

FLORIDA AGRICULTURAL STATISTICS

Citrus Maturity and Yield Tests

FLORIDA DEPARTMENT OF AGRICULTURE
AND CONSUMER SERVICES
DOYLE CONNER, COMMISSIONER
TALLAHASSEE, FLORIDA

Division of Marketing
John D. Stiles, Director
Tallahassee, Florida

Florida Crop and Livestock
Reporting Service
Richard P. Small, Chief
Orlando, Florida

Division of Marketing
Marketing Bureau Section
Orlando, Florida

Cooperating with
U. S. Department of Agriculture
Economics, Statistics, and Cooperatives Service

ACKNOWLEDGMENT

The Citrus Maturity Testing Program historic series contained in this publication were prepared by the Crop and Livestock Reporting Service from tests made at the Maturity Test Laboratory, located at the Orange County Agricultural Center.

To the many growers, who allowed picking of fruit samples from their groves, the Orange County Commissioners, who maintain our test facilities, and citrus organizations who have voluntarily cooperated in this program, we offer our sincere thanks.

The report was assembled under the direction of James W. Todd and Harry M. Whittaker of the Florida Crop and Livestock Reporting Service.

CONTENTS

	Page
History of Citrus Maturity Testing Program	1
Sampling	2
Testing	3
Comparisons with State Test	3
Forecasts of Yield of FCOJ	4
The 1970-71 Season	4
The 1971-72 Season	5
The 1972-73 Season	5
The 1973-74 Season	5
The 1974-75 Season	6
The 1975-76 Season	6
The 1976-77 Season	6
The 1977-78 Season	6
The 1978-79 Season	7
Unadjusted Averages	
Early Oranges	8
Midseason Oranges	11
Late Oranges	14
Unadjusted Matched Averages from Identical Sample Trees, Within Season	
Early Oranges	18
Midseason Oranges	21
Late Oranges	24
Unadjusted Matched Averages from Identical Sample Trees, Yearly Comparisons	
Early Oranges	27
Midseason Oranges	29
Late Oranges	31
Unadjusted Averages	
Seedy Grapefruit	33
White Seedless Grapefruit	36
Pink Seedless Grapefruit	39

CITRUS MATURITY TESTING PROGRAM

Introduction

Since the processing industry began to utilize the bulk of the orange crop in Florida, the concept of production estimates and forecasts only in terms of boxes of a given weight has become obsolete. To be more meaningful, forecasts and estimates of production need to be expressed in terms of total pounds of solids as well as in terms of boxes. This interest has been expressed to the Florida Crop and Livestock Reporting Service by both processors and growers.

HISTORY

In the late 1950's the Service began to collect fruit samples of oranges monthly to determine if maturity and yield factors could be projected in advance of harvest. For several years fieldmen picked a single fruit from each grove that they entered to make monthly counts and size measurements in their regular drop and growth surveys. These fruit were combined into a single sample for each type of orange--Early, Mid-season and Late--and juice was extracted with the aid of an electrically operated reamer. The necessary weights and test results were accumulated. Within a few seasons it was determined that declines in acid, increases in soluble solids and ratio, increases and later decreases in juice, and increases in pounds-solids followed predictable patterns. It appeared from these data that changes in these elements could be predicted over time if sufficient observations were available to provide a valid statistical base. None of the results of these tests were published. The yield of pounds-solids shown in these tests appears to be correlated with changes in yield levels of fruit received at the processing plants.

In early 1963, following the disastrous freeze of December 1962, the industry was very concerned over the level of pounds-solids yield that would be obtained from Valencia oranges which had been damaged severely. In response to requests from the Citrus Crop Estimates Advisory Committee and others in the citrus industry, the Florida Crop and Livestock Reporting Service conducted a series of tests using fruit from randomly selected sample groves. Three successive tests were made at 2-week intervals. These indicated rather accurately the abnormally low level of yields of juice and pounds of solids in Valencias that spring.

This pilot project provided experience in a regular survey procedure which would yield statistically reliable results. Sufficient funds and manpower were available to finance the work and a regular program of surveys on a monthly basis was begun October 1, 1963. The sample size selected in these first surveys provided for 50 groves each for Early, Midseason and Late oranges. Reports were issued individually on Early and Midseason oranges on the first of each month from October through January in the 1963-64 season, and from October 1 through February 1 in the 1964-65 and 1965-66 seasons. Valencia orange test results were reported on October 1 through

April 1 in the 1963-64 season, and through May 1 in the 1964-65 season. In the 1965-66 season, Valencias were tested at the first of each month from October through February and, beginning in February, a mid-month report was added, continuing through April of that season.

In the 1966-67 season, testing began September 1 and mid-month tests were added to the previous monthly programs.

In 1967 following a statistical evaluation of the preceding four years' results, the Service responded to industry requests for area data from the maturity and yield tests, and expanded sample sizes. In that year, the number of Early orange groves was increased to 73, Midseasons to 55, and Valencias to 100. September 1 was continued as the first test date and the schedule of mid-month tests was retained.

In the 1964-65 season, seedless grapefruit tests were added to the program with a separate series for white and pink varieties. A series for seedy grapefruit was added in the 1965-66 season. The data for grapefruit are now published in this report.

SAMPLING

Each month, starting in September, the Florida Crop and Livestock Reporting Service collects fruit samples from each sample grove. Each sample consists of 15 oranges or 5 grapefruit. The samples are picked from pre-selected groves and pre-determined sample trees. The number of samples are as follows: Early orange, 80; Midseason orange, 60; Late (Valencia) orange, 110; Seedy grapefruit, 25; White seedless, 62; and Pink or Red seedless, 52.

