sonably free from diseases and insect pests,

b. Should bear heavily with no pronounced tendency toward alternate bearing if given good care,

c. Should have no undesirable growth characteristics such as weak limbs and inadequate root system.

d. Other things being equal, a small low-headed variety is better than one that makes a large, tall tree. The more resistant to cold a variety is, the better, but for Dade County we have to accept tender varieties.

As a starting point for this program fifty forms were sent out to leading growers in the area and each was asked to select the eight varieties best suited for commercial production with respect to production, size, storage, refrigeration, handling, shelf life, cold hardiness, and consumer acceptance. Of these fifty forms, thirteen were returned.

Selections by growers and shippers showed as follows:

1- Waldins—13
2- Booth Eight—13
3- Lula—12
4- Taylor—8
5- Pollock—8
6- Booth Seven—8
7- Hall—7

Another phase of this project which is now underway but not complete enough to have accurate figures is the compiling of production records on the above named varieties. Work is also being done by the Quality and Improvement Maintenance Section of the Agricultural Marketing Service of the U. S. Department of Agriculture on quality, shipments, storage, maturity, and other factors pertaining to the production of a high quality avocado.

The purpose of this work will be to assimilate information that will be helpful in determining the best varieties to propagate for commercial production.

Another phase of variety work being done by the Avocado and Lime Committee and the County Agent's Office is the selection and photographing of the different varieties of fruit, and also the listing of identifying characteristics particular to the individual varieties. This information will be used to familiarize the grower with important identification characteristics of the varieties which make up the basis of our maturity regulations. The results will be published for distribution to the growers and also used in training sessions for identifying varieties.
are now in the hands of the printers and will be delivered this year to every registered nurseryman and grower in Florida.

All grades were determined by checking plants in nurseries in every section of the state. All soils, growing conditions, knowledge, weather and temperature were considered. These grades are the results and knowledge from all nurserymen and growers state-wide. It has taken three and a half years of concentrated effort. The Plant Board checked hundreds of measurements in innumerable nurseries, North, South, East and West, and only through consultation with specialists and growers, arrived at these standards.

Of the seven types in which plants are categorized, there are many examples in each type which are illustrated by pictures for each grade. There are line drawings for each of these types showing shape and size for the plants under each grade. The scientific name, together with all common names and scientific synonymy, are listed.

The book is printed on a special latex impregnated paper that is washable. It is loose-leaf and plastic spiral bound. Supplements can easily be added and obsolete material removed.

In addition to shrubs, container and balled and burlapped citrus, trees and palms are depicted.

In the State Plant Board's "Grades and Standards," proper care of plants while digging and minimum ball sizes are specified. These figures were based scientifically on the amount of roots necessary for the plant to survive after being transplanted.

These grades and standards are designed to help every buyer, grower, jobber, wholesaler, or retailer who deals in ornamental shrubs, trees and palms. Any nurseryman who buys from another will know precisely what he is going to receive. Home owners and gardeners will likewise get full value for what they pay.

There are several innovations in establishing grades and standards in Florida. It is strictly voluntary. A grower, landscaper, or retailer is not forced to sell graded plants, but he will readily see where it is to his advantage to buy plants of a specific growth, size and vigor.

A participating nurseryman will grade the plants he sells. The Plant Board will offer every cooperation in education and assistance to aid the nurseryman. If the nurseryman participated, he would come under the regulations of ethical conduct, which is adhering to the grades and standards. There are three grades; Florida Fancy, Florida No. 1 and Florida No. 2.

Fancy is just what it implies. It is a grade of superlative quality, vigor and appearance. Fancy grade in the average nursery will be low. It does not have to be this small percentage. More time, fertilizer, care and judicious pruning can soon make a No. 1 a Fancy plant. The discriminating buyer demands fancy quality and will pay top prices. It is not advocated for everyone to grow fancy quality, as economically it would be unsound. It does behoove every grower to grow the highest quality he can produce — for a period of stress or over-production he will have preference and will be selling at some price, while others will be consigning or not moving their stock except at a loss.

