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# Practices and Preferences of Consumers For Horticultural Specialties In Knoxville and Nashville



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# Practices and Preferences of Consumers For Horticultural Specialties in Knoxville and Nashville

by

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## Introduction

Horticultural specialty crops contribute importantly and increasingly to the economy of Tennessee. The census showed total sales in 1940 by Tennessee nurseries as \$1.3 million and in 1950 sales amounted to \$4.7 million.<sup>1</sup> A survey made in 1954 revealed sales as \$5.5 million. By 1958 sales had risen to nearly \$6 million.<sup>2</sup> This growth in sales demonstrates the importance and value of the industry to Tennessee.

Also, the potential growth of this industry looks bright in view of increasing population in our urban communities. Tennessee has the necessary resources for greater production and sales of horticultural specialties. Members of the Tennessee Nursery Association have indicated that there are marketing problems which may limit the expansion of this industry. If these marketing problems can be solved, the industry should continue to expand and fill an important role in the over-all agricultural economy of the state.

The horticultural specialty industry's growth and prosperity ultimately rest upon the strength, nature, and direction of consumer demand, and the ability of the industry to satisfy this demand. The industry is peculiarly vulnerable to changing styles in architecture, new emphasis on industrial landscaping, and beautification and safety factors on newly constructed highways. Producers in the industry need basic data on consumer income and buying preferences.

Production plans need to be adjusted to supply the kind and quantity of horticultural specialties desired by consumers. Insufficient knowledge of the acceptances and satisfactions of consumers makes for disorderly marketing and excessive costs. Many Tennessee nurserymen believe that the demand for horticultural specialties could be expanded through research in this area.

The basic unit in analyzing consumer preference is the indi-

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<sup>1</sup> *Trade in Horticultural Specialties, 1890-1950*, A.M.S., U.S.D.A., Market Research Report No. 33, Washington 25, D. C., p. 11.

<sup>2</sup> State Agricultural Statistician Office, Nashville, Tennessee.

vidual consumer, or the individual family spending unit. Each family has certain characteristics which are important in the purchase of horticultural specialties. These may be grouped under measurable characteristics, such as income, education, knowledge of the market, and attitudes and preferences toward certain nursery products.

Other factors that might affect the demand for horticultural specialties are suburbanization and growth of rural nonfarm population. Also, our present political policies aimed at maintaining full employment, high level of income, and preventing recession may possibly increase the demand for nursery products; this is because they are normally considered luxury items.

The objectives of this study were:

1. To analyze the individual consumer preference structure of different socio-economic family groups for horticultural specialties in the Knoxville and Nashville suburban areas, such as:
  - (a) The desires of home owners to buy horticultural specialties.
  - (b) The kind and amount of purchases of such products in relation to socio-economic family groups.
  - (c) The sources of purchase, services required and provided, and attitudes toward the products and services.
2. To determine consumer preferences for horticultural specialties in the industrial and commercial firms and institutions located in the Knox County-City area.

## Method of Sampling

### Knoxville Market

Within the area of Knox County, data were collected by personal interview with 465 home owners, 92 industries, 23 commercial firms, 14 schools, 9 government agencies, 20 churches and 6 hospitals.

The sample consisted of two geographical locations of home owners. One included those homes located outside the city limits but within Knox County, and the other included those homes located within the city limits. Two hundred and sixty-three schedules were taken from randomly-selected home owners in the subdivisions of the county, and 202 home owners within the city were selected by random cluster sampling methods.

A list of industries in Knox County was obtained from the 1957-58 *Directories of Tennessee Industries*. All industries, or a

total of 44 that employed 100 or more people, are included in this study. The remaining 48 industries surveyed, or those that employed less than 100 persons, were randomly-selected from the directory.

The commercial firms in this study included all those that had bought nursery stock from nurseries in the Knoxville area in 1957.

Institutions were randomly-selected from the Knoxville telephone directory.

### **Nashville Market**

Data were collected by personal interview with 421 home owners randomly-selected within the area of Davidson County.

### **Definitions**

1. Home owners—those people who own and live in their homes and those who own residential rental property.
2. Industries—manufacturing and mining concerns.
3. Commercial firms—banks, grocery stores, and shopping centers.
4. Institutions—churches, hospitals, schools, and government agencies.
5. Reference to "significant differences" in this study means that the data were tested by Chi Square analysis and the confidence limits of the relationship are at the 95 percent level or greater.

## **Landscaping in the Knoxville Home Owners' Residential Area**

### **Demand for Landscape Plans**

About 88 percent of the 465 respondents in Knox County did not have landscape plans drawn by nurserymen for their present plantings. The analysis revealed a significant relationship between family income and those families using a plan for their plantings. Of the families in the high-income groups, 26 percent had plans drawn as compared to 6 percent in the low-income group (Table 1).

Sixty-eight percent of the 57 home owners who had plans drawn by nurserymen for their plantings were satisfied with the plans. The main criticism of the landscape plan was related to the arrangement of shrubbery. More than half of the home owners

Table 1. Number and Proportion of Home Owners Who *Did* and *Did Not* Have Plans Drawn for Their Plantings, by Family Income Groups, 465 Home Owners, Knoxville, Tennessee, 1958.

| Home owners             | All         |       | Family income groups <sup>1</sup> |     |     |         |       |       |
|-------------------------|-------------|-------|-----------------------------------|-----|-----|---------|-------|-------|
|                         | home owners |       | I                                 | II  | III | I       | II    | III   |
|                         | No.         | %     | Number                            |     |     | Percent |       |       |
| Had plan drawn          | 57          | 12.3  | 10                                | 26  | 21  | 5.7     | 12.4  | 25.9  |
| Did not have plan drawn | 408         | 87.7  | 164                               | 184 | 60  | 94.3    | 87.6  | 74.1  |
| Total                   | 465         | 100.0 | 174                               | 210 | 81  | 100.0   | 100.0 | 100.0 |

<sup>1</sup> Annual income per family: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

who were dissatisfied with their landscape plans changed them by removing or rearranging some shrubbery. Twenty-two percent of the dissatisfied home owners completely changed their plantings. Some other changes included planting other varieties and moving trees from one location to another.

### Landscape Services by Nurserymen

Home owners showed little interest in having further landscape work done in their yards by nurserymen. Only 10 percent were interested in such services as improving lawns, setting out shrubs or trees, and pruning and transplanting plants. There was a significant relationship between income groups and their interest in landscaping. The family group with the highest income had the greatest interest in having some landscape work done by nurserymen.

Approximately three-fourths of the home owners gave some reasons for doing their own landscape work rather than hiring some nurseryman to do the job. One-half did the work themselves because it was cheaper. Other reasons for doing their own work were as follows: "Hobby," "Better satisfied with own work," and "Provides exercise." A significant relationship existed between the different family income groups of the home owners and the reasons they gave for doing their own landscaping. The families in income Groups I and II did their own landscape work because it was cheaper, whereas the families in income Group III considered the work as a hobby (Table 2).

Of the home owners who bought nursery stock, 71 percent had no agreement with the seller for replacing those plants that might die. Twenty-four percent had agreements whereby their plants that died were replaced free of cost. The remaining 5 percent

had their dead plants replaced at one-half or three-fourths of the purchase price or had their money returned (Table 3).

Table 2. Proportion of Residents Reporting Landscape Plans and Interest in Landscape Service, by Family Income Groups, 465 Home Owners, Knoxville, Tennessee, 1958.

| Home owners<br>Number reporting         | Income groups <sup>1</sup> |      |      | Total<br>465 |
|-----------------------------------------|----------------------------|------|------|--------------|
|                                         | I                          | II   | III  |              |
|                                         | Percent                    |      |      |              |
| Having landscape plans                  | 5.7                        | 12.4 | 25.9 | 12.3         |
| Interested in further landscape service | 4.0                        | 6.7  | 34.6 | 10.5         |
| Improve or establish lawns              | 1.7                        | 1.0  | 4.9  | 1.9          |
| Set out shrubs or trees                 | 1.1                        | 3.3  | 21.0 | 5.6          |
| Prune or transplant                     | 1.2                        | 2.4  | 8.7  | 3.0          |
| Reasons for doing own landscaping       | 71.3                       | 77.1 | 55.6 | 71.2         |
| Cheaper                                 | 54.6                       | 55.2 | 25.9 | 49.9         |
| As a hobby                              | 10.9                       | 12.4 | 22.2 | 13.5         |
| Both cheaper and as a hobby             | 4.6                        | 9.5  | 4.9  | 6.9          |
| Better satisfied with own work          | 1.2                        | —    | 1.3  | 0.6          |
| Provides outdoor exercise               | —                          | —    | 1.3  | 0.3          |

<sup>1</sup> Annual income per family: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

Table 3. Nursery Stock Replacement Policies by Family Income Groups, 465 Home Owners, Knoxville, Tennessee, 1958.<sup>1</sup>

| Replacement policies                  | No. | Percent | Family income groups <sup>2</sup> |      |      |
|---------------------------------------|-----|---------|-----------------------------------|------|------|
|                                       |     |         | I                                 | II   | III  |
|                                       |     |         | Percent                           |      |      |
| No policy                             | 190 | 70.9    | 75.9                              | 68.0 | 69.5 |
| Nursery or store replaces plants free | 65  | 24.2    | 21.8                              | 27.1 | 22.0 |
| Nursery replaces at 1/2 price         | 11  | 4.1     | 2.3                               | 3.3  | 8.5  |
| Nursery replaces at 3/4 price         | 1   | 0.4     | 0.0                               | 0.8  | 0.0  |
| Money back                            | 1   | 0.4     | 0.0                               | 0.8  | 0.0  |

<sup>1</sup> 197 home owners bought no nursery stock.

<sup>2</sup> Family annual income: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

## Consumer Preferences for Horticultural Specialties

### Nursery Stock at House When Purchased

Of all the nursery stock existing around the homes when they were purchased by the home owners, 43 percent were classified as deciduous plants. Deciduous plants were composed of 63 percent shrubs and the remaining 37 percent flowering or shade trees. No significant relationship existed between the family income groups and the average number of plants by kind found at the homes.