Sample groves and trees remain relatively constant from year to year in order to measure changes more accurately. Each sample is picked from a randomly selected cluster of five trees. Sample fruit are selected from the pivot tree's side nearest the road of travel and from the side of the other four sample

LOCATION OF SAMPLE TREES FOR MATURITY AND YIELD TESTS

Access Road						
X	X	X	X	X	X	X
X	X	X	(X)	X	X	X
X	X	(X)	(X)	(X)	X	X
X	X	X	(X)	X	X	X
X - Tree			Pivot	(X) - Sample Tree		

trees nearest the pivot tree. Three oranges or one grapefruit are picked at shoulder height from each of the five sample trees. This procedure insures that fruit from all exposures are included in the samples.

TESTING

Early and Midseason oranges are now tested on the first of each month beginning September 1 and continuing through February 1. They are also tested December 15. Late oranges are tested on the first of each month beginning October 1 and terminating June 1. They are also tested April 15. Grapefruit tests are run the 1st of each month from September through December.

All Maturity tests are run at the department's testing facilities located at the Orange County Agricultural Center at 2350 E. Michigan Avenue in Orlando. The testing laboratory was built with funds and labor donated by Florida Citrus Mutual, the Florida Citrus Processors Association, the Florida Fresh Fruit Shippers Association (now Florida Citrus Packers), and the Orange County Commissioners.

All samples are run through an FMC 091 test extractor using mechanical pressure only. This machine utilizes a .040 short strainer and standard 5/8 inch orifice tube. The beam setting is 1/4-inch and no restrictors are used. Only the 3-inch cup is used for oranges, and only the 5-inch cup for grapefruit. The extractor and specifications correspond to those used for official State tests when this program began. State tests are now on the FMC 091B utilizing air pressure.

COMPARISONS WITH STATE TESTS

Some are confused when they compare the Maturity Test Results in this summary with the published State test results. There are several reasons why the juice and pounds of solids yield from these two entirely different test results are not comparable. One reason is that they involve different fruit populations. The Maturity Test Results are from samples of fruit remaining on the trees at the time each test is made. The samples for the State tests are from loads of fruit actually being delivered to processing plants at a given point in time. However, the major areas of difference are in the extraction method and the quantity of juice that is being measured. The Maturity Test Results reflect the total quantity of unfinished juice extracted using the FMC 091 equipped as indicated above. For the State tests, juice is extracted by State inspectors on the FMC 091B. The air pressure setting currently in use is 45 pounds PSI. At this level, the quantity of juice extracted from a given lot of oranges exceeds that which can be extracted using the FMC 091 equipped as indicated above.

To establish the quantity of finished juice upon which payment for fruit is based, the unfinished juice weight determined by State inspectors is reduced using juice factors established by the State Test House Extractor Advisory Committee under regulations set by the Florida Department of Citrus. These factors are not constant. They vary between seasons and between different types of fruit within a season.

The finished quantity of juice entered on State inspection certificates will always be less than the amount of unfinished juice that was extracted by the State inspector. This will also be less than the amount of unfinished juice reported in Maturity Test Results for the corresponding date.

In addition to establishing juice factors, the Florida Department of Citrus also regulates the quantity of juice which processing plants are allowed to recover. Control is based on the quantity of finished juice. Currently, the season average recovery rate is limited to 102 percent of the quantity of finished juice received at each plant.

The final season average yield as given in the narrative summaries by seasons in this publication is the final per box yield of FCOJ as reported by the Florida Citrus Processors Association.

FORECASTS OF YIELD OF FCOJ

The forecasts of yield are based upon linear regressions. The final yield as reported by the Florida Citrus Processors Association for all fruit used to make FCOJ is the dependent variable; the pounds-solids determined from the maturity and yield surveys is the independent variable. Actual yield data is incorporated into the forecast starting in February. The linear regression indications are adjusted by the juice factor and recovery limit prevailing at the date of the maturity and yield surveys.

The regressions currently utilize the data from 1965-66 through this past season excluding the 1970-71 freeze year. Data from previous seasons cannot be used due to processing changes made by the industry when "hard squeeze" and "pulp washing" were discontinued for FCOJ manufacture. At the same time, the industry standard was changed from 42° Brix to 45° Brix. This continues as the standard used for FCOJ forecasts prepared by this office.

THE 1970-71 SEASON

On October 13, 1970, the FCOJ regression indicated a season average yield of 1.39 gallons per box for all oranges. There was no report on FCOJ for November. In the first of December report, the FCOJ yield was changed to 1.32 gallons reflecting juice factors established October 13. The 1.32 yield was held in the January report. No report was issued in February because it was impossible to measure the impact of the January 21 freeze on juice and pounds-solids content of fruit remaining on trees. On March 10, 1971, the FCOJ regression analysis reflected a lowering to 1.21 gallons, showing the impact from the January 21 freeze. The expected yield was a combination of actual yield of 1.16432 gallons through February 27 and a projected yield of 1.26 gallons for Valencias. The April 1 FCOJ regression indicated 1.20 gallons for all oranges. Yield prospects had not increased by May 1 and there was no change in the projection. However, on May 29th the Juice factor was raised from 90 to 91 percent which slightly improved the June 1 FCOJ projected yield to 1.21 gallons. The final yield was 1.2093 for all oranges.

THE 1971-72 SEASON

The October 1, 1971, maturity and yield test results suggested a yield of 1.28 gallons of FCOJ per box. Relatively low soluble solids for all three orange types depressed the projected average yield to 1.23 gallons on December 1. A similar situation prevailed on January 1 when the FCOJ yield projection was calculated at 1.25 gallons. However, by February 1, the sustained beneficial effects of above normal temperatures and a generous moisture supply were reflected in a gain in soluble solids, and continuation of high juice yields. The February FCOJ projection was 1.29 gallons. Further improvement in internal quality indicated by tests of fruit from sample groves increased the projections in March, April, and May to 1.31 gallons. The projection in June was reduced to 1.29 gallons and the report of the Florida Citrus Processors Association issued August 5, 1972, showed a yield of 1.28572 gallons. Prior to June all projections were based on the assumption that processors would achieve the legal season average recovery rate of 102 percent. Actual recovery was less. All yield projections, except December, were within the confidence limits of the data on which they were based.