Growing Fancy plants is no secret. First, it is necessary to understand the growing habit of the plant. Regular and heavy fertilization, all the sun and water it will take in relation to the assimilative qualities of the plant, building up an extremely vigorous root system, systematically pruning and constant watch over all insects and diseases, will produce a top of vigorous compact growth. You must have the knowhow and produce conditions that are indigenous to the plant.

Fancy is the ultimate in growing. To some growers, for certain species this standard seems impossible to meet. Any good grower, if he can't make Fancy in one species, can do so in another. Like in our living and the American trend of life, we must strive for perfection; to work, study and endeavor to surpass the average. By building one grade up, we thereby build up all other grades. Strive for Fancy, work towards this grade and there will be few Florida 2's, and the culls will be no problem.

If any grower feels that the specifications of a particular plant is nearly impossible to make a Fancy grade, bear in mind that some growers make Fancy grade as high as 75%. To build towards this grade will cut down the losses of customers, promote success, and put a business in the black instead of red.
Florida No. 1 is a fine plant and most nursery stock should fall in this grade. Every nurseryman and grower should make this grade and can make this grade in most instances by diligent effort and application. There are many plants, shrubs, trees and palms that are more suitable to one climatic, geographical location than others. All nurserymen should make a survey of what plants he can grow best in his own locality. Determine the advantage that he has over competitors and propagate those plants to the best of his knowledge. He would not try to make a business of propagating lilacs, peonies and hawthorns in Florida, but in nurseries all over this state some are raising species of plants that can be purchased from others at much less than his own cost.

A Florida No. 1 will grow for the customer. His chances of success are almost assured. The health, vigor and root system of this grade assure continual growth if planted under good conditions and properly cared for. Success is made from satisfied customers who are repeat buyers.

Florida No. 2 is a merchantable plant. It is not a cull. A No. 2 is weaker, gets off at a slow start, requires more attention to survive, but is possible to grade Florida No. 1 under proper treatment. A No. 2 has two strikes against it. It is costly to improve to a better grade, and it is more likely to die. Certainly it is weaker, has a poor top and smaller root system. A good horticulturist, or hobby gardener, who could possibly make something out of this plant, will pass it by. Mrs. Housewife, who takes some of her grocery money to buy it, may not have knowledge to make it survive. Dissatisfaction results and the loss of a customer occurs. However, in many cases, depending on its use, a Florida No. 2 is necessary and a good buy. The growers and nurserymen of this state are not necessarily compelled to keep this plant in a Grade 2. In many cases it can be grown into a Florida No. 1 Grade. The grade of the plant is determined when it changes hands from seller to buyer and it does not remain constant.

All the plants under Grades and Standards are categorized into seven types. Type A or Broad Spreading, Type B or Spreading, Type C or Globose, Type D or Upright Spreading, Type E or Upright, Type F or Columnar, and a Special Grade for plants that have been grown or sheared in an unusual shape not indicative to the species. The Plant Board will also add Vines and other types if found necessary.

Type A or Broad Spreading embraces such plants as Malpighia coccigera, Juniperus conferta, and Lantana montevidensis. To make Fancy, the width must be three times the average height. In a Florida No. 1, the average width must be twice the average height, and in the Florida No. 2, the width and height are equal.

Type B or Spreading includes such plants as Pittosporum Tobira, Carissa grandiflora, and severinia buxifolia. The requirements for Fancy are for the spread to be one and one-half times the average height. The Florida No. 1 average spread is to be equal to height, and Florida No. 2—the spread is to be two-thirds of average height.

Type C or Globose takes in shrubs that are prone to grow in a globular shape naturally, such as some Thuja, Buxus and Ilex. The specifications for Fancy are for the average height and spread to be equal. Florida No. 1—the average spread is to be two-thirds of average height, and the Florida No. 2—the average spread is to be equal to height.