The *narrowleaf* evergreens accounted for 25 percent of all the

plants existing when the homes were purchased. The arborvitaes and junipers were the most common; the arborvitaes accounted for 37 percent of the narrowleaf evergreens while the junipers comprised 51 percent. The *broadleaf* evergreens accounted for 32 percent of all nursery stock existing at the homes at purchase time (Table 4).

Table 4. Number and Kind of Nursery Stock Existing at Time House Was Purchased, by Family Income Groups, 465 Houses, Knoxville, Tennessee, 1958.

| Kind of<br>nursery stock  | No.  | Percent | Family income groups <sup>1</sup> |     |     |
|---------------------------|------|---------|-----------------------------------|-----|-----|
|                           |      |         | I                                 | II  | III |
|                           |      |         | Avg. no. plants per house         |     |     |
| Deciduous                 |      |         |                                   |     |     |
| Shrubs                    | 1163 | 63.0    | 2.3                               | 2.7 | 2.3 |
| Flowering trees           | 254  | 13.7    | .6                                | .5  | .7  |
| Shade trees               | 430  | 23.3    | .8                                | 1.0 | 1.1 |
|                           |      |         | —                                 | —   | —   |
| Total                     | 1847 | 100.0   | 3.7                               | 4.2 | 4.1 |
| Evergreen, narrowleaf     |      |         |                                   |     |     |
| Upright juniper           | 213  | 20.4    | .2                                | .6  | .5  |
| Spreading juniper         | 324  | 31.0    | .3                                | .7  | 1.5 |
| Arborvitae                | 389  | 37.2    | .7                                | .9  | .9  |
| Hemlock                   | 71   | 6.8     | x                                 | .1  | .4  |
| Spruce                    | 28   | 2.7     | x                                 | x   | .1  |
| Other <sup>2</sup>        | 20   | 1.9     | x                                 | x   | x   |
|                           |      |         | —                                 | —   | —   |
| Total                     | 1045 | 100.0   | 1.2                               | 2.3 | 3.4 |
| Evergreen, broadleaf      |      |         |                                   |     |     |
| Chinese and Burford holly | 22   | 1.6     | x                                 | x   | x   |
| Japanese holly            | 93   | 6.8     | x                                 | .1  | .7  |
| American holly            | 9    | .7      | x                                 | x   | x   |
| Pyracantha                | 130  | 9.5     | .1                                | .4  | .2  |
| Southern magnolia         | 6    | .5      | x                                 | x   | x   |
| Nandina                   | 203  | 14.8    | .3                                | .5  | .7  |
| Azalea                    | 174  | 12.7    | .1                                | .3  | 1.0 |
| Boxwood                   | 135  | 9.9     | .1                                | .3  | .7  |
| Ligustrum, waxy           | 246  | 18.0    | .3                                | .6  | .9  |
| Ligustrum, privet hedge   | 10   | .7      | x                                 | x   | x   |
| Other <sup>3</sup>        | 339  | 24.8    | .4                                | .8  | 1.3 |
|                           |      |         | —                                 | —   | —   |
| Total                     | 1367 | 100.0   | 1.3                               | 3.0 | 5.5 |

<sup>1</sup> Annual income per family: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

<sup>2</sup> Includes cedar and pine trees.

<sup>3</sup> Includes abelia, aucuba, barberry, laurel, mahonia, viburnum.

x Less than an average of 0.1 plant per house.

### Nursery Stock Purchased by Home Owners

Approximately 78 percent, or 362 of the 465 home owners in

this survey, had added nursery stock since they purchased their present homes. Various sources from within Tennessee supplied 91 percent of this nursery stock to the home owners.

The deciduous shrubs and trees comprised 64 percent of the nursery stock planted by home owners. The families of all income groups bought more deciduous plants than evergreens. There was a significant relationship between the amount of deciduous nursery stock planted and family income groups. The high-income family group bought more of this type nursery stock than the low-income group.

The *broadleaf* evergreens accounted for 25 percent of the nursery stock purchased and planted by home owners in Knoxville. The nandina and azalea were the most frequently-purchased species in the broadleaf evergreens. These two species accounted for 37 percent of the total broadleaf evergreens planted by the home owners. The low-income family group purchases averaged 2 plants compared with 8 plants for the high-income family group.

The number of *narrowleaf* evergreens purchased accounted for 11 percent of the nursery stock planted by home owners in the Knoxville metropolitan area. The average number bought by the low-income family group was 1 plant compared with 4 by the high-income family group. The spreading juniper, arborvitae, and hemlock comprised 77 percent of all the narrowleaf evergreens bought by home owners (Table 5).

A significant relationship was found between family income groups and the purchases of broadleaf and narrowleaf evergreen plants. As indicated earlier, the high-income family group bought more of these plants than the low-income group.

### Source of Purchase of Home Owners' Nursery Stock

There were five principal sources from which home owners obtained nursery stock to complete their home landscaping: nurseries, commercial stores, woods, gifts, and transplants.

Fifty-five percent of the nursery plants bought by the home owners came from nurseries. Nursery stock collected from woods, gifts from friends, and transplants accounted for 37 percent of the plantings made by the home owners. The remaining 8 percent was bought from commercial stores in the Knoxville metropolitan area.

There was a significant relationship between family income groups and the quantity of nursery stock purchased from nur-

Table 5. Number and Kind of Nursery Stock Planted by Family Income Groups, 465 Home Owners,<sup>1</sup> Knoxville, Tennessee, 1958.

| Kind of<br>nursery stock  | No.  | Percent | Family income groups <sup>2</sup> |      |      |
|---------------------------|------|---------|-----------------------------------|------|------|
|                           |      |         | I                                 | II   | III  |
| Avg. no. per home         |      |         |                                   |      |      |
| Deciduous                 |      |         |                                   |      |      |
| Shrubs                    | 2446 | 53.5    | 4.6                               | 5.0  | 7.5  |
| Flowering trees           | 1083 | 23.7    | 1.8                               | 2.2  | 3.7  |
| Shade trees               | 1045 | 22.8    | 1.9                               | 2.3  | 2.9  |
|                           |      |         | —                                 | —    | —    |
| Total                     | 4574 | 100.0   | 8.3                               | 11.4 | 14.1 |
| Evergreen, narrowleaf     |      |         |                                   |      |      |
| Upright juniper           | 102  | 12.4    | .2                                | .2   | .3   |
| Spreading juniper         | 291  | 35.3    | .4                                | .4   | 1.5  |
| Arborvitae                | 174  | 21.1    | .3                                | .4   | .5   |
| Hemlock                   | 168  | 20.4    | x                                 | .2   | 1.3  |
| Spruce                    | 33   | 4.0     | x                                 | x    | x    |
| Other <sup>3</sup>        | 56   | 6.8     | x                                 | .2   | .1   |
|                           |      |         | —                                 | —    | —    |
| Total                     | 824  | 100.0   | 1.1                               | 1.5  | 3.8  |
| Evergreen, broadleaf      |      |         |                                   |      |      |
| Chinese and Burford holly | 110  | 6.2     | .1                                | .2   | .6   |
| Japanese holly            | 91   | 5.1     | x                                 | .2   | .3   |
| American holly            | 27   | 1.5     | x                                 | x    | x    |
| Pyracantha                | 107  | 6.0     | .1                                | .2   | .5   |
| Southern magnolia         | 15   | .9      | x                                 | x    | x    |
| Nandina                   | 310  | 17.5    | .4                                | .6   | 1.5  |
| Azalea                    | 343  | 19.3    | .4                                | .8   | 1.2  |
| Boxwood                   | 197  | 11.1    | .2                                | .5   | .6   |
| Ligustrum, waxy           | 239  | 13.5    | .2                                | .3   | 1.7  |
| Ligustrum, privet hedge   | 14   | .8      | x                                 | x    | x    |
| Other <sup>4</sup>        | 321  | 18.1    | .5                                | .6   | 1.3  |
|                           |      |         | —                                 | —    | —    |
| Total                     | 1774 | 100.0   | 2.2                               | 3.5  | 8.1  |

<sup>1</sup> 103 home owners did not add any nursery stock to their plantings.

<sup>2</sup> I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

<sup>3</sup> Other includes cedar and pine trees.

<sup>4</sup> Other includes abelia, aucuba, barberry, camellia, laurel, mahonia, osmanthus, viburnum, and others.

x Less than .1 plant per house.

series. The high-income family group bought more plants from the nurseries than did the low-income family group. About one-third of the deciduous shrubs and trees purchased by families whose incomes were less than \$5,000 per year came from nurseries and the remaining two-thirds came from stores, woods, and gifts from neighbors. In comparison, two-thirds of the deciduous shrubs and trees bought by the high-income family group came from nurseries.

There were no significant differences between the family in-

come groups in the average number of plants considered as transplants, purchased from stores and received as gifts from friends. All three income groups averaged about 1 plant purchased from stores and about 6 plants from gifts or transplants (Table 6).

Table 6. Source of Nursery Stock Planted on Home Owner's Property, by Family Income Groups, 465 Home Owners,<sup>1</sup> Knoxville, Tennessee, 1958.

|                       | Source  |     |      |       |     |     |                    |     |                  |
|-----------------------|---------|-----|------|-------|-----|-----|--------------------|-----|------------------|
|                       | Nursery |     |      | Store |     |     | Other <sup>2</sup> |     |                  |
|                       | I       | II  | III  | I     | II  | III | I                  | II  | III <sup>3</sup> |
| Nursery stock         |         |     |      |       |     |     |                    |     |                  |
| Deciduous             |         |     |      |       |     |     |                    |     |                  |
| Shrubs                | 1.3     | 2.1 | 4.7  | .3    | .4  | x   | 3.0                | 2.4 | 2.7              |
| Flowering trees       | .8      | 1.0 | 2.4  | .3    | .1  | x   | .8                 | 1.2 | 1.3              |
| Shade trees           | .7      | 1.1 | 2.3  | .1    | .2  | x   | 1.0                | 1.0 | .6               |
| Total                 | 2.8     | 4.2 | 9.4  | .7    | .7  | .1  | 4.8                | 4.6 | 4.6              |
| Evergreen, narrowleaf | .6      | 1.1 | 3.4  | .3    | .2  | .2  | .3                 | .2  | .1               |
| Evergreen, broadleaf  | .9      | 2.4 | 6.2  | .5    | .2  | .7  | .8                 | .4  | 1.2              |
| Grand Total           | 4.3     | 7.7 | 19.0 | 1.5   | 1.1 | 1.0 | 5.9                | 5.2 | 5.9              |

<sup>1</sup> 103 home owners did not add any nursery stock to their plantings.