THE 1972-73 SEASON

The initial FCOJ forecast on October 13, 1972, suggested an all orange season average yield of 1.29 gallons per box. On December 12 the FCOJ yield projection was lowered to 1.26. The reduction was caused primarily by lower than average juice development. However, the ideal growing conditions during December resulted in a sharp rise in both juice content and total soluble solids and the January indication was raised to 1.33 for all oranges. In February the yield projection was lowered to 1.32 due to slightly lower indications for Valencia juice content. This estimate was maintained through the May forecast. By June 1 the Brix and juice per box had developed sufficiently to return the projected level to 1.33 gallons. Final yield for all oranges was 1.33176 gallons. The final yield of Early and Midseason oranges was 1.28800 and the Valencia yield was 1.38279 gallons.

THE 1973-74 SEASON

The FCOJ yield projection in October based on regression analysis of maturity and yield test results was 1.28 gallons per box for all oranges. The projected yield was increased to 1.32 gallons in December. This increase followed excellent growing weather during the fall with maturity results showing a substantial increase in the pounds of unfinished juice per box. However, it was necessary to reduce the January yield to 1.30 gallons. January 1 test results showed some depression in yield which was apparently caused by the advent of colder weather which brought 4 nights of below freezing temperatures in December with scattered, light fruit damage occurring on the morning of December 12. Yield was continued unchanged through March, increased to 1.31 gallons in April, but again dropped to 1.30 gallons for the final May and June projections. Final yield for all oranges was 1.29725 gallons. The final yield for Early and Midseason oranges was 1.26386 and the Valencia yield was 1.34205 gallons. The yield for late season Valencias dropped sharply, particularly following very heavy rainfall in late June when fruit remaining for harvest softened rapidly.

THE 1974-75 SEASON

The October 1, 1974, FCOJ maturity and yield test results indicated an all orange yield of 1.29 gallons per box. The original projection was unchanged through April. Early and Midseason oranges were forecast in October to reach 1.25 gallons per box and achieved 1.25275 gallons. In May, maturity test results and the Valencias utilized as reported by the Florida Citrus Processors Association suggested an increase in projected yield; the May 1 all-orange projection was raised to 1.30 gallons. With a better than average increase in Valencia pounds-solids during May, the June 1 all orange forecast was again raised to 1.31 gallons. The Valencias were of excellent quality this year as shown by the average yield of 1.39936 gallons. The final yield of FCOJ for all oranges was 1.31482.

THE 1975-76 SEASON

The first FCOJ yield projection of the 1975-76 season was 1.35 gallons per box. The December expected yield figure was unchanged from October at 1.35 gallons. By January, the lower than average Brix of Late oranges caused a reduction in expected yield to 1.34 gallons. In the February forecast, the all oranges projected yield was reduced to 1.31. On March 9, there was a further reduction in 1.30 gallons. This yield estimate was held until the June 9 forecast when all the orange FCOJ yield regression calculations suggested a yield of 1.29. This gradual lowering of the FCOJ yield forecast from January to June was caused by the failure of the soluble solids to reach average levels. There was very little late bloom to indicate lower expectations. The Early and Midseason orange final yield was 1.26386 gallons, the Late orange final was 1.31855 and the all orange yield, 1.28879 gallons.

THE 1976-77 SEASON (FREEZE)

The October FCOJ forecast for the 1976-77 season was 1.29 gallons per box. December and January forecasts continued at 1.29 gallons. The February projection, at 1.17 gallons per box, was lower as a result of the January 18-21 freeze. The prolonged freezing temperatures on these nights occurred in all major citrus areas and were the most severe since December 1962. The effects of the freeze in lowering juice and solids yields were greater than indicated by the February forecast, and this situation persisted in subsequent forecasts which were lowered each month thereafter, necessitating reduction in FCOJ yield to 1.12 in March, then 1.08 in April, and finally, to a season average 1.06945 gallons per box. For Early and Midseason oranges the yield changed from the January forecast of 1.24 gallons to a season final of 1.07914 while Valencias dropped from 1.36 gallons to 1.05032 gallons.

THE 1977-78 SEASON (LIGHT FREEZE)

The first FCOJ yield projection for the 1977-78 season was 1.28 gallons per box for all oranges. The 1.28 all orange projection was maintained through January. There were some light and scattered freezing temperatures the middle of January that caused some juice loss. A freeze survey conducted at the end of January showed there was some dryness from fruit icing that caused continued reductions in expected juice yield. The

February all orange yield projection was lowered to 1.25 with another lowering to 1.24 the first of April. The early and midseason orange final yield was 1.20407, the late final yield, 1.26487, and the all orange yield was 1.23123 gallons.

THE 1978-79 SEASON

The October 1, 1978 all orange yield was projected at 1.29 gallons per box. There was no November forecast. The 1.29 yield projection was held through January. Very good growing conditions and absence of severe cold resulted in an increase of 1.32 gallons on February 1 and to 1.33 on March 1. The mild spring weather along with adequate moisture helped the all orange yield reach a final average of 1.33424. The Early and Midseason orange yield was 1.30909, the highest since the 1967-68 season when the yield was 1.32174. The late orange final for this season was 1.37985 gallons.

