

THE BETTER FRUIT PROGRAM

Earl W. Hartt, Avon Park

Operating this season under the new state citrus laws for the first time, we are endeavoring to improve marketing conditions by standardizing the grading and packing of all shipments and by advertising the appetizing and healthful features of Florida fruit. As a result of these activities, substantial progress has been made in extending markets, building confidence with dealers and retailers and stimulating consumer demand.

It must be remembered that important as they are in our program of establishing our industry on a more profitable basis, advertising, standardization of grades and the other related activities, important as they are, they will not do the job alone. They are merely aids to help sell our fruit, which of itself must possess the characteristics of quality which will permit it to compare favorably with competitive products in the markets of the country, and once won, to retain the confidence of handlers and the preference of consumers. The factor which will definitely limit permanent success in the program for general improvement of the industry is the quality of our stock in trade, our fruit. This is true in any merchandising endeavor, whether you be selling shoes, automobiles or what not and there is no special dispensation excepting Florida citrus fruit from that rule.

Our production methods must therefore keep pace with our improving marketing methods and facilities if we are to reap full benefit from these developments, and the Florida Citrus Commission feels that an essential part of its program for the advancement of the industry is to encourage the general improvement in the quality of our fruit.

Fortunately, our deficiency in quality is largely a matter of appearance. Were it not for the inherent value of our fruit, its superiority in juice content, flavor and general eating quality, the industry could never have attained its present important position, lacking as it has, the concerted

merchandising direction or aid in the markets which it deserved. The climatic and other growing conditions which are responsible for this interior excellence, however, are often not conducive to fine texture and high color. Also various pests and fungus diseases which mar the appearance of the fruit and affect its carrying quality in different ways find our climate compatible.

Although great advancement has been made in processes of preparing fruit for market, in respect to cleaning, coloring, waxing and polishing, and other treatments designed to enhance the appearance and to preserve the fruit, still less than one-half of the fruit leaving the state qualifies as first grade, according to the records. It is recognized that the eating quality of most of our lower grades of fruit is entirely equal to that of the first grade, and to that extent our system of grading is superficial. However, appearance is the criterion used extensively by the housewife in her buying and regardless of what we may think of it, she is the court of last resort. We will be severely handicapped in our struggle to maintain and improve our position in the markets in competition with fruit of other states if the general level of quality of our product is not greatly improved.

Although conditions beyond the control of the grower are to be blamed for some of the lowering of the grade of our fruit, yet under average conditions, the factors responsible for most of the damage are within the control of the grower. Very little research has been done to determine the exact factors and their proportionate share in contributing to the reduction in the grade of fruit. For that reason, the following report of the investigation of Mr. Victor Bowman in Orange County groves, as reported in his thesis at the University of Florida, is enlightening.

These same factors probably are also responsible for our lower grades in most of the citrus belt, varying only in relative degree of damage in different sections and seasons.