<sup>2</sup> Other includes gifts and transplants from other property or woods.

<sup>3</sup> Family income: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

x Less than .1 plant per house.

## Reasons Why Home Owners Liked and Disliked Shrubs and Trees

There were several reasons why the home owners liked the nursery stock they had planted in their yards. They liked the beauty of their plants which included the blooms, berries, and color of the foliage. Other desirable characteristics of nursery stock were to provide shade, fruit, privacy, and for use in interior decoration (Table 7).

The beauty of nursery stock accounted for 72 percent of the total reasons given for liking it. The narrowleaf evergreens were particularly liked for their formal shape. Many of the home owners that planted trees and shrubs had no particular reason why they planted some plants.

Much of the dislike for some particular types of nursery stock was attributed to home owners' disappointments experienced with their plantings. When plants grew slower than the home owners believed they should or no blooms appeared on their flowering trees, the home owners became dissatisfied with the plants. Another reason was that the arborvitaes and deciduous shrubs turned brown or dead-looking in winter. A few home owners objected to the thorns on some plants.

Table 7. Reasons Given for Liking Nursery Stock Planted by 465 Home Owners, Knoxville, Tennessee, 1958.<sup>1</sup>

| Nursery stock             | Home owner's reasons for desiring different nursery stock |                     |                              |                  |                                                                             |
|---------------------------|-----------------------------------------------------------|---------------------|------------------------------|------------------|-----------------------------------------------------------------------------|
|                           | Bloom, berries, foliage, color                            | Nice size and shape | Improves appearance of house | Easy to care for | Provides shade, cut decorations, fruit, protection, privacy & marks corners |
|                           | No. home owners reporting                                 |                     |                              |                  |                                                                             |
| Deciduous                 |                                                           |                     |                              |                  |                                                                             |
| Shrubs                    | 176                                                       |                     | 3                            | 3                | 16                                                                          |
| Flowering trees           | 152                                                       | 2                   |                              |                  | 52                                                                          |
| Shade trees               | 14                                                        |                     |                              |                  | 154                                                                         |
| Evergreen, narrowleaf     |                                                           |                     |                              |                  |                                                                             |
| Upright juniper           | 17                                                        | 9                   | 2                            |                  |                                                                             |
| Spreading juniper         | 27                                                        | 19                  | 14                           |                  | 1                                                                           |
| Arborvitae                | 30                                                        | 4                   | 6                            |                  |                                                                             |
| Hemlock                   | 21                                                        | 9                   |                              | 1                | 3                                                                           |
| Spruce                    | 13                                                        | 4                   |                              |                  |                                                                             |
| Other <sup>2</sup>        | 13                                                        | 1                   |                              |                  |                                                                             |
| Evergreen, broadleaf      |                                                           |                     |                              |                  |                                                                             |
| Chinese and Burford holly | 45                                                        | 1                   |                              |                  | 1                                                                           |
| Japanese holly            | 25                                                        | 1                   |                              | 1                | 1                                                                           |
| American holly            | 18                                                        |                     |                              |                  | 1                                                                           |
| Pyracantha                | 34                                                        |                     |                              |                  |                                                                             |
| Southern magnolia         | 11                                                        |                     |                              | 2                |                                                                             |
| Nandina                   | 83                                                        |                     |                              | 1                |                                                                             |
| Azalea                    | 60                                                        |                     |                              |                  |                                                                             |
| Boxwood                   | 21                                                        | 8                   |                              | 3                |                                                                             |
| Ligustrum, waxy           | 30                                                        |                     | 3                            |                  |                                                                             |
| Ligustrum, hedge          | 3                                                         | 1                   | 1                            |                  | 4                                                                           |
| Other <sup>3</sup>        | 49                                                        | 1                   | 1                            | 1                |                                                                             |
| Total                     | 842                                                       | 60                  | 30                           | 12               | 233                                                                         |

<sup>1</sup> 103 home owners did not add any nursery stock to their plantings.

<sup>2</sup> Includes cedar and pine trees.

<sup>3</sup> Other includes abelia, acuba, barberry, camellia, laurel, mahonia, osmanthus, viburnum, and others.

There were several reasons given by the home owners why they had not planted nursery stock. "Just moved in the house and haven't had time," accounted for 49 percent of the reasons given. "Can't afford it," comprised 26 percent. Other reasons were, "We want to establish our lawn first," "Want to remodel first," "Need to repair driveway or drainfield first," "Waiting until next door lot is landscaped," "We might move," "Can't find what we want," and "Children or dogs might destroy the plants."

More higher family income groups gave as their reason for not having already planted more shrubbery and trees "Just moved in," and/or "Haven't had time." As one might expect, the reason for not planting, "Can't afford it," was least in the higher family income group (Table 8).

Table 8. Reasons Given for Not Having Already Planted Desired Nursery Stock by Family Income Groups, 257 Home Owners, Knoxville, Tennessee, 1958.

| Reasons                                  | Home owners |       | Family income groups <sup>1</sup> |       |       |
|------------------------------------------|-------------|-------|-----------------------------------|-------|-------|
|                                          |             |       | I                                 | II    | III   |
|                                          | No.         | %     | Percent                           |       |       |
| Just moved in and/or haven't had time    | 126         | 48.8  | 38.6                              | 49.6  | 61.2  |
| Can't afford to yet                      | 67          | 26.0  | 38.6                              | 25.2  | 10.3  |
| Want to establish lawn first             | 16          | 6.2   | 11.4                              | 5.0   | 2.0   |
| Want to remodel first                    | 3           | 1.2   | *                                 | .7    | 4.1   |
| Need to repair driveway first            | 3           | 1.2   | *                                 | 1.4   | 2.0   |
| Waiting till lot next door is landscaped | 1           | .4    | 1.4                               | *     | *     |
| Only need replacements                   | 14          | 5.4   | 5.7                               | 5.8   | 4.0   |
| Might move                               | 10          | 3.9   | 2.9                               | 3.6   | 6.1   |
| Can't find what we want                  | 5           | 1.9   | *                                 | 2.9   | 2.0   |
| Children destroy plants                  | 13          | 5.0   | 1.4                               | 5.8   | 8.3   |
| Total                                    | 258         | 100.0 | 100.0                             | 100.0 | 100.0 |

<sup>1</sup> I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

\* Less than .1 percent.

## Future Expectations in Sales of Nursery Stock

Of the 465 home owners, 55 percent planned to buy more nursery stock. There was a significant relationship between family income groups and the desire to plant more nursery stock. About 62 percent of the families in the high-income group planned to add more shrubs and trees compared with 40 percent in the low-income group (Table 9).

Table 9. Distribution of Home Owners as to Whether They Desired to Plant More Nursery Stock, by Family Income Groups, 465 Home Owners, Knoxville, Tennessee, 1958.

| Home owners' desires           | Home owners |       | Family income groups <sup>1</sup> |     |     |         |       |       |
|--------------------------------|-------------|-------|-----------------------------------|-----|-----|---------|-------|-------|
|                                |             |       | I                                 | II  | III | I       | II    | III   |
|                                | No.         | %     | Number                            |     |     | Percent |       |       |
| Want more nursery stock        | 257         | 55.3  | 69                                | 138 | 50  | 39.7    | 65.7  | 61.7  |
| Do not want more nursery stock | 208         | 44.7  | 105                               | 72  | 31  | 60.3    | 34.3  | 38.3  |
| Total                          | 465         | 100.0 | 174                               | 210 | 81  | 100.0   | 100.0 | 100.0 |

<sup>1</sup> I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

Forty-two percent of the 257 home owners who wanted more nursery stock definitely planned to buy more trees and shrubs within the next 5 years; however, 58 percent had no definite plans of purchase.

### Home Owners' Attitudes on Prices, Expenditures, and Nursery Services

About 45 percent of the home owners believed that the price of nursery stock was not too high in relation to other household commodities. Lack of knowledge of nursery stock prices prevented 34 percent of the home owners from making a comment. Twenty-one percent thought that the prices of nursery stock were too high (Table 10).

About a third of the home owners believed their expenditures on nursery stock increased the value of their property, and 45 percent thought there was no increase in value. The other home owners had made no plantings and therefore did not comment.

Table 10. Distribution of Home Owners as to How They Feel About the Price of Nursery Stock, by Family Income Groups, 465 Home Owners, Knoxville, Tennessee, 1958.

| Home owners' attitudes toward price of nursery stock | All         |       | Family income groups <sup>1</sup> |     |     |         |       |       |
|------------------------------------------------------|-------------|-------|-----------------------------------|-----|-----|---------|-------|-------|
|                                                      | home owners |       | I                                 | II  | III | I       | II    | III   |
|                                                      | No.         | %     | Number                            |     |     | Percent |       |       |
| Too high                                             | 97          | 20.8  | 26                                | 54  | 17  | 14.9    | 25.7  | 21.0  |
| About right                                          | 204         | 43.8  | 72                                | 87  | 45  | 41.4    | 41.4  | 55.6  |
| Not high enough                                      | 6           | 1.3   | 1                                 | 1   | 4   | .6      | .5    | 4.9   |
| Don't know                                           | 158         | 34.1  | 75                                | 68  | 15  | 43.1    | 32.4  | 18.5  |
| Total                                                | 465         | 100.0 | 174                               | 210 | 81  | 100.0   | 100.0 | 100.0 |

Sixty-three percent of the home owners were not planning to spend any more money for nursery stock, as they believed their landscaping was complete. Less than 20 percent planned on spending an average of \$1 to \$25 for additional plants, and about 15 percent planned on spending from \$26 to \$200 to complete their plantings. Only 1.5 percent planned to spend over \$200 per family on nursery stock. There was a significant relationship between family income groups and planned future expenditure for nursery stock. The high-income family group expected to spend more for nursery stock in the future than the low-income family group (Table 11).