The usable juice factor for Early and Mids started at 86, then moved to 89 for the balance of the season. Valencias started with an 89 factor and progressed to a record high factor of 93 for a two week trial period, after which it was lowered, to 92 until the end of the season.

This year's bloom was one of the most uniform in recent history with almost no late bloom, which resulted in the high yield and excellent quality.

EARLY ORANGES

MATURITY AND YIELD TEST RESULTS
UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
FROM SAMPLE GROVES
1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
	NUMBER	PERCENT			POUNDS	
SEPTEMBER 1						
1970-71	73	2.14	9.07	4.36	45.54	4.13
1971-72	73	1.92	8.74	4.62	45.37	3.97
1972-73	73	2.10	9.20	4.42	40.35	3.70
1973-74	73	2.00	8.99	4.55	43.02	3.84
1974-75	74	1.49	8.95	6.28	47.40	4.24
1975-76	75	1.46	9.19	6.54	47.32	4.34
1976-77	80	1.72	9.23	5.49	43.53	4.01
1977-78	80	2.02	9.61	4.83	41.20	3.95
1978-79	80	1.91	9.20	4.86	41.34	3.80
OCTOBER 1						
1970-71	73	1.29	9.41	7.42	49.18	4.63
1971-72	73	1.32	9.07	7.01	50.08	4.55
1972-73	73	1.50	9.52	6.49	46.10	4.38
1973-74	73	1.36	9.10	6.85	48.00	4.37
1974-75	74	1.15	9.41	8.55	50.53	4.75
1975-76	75	1.10	9.62	9.08	50.11	4.82
1976-77	80	1.22	9.48	7.97	47.82	4.53
1977-78	80	1.34	9.45	7.19	46.26	4.37
1978-79	80	1.42	9.81	7.01	45.54	4.47
NOVEMBER 1						
1970-71	72	1.00	10.43	10.56	52.76	5.49
1971-72	73	1.04	9.66	9.48	52.04	5.02
1972-73	73	1.14	10.58	9.47	50.00	5.29
1973-74	71	1.04	9.97	9.80	52.25	5.21
1974-75	71	1.00	10.20	10.57	52.45	5.35
1975-76	69	0.94	10.56	11.66	52.45	5.54
1976-77	80	1.02	10.75	10.80	49.85	5.35
1977-78	77	1.14	10.45	9.35	49.16	5.13
1978-79	80	1.06	10.56	10.14	49.19	5.19

EARLY ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER	PERCENT	POUNDS				
DECEMBER 1						
1970-71	63	0.97	11.31	11.89	51.41	5.82
1971-72	68	0.91	10.68	11.86	52.27	5.59
1972-73	71	1.01	11.26	11.36	50.22	5.65
1973-74	69	0.93	11.14	12.24	52.42	5.83
1974-75	62	0.98	11.41	11.91	51.59	5.89
1975-76	58	0.82	11.54	14.41	52.48	6.05
1976-77	75	0.94	11.58	12.53	49.73	5.76
1977-78	70	0.95	11.36	12.22	50.15	5.69
1978-79	74	0.96	11.82	12.49	50.74	5.99
DECEMBER 15						
1970-71	57	0.96	11.50	12.19	50.84	5.85
1971-72	62	0.84	10.84	13.14	52.22	5.67
1972-73	64	0.98	11.66	12.22	50.34	5.86
1973-74	55	0.94	11.44	12.53	51.93	5.94
1974-75	53	0.98	11.65	12.16	50.86	5.93
1975-76	50	0.88	11.77	13.67	52.44	6.17
1976-77	64	0.93	11.77	12.83	49.21	5.79
1977-78	59	0.94	11.65	12.59	49.37	5.75
1978-79	64	0.91	12.06	13.43	50.99	6.14
JANUARY 1						
1970-71	49	0.92	11.95	13.24	50.24	6.00
1971-72	56	0.80	11.07	14.01	51.70	5.73
1972-73	55	0.91	11.95	13.36	50.95	6.09
1973-74	48	0.94	11.68	12.80	51.73	6.04
1974-75	46	0.91	11.78	13.14	50.11	5.90
1975-76	40	0.85	12.04	14.42	51.93	6.26
1976-77	53	0.89	12.10	13.80	49.86	6.04
1977-78	52	0.88	11.96	13.83	48.93	5.86
1978-79	54	0.88	12.25	14.08	49.64	6.08

EARLY ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER		PERCENT		POUNDS		
FEBRUARY 1						
1970-71	17	0.82	13.29	16.51	45.74	6.09
1971-72	27	0.75	12.16	16.57	50.62	6.18
1972-73	35	0.88	12.63	14.61	49.81	6.29
1973-74	27	0.85	12.79	15.38	51.05	6.53
1974-75	25	0.85	12.89	15.55	49.79	6.42
1975-76	22	0.85	12.90	15.45	49.34	6.37
1976-77	25	0.78	12.83	16.95	42.52	5.48
1977-78	23	0.89	12.51	14.56	47.89	6.01
1978-79	26	0.89	13.57	15.49	48.44	6.57

