>	1%	1%

e. MEDIAN % OF VOLUME PAID FOR TIRES & TUBES

<u>SMALL COMPANIES</u>	1½%	1%
<u>MEDIUM COMPANIES</u>	1%	1%
<u>LARGE COMPANIES</u>	1.5%	1.5%

f. MEDIAN % OF VOLUME CHARGED TO DEPRECIATION

<u>SMALL COMPANIES</u>	7%	7%
<u>MEDIUM COMPANIES</u>	5%	4%
<u>LARGE COMPANIES</u>	6%	4%

11. % OF COMPANIES USING SOME DIESEL TRUCKS

<u>SMALL COMPANIES</u>	1%
<u>MEDIUM COMPANIES</u>	15%
<u>LARGE COMPANIES</u>	36%

12. a. % OF COMPANIES USING HYDRAULIC OR AIR PRUNING TOOLS

<u>SMALL COMPANIES</u>	30%
<u>MEDIUM COMPANIES</u>	55%
<u>LARGE COMPANIES</u>	63%

b. PROJECTED # IN USE

Pruners	1360
Saws	1360

(These appear to be equally divided between Limb Lopper, Miller Robinson, Ackley and Fairmount.)

c. SMALL TOOLS & MATERIAL1. MEDIAN CHAIN SAW REPLACEMENTS

<u>SMALL COMPANIES</u>	2 yrs.
<u>MEDIUM COMPANIES</u>	2 yrs.
<u>LARGE COMPANIES</u>	3 yrs.

2. HAND SAW PREFERENCES

	<u>Seymour Smith</u>	<u>Fanno</u>	<u>Atkins</u>	<u>Other</u>
<u>SMALL COMPANIES</u>	38%	47%	7%	8%
<u>MEDIUM COMPANIES</u>	35%	52%	13%	-
<u>LARGE COMPANIES</u>	29%	58%	-	13%

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3. MEDIAN % OF VOLUME SPENT ON SMALL TOOLS, EXCLUDING PESTICIDES

	<u>1975</u>	<u>1976</u>
<u>SMALL COMPANIES</u>	3%	4%
<u>MEDIUM COMPANIES</u>	3%	3%
<u>LARGE COMPANIES</u>	2½%	4%

4. MEDIAN % OF VOLUME SPENT ON PESTICIDES

<u>SMALL COMPANIES</u>	5%	4%
<u>MEDIUM COMPANIES</u>	3%	3%
<u>LARGE COMPANIES</u>	1½%	2%

D. OPERATING DATA1. MEDIAN % OF VOLUME PAID TO SALES EXPENSE

<u>SMALL COMPANIES</u>	1%
<u>MEDIUM COMPANIES</u>	13%
<u>LARGE COMPANIES</u>	4%

2. MEDIAN % OF VOLUME PAID TO ADMINISTRATIVE EXPENSE

<u>SMALL COMPANIES</u>	9%
<u>MEDIUM COMPANIES</u>	11%
<u>LARGE COMPANIES</u>	10%

3. MEDIAN % OF VOLUME PAID TO DIRECT EXPENSE

<u>SMALL COMPANIES</u>	60%
<u>MEDIUM COMPANIES</u>	62%
<u>LARGE COMPANIES</u>	76%

4. MEDIAN % OF VOLUME PAID TO ADVERTISING

<u>SMALL COMPANIES</u>	5%
<u>MEDIUM COMPANIES</u>	1%
<u>LARGE COMPANIES</u>	1%

5. MEDIAN WORKMAN'S COMPENSATION RATES

<u>SMALL COMPANIES</u>	\$8.35 per \$100 of payroll
<u>MEDIUM COMPANIES</u>	9.75 " " " "
<u>LARGE COMPANIES</u>	8.00 " " " "

6. ANTICIPATED 1977 WAGE INCREASES

<u>SMALL COMPANIES</u>	10%
<u>MEDIUM COMPANIES</u>	6%
<u>LARGE COMPANIES</u>	6%

7. MEDIAN CUSTOMER CHARGES

	<u>Foreman per Hour</u>	<u>Foreman per day</u>
<u>SMALL COMPANIES</u>	\$14.25 hr.	\$112.50 day
<u>MEDIUM COMPANIES</u>	14.00 "	140.00 "
<u>LARGE COMPANIES</u>	10.60 "	104.00 "