Table 11. Distribution of Home Owners as to How Much They Expect to Spend to Complete Their Plantings, by Family Income Groups, 465 Home Owners, Knoxville, Tennessee, 1958.

| Future expenditures planned for nursery stock | All home owners |       | Family income groups <sup>1</sup> |     |     |         |       |       |
|-----------------------------------------------|-----------------|-------|-----------------------------------|-----|-----|---------|-------|-------|
|                                               |                 |       | I                                 | II  | III | I       | II    | III   |
|                                               | No.             | %     | Number                            |     |     | Percent |       |       |
| Nothing                                       | 291             | 62.6  | 137                               | 118 | 36  | 78.7    | 56.2  | 44.4  |
| \$ 1-\$ 25                                    | 74              | 15.9  | 24                                | 42  | 8   | 13.8    | 20.0  | 9.9   |
| 26- 50                                        | 33              | 7.1   | 3                                 | 18  | 12  | 1.7     | 8.6   | 14.8  |
| 51- 100                                       | 20              | 4.3   | 3                                 | 8   | 9   | 1.7     | 3.8   | 11.1  |
| 101- 200                                      | 18              | 3.9   | 1                                 | 9   | 8   | 0.6     | 4.3   | 9.9   |
| Over 200                                      | 7               | 1.5   | 2                                 | 3   | 2   | 1.2     | 1.4   | 2.5   |
| Don't know                                    | 22              | 4.7   | 4                                 | 12  | 6   | 2.3     | 5.7   | 7.4   |
| Total                                         | 465             | 100.0 | 174                               | 210 | 81  | 100.0   | 100.0 | 100.0 |

<sup>1</sup> I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

Over one-half of the 465 home owners believed they did need information on care of their plants. Families in higher income groups expressed more need or desire to obtain additional information than did the low-income family group. The kinds of important information needed by the families were what varieties to plant, pruning instructions, how, where and when to plant, control of insects and diseases, use of fertilizer, and preparing trees and shrubs for winter. There were many suggestions made by home owners as to how they thought the nurserymen could better serve them. The suggestion given most often and accounting for about 33 percent of the total was that the nurseries should have programs offering guidance to home owners. Some other suggestions were "Give more reliable service," "Bring the prices of nursery stock in line with other related products," "Improve replacement policy," and "Have salesmen call at homes" (Table 12).

Table 12. Suggestions as to How Nurserymen and Growers Can Better Serve Residents, 465 Home Owners, Knoxville, Tennessee, 1958.

| Suggestions                                    | Total no. |
|------------------------------------------------|-----------|
| Have programs offering guidance to home owners | 35        |
| Improve service and replacement policy         | 32        |
| Nursery stock prices be reasonable             | 10        |
| All others <sup>1</sup>                        | 18        |

<sup>1</sup> Includes: improve store displays, support garden clubs, more convenient sales places, and establish installment plans for landscape home improvement.

## Landscaping in the Knoxville Industrial Area<sup>3</sup> Potential Demand for Landscape Work

Fifty-six percent of the industrial buildings in the survey were purchased or leased before 1950, and 88 percent were built before 1950. These data revealed that most of the industrial area in Knoxville was relatively old, and there probably was not much new industrial area for landscaping.

About half of the industries in this study had some area where more nursery stock could be added. The total area available for landscaping in this survey was 98 acres. On this basis it may be estimated that around 310 acres are available for landscaping in the Knoxville industrial area. Most of the area available for landscaping was found in industries that employ from 25 to 99 employees (Table 13).

Table 13. Number of Industries by Size and the Acres Available for Landscaping, 42 Industries, Knoxville, Tennessee, 1958.

| Items                                       | Total No. | Number of employees |       |            |
|---------------------------------------------|-----------|---------------------|-------|------------|
|                                             |           | 1-24                | 25-99 | 100 & over |
| No. of industries with area for landscaping | 42        | 7                   | 11    | 24         |
| Total acres available for landscaping       | 98.0      | 3.3                 | 63.9  | 30.8       |
| Average acres available per firm            | 2.3       | .47                 | 5.81  | 1.28       |

Managers of 65 percent of the industries reported that they have not landscaped, and 69 percent of those that had landscape work done had no plan drawn for the job. These data reveal the lack of interest among industrial leaders for the use of landscaping services; however, a higher percent of landscaping was done at industries that employ 100 or more employees (Table 14). Eight

Table 14. Distribution of Industries as to Whether Landscaping Has Been Done on Property, 92 Firms, Knoxville, Tennessee, 1958.

| Industries       | Total |       | Number of employees |       |            |         |       |            |
|------------------|-------|-------|---------------------|-------|------------|---------|-------|------------|
|                  |       |       | 1-24                | 25-99 | 100 & over | 1-24    | 25-99 | 100 & over |
|                  | No.   | %     | Number              |       |            | Percent |       |            |
| With landscaping | 32    | 34.8  | 5                   | 6     | 21         | 26.3    | 20.7  | 47.7       |
| No landscaping   | 60    | 65.2  | 14                  | 23    | 23         | 73.7    | 79.3  | 52.3       |
| Total            | 92    | 100.0 | 19                  | 29    | 44         | 100.0   | 100.0 | 100.0      |

<sup>3</sup> The 92 industries in this study comprised 29 percent of the industries in the Knoxville area. Nineteen of these industries employed 1 to 24 persons, 29 employed 25 to 100, and 44 employed 100 or more.

out of 10 managers of industries that had landscape plans drawn considered them satisfactory.

Only 4 of the 32 industries that had landscape work done had a maintenance contract with a nursery. None of the small industries that hire less than 25 employees had a contract with a nursery.

Only five firms reported the existence of nursery stock when they first began business. The deciduous shrubs and trees were the most common type of nursery stock existing around these firms. Burford holly was the most abundant type of evergreen existing when these firms began business. The large firms that had 100 or more employees accounted for 96 percent of this nursery stock.

Deciduous shrubs and trees were the most popular kind of nursery stock that had been added in the industrial area. Azaleas, boxwoods, and ligustrums accounted for about 77 percent of the broadleaf evergreens planted by the industries. Of the narrow-leaf evergreens planted, 93 percent consisted of the junipers and arborvitae. Of this added nursery stock, 76 percent was bought by large firms that hire 100 or more employees (Table 15).

In this survey, 60 percent of the managers having nursery stock on their property did not plan to make any more plantings around their firms. Over half of those who planned to add shrubbery and trees in the near future did not desire to hire any landscaping services. The smaller firms desired the landscaping services more than the larger firms.

Fifty-six percent of the managers in 25 firms that have nursery stock on their property indicated that they did not have enough ground area to plant more shrubs and trees. Most managers of firms that hire 100 or more employees gave this reason for not planting more nursery stock. Twenty-four percent of the managers gave such reasons as "Will move soon" and "Business not good enough to set out plants" for not desiring to plant more nursery stock. Other minor reasons were "Don't care how the place looks," "Cost too much," "Do not own property" and "Added shrubbery will increase the amount of taxes due each year" (Table 16).

Managers in 43 percent of the firms gave as the reason for planting trees and shrubs on their property "to beautify the grounds." Twenty-one percent thought nursery stock should be planted on the industrial sites to improve public relations with

Table 15. Number and Kind of Nursery Stock Added in Landscaping Industrial Sites, 28 Industries, Knoxville, Tennessee, 1958.

| Nursery stock           | No. | %     | Number of employees |       |            |            |       |            |
|-------------------------|-----|-------|---------------------|-------|------------|------------|-------|------------|
|                         |     |       | 100 & over          |       |            | 100 & over |       |            |
|                         |     |       | 1-24                | 25-99 | 100 & over | 1-24       | 25-99 | 100 & over |
|                         |     |       | Number              |       |            | Percent    |       |            |
| Deciduous               |     |       |                     |       |            |            |       |            |
| Shrubs                  | 235 | 49.9  | 17                  | 30    | 188        | 63.0       | 62.5  | 47.5       |
| Flowering trees         | 36  | 7.6   | 5                   | 0     | 31         | 18.5       | 0.0   | 7.8        |
| Shade trees             | 200 | 42.5  | 5                   | 18    | 177        | 18.5       | 37.5  | 44.7       |
| Total                   | 471 | 100.0 | 27                  | 48    | 396        | 100.0      | 100.0 | 100.0      |
| Evergreen, narrowleaf   |     |       |                     |       |            |            |       |            |
| Upright juniper         | 28  | 21.5  | 0                   | 5     | 23         | —          | 29.4  | 20.3       |
| Spreading juniper       | 52  | 40.0  | 0                   | 4     | 48         | —          | 23.5  | 42.5       |
| Arborvitae              | 41  | 31.5  | 0                   | 5     | 36         | —          | 29.4  | 31.9       |
| Hemlock                 | 9   | 7.0   | 0                   | 3     | 6          | —          | 17.7  | 5.3        |
| Total                   | 130 | 100.0 | 0                   | 17    | 113        | —          | 100.0 | 100.0      |
| Evergreen, broadleaf    |     |       |                     |       |            |            |       |            |
| Chinese & Burford holly | 12  | 4.4   | 2                   | 3     | 7          | 8.3        | 3.3   | 4.5        |
| Japanese holly          | 4   | 1.5   | 4                   | 0     | 0          | 16.6       | —     | —          |
| American holly          | 4   | 1.5   | 0                   | 0     | 4          | —          | —     | 2.6        |
| Pyracantha              | 4   | 1.5   | 0                   | 0     | 4          | —          | —     | 2.6        |
| Southern magnolia       | 3   | 1.1   | 1                   | 0     | 2          | 4.2        | —     | 1.3        |
| Nandina                 | 36  | 13.3  | 10                  | 17    | 9          | 41.7       | 18.5  | 5.8        |
| Azaleas                 | 69  | 25.4  | 0                   | 20    | 49         | —          | 21.7  | 31.6       |
| Boxwood                 | 74  | 27.3  | 4                   | 27    | 43         | 16.7       | 29.3  | 27.7       |
| Ligustrum               | 65  | 24.0  | 3                   | 25    | 37         | 12.5       | 27.2  | 23.9       |
| Total                   | 271 | 100.0 | 24                  | 92    | 155        | 100.0      | 100.0 | 100.0      |