MIDSEASON ORANGES

MATURITY AND YIELD TEST RESULTS
UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
FROM SAMPLE GROVES
1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER		PERCENT			POUNDS	
SEPTEMBER 1						
1970-71	55	2.17	9.12	4.26	46.01	4.19
1971-72	55	2.21	8.79	4.04	45.33	3.99
1972-73	55	2.36	9.13	3.92	41.16	3.75
1973-74	55	2.30	8.85	3.91	43.64	3.85
1974-75	56	1.90	8.69	4.76	46.57	4.05
1975-76	57	1.65	8.92	5.55	49.35	4.40
1976-77	60	1.98	8.93	4.63	44.52	3.97
1977-78	60	2.23	9.33	4.27	42.17	3.93
1978-79	60	2.14	8.96	4.24	41.83	3.74
OCTOBER 1						
1970-71	55	1.58	9.39	6.16	49.99	4.70
1971-72	55	1.58	9.10	5.91	49.95	4.55
1972-73	55	1.79	9.50	5.47	47.90	4.55
1973-74	55	1.66	8.89	5.47	49.31	4.38
1974-75	56	1.45	9.12	6.64	50.84	4.64
1975-76	57	1.27	9.24	7.63	52.83	4.88
1976-77	60	1.40	9.26	6.92	49.43	4.57
1977-78	60	1.56	9.20	6.09	47.71	4.39
1978-79	60	1.58	9.36	6.03	46.40	4.34
NOVEMBER 1						
1970-71	54	1.25	10.57	8.29	53.83	5.69
1971-72	55	1.24	9.71	8.13	52.86	5.14
1972-73	55	1.37	10.65	8.13	51.38	5.47
1973-74	55	1.22	9.87	8.29	53.43	5.27
1974-75	56	1.26	10.22	8.49	53.19	5.44
1975-76	57	1.01	10.32	10.64	55.18	5.70
1976-77	59	1.18	10.53	9.26	51.98	5.47
1977-78	60	1.21	10.20	8.60	51.68	5.27
1978-79	60	1.19	10.25	8.80	50.86	5.21

MIDSEASON ORANGES

MATURITY AND YIELD TEST RESULTS
UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
FROM SAMPLE GROVES
1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER	PERCENT	POUNDS				
DECEMBER 1						
1970-71	52	1.14	11.44	10.42	53.27	6.06
1971-72	54	1.07	10.70	10.32	53.84	5.77
1972-73	54	1.23	11.35	9.46	51.65	5.86
1973-74	55	1.11	11.02	10.22	54.93	6.05
1974-75	56	1.12	11.43	10.64	52.70	6.02
1975-76	56	0.89	11.20	13.02	55.43	6.21
1976-77	59	1.07	11.40	11.09	51.17	5.82
1977-78	60	1.05	11.18	10.95	51.91	5.81
1978-79	59	1.05	11.48	11.21	52.32	6.00
DECEMBER 15						
1970-71	49	1.18	11.92	10.38	52.07	6.21
1971-72	52	1.01	11.10	11.38	54.21	6.02
1972-73	53	1.11	11.70	10.88	52.04	6.09
1973-74	54	1.05	11.45	11.18	54.09	6.19
1974-75	57	1.19	11.86	10.28	51.64	6.13
1975-76	54	0.94	11.61	12.79	54.11	6.29
1976-77	57	1.01	11.53	11.86	51.09	5.88
1977-78	56	1.04	11.60	11.41	51.93	6.02
1978-79	53	0.99	11.81	12.11	52.29	6.17
JANUARY 1						
1970-71	48	1.09	12.24	11.53	51.49	6.31
1971-72	49	0.96	11.55	12.55	53.63	6.21
1972-73	47	1.15	12.29	10.89	52.33	6.43
1973-74	48	1.07	11.83	11.23	54.05	6.39
1974-75	50	1.05	11.89	11.63	52.04	6.19
1975-76	48	0.94	11.82	12.92	53.70	6.36
1976-77	54	0.99	11.86	12.37	51.41	6.10
1977-78	52	1.00	11.88	12.12	51.99	6.18
1978-79	52	0.98	12.06	12.45	51.36	6.19

MIDSEASON ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER		PERCENT			POUNDS	
FEBRUARY 1						
1970-71	24	1.01	13.30	13.53	47.97	6.38
1971-72	31	0.95	12.42	13.54	52.20	6.49
1972-73	36	1.07	13.08	12.57	51.49	6.74
1973-74	38	0.95	12.73	13.68	53.64	6.83
1974-75	39	0.99	12.80	13.28	51.20	6.56
1975-76	32	0.97	12.82	13.41	52.98	6.79
1976-77	35	0.92	12.65	14.19	45.97	5.82
1977-78	34	0.95	12.25	13.03	51.26	6.29
1978-79	30	1.00	13.09	13.33	51.31	6.71

LATE ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER		PERCENT			POUNDS	
OCTOBER 1						
1970-71	100	2.60	8.54	3.33	46.26	3.95
1971-72	100	2.74	8.39	3.09	46.58	3.91
1972-73	100	2.99	8.89	3.00	44.25	3.93
1973-74	100	2.79	8.35	2.99	46.20	3.86
1974-75	100	2.52	8.38	3.39	47.93	4.01
1975-76	101	2.39	8.49	3.60	49.33	4.19
1976-77	110	2.65	8.62	3.29	45.18	3.90
1977-78	110	2.80	8.67	3.13	44.73	3.88
1978-79	110	2.84	8.89	3.16	42.51	3.77
NOVEMBER 1						
1970-71	100	2.11	9.26	4.44	50.19	4.64
1971-72	100	2.23	8.57	3.92	49.98	4.32
1972-73	100	2.42	9.58	4.00	49.18	4.70
1973-74	100	2.29	8.96	3.95	51.39	4.60
1974-75	100	2.14	9.20	4.40	52.21	4.80
1975-76	101	1.94	9.10	4.78	53.01	4.82
1976-77	110	2.11	9.39	4.50	49.11	4.61
1977-78	110	2.21	9.36	4.29	48.83	4.57
1978-79	110	2.28	9.68	4.29	48.06	4.65
DECEMBER 1						
1970-71	100	1.86	10.04	5.45	51.98	5.22
1971-72	100	1.82	9.45	5.24	52.38	4.95
1972-73	100	2.02	9.91	5.01	50.73	5.03
1973-74	100	1.89	9.86	5.28	54.47	5.37
1974-75	100	1.87	10.44	5.67	53.17	5.55
1975-76	101	1.62	9.87	6.19	55.27	5.46
1976-77	110	1.76	10.34	5.93	51.79	5.36
1977-78	110	1.84	10.16	5.59	51.12	5.19
1978-79	110	1.89	10.47	5.62	50.65	5.30