ORANGE COUNTY—94 CROPS—SEASON 1934-35. THE PER CENT. OF GRADE-LOWERING
BY FACTORS ON CROPS AFFECTED BY EACH

FACTORS	ORANGES					GRAPE-FRUIT
	Early	Seeding	Pineapple	Valencia	All	
Melanose	20.85	39.76	22.70	23.92	28.53	35.18
Wind Chafing	11.88	12.20	13.12	20.33	15.15	4.29
Greenish	10.43	4.84	9.00	7.00	7.08	6.00
Texture	5.25	5.12	4.75	9.08	6.43	5.94
Rust Mite	2.20	3.12	5.42	7.54	5.35	10.71
Thrip Marks	3.63	2.23	4.38	4.42	3.63	1.00
Creasing .....	.....	4.82	2.86	1.45	3.55	.....
Ammoniation	2.00	1.88	5.50	4.83	3.43	.....
Sooty Mold	2.00	1.33	1.63	4.86	3.10	1.00
Green Spots	7.86	2.67	1.86	1.43	3.06	1.29
Scale	3.43	1.00	1.56	1.72	1.85	2.63
Hail Scars .....	.....	1.00	1.50	3.00	1.75	.....
Thorn	1.50	1.70	1.38	1.60	1.57	1.50
Sunburn	1.60	1.33	1.60	1.17	1.40	1.00
Malformation .....	.....	1.73	1.17	1.64	1.32	2.47
Grasshopper	1.00	1.00	1.00	1.46	1.27	.....
Black Rot .....	.....	.....	.....	1.50	1.25	.....
Off Bloom	1.00	1.00	1.00	2.00	1.25	1.40
Spray Injury .....	.....	1.00	1.00	1.25	1.17	2.50
Excess Wax .....	.....	1.00	1.50	1.00	1.17	1.50
Growth Crack .....	.....	.....	.....	1.17	1.17	.....
Mech. Injury	1.00	1.00	1.00	1.11	1.02	1.57
Clipper Cuts .....	.....	1.00	1.00	.....	.50	.....
Stem Puncture .....	.....	.....	.....	1.00	.25	1.00
Anthraxnose .....	.....	.....	.....	1.00	.25	1.50
Scab .....	.....	.....	.....	.....	.....	6.80

Many of the factors named are insects and diseases of citrus which can be effectively and economically controlled by a well planned and executed spray and dust program. It is the opinion of many who are qualified by technical knowledge and years of experience in this field that by a practical and efficient control of harmful grove insects and fungus diseases, the percentage of first grade fruit shipped could be elevated to as much as 65% to 75%, as compared to our past record of 40% to 50%. Obviously the effort required to attain appreciable results in this direction must be directed along two lines:

First, by effecting greater efficiency in disease and insect control work and,

Second, by bringing a greater share of our citrus acreage of the state under that control.

The foundation for this work has been laid by the research and educational work which has been carried on in the past. However, because of the great amount of new information which has been made available on the subject, and because of the multiplicity of recommendations, there has been some confusion. For this reason many growers endeavoring to maintain control of grove insects and diseases have difficulty in arranging a program suitable to their conditions which will give efficiency as well as economy. Obviously, our spraying and dusting activities must be simplified as much as possible and they must be planned and timed so as to give most effective results at the least expense.

With the above mentioned objectives in mind, the first step in our Better Fruit Program has been

to co-ordinate the work of all groups serving growers in this matter. An advisory committee was appointed by the Commission, consisting of representatives of the University of Florida Citrus Experiment Station, the Florida Agricultural Extension Service, the United States Department of Agriculture, the Florida State Plant Board, the Florida State Horticultural Society, professional consultants and commercial firms. I represent the Commission on this committee, and Dr. A. F. Camp, of Lake Alfred, is its chairman. This committee is handling the technical details of the Better Fruit Program, and all of the groups represented by its members are co-operating wholeheartedly in this effort to secure a more uniform and effective control of grove insects and diseases, by the most practical, inexpensive methods.

Recommendations for spraying and dusting groves during the 1936-37 season were formulated by the advisory committee only after a thorough discussion of the many problems involved. These recommendations have been printed in the form of a schedule, which will be explained later at this meeting by Prof. E. F. DeBusk, who represents the Extension Service on the advisory committee. Representing as it does the composite opinion of Florida's leading authorities on the control of grove insects and diseases, this schedule will simplify the problems of growers in knowing when and how to spray and dust for best results. No program of this kind is absolutely foolproof, however, for it is impossible to compile recommendations which will prove practical under all weather and crop conditions in all parts of the state. When changes are deemed advisable, additional recommendations will be announced to growers, through the press and otherwise.

Success of the Better Fruit Program is in the hands of the growers. Its results will be measured, first by the improvement of the grade and carrying quality of our fruit, and second by the price which is paid for it. Many growers apparently fail to appreciate the importance of this matter. Every grower can control, to a practical extent, the quality of the fruit which he raises. Ultimately the quality of his fruit affects the marketing of all Florida crops.

The spraying and dusting activities of the state annually costs citrus producers several millions of dollars, a considerable portion of which is wasted by improper timing, methods of application, or materials, and it is the hope of the advisory committee that, along with other accomplishments, control work will be more economically done and greater value received than heretofore.