Table 16. Managers' Plans and Reasons for Not Desiring to Plant Nursery Stock, 42 Industries, Knoxville, Tennessee, 1958.

| Industries                   | No. | Percent | Number of employees |       |            |
|------------------------------|-----|---------|---------------------|-------|------------|
|                              |     |         | 1-24                | 25-99 | 100 & over |
|                              |     |         | Percent             |       |            |
| Plan to make planting        | 17  | 40.5    | 57.1                | 36.4  | 37.5       |
| Do not plan to make planting | 25  | 59.5    | 42.9                | 63.6  | 62.5       |
| Reasons for not planting     |     |         |                     |       |            |
| No more room                 | 14  | 56.0    | 66.7                | 28.6  | 66.7       |
| Will move soon               | 3   | 12.0    | 0.0                 | 14.2  | 13.3       |
| Business not good            | 3   | 12.0    | 0.0                 | 28.6  | 6.7        |
| Do not care how place looks  | 2   | 8.0     | 0.0                 | 28.6  | 0.0        |
| Cost too much                | 1   | 4.0     | 0.0                 | 0.0   | 6.7        |
| Increases taxes              | 1   | 4.0     | 0.0                 | 0.0   | 6.6        |
| Do not own property          | 1   | 4.0     | 33.3                | 0.0   | 0.0        |

their customers, and 10 percent believed it would improve the employees' morale (Table 17). This agrees with the following statement given by the Executive Secretary of the American Association of Nurserymen:

"One of the most interesting features of industrial landscaping is that the landscaping acts as a showroom for plant materials, leading many employees to become more plant-conscious in relation to planting about their homes. In addition to this, both community and employee relations with the company are improved. Other things being equal, people prefer to work in a factory beautifully landscaped with trees and shrubs, while the community is also more proud of it."<sup>4</sup>

Table 17. Reasons Given Why Shrubs and Trees Should Be Planted on Industrial Sites, 42 Industries, Knoxville, Tennessee, 1958.

| Reasons                   | No. | Percent | Number of employees |         |            |
|---------------------------|-----|---------|---------------------|---------|------------|
|                           |     |         | 1-24                | 25-99   | 100 & over |
|                           |     |         |                     | Percent |            |
| Beautifies the property   | 27  | 42.9    | 55.6                | 37.6    | 42.1       |
| Improves public relations | 13  | 20.6    | 22.2                | 18.8    | 21.1       |
| Improves workers' morale  | 6   | 9.5     | 0.0                 | 0.0     | 13.2       |
| Other <sup>1</sup>        | 5   | 7.9     | 0.0                 | 12.4    | 7.8        |
| No reason                 | 12  | 19.1    | 22.2                | 31.2    | 15.8       |
| Total                     | 63  | 100.0   | 100.0               | 100.0   | 100.0      |

<sup>1</sup> Includes: wildlife protection, hobby, and increased value of the property.

## Landscaping in the Knoxville Institutions and Commercial Firms Areas<sup>5</sup>

### Potential Demand for Landscape Work

Of the 74 establishments in the Knoxville vicinity, 71 had some area available for planting shrubs and trees. The total available area for these 71 establishments was 325 acres, or about 5 acres per establishment. The government buildings had more acres available for landscaping than other establishments (Table 18).

Nearly all managers of these establishments had some landscape work done in the past on their properties; however, 52 per-

<sup>4</sup> Richard P. White, Executive Secretary of American Association of Nurserymen, Southern Florist and Nurseryman's Industrial Landscape Brochure, "Industrial Landscaping's Part in the American Way of Living," p. 2.

<sup>5</sup> This section of the study includes data taken from 74 establishments in the Knoxville market area. The data came from 23 commercial firms, 20 churches, 16 schools, 9 government agencies, and 6 hospitals.

Table 18. Acres Available for Landscaping, 71 Establishments, Knoxville, Tennessee, 1958.

| Items                                                             | Total<br>no. | Commercial<br>firms | Churches | Schools | Government<br>buildings | Hospitals |
|-------------------------------------------------------------------|--------------|---------------------|----------|---------|-------------------------|-----------|
| Number                                                            |              |                     |          |         |                         |           |
| Establishments with<br>landscape area                             | 71           | 23                  | 18       | 16      | 8                       | 6         |
| Acres                                                             |              |                     |          |         |                         |           |
| Acres available for<br>landscaping                                | 325.4        | 21.4                | 6.1      | 34.8    | 250.8                   | 12.3      |
| Average acres per<br>establishment avail-<br>able for landscaping | 4.6          | .9                  | .3       | 2.2     | 31.4                    | 2.1       |

cent did not have a plan drawn for their plantings. One-half of the commercial firms' managers had plans drawn for their plantings compared with 38 percent of the schools, 29 percent of the government buildings, 25 percent of the churches and 17 percent of the hospitals (Table 19).

Table 19. Distribution of Establishments as to Whether They Had a Landscape Plan Drawn for Their Plantings, 71 Establishments, Knoxville, Tennessee, 1958.

| Items                             | All            |       | Commercial | Government |         |           |           |
|-----------------------------------|----------------|-------|------------|------------|---------|-----------|-----------|
|                                   | establishments |       | firms      | Churches   | Schools | buildings | Hospitals |
|                                   | No.            | %     |            |            | Number  |           |           |
| Had landscape plan drawn          | 26             | 36.6  | 13         | 4          | 6       | 2         | 1         |
| Did not have landscape plan drawn | 35             | 49.3  | 8          | 10         | 8       | 4         | 5         |
| Did not know                      | 10             | 14.1  | 5          | 2          | 2       | 1         | 0         |
|                                   | —              | —     | —          | —          | —       | —         | —         |
| Total                             | 71             | 100.0 | 26         | 16         | 16      | 7         | 6         |

Managers of 77 percent of the establishments had the same nursery do their landscape planning and planting of their trees and shrubs. One-half of these managers thought that the charge for landscape work was reasonable. Lack of knowledge concerning cost for this type work was evident as many of the managers refused to comment on this particular question. Practically all the managers were satisfied with the landscape work performed by nurserymen. Very few managers of the establishments had contracted with someone to maintain their yards. One-third of the managers reported that the janitors maintained the yards. Sixty percent of these establishments employed workmen for yard maintenance work. Most of these workmen did this work only part of the day.

The broadleaf evergreens were the most abundant kind of nursery stock found in the yards of these establishments, except for the schools; there most plants were deciduous shrubs and trees. Among narrowleaf evergreens, the spreading juniper was the most numerous. More boxwoods were planted than any other kind of broadleaf evergreen. Eighty-eight percent of all the nursery stock on the government building grounds were broadleaf evergreens (Table 20).

Table 20. Number and Kind of Nursery Stock by Type Establishment, Existing at Time Establishment First Located at Present Area, 22 Establishments, Knoxville, Tennessee, 1958.

| Nursery stock           | Total<br>no. | Commercial<br>firms | Churches | Schools | Government<br>buildings | Hospitals |
|-------------------------|--------------|---------------------|----------|---------|-------------------------|-----------|
| Deciduous               |              |                     |          |         |                         |           |
| Shrubs                  | 83           | 10                  | 36       | 30      | 7                       | 0         |
| Flowering trees         | 2            | 0                   | 0        | 2       | 0                       | 0         |
| Shade trees             | 88           | 32                  | 3        | 48      | 5                       | 0         |
| Evergreen, narrowleaf   |              |                     |          |         |                         |           |
| Upright juniper         | 13           | 12                  | 1        | 0       | 0                       | 0         |
| Spreading juniper       | 88           | 63                  | 9        | 12      | 4                       | 0         |
| Arborvitae              | 21           | 8                   | 7        | 5       | 1                       | 0         |
| Hemlock                 | 4            | 2                   | 0        | 0       | 0                       | 2         |
| Other                   | 7            | 0                   | 6        | 0       | 1                       | 0         |
| Evergreen, broadleaf    |              |                     |          |         |                         |           |
| Chinese & Burford holly | 34           | 5                   | 0        | 0       | 8                       | 21        |
| Japanese holly          | 26           | 19                  | 0        | 0       | 7                       | 0         |
| Pyracantha              | 7            | 0                   | 3        | 0       | 4                       | 0         |
| Nandina                 | 64           | 6                   | 9        | 0       | 26                      | 23        |
| Azaleas                 | 25           | 25                  | 0        | 0       | 0                       | 0         |
| Boxwood                 | 115          | 29                  | 44       | 4       | 1                       | 37        |
| Ligustrum               | 5            | 0                   | 0        | 0       | 5                       | 0         |
| Other                   | 570          | 86                  | 23       | 63      | 77                      | 321       |
| Total                   | 1152         | 297                 | 141      | 164     | 146                     | 404       |

More broadleaf evergreen nursery stock had been added to the original plantings than any other type, and the Japanese holly was most in demand. In the deciduous group, shrubs were added most frequently and in the narrowleaf evergreens the junipers were used most.

The government agencies added more deciduous nursery stock per establishment than any of the others. The hospitals had more narrowleaf and broadleaf evergreens added to their property than the other establishments. The spreading junipers were the species of the narrowleaf evergreen added most often by these establishments. The most popular broadleaf evergreens sold to these

establishments were the Japanese hollies, southern magnolias, nandinas, boxwoods, and azaleas (Table 21).