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	<u>Climber</u> <u>per hr.</u>	<u>Climber</u> <u>per day</u>
<u>SMALL COMPANIES</u>	\$13.50	\$120.00
<u>MEDIUM COMPANIES</u>	14.00	140.00
<u>LARGE COMPANIES</u>	13.00	126.00
	<u>Groundman</u> <u>per hr.</u>	<u>Groundman</u> <u>per day</u>
<u>SMALL COMPANIES</u>	\$11.50	\$100.00
<u>MEDIUM COMPANIES</u>	13.00	120.00
<u>LARGE COMPANIES</u>	10.00	64.00
	<u>Crew Truck</u> <u>per hr.</u>	<u>Crew Truck</u> <u>per day</u>
<u>SMALL COMPANIES</u>	\$ 6.00	\$ 40.00
<u>MEDIUM COMPANIES</u>	5.00	40.00
<u>LARGE COMPANIES</u>	2.65	21.20
	<u>Chipper</u> <u>per hr.</u>	<u>Chipper</u> <u>per day</u>
<u>SMALL COMPANIES</u>	\$10.00	\$ 75.00
<u>MEDIUM COMPANIES</u>	6.00	64.00
<u>LARGE COMPANIES</u>	1.50	12.00
	<u>AERIAL LIFT</u> <u>with box</u> <u>per hr.</u>	<u>AERIAL LIFT</u> <u>with box</u> <u>per day</u>
<u>SMALL COMPANIES</u>	\$15.00	\$80.00
<u>MEDIUM COMPANIES</u>	8.00	64.00
<u>LARGE COMPANIES</u>	5.90	46.00
	<u>AERIAL LIFT</u> <u>with out box</u> <u>per hr.</u>	<u>AERIAL LIFT</u> <u>with out box</u> <u>per day</u>
<u>SMALL COMPANIES</u>	\$15.00	-
<u>MEDIUM COMPANIES</u>	10.00	-
<u>LARGE COMPANIES</u>	-	-
	<u>Stump Cutter</u> <u>per hr.</u>	<u>Stump Cutter</u> <u>per day</u>
<u>SMALL COMPANIES</u>	\$17.50	\$80.00
<u>MEDIUM COMPANIES</u>	25.00	175.00
<u>LARGE COMPANIES</u>	6.00	-

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	SPRAYER (no crew) per hr.	SPRAYER (no crew) per day
<u>SMALL COMPANIES</u>	\$15.00	\$81.00
<u>MEDIUM COMPANIES</u>	18.00	200.00
<u>LARGE COMPANIES</u>	-	-
	SPRAYER W/CREW & MATERIAL per hr.	SPRAYER W/CREW & MATERIAL per day
<u>SMALL COMPANIES</u>	\$50.00	\$480.00
<u>MEDIUM COMPANIES</u>	45.00	560.00
<u>LARGE COMPANIES</u>	60.00	-
	CREW TRUCK CHIPPER & 2 MEN per hr.	CREW TRUCK CHIPPER & 2 MEN per day
<u>SMALL COMPANIES</u>	\$30.50	\$240.00
<u>MEDIUM COMPANIES</u>	34.00	300.00
<u>LARGE COMPANIES</u>	28.40	248.00

E. MEDIAN OPERATING RATIOS

	<u>SMALL COMPANIES</u>	<u>MEDIUM COMPANIES</u>	<u>LARGE COMPANIES</u>
DIRECT EXPENSE			
Labor	30%	33%	39%
Benefits	3%	5%	5%
Repairs	6%	6%	5%
Gas and Oil	5%	4%	3%
M.V. & Equip Insurance	2%	2%	1%
Tires and Tubes	1%	1%	1%
Depreciation	7%	4%	4%
Small Tools	4%	3%	4%
Pesticides	4%	3%	2%
Other	-	1%	10%
TOTAL DIRECT EXPENSE	62%	62%	76%
SALES EXPENSE			
Advertising	5%	1%	1%
Other	5%	12%	3%
TOTAL SALES EXPENSE	10%	13%	4%
ADMINISTRATIVE EXPENSE	9%	11%	10%
TOTAL OPERATING EXPENSES	81%	86%	90%



NATIONAL ARBORIST ASSOCIATION, INC.