We have always been too narrow-minded and near-sighted in our view of this quality problem. Quality in the broad sense involves not only internal goodness and external appearance, but also the ability of the fruit to carry through to the retailer and to the consumer in good, sound condition. Too often the grower's concern ends with the grading of his fruit in the packing house, and the shipper's concern usually extends no further than the broker who buys the fruit. The retailers and consumers are the final judges of its quality, and regardless of the attractive appearance, the advantage is lost and the prestige of our product is damaged if the fruit will not keep in a sound condition for a reasonable period of time. Millions of dollars are lost every year by avoidable decay of our fruit in transit between groves and consumers.

Although great improvement has been effected in handling fruit from groves on through the packing process, still there is an inexcusable amount of careless, rough handling, particularly in the field. Clipper cuts, long stems, broken and over-loaded field boxes, ladders and men riding on fruit are still common occurrences, and are not conducive to good carrying quality of our fruit.

The care and expense which is expended in the groves to produce good fruit certainly places the obligation upon the handler or shipper to correct these bad practices to a greater degree. The entire process of preparing our fruit for market should be the subject of study with a view of correcting those processes which may be responsible for any injurious effect to the flavor or carrying quality.

Fertilization, cultivation, irrigation, soil condition are some of the other factors which are equally important. Though some of these are complex and controversial, they must some day be

given the thorough and impartial study that we have made and are continuing to make of insect and disease control methods. There is great need for more accurate information on all phases of citrus production.

The Florida Citrus Commission recognizes that the production of quality fruit of good keeping quality is fundamental to its profitable marketing, especially since we are meeting increasing com-

petition from other citrus sections. New surveys must be made of all these problems, and I am hopeful that under the leadership of the Commission the industry will unite in a program to improve and standardize our cultural packing and handling practices, so that Florida fruit will be of better and more uniform quality. When this has been done our marketing problem will be made easier.

THE BETTER FRUIT SPRAY AND DUST PROGRAM OF THE FLORIDA CITRUS COMMISSION

(See Chart at the Back of This Book.)

E. F. DeBusk, Gainesville

Mr. President, Ladies and Gentlemen: I have been requested to discuss this spray and dust program referred to by Mr. Hartt, and I believe we can get more out of the time spent if we take it up in an informal way.

We have a purpose in presenting the program at this time. First, we wish to make certain that all growers present fully understand the provisions of the program; and second, we would like to have constructive criticism from any of you growers, so that the advisory committee may have the benefits of these suggestions. Don't hesitate to give us these suggestions—we shall be glad to have them any time as we go along with the discussion. Dr. Camp is chairman of this committee, and he also will be glad to have suggestions from you.

In order to tie in with what I have to say with Mr. Hartt's paper, I wish to call your attention first to this chart (No. 1) in order that you may have a picture of some of the factors that we have to contend with in improving the appearance and quality of our fruit. I hope you can see this chart. The percentage of the grade lowering factors given was taken from a study made by Mr. Victor Bowman of 94 crops in the 1934-35 season in Orange County. You will note on early fruit, 20.85 per cent. of the grade-lowering factors was melanose, and that 39.76 per cent. of

the grade-lowering factors of the late fruit is attributed to melanose. That certainly does present a rather serious problem and quite a challenge to those of us who are trying in a definite way to improve the appearance of our fruit. Sand chafing takes second place on these 94 crops in Orange County for that particular season. This would indicate that there is an opportunity to improve the appearance of our fruit by the use of a few simple windbreakers. I happened to be county agent there in Orange County a few years ago, and in several young groves we had some striking demonstrations of reducing wind chafing by leaving strips of crotalaria between tree rows running in a direction to break the March winds.

Referring to the chart, let's drop down to the rust mite factor. You will note that this factor does not take such an important place. I must admit it was somewhat surprising to me to note that only 5.35 per cent. of the damage to oranges was chargeable to rust mite. I might say here that during this particular season there was a special effort made to control rust mite in Orange County, which may have had some influence. So much for that. You can just glance over those other figures and make comparison.

* When we talk about improving the quality of our fruit, most of us think of doing something to improve the appearance. That is well and good,