Table 21. Number and Kind of Nursery Stock Added, 22 Establishments, Knoxville, Tennessee, 1958.

| Nursery stock                           | Total<br>no. | Commercial<br>firms | Churches | Schools | Government<br>buildings | Hospitals |
|-----------------------------------------|--------------|---------------------|----------|---------|-------------------------|-----------|
| Avg. no. nursery stock added per estab. |              |                     |          |         |                         |           |
| Deciduous                               |              |                     |          |         |                         |           |
| Shrubs                                  | 728          | 3.8                 | 2.8      | 14.2    | 31.2                    | 14.7      |
| Flowering trees                         | 409          | 3.9                 | 1.7      | 5.6     | 20.6                    | 3.1       |
| Shade trees                             | 366          | 1.3                 | 1.2      | 2.6     | 21.9                    | 11.5      |
| Evergreen, narrowleaf                   |              |                     |          |         |                         |           |
| Upright juniper                         | 53           | 2.0                 | .2       | .2      | .0                      | .0        |
| Spreading juniper                       | 323          | 2.7                 | 1.8      | 2.3     | .4                      | 27.1      |
| Arboretvitae                            | 107          | 1.0                 | .1       | .6      | 4.6                     | 4.6       |
| Hemlock                                 | 58           | .5                  | .3       | .9      | .0                      | 3.9       |
| Other                                   | 32           | .3                  | 1.0      | .0      | .0                      | .6        |
| Evergreen, broadleaf                    |              |                     |          |         |                         |           |
| Chinese &<br>Burford holly              | 102          | .6                  | 1.1      | 1.4     | .0                      | 6.6       |
| Japanese holly                          | 235          | 4.1                 | .0       | 2.5     | .2                      | 14.9      |
| American holly                          | 14           | .0                  | .3       | .0      | .2                      | .7        |
| Pyracantha                              | 26           | .7                  | .0       | .3      | .7                      | .0        |
| Southern magnolia                       | 133          | .2                  | .1       | .0      | .2                      | 17.7      |
| Nandina                                 | 174          | 1.0                 | .1       | 3.2     | .9                      | 13.9      |
| Azalea                                  | 113          | 1.0                 | .0       | .7      | .7                      | 10.4      |
| Boxwood                                 | 136          | 1.9                 | 2.9      | —       | .0                      | 4.7       |
| Ligustrum                               | 95           | 2.4                 | .7       | 1.2     | .2                      | .7        |
| Other                                   | 1426         | 24.5                | 7.1      | 12.1    | 3.9                     | 73.9      |

The managers of the commercial firms bought 100 percent of their nursery stock from nurseries, the government agencies 97 percent, schools 83 percent, hospitals 82 percent, and churches 46 percent. Most of these managers did not plan to make any more purchases within the next few years. The reason given most often for not making further plantings was "no more room." Of those who did plan to add nursery stock, the commercial firms, schools, and hospitals desired to hire professional men to do the job; however, the yard superintendents for churches and government buildings planned to do their own plantings.

## Landscaping in the Nashville Home Owners' Residential Area

### Home Owners' Demands for Landscape Work

Only 7 percent of 421 respondents in the Nashville area had landscape plans drawn for their yards. Eighteen percent of the

families in the high-income group had landscape plans drawn compared with 6 percent in the low-income family group and 4 percent of the middle-income family group. However, these differences were not significant.

Approximately 11 percent of the home owners were interested in having their yards landscaped in the next few years. Families in the high-income groups had a significantly greater interest in having landscape work done than families in the low-income group. The services most desired by these families were planting shrubs and re-establishing or improving the lawn (Table 22).

Table 22. Home Owners Interested in Hiring Landscape Work, 421 Home Owners, Nashville, Tennessee, 1959.

| Items                                               | No. | %     | Family income groups <sup>1</sup> |     |     |         |       |       |
|-----------------------------------------------------|-----|-------|-----------------------------------|-----|-----|---------|-------|-------|
|                                                     |     |       | I                                 | II  | III | I       | II    | III   |
|                                                     |     |       | Number                            |     |     | Percent |       |       |
| Home owners not interested in hiring landscape work | 376 | 89.3  | 97                                | 209 | 70  | 93.3    | 89.3  | 84.3  |
| Interested in hiring landscape work                 | 45  | 10.7  | 7                                 | 25  | 13  | 6.7     | 10.7  | 15.7  |
| Total                                               | 421 | 100.0 | 104                               | 234 | 83  | 100.0   | 100.0 | 100.0 |
| Type of service desired                             |     |       |                                   |     |     |         |       |       |
| Plant shrubs                                        | 22  | 53.7  | 5                                 | 12  | 5   | 71.4    | 57.1  | 38.5  |
| Re-establish and improve lawn                       | 16  | 39.0  | 2                                 | 6   | 8   | 28.6    | 28.6  | 61.5  |
| Transplanting shrubs                                | 3   | 7.3   | 0                                 | 3   | 0   | 0.0     | 14.3  | 0.0   |

<sup>1</sup> Family income groups: I Less than \$5,000; II \$5,000 to \$8,000; III \$8,000 and over.

Nearly all Nashville home owners did their own landscape work to save money and/or as a hobby. A significant relationship existed between family income groups and reasons given for doing their own landscaping. Most families in the low-income group did their own landscape work because it was cheaper; however, the majority of high-income families did their landscaping work as a hobby (Table 23).

### Home Owners' Preferences for Horticultural Specialties

When the home owners' houses were bought, about 80 percent of the nursery stock was classified as evergreens. Sixty-four percent of these were the narrowleaf type. The arborvitaes and junipers were the most common. Arborvitaes accounted for 28 percent and the junipers 30 percent. Broadleaf evergreens accounted for 36 percent of the home owners' evergreens with nandina ranking first. There was no significant relationship between

Table 23. Reasons Given for Doing One's Own Landscaping, 421 Home Owners, Nashville, Tennessee, 1959.

| Reasons            | No. | %     | Family income groups <sup>1</sup> |     |     |         |       |       |
|--------------------|-----|-------|-----------------------------------|-----|-----|---------|-------|-------|
|                    |     |       | I                                 | II  | III | I       | II    | III   |
|                    |     |       | Number                            |     |     | Percent |       |       |
| Cheaper            | 168 | 45.2  | 46                                | 104 | 18  | 57.5    | 45.6  | 28.1  |
| Hobby              | 175 | 47.0  | 28                                | 106 | 41  | 35.0    | 46.5  | 64.1  |
| Other <sup>2</sup> | 29  | 7.8   | 6                                 | 18  | 5   | 7.5     | 7.9   | 7.8   |
| Total              | 372 | 100.0 | 80                                | 228 | 64  | 100.0   | 100.0 | 100.0 |

<sup>1</sup> I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

<sup>2</sup> Includes home owners' belief that they themselves can do a better job than the nurserymen.

family income groups and type of shrubs used in the Nashville area (Table 24).

Table 24. Number and Kind of Nursery Stock Existing at Time House Was Purchased, by Family Income Groups, 421 Home Owners, Nashville, Tennessee, 1959.

| Nursery stock           | No. | Percent | Family income groups <sup>1</sup> |     |     |
|-------------------------|-----|---------|-----------------------------------|-----|-----|
|                         |     |         | I                                 | II  | III |
|                         |     |         | Avg. no. plants per house         |     |     |
| Deciduous               |     |         |                                   |     |     |
| Shrubs & trees          | 860 | 100.0   | 3.9                               | 4.3 | 4.3 |
| Evergreen, narrowleaf   |     |         |                                   |     |     |
| Upright juniper         | 534 | 14.9    | 2.5                               | 2.6 | 2.2 |
| Spreading juniper       | 525 | 14.6    | 2.9                               | 2.4 | 2.7 |
| Arboretum               | 988 | 27.5    | 3.0                               | 3.3 | 3.3 |
| Hemlock                 | 91  | 2.5     | 1.3                               | 2.2 | 1.7 |
| Other <sup>2</sup>      | 150 | 4.2     | 3.0                               | 2.8 | 2.3 |
| Evergreen, broadleaf    |     |         |                                   |     |     |
| Chinese & Burford holly | 28  | .8      | —                                 | 3.3 | 2.5 |
| Japanese holly          | 66  | 1.8     | 2.0                               | 2.6 | 2.8 |
| American holly          | 9   | .3      | —                                 | 1.0 | 4.0 |
| Pyracantha              | 13  | .4      | —                                 | 2.3 | 2.0 |
| Southern magnolia       | 5   | .1      | —                                 | 1.0 | 1.3 |
| Nandina                 | 340 | 9.5     | 1.9                               | 4.1 | 2.3 |
| Other <sup>3</sup>      | 843 | 23.4    | 3.0                               | 2.9 | 5.0 |

<sup>1</sup> I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

<sup>2</sup> Includes cedars and pines.

<sup>3</sup> Includes azaleas, boxwoods, and hedges.

Thirty percent of the nursery stock planted by home owners was the deciduous type. The high-income families planted an average of 12 deciduous plants per house compared with 6 for low-income families. Seventy-nine percent of the evergreens were the broadleaf type. Nandina was the most popular broadleaf purchased by the home owners (Table 25).

Table 25. Number and Kind of Nursery Stock Planted, 421 Home Owners, by Family Income Groups, Nashville, Tennessee, 1959.

| Nursery stock           | No.  | Percent | Family income groups <sup>1</sup> |     |      |
|-------------------------|------|---------|-----------------------------------|-----|------|
|                         |      |         | I                                 | II  | III  |
|                         |      |         | Avg. no. plants per house         |     |      |
| Deciduous               |      |         |                                   |     |      |
| Shrubs and trees        | 1145 | 100.0   | 6.4                               | 5.9 | 12.0 |
| Evergreen, narrowleaf   |      |         |                                   |     |      |
| Upright juniper         | 82   | 3.1     | 2.2                               | 3.4 | 2.5  |
| Spreading juniper       | 215  | 8.2     | 4.5                               | 3.0 | 3.8  |
| Arborvitae              | 113  | 4.3     | 1.8                               | 2.7 | 2.9  |
| Hemlock                 | 43   | 1.6     | 1.8                               | 1.7 | 1.5  |
| Other <sup>2</sup>      | 95   | 3.6     | 1.4                               | 4.8 | 2.7  |
| Evergreen, broadleaf    |      |         |                                   |     |      |
| Chinese & Burford holly | 55   | 2.1     | 1.8                               | 1.8 | 2.0  |
| Japanese holly          | 83   | 3.2     | 2.0                               | 2.7 | 5.9  |
| American holly          | 8    | .3      | —                                 | 2.5 | 1.3  |
| Pyracantha              | 36   | 1.4     | 5.0                               | 1.8 | 1.8  |
| Southern magnolia       | 20   | .8      | 1.0                               | 1.3 | 1.8  |
| Nandina                 | 159  | 6.1     | 5.9                               | 2.6 | 1.9  |
| Other <sup>3</sup>      | 1711 | 65.3    | 5.2                               | 7.5 | 8.5  |

<sup>1</sup> I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

<sup>2</sup> Includes cedars and pines.