LATE ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER		PERCENT			POUNDS	
JANUARY 1						
1970-71	100	1.66	10.84	6.53	52.06	5.66
1971-72	99	1.51	10.26	6.88	54.04	5.54
1972-73	100	1.71	10.93	6.48	53.02	5.80
1973-74	100	1.73	10.52	6.15	54.05	5.69
1974-75	100	1.59	11.01	7.07	53.82	5.92
1975-76	101	1.50	10.64	7.20	55.19	5.87
1976-77	110	1.54	10.94	7.20	53.19	5.82
1977-78	110	1.58	10.71	6.85	52.77	5.65
1978-79	110	1.61	11.09	7.00	51.71	5.73
FEBRUARY 1						
1970-71	97	1.41	11.51	8.28	51.10	5.91
1971-72	99	1.26	11.20	8.95	55.12	6.18
1972-73	100	1.48	11.58	7.97	53.28	6.17
1973-74	100	1.42	11.42	8.15	55.24	6.31
1974-75	100	1.41	11.67	8.38	53.99	6.30
1975-76	101	1.40	11.30	8.18	55.05	6.22
1976-77	110	1.36	11.47	8.54	49.81	5.72
1977-78	109	1.42	11.30	8.13	53.03	5.99
1978-79	109	1.44	11.96	8.44	52.62	6.28
MARCH 1						
1970-71	93	1.25	12.06	9.78	49.31	5.98
1971-72	99	1.17	11.66	10.02	56.00	6.54
1972-73	100	1.42	12.07	8.65	53.54	6.46
1973-74	99	1.31	11.95	9.22	54.68	6.53
1974-75	99	1.28	12.35	9.73	54.45	6.72
1975-76	100	1.30	12.00	9.37	54.30	6.52
1976-77	106	1.27	12.04	9.64	46.38	5.58
1977-78	108	1.35	11.82	8.89	52.52	6.21
1978-79	109	1.31	12.48	9.64	52.08	6.50

LATE ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER		PERCENT			POUNDS	
APRIL 1						
1970-71	83	1.15	12.27	10.79	50.32	6.20
1971-72	95	1.06	12.21	11.58	55.34	6.76
1972-73	96	1.22	12.59	10.45	53.29	6.71
1973-74	94	1.13	12.47	11.22	56.07	6.98
1974-75	95	1.16	12.93	11.28	55.17	7.13
1975-76	97	1.12	12.27	11.18	54.80	6.72
1976-77	88	1.12	12.34	11.17	45.93	5.67
1977-78	104	1.16	12.34	10.78	51.76	6.39
1978-79	105	1.19	13.08	11.19	53.02	6.93
APRIL 15						
1970-71	75	1.10	12.43	11.43	50.32	6.28
1971-72	86	1.00	12.30	12.41	54.25	6.69
1972-73	93	1.13	12.81	11.48	54.75	7.01
1973-74	86	1.11	12.67	11.55	55.45	7.03
1974-75	87	1.18	13.22	11.41	54.62	7.22
1975-76	92	1.05	12.35	11.96	54.86	6.77
1976-77	67	1.03	12.75	12.55	45.76	5.82
1977-78	100	1.11	12.58	11.57	52.56	6.61
1978-79	94	1.11	13.21	12.11	53.81	7.11
MAY 1						
1970-71	59	1.05	12.55	12.06	50.53	6.35
1971-72	69	0.97	12.65	13.18	55.07	6.97
1972-73	75	1.07	13.07	12.38	54.67	7.15
1973-74	69	1.04	12.86	12.60	55.69	7.17
1974-75	74	1.09	13.57	12.77	54.74	7.42
1975-76	74	1.01	12.81	12.93	56.24	7.20
1976-77	49	1.00	13.19	13.31	46.78	6.17
1977-78	77	1.03	12.89	12.68	52.96	6.83
1978-79	65	1.06	13.57	13.04	52.67	7.15

LATE ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER		PERCENT		POUNDS		
JUNE 1						
1970-71	22	0.94	13.70	14.62	50.84	7.02
1971-72	47	0.86	12.85	15.14	54.68	7.04
1972-73	54	0.95	13.45	14.52	54.42	7.33
1973-74	29	0.90	13.42	15.04	54.19	7.27
1974-75	38	0.99	14.11	14.60	51.92	7.32
1975-76	35	0.87	12.95	15.06	55.16	7.15
1976-77	28	0.92	13.95	15.37	45.74	6.39
1977-78	45	0.91	13.67	15.22	53.60	7.33
1978-79	30	0.90	13.60	15.33	52.89	7.19

EARLY ORANGES

MATURITY AND YIELD TEST RESULTS
UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
FROM IDENTICAL SAMPLE TREES
1970-71 THROUGH 1978-79

SEASON AND DATE	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
-----------------	------	----------------	-------	---------------	----------------

NUMBER

PERCENT

POUNDS

1970-71 (17 GROVES)

SEP	1	2.24	9.29	4.26	46.15	4.28
OCT	1	1.38	9.64	7.06	50.36	4.86
NOV	1	1.08	10.89	10.24	52.87	5.74
DEC	1	1.05	11.60	11.18	52.46	6.07
DEC	15	1.03	11.87	11.63	51.97	6.17
JAN	1	0.97	12.39	12.98	50.10	6.21
FEB	1	0.82	13.29	16.51	45.74	6.09