Type D or Upright Spreading takes in such plants as Nerium Oleander, Ligustrum Japonicum var. lucidum and Viburnum orortissimum. Florida Fancy calls for the average spread to be three-fourths of the average height. Florida No. 1—the average spread must be one-half of the average height, and Florida No. 2—the average spread must be one-third the average height.

Type E or Upright—the Fancy grade must have an average spread of one-half the average height. The Florida No. 1—the average spread must be one-third the average height, and for Florida No. 2—the spread must be one-fourth of the average height. This type takes in such upright plants as Ligustrum japonicum var. erecta and Ardisia.

Type F or Columnar includes Podocarpus Nagi, Chamaecyparis obtusa var. ericoides and such plants that are prone to grow or to be sold as Columnar plants. The proportions for this type—for Fancy the average spread is to be one-third of the total height; Florida No. 1 spread to be one-fourth the total height,
and for Florida No. 2—the spread to be one-fifth the total height.

The Special Grade incorporates unusual and sheared plants that have been deliberately, and through costly pruning, made into a shape foreign to its species. The Plant Board recognizes that there are many plants that could possibly be classified under two or more categories or types. We have tried from the beginning to classify plants in the manner in which they are grown and sold and not as they would grow if left unattended. For obvious reasons there must be one classification for a variety. If it is proven that certain plants are grown and sold under another type, other than what is listed, then the State Plant Board will revise in later supplements. If it is necessary to include other types, then these will be written.

There are many other factors in the grading besides the specifications of shape. The health and vigor, number of canes or trunks, freedom from scars, density of foliage, amount of insect or mechanical damage, and container size, whether over or under-potted. These are all outlined and taken into consideration.

Under the heading of Palms, there are pictures of species generally sold in Florida for landscaping purposes, and pictures in detail on digging and handling in the field for different types. We have palms classified into the Heavy Trunk Type like Phoenix canariensis, Buitia capitata and Roystonea elata. The Slender Trunk is like Vetchia Merrillii, Dictyosperma album and Thrinax parivflora. The Cluster Type takes in Phoenix reclinata, chrysalidocarpus lutescens and Caryota mitis. Various species have to be balled differently in order to survive. It is the moral duty of every grower to grow and deliver a palm that has every chance to survive if taken care of under normal conditions. The average buyer of ornamentals does not know how to take care of a sick plant. They also do not have the time and depend on the horticulturist to tell him, and the nurseryman to give him something that will live under less than average care. Under Grades and Standards, the hobby gardener will stand a much better chance for success. This leads to greater interest in Horticulture and more plant buying.

This is the beginning of Grades and Standards. Later we will incorporate liners which will assist the trade and promote this industry. A Fancy liner stands a good chance of making a Fancy plant. We also hope to include Orchids, Foliage Plants and bare-root citrus. The objective of the State Plant Board, in building up the Grades and Standards, is to promote and assist to the best of our knowledge anything for the betterment of the horticultural industry in Florida. We feel that the surface has just been touched. We in Florida are endowed with a climate and character of people to surpass other states horticulturally. To the horticulturists we look for research, initiative and assistance in making this a horticultural state. We all have the love of growing from the soil in common. To you, the horticulturists of this state, we need and appreciate your cooperation in making Grades and Standards a success. It will benefit all of us, both aesthetically and financially.

SOME NOTES ON INSECT PESTS AFFECTING ORNAMENTAL PLANTS AND ON THEIR CONTROL

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Ornamental plants are injured and sometimes killed by insect pest attacks. These insect pests are of concern to growers and others interested in ornamental plants and also those interested in fruit, vegetable and other plants. Although much useful information was made available for insect control on ornamental plants by Kuitert (1958), some additional experimental results have been obtained from tests and observations on control of insects on ornamental plants that may be of interest, especially to residents in south Florida.

Caterpillars—Leaf eating larvae of moths or butterflies are frequently found on many ornamental plants. Feeding may be so ex-