<sup>3</sup> Includes azalea, boxwoods, ligustrum (hedge).

There were many reasons given why home owners planted nursery stock. Over 60 percent of these families were interested in the beauty from the blooms, berries, and color of the foliage provided by the plants. There were several reasons given by the Nashville home owners for not desiring to add nursery stock in their yards. Forty-seven percent gave the reason that their present number of plants was enough for the size of their yard. Other reasons were "Lack of money to buy plants," "Hard to mow grass around shrubs," "Lack of time to plant and care for shrubs," "Might move," and "Need to establish lawn first" (Table 26). No significant relationship existed between family income groups and reasons for desiring and not desiring to add more nursery stock to their yards.

Many home owners had no desire to plant shrubs or trees in the near future; most of those who did wanted the deciduous type. There was a significant relationship between family income groups and the desire to add various types of nursery stock. In the high-income group, families wanted fewer deciduous plants and more narrowleaf evergreens than in the low-income group (Table 27).

About 90 percent of the Nashville home owners had not hired nurserymen to work in their yards. Twenty-one percent of the

Table 26. Reasons for Desiring a Landscaped Yard and Reasons for Not Wanting to Add More Nursery Stock, 421 Home Owners, by Income Groups, Nashville, Tennessee, 1959.

| Item                               | Reasons |       | Family income groups <sup>1</sup> |     |     |         |       |       |
|------------------------------------|---------|-------|-----------------------------------|-----|-----|---------|-------|-------|
|                                    |         |       | I                                 | II  | III | I       | II    | III   |
|                                    | No.     | %     | Number                            |     |     | Percent |       |       |
| Reason for landscaping             |         |       |                                   |     |     |         |       |       |
| Beauty                             | 381     | 64.4  | 91                                | 213 | 77  | 66.9    | 62.5  | 67.0  |
| Shade                              | 111     | 18.7  | 20                                | 74  | 17  | 14.7    | 21.7  | 14.8  |
| Increase value of property         | 33      | 5.6   | 9                                 | 18  | 6   | 6.6     | 5.3   | 5.2   |
| Privacy                            | 7       | 1.2   | 3                                 | 3   | 1   | 2.2     | .9    | .9    |
| Other <sup>2</sup>                 | 60      | 10.1  | 13                                | 33  | 14  | 9.6     | 9.6   | 12.1  |
| Total                              | 592     | 100.0 | 136                               | 341 | 115 | 100.0   | 100.0 | 100.0 |
| Reasons for not desiring landscape |         |       |                                   |     |     |         |       |       |
| Have enough                        | 226     | 47.1  | 54                                | 129 | 43  | 50.0    | 46.6  | 45.3  |
| Lack money                         | 57      | 11.9  | 13                                | 36  | 8   | 12.0    | 13.0  | 8.4   |
| Hard to mow grass                  | 23      | 4.8   | 4                                 | 15  | 4   | 3.7     | 5.4   | 4.2   |
| Lack time                          | 20      | 4.2   | 4                                 | 11  | 5   | 3.7     | 4.0   | 5.3   |
| Other <sup>3</sup>                 | 154     | 32.0  | 33                                | 86  | 35  | 30.6    | 31.0  | 36.8  |
| Total                              | 480     | 100.0 | 108                               | 277 | 95  | 100.0   | 100.0 | 100.0 |

<sup>1</sup> Annual Family Income Groups: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

<sup>2</sup> Other includes: landscape makes home look more like a home, brings nature close to home, and keeps soil from washing.

<sup>3</sup> Other includes: possibility family might move, and the need to establish lawn before planting shrubs.

Table 27. Kind of Nursery Stock That 421 Home Owners Would Like to Plant, by Income Groups, Nashville, Tennessee, 1959.

| Type of nursery stock | Total |       | Family income groups <sup>1</sup> |     |     |         |       |       |
|-----------------------|-------|-------|-----------------------------------|-----|-----|---------|-------|-------|
|                       |       |       | I                                 | II  | III | I       | II    | III   |
|                       | No.   | %     | Number                            |     |     | Percent |       |       |
| Deciduous             | 124   | 48.0  | 29                                | 71  | 24  | 56.9    | 48.0  | 40.7  |
| Narrowleaf evergreens | 92    | 35.6  | 16                                | 48  | 28  | 31.4    | 32.4  | 47.5  |
| Broadleaf evergreens  | 42    | 16.4  | 6                                 | 29  | 7   | 11.7    | 19.6  | 11.8  |
| Total                 | 258   | 100.0 | 51                                | 148 | 59  | 100.0   | 100.0 | 100.0 |

<sup>1</sup> Annual Family Income Groups: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

high-income families had their landscaping planned and planted compared with 6 percent of the low-income families (Table 28). Nearly all home owners thought the charge for landscape work was reasonable. Also, over half of these families thought that the landscape work had improved the market value of their homes.

Table 28. Kind of Lawn Service Hired, by Family Income Groups,  
421 Home Owners, Nashville, Tennessee, 1959.

| Kind of service                       | No. | %     | Family income groups <sup>1</sup> |     |     |         |       |       |
|---------------------------------------|-----|-------|-----------------------------------|-----|-----|---------|-------|-------|
|                                       |     |       | I                                 | II  | III | I       | II    | III   |
|                                       |     |       | Number                            |     |     | Percent |       |       |
| None                                  | 370 | 87.9  | 117                               | 190 | 63  | 91.4    | 90.0  | 76.8  |
| Plan and/or plant<br>shrubs and trees | 36  | 8.6   | 8                                 | 11  | 17  | 6.2     | 5.2   | 20.7  |
| Level yard                            | 8   | 1.9   | 2                                 | 4   | 2   | 1.7     | 1.9   | 2.5   |
| Other <sup>2</sup>                    | 7   | 1.6   | 1                                 | 6   | —   | .7      | 2.9   | —     |
| Total                                 | 421 | 100.0 | 128                               | 211 | 82  | 100.0   | 100.0 | 100.0 |

<sup>1</sup> Annual Family Income Groups: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

<sup>2</sup> Includes pruning and spraying shrubs and trees, and fertilizing yards.

## Home Owners' Attitudes Toward Nursery Services and Prices of Nursery Stock Sold in the Nashville Area

Thirty-four percent of the home owners reporting expenditures on nursery stock believed the prices paid for various shrubs and trees were in line with the cost of other household items. Over half of the respondents were not familiar enough with the prices of various nursery plants to comment on prices. Families in the high-income group were more familiar with prices and believed the price of nursery plants was more in line with other commodities purchased today than families in the low-income group (Table 29).

Table 29. Attitudes Toward the Prices of Nursery Stock, 421 Home Owners,  
by Income Groups, Nashville, Tennessee, 1959.

| Home owners<br>responses | No. | %     | Family income groups <sup>1</sup> |     |     |         |       |       |
|--------------------------|-----|-------|-----------------------------------|-----|-----|---------|-------|-------|
|                          |     |       | I                                 | II  | III | I       | II    | III   |
|                          |     |       | Number                            |     |     | Percent |       |       |
| Too high                 | 52  | 12.4  | 14                                | 27  | 11  | 13.6    | 11.6  | 12.8  |
| About right              | 140 | 33.3  | 29                                | 75  | 36  | 28.2    | 32.3  | 41.9  |
| Not familiar with prices | 229 | 54.3  | 60                                | 130 | 39  | 58.2    | 56.1  | 45.3  |
| Total                    | 421 | 100.0 | 103                               | 232 | 86  | 100.0   | 100.0 | 100.0 |

<sup>1</sup> Annual Family Income Groups: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

Approximately 80 percent of the home owners in this study could not suggest how the nurserymen could better serve them. Some of the suggestions for improving the marketing of horticultural specialties given by the home owners included the following: give more reliable service, have salesmen call at homes, have

some equitable replacement policy for the plants that die, and provide programs that give guidance to the home owners in landscaping.

### **Comparison of Home Owners' Preferences for Horticultural Specialties in the Nashville and Knoxville Areas**

More Knoxville home owners than Nashville home owners had a plan drawn for their plantings.

There was no statistically significant difference between the Knoxville and Nashville areas as to the home owners' interests in having landscape work done in the near future.

A statistically significant difference existed between the home owners in the two areas as to their reasons for doing their own landscape work. The Knoxville home owners did their own landscape work because it was cheaper, whereas the Nashvillians placed more emphasis on doing the yard work as a hobby and desiring to work outside.

A statistically significant difference was found between Nashville and Knoxville in the number of narrowleaf evergreens existing in the yards when the houses were bought by the owners. More narrowleaf evergreens were found around the homes in Nashville.

There was a statistically significant difference in the average number of deciduous plants that have been added or purchased by home owners in Knoxville and Nashville. The Knoxville home owners in all family income groups added more deciduous plants than did home owners in Nashville. No statistically significant difference was found in the percent of home owners that planted evergreens in the two areas.

## Summary

Horticultural specialties have been increasing in value for the past several years. Total sales amounted to \$1.3 million in 1940, \$5.5 million in 1954, and nearly \$6.0 million in 1958.

The objectives of this study were:

- (1) To analyze the individual consumer preferences of different family income groups for horticultural specialties in the Knoxville and Nashville suburban areas, and
- (2) To determine consumer preferences for horticultural specialties of industries, commercial firms, and institutions located in Knoxville and the Knox County area.

## Knoxville Area

### Landscape Services of the Nurserymen

Twenty-six percent of families in the high-income group had plans drawn for their plantings compared with 6 percent of the families in the low-income group.