1971-72 (27 GROVES)

SEP	1	1.93	8.77	4.60	45.48	3.99
OCT	1	1.34	9.18	6.69	51.56	4.74
NOV	1	1.09	9.91	9.31	52.14	5.16
DEC	1	0.95	10.94	11.75	53.16	5.81
DEC	15	0.88	11.13	13.02	52.51	5.84
JAN	1	0.83	11.46	14.00	51.46	5.90
FEB	1	0.75	12.16	16.75	50.62	6.18

1972-73 (35 GROVES)

SEP	1	2.10	9.20	4.42	40.35	3.70
OCT	1	1.57	9.50	6.16	46.25	4.38
NOV	1	1.20	10.52	8.93	49.83	5.24
DEC	1	1.07	11.33	10.78	50.18	5.68
DEC	15	1.01	11.61	11.75	50.47	5.86
JAN	1	0.92	11.85	13.08	51.61	6.12
FEB	1	0.88	12.63	14.61	49.81	6.29

CONTINUED

EARLY ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79--CONTINUED

SEASON AND DATE	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
--------------------	------	-------------------	-------	------------------	-------------------

PERCENT

POUNDS

1973-74 (27 GROVES)

SEP 1	2.00	8.99	4.55	43.02	3.84
OCT 1	1.45	9.21	6.54	47.79	4.40
NOV 1	1.10	9.97	9.37	52.25	5.21
DEC 1	0.97	11.22	11.82	52.28	5.86
DEC 15	0.94	11.50	12.57	52.60	6.05
JAN 1	0.95	11.76	12.73	51.47	6.05
FEB 1	0.85	12.79	15.38	51.05	6.53

1974-75 (25 GROVES)

SEP 1	1.60	9.01	5.96	46.50	4.18
OCT 1	1.23	9.43	8.12	50.42	4.76
NOV 1	1.04	10.31	10.37	52.75	5.44
DEC 1	0.99	11.40	11.78	51.61	5.89
DEC 15	1.01	11.68	11.81	50.75	5.93
JAN 1	0.93	11.82	13.04	50.29	5.95
FEB 1	0.85	12.89	15.55	49.79	6.42

1975-76 (22 GROVES)

SEP 1	1.56	9.35	6.52	46.54	4.33
OCT 1	1.20	9.73	8.43	50.14	4.87
NOV 1	1.04	10.72	10.87	52.10	5.57
DEC 1	0.86	11.76	13.97	52.64	6.18
DEC 15	0.92	12.03	13.31	52.66	6.31
JAN 1	0.88	12.18	14.17	51.86	6.31
FEB 1	0.85	12.90	15.45	49.34	6.37

CONTINUED

EARLY ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79--CONTINUED

SEASON AND DATE	NUMBER	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
		PERCENT			POUNDS	
1976-77 (25 GROVES)						
SEP	1	1.84	9.35	5.15	43.15	4.03
OCT	1	1.33	9.59	7.38	47.51	4.55
NOV	1	1.09	10.94	10.23	49.74	5.43
DEC	1	1.01	11.83	11.78	50.30	5.95
DEC	15	0.99	12.10	12.51	48.98	5.93
JAN	1	0.92	12.21	13.50	49.65	6.06
FEB	1	0.78	12.83	16.95	42.52	5.48
1977-78 (23 GROVES)						
SEP	1	2.08	9.60	4.64	41.62	3.98
OCT	1	1.41	9.37	6.76	45.89	4.30
NOV	1	1.20	10.45	8.91	48.77	5.09
DEC	1	0.99	11.44	11.66	49.70	5.69
DEC	15	0.94	11.68	12.54	49.33	5.76
JAN	1	0.91	12.05	13.47	48.26	5.82
FEB	1	0.89	12.51	14.56	47.89	6.01
1978-79 (26 GROVES)						
SEP	1	2.01	9.35	4.70	40.78	3.81
OCT	1	1.50	9.84	6.65	45.56	4.48
NOV	1	1.13	10.68	9.54	48.96	5.22
DEC	1	1.02	11.96	11.89	51.31	6.13
DEC	15	0.95	12.26	13.13	50.74	6.20
JAN	1	0.91	12.47	13.86	49.79	6.20
FEB	1	0.89	13.57	15.49	48.44	6.57

MIDSEASON ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79

SEASON AND DATE		ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
		PERCENT	PERCENT		POUNDS	POUNDS
1970-71 (24 GROVES)						
SEP	1	2.30	9.28	4.07	46.26	4.29
OCT	1	1.72	9.57	5.77	49.38	4.73
NOV	1	1.34	10.71	7.74	55.09	5.90
DEC	1	1.24	11.66	9.65	54.16	6.24
DEC	15	1.24	12.14	9.89	52.55	6.38
JAN	1	1.17	12.39	10.85	52.62	6.53
FEB	1	1.01	13.30	13.53	47.97	6.38
1971-72 (31 GROVES)						
SEP	1	2.28	8.91	3.98	45.54	4.05
OCT	1	1.65	9.28	5.78	49.76	4.63
NOV	1	1.31	9.83	7.82	53.17	5.23
DEC	1	1.14	10.87	9.88	53.80	5.85
DEC	15	1.06	11.35	11.12	54.37	6.17
JAN	1	1.01	11.73	12.05	53.96	6.33
FEB	1	0.95	12.42	13.54	52.20	6.40
1972-73 (36 GROVES)						
SEP	1	2.36	9.13	3.92	41.16	3.75
OCT	1	1.87	9.55	5.24	48.59	4.64
NOV	1	1.44	10.72	7.71	52.00	5.58
DEC	1	1.30	11.39	8.94	51.70	5.89
DEC	15	1.16	11.80	10.37	52.20	6.17
JAN	1	1.16	12.28	10.72	52.04	6.38
FEB	1	1.07	13.08	12.57	51.49	6.74