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ROBERT FELIX
Executive Secretary

1977 INDUSTRY STATISTICS

The following data is a compilation of the data received from the membership reflecting 1977 operations. Our response was from only 30% of the members which did not provide sufficient data to break the information down into various size companies. However, a review of the data, plus last year's experience, would indicate that the differences are of little consequence.

Where possible, we have provided comparisons with prior years and where appropriate the data is presented in averages and medians.

The average is the mean for the data submitted.

The median is the center of the data. Half of the input is above and half below.

This information is being sent to Active Members of the National Arborist Association, only!

Industry Statistics Committee

Roger Finn, Chairman - 1977
Frank Harder, Chairman - 1978

A. WAGES

1. HOURLY RATES

	<u>1976</u>		<u>1977</u>	
	<u>Av.</u>	<u>Median</u>	<u>Av.</u>	<u>Median</u>
FOREMAN	5.27	5.42	5.85	5.80
CLIMBER	4.68	4.58	4.94	5.00
GROUNDSMAN	3.53	3.38	3.89	3.75
TRAINEE	3.16	3.12	3.34	3.25

2. PERCENTAGE OF VOLUME PAID TO PRODUCTION LABOR

36%	37%	34%	31%
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B. EQUIPMENT

	<u>1976</u>	<u>1977</u>
1. PERCENTAGE OF VOLUME PAID TO:		
PARTS & REPAIRS	6%	5%
(OVER)		

	<u>1976</u>	<u>1977</u>
MECHANICS COSTS	4%	3%
GAS & OIL	4%	4%
INSURANCE	2%	3%
TIRES & TUBES	1%	1%
DEPRECIATION	4%	4%

2. INVESTMENT IN NEW EQUIPMENT - 7%

C. SMALL TOOLS & MATERIALS

1. PERCENTAGE OF VOLUME

PAID FOR:

SMALL TOOLS	3%	3%
PESTICIDES	-	3%

D. OPERATING EXPENSES

2. PERCENTAGE OF VOLUME

PAID TO:

DIRECT EXPENSES	62%	68%
SALES EXPENSE	13%	12%
ADMINISTRATIVE EXP.	<u>11%</u>	<u>12%</u>
TOTAL OPERATING EXPENSE	86%	92%

E. RATES

PERCENTAGE OF 1977 PRICE INCREASES	10%
CONTRACT WORK	66%
HOURLY RATE WORK	34%

SURVEY OF THE BUSINESS AND MANAGEMENT
PRACTICES OF KANSAS ARBORISTS

by

CHARLOTTE ANN JONES

B.S., Kansas State University, 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

1979

ABSTRACT

A survey of the business and management practices of Kansas arborists was done in 1978. Data from this survey will be used to establish statistical information concerning the arboriculture industry in Kansas and as an educational tool to improve the industry.

Survey questionnaires were mailed to commercial arborist firms in Kansas. Of the 119 arborists who received the questionnaire, thirty-six (30%) completed and returned it.

This survey has revealed that the typical Kansas arborist owns his own arboriculture business which has been in operation for less than ten years. It was speculated that new arboriculture companies are being organized to aid in the removal of trees killed from Dutch Elm Disease. On an average, the arborist has 448 jobs a year but would like to obtain more clients. His fees are based on use of equipment, cost of chemicals/equipment, and his professional time. He provides free estimates and consultations. Five percent of his gross is spent on advertising which is done mainly by newspaper ads and yellow page ads.

Data from this survey revealed that Kansas arborists operating in or near a population area of 100,000 or more reported the highest mean net income (\$22,140).

This survey also revealed that companies with low net incomes (\$10,000 or less) reported that the fee for the area of operation providing the lowest net return was inadequate while companies with higher net income (over \$10,000) reported that the fee for the area providing the lowest net return was adequate.

Examination of accounting practices revealed that ninety percent of the individual owners hired outside accountants for income tax preparation, but only 17 percent of these arborists hired an accountant to prepare balance sheets and/or provide analysis and consultations. In contrast, the corporations utilized the services provided by their accountants more extensively. One hundred percent of the corporations hired an outside accountant to prepare income tax, while 74 percent of the corporations used an accountant to prepare balance sheets and/or provide analysis and consultation.