Only 10 percent of the home owners were interested in hiring landscape services in the near future. Seventy percent of the home owners preferred to do their own landscape work rather than hire nurserymen because it was cheaper.

### Consumer Preferences for Horticultural Specialties

When the house was bought, deciduous plants accounted for 43 percent of the existing nursery stock. The remaining nursery stock was composed of 32 percent broadleaf evergreens and 25 percent narrowleaf evergreens.

About 78 percent of the respondents had added nursery stock since purchasing their homes. This nursery stock was composed of 64 percent deciduous shrubs and trees, 25 percent broadleaf evergreens, and 11 percent narrowleaf evergreens. Approximately half of this nursery stock was purchased from nurseries and the other half came from woods, gifts, or transplants. High-income families bought more nursery stock from nurseries than did low-income families.

Seventy-one percent of the home owners had no agreement for replacing plants that might die. Twenty-four percent had dead plants replaced free of charge and 5 percent had plants replaced at one-half or three-fourths the purchase price, or had their money refunded.

Fifty-five percent of the 465 home owners planned to buy more

nursery stock. Forty-two percent of these definitely planned to get more trees and shrubs in the near future, and 58 percent had no definite purchase plans.

### **Home Owners' Attitudes Toward Prices and Expenditures For Horticultural Specialties**

Forty-five percent of the home owners believed that prices paid for nursery stock were reasonable. Twenty-one percent thought they were too high and the remaining 34 percent had so little knowledge of the prices of nursery stock that they were unwilling to comment.

About a third of the home owners believed their expenditures on nursery stock increased their property value and 45 percent thought there would be no increase in property value when shrubs were planted on the home site. Families in the high-income group expected to spend more for nursery stock in the future than did those in the low-income group.

### **Landscaping in the Industrial Area**

About 50 percent of the industries in the Knoxville area had some land where more nursery stock could be added to make the surroundings more attractive.

Most industries lacked interest in using landscaping services. The greatest amount of landscaping was done by the large industries with 100 or more employees.

Only 4 of the 32 industries that had landscape work done had a maintenance contract with a nursery. None of the small industries that hired less than 25 employees had a contract with a nursery.

The deciduous shrubs and trees were the most popular kind of nursery stock planted in the industrial area, and most of the respondents thought that the prices paid for nursery stock were reasonable.

### **Landscaping in the Institutions and Commercial Firms**

The hospitals and commercial firms bought more nursery stock than other types of establishments in this study. Ninety-seven percent of the institutions and commercial firms had partly landscaped their property. Seventy-seven percent of the establishments were satisfied with the landscape plans drawn and the planting made by nurserymen. Most of the establishments in this study did not plan to make any further plantings of nursery stock, as the managers believed there were adequate plantings for the

available space. The broadleaf evergreens were the most abundant kind of nursery stock on the property of institutions and commercial firms.

## **Nashville Area**

### **Home Owners' Demands for Landscape Work**

Only 29 of the 421 respondent home owners in the Nashville market had landscape plans drawn for their yards, and most of these home owners were in the high-income group. About 10 percent of the home owners were interested in having their yards landscaped in the next few years. The high-income family group was the most interested in hiring landscape work. Ninety-two percent of the Nashville home owners did their own landscape work because it was cheaper and a hobby.

### **Consumer Preference for Horticultural Specialties**

When the home owners' houses were bought, about 80 percent of the nursery stock planted were evergreens. Sixty percent was the narrowleaf evergreen type and the arborvitaes and junipers were greatest in number. Nandinas comprised most of the broadleaf evergreens. No significant relationship was found between family income groups and types of shrubs in the yards.

There were many reasons why home owners planted nursery stock around their houses, but over 60 percent were interested in the beauty from the blooms, berries, and color of the foliage. The most important reason for home owners not desiring to add nursery stock was that they believed their present plantings were adequate for the sizes of their yards.

About a third of the home owners believed the prices paid for nursery stock were in line with other household items. Over half of the home owners were not familiar enough with the prices to make any comment.

Some of the suggestions given by home owners for better marketing of horticultural specialties included giving more reliable service, salesmen calling at homes, improving replacement policies for plants that might die, and having programs that help guide home owners' landscape plans.

Appendix A. Average Number Nursery Stock Existing at Home When Purchased  
by 465 Knoxville Home Owners and 421 Nashville Home  
Owners, by Family Income Groups.

| Kind of nursery stock                   | Family income groups <sup>1</sup> |     |     |
|-----------------------------------------|-----------------------------------|-----|-----|
|                                         | I                                 | II  | III |
|                                         | Avg. number plants per house      |     |     |
| Deciduous shrubs and trees              |                                   |     |     |
| Knoxville                               | 2.9                               | 3.2 | 3.0 |
| Nashville                               | 2.3                               | 1.9 | 2.2 |
| Narrowleaf evergreens                   |                                   |     |     |
| Upright juniper                         |                                   |     |     |
| Knoxville                               | .2                                | .6  | .5  |
| Nashville                               | 1.2                               | 1.4 | 1.0 |
| Spreading juniper                       |                                   |     |     |
| Knoxville                               | .3                                | .7  | 1.5 |
| Nashville                               | 1.0                               | 1.2 | 1.8 |
| Arborvitae                              |                                   |     |     |
| Knoxville                               | .7                                | .9  | .9  |
| Nashville                               | 2.0                               | 2.5 | 2.3 |
| Hemlock                                 |                                   |     |     |
| Knoxville                               | *                                 | .1  | .4  |
| Nashville                               | .2                                | .2  | .4  |
| Other <sup>2</sup>                      |                                   |     |     |
| Knoxville                               | *                                 | *   | .1  |
| Nashville                               | .4                                | .3  | .5  |
| Broadleaf evergreens                    |                                   |     |     |
| Chinese and Burford holly               |                                   |     |     |
| Knoxville                               | *                                 | *   | *   |
| Nashville                               | *                                 | *   | .2  |
| Japanese holly                          |                                   |     |     |
| Knoxville                               | *                                 | .1  | .7  |
| Nashville                               | *                                 | .1  | .4  |
| American holly                          |                                   |     |     |
| Knoxville                               | *                                 | *   | *   |
| Nashville                               | *                                 | *   | .1  |
| Pyracantha                              |                                   |     |     |
| Knoxville                               | .1                                | .4  | .2  |
| Nashville                               | *                                 | *   | .2  |
| Southern magnolia                       |                                   |     |     |
| Knoxville                               | *                                 | *   | *   |
| Nashville                               | *                                 | *   | *   |
| Nandina                                 |                                   |     |     |
| Knoxville                               | .3                                | .5  | .7  |
| Nashville                               | .5                                | .9  | .9  |
| Other broadleaf evergreens <sup>3</sup> |                                   |     |     |
| Knoxville                               | .9                                | 2.0 | 3.9 |
| Nashville                               | 1.5                               | 2.1 | 3.8 |

<sup>1</sup> Annual Family Income Groups: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

<sup>2</sup> Includes pines and cedars.

<sup>3</sup> Includes abelias, boxwoods, aucubas, barberries, cherry laurels and ligustrums.

\* Average less than .1 plant per house.

Appendix B. Average Number Nursery Stock Per House Added to Complete Landscape, By 465 Knoxville Home Owners and 421 Nashville Home Owners by Family Income Groups.

| Kind of nursery stock                    | Family income groups <sup>1</sup> |     |      |
|------------------------------------------|-----------------------------------|-----|------|
|                                          | I                                 | II  | III  |
|                                          | Avg. number plants per house      |     |      |
| Deciduous shrubs and trees               |                                   |     |      |
| Knoxville                                | 6.4                               | 7.2 | 11.2 |
| Nashville                                | 2.0                               | 2.4 | 4.6  |
| Narrowleaf evergreens                    |                                   |     |      |
| Upright juniper                          |                                   |     |      |
| Knoxville                                | .2                                | .2  | .3   |
| Nashville                                | .1                                | .2  | .1   |
| Spreading juniper                        |                                   |     |      |
| Knoxville                                | .4                                | .4  | 1.5  |
| Nashville                                | .6                                | .4  | .6   |
| Arborvitae                               |                                   |     |      |
| Knoxville                                | .3                                | .4  | .5   |
| Nashville                                | .3                                | .2  | .3   |
| Hemlock                                  |                                   |     |      |
| Knoxville                                | .1                                | .2  | 1.3  |
| Nashville                                | .1                                | .1  | .1   |
| Other narrowleaf evergreens <sup>2</sup> |                                   |     |      |
| Knoxville                                | .1                                | .2  | .2   |
| Nashville                                | .1                                | .3  | .2   |
| Broadleaf evergreens                     |                                   |     |      |
| Chinese and Burford holly                |                                   |     |      |
| Knoxville                                | .1                                | .2  | .6   |
| Nashville                                | .1                                | .1  | .3   |
| Japanese holly                           |                                   |     |      |
| Knoxville                                | .1                                | .2  | .3   |
| Nashville                                | .1                                | .1  | .6   |
| American holly                           |                                   |     |      |
| Knoxville                                | *                                 | *   | .1   |
| Nashville                                | *                                 | *   | .1   |
| Pyracantha                               |                                   |     |      |
| Knoxville                                | .1                                | .2  | .5   |
| Nashville                                | *                                 | *   | .2   |
| Southern magnolia                        |                                   |     |      |
| Knoxville                                | *                                 | *   | *    |
| Nashville                                | *                                 | *   | *    |
| Nandina                                  |                                   |     |      |
| Knoxville                                | .4                                | .6  | 1.5  |
| Nashville                                | .6                                | .3  | .4   |
| Other broadleaf evergreens <sup>3</sup>  |                                   |     |      |
| Knoxville                                | 1.4                               | 2.3 | 4.9  |
| Nashville                                | 2.1                               | 4.4 | 5.3  |

<sup>1</sup> Annual Family Income Groups: I Less than \$5,000; II \$5,000 to \$8,000; III Over \$8,000.

<sup>2</sup> Includes pines and cedars.

<sup>3</sup> Includes abelias, boxwoods, aucubas, barberries, cherry laurels and ligustrums.

\* Average less than .1 plant per house.