CONTINUED

MIDSEASON ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79--CONTINUED

SEASON AND DATE	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
	PERCENT	PERCENT		POUNDS	POUNDS
1973-74 (38 GROVES)					
SEP 1	2.30	8.85	3.91	43.64	3.85
OCT 1	1.73	8.98	5.23	49.58	4.45
NOV 1	1.29	9.91	7.90	54.21	5.37
DEC 1	1.16	11.01	9.77	55.15	6.07
DEC 15	1.07	11.48	10.94	54.17	6.21
JAN 1	1.09	11.78	10.98	54.19	6.38
FEB 1	0.95	12.73	13.68	53.64	6.83
1974-75 (39 GROVES)					
SEP 1	1.93	8.68	4.70	46.77	4.07
OCT 1	1.45	9.03	6.56	51.24	4.63
NOV 1	1.26	10.25	8.47	53.85	5.52
DEC 1	1.15	11.45	10.43	53.23	6.09
DEC 15	1.21	11.86	10.16	52.19	6.19
JAN 1	1.06	11.92	11.53	52.63	6.28
FEB 1	0.99	12.80	13.28	51.20	6.56
1975-76 (32 GROVES)					
SEP 1	1.77	9.04	5.25	49.56	4.47
OCT 1	1.38	9.37	7.09	52.62	4.93
NOV 1	1.11	10.50	9.76	55.33	5.82
DEC 1	0.95	11.42	12.35	55.88	6.38
DEC 15	1.00	11.77	12.01	54.56	6.42
JAN 1	0.98	11.87	12.33	54.37	6.46
FEB 1	0.97	12.82	13.41	52.98	6.79

CONTINUED

MIDSEASON ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79--CONTINUED

SEASON AND DATE		ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
		PERCENT			POUNDS	
1976-77 (35 GROVES)						
SEP	1	2.11	9.01	4.36	44.66	4.01
OCT	1	1.52	9.36	6.36	49.60	4.63
NOV	1	1.25	10.68	8.74	51.81	5.53
DEC	1	1.17	11.59	10.20	51.45	5.95
DEC	15	1.09	11.73	11.09	51.14	6.00
JAN	1	1.05	12.01	11.65	51.55	6.19
FEB	1	0.92	12.65	14.19	45.97	5.82
1977-78 (34 GROVES)						
SEP	1	2.33	9.33	4.07	42.32	3.95
OCT	1	1.66	9.26	5.73	47.89	4.44
NOV	1	1.29	10.33	8.14	52.08	5.38
DEC	1	1.13	11.24	10.19	52.30	5.88
DEC	15	1.10	11.67	10.80	52.64	6.14
JAN	1	1.04	11.96	11.78	52.62	6.29
FEB	1	0.95	12.25	13.03	51.26	6.29
1978-79 (30 GROVES)						
SEP	1	2.19	8.92	4.13	42.55	3.79
OCT	1	1.63	9.34	5.83	47.40	4.43
NOV	1	1.25	10.20	8.32	51.55	5.26
DEC	1	1.12	11.48	10.43	53.27	6.11
DEC	15	1.01	11.68	11.81	53.23	6.22
JAN	1	1.01	12.06	12.15	52.10	6.28
FEB	1	1.00	13.09	13.33	51.31	6.71

LATE ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79

SEASON AND DATE	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
--------------------	------	-------------------	-------	------------------	-------------------

PERCENT

POUNDS

1970-71 (59 GROVES)

OCT	1	2.61	8.52	3.31	45.90	3.91
NOV	1	2.12	9.18	4.39	49.92	4.58
DEC	1	1.88	9.98	5.37	52.06	5.20
JAN	1	1.69	10.83	6.51	52.46	5.69
FEB	1	1.44	11.62	8.19	51.92	6.05
MAR	1	1.26	12.17	9.82	49.97	6.10
APR	1	1.16	12.34	10.72	50.40	6.25
APR	15	1.12	12.57	11.31	50.29	6.34
MAY	1	1.05	12.55	12.06	50.53	6.35

1971-72 (69 GROVES)

OCT	1	2.76	8.46	3.09	46.66	3.95
NOV	1	2.25	8.57	3.90	49.91	4.32
DEC	1	1.84	9.50	5.22	52.57	5.00
JAN	1	1.52	10.30	6.85	53.93	5.56
FEB	1	1.28	11.28	8.87	54.99	6.21
MAR	1	1.20	11.74	9.92	55.94	6.58
APR	1	1.07	12.32	11.61	54.91	6.76
APR	15	1.01	12.41	12.42	54.09	6.72
MAY	1	0.97	12.65	13.18	55.07	6.97

1972-73 (75 GROVES)

OCT	1	3.03	8.98	2.99	44.18	3.96
NOV	1	2.47	9.66	3.95	49.19	4.74
DEC	1	2.04	9.99	4.99	50.89	5.08
JAN	1	1.74	10.99	6.43	53.07	5.84
FEB	1	1.51	11.63	7.82	53.40	6.21
MAR	1	1.44	12.11	8.59	53.52	6.48
APR	1	1.25	12.71	10.36	53.42	6.79
APR	15	1.14	12.86	11.43	54.81	7.05
MAY	1	1.07	13.07	12.38	54.67	7.15

CONTINUED

LATE ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79--CONTINUED

SEASON AND DATE		ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
		PERCENT			POUNDS	
1973-74 (69 GROVES)						
OCT	1	2.86	8.41	2.96	45.95	3.86
NOV	1	2.31	8.97	3.91	51.13	4.59
DEC	1	1.92	9.95	5.26	54.48	5.42
JAN	1	1.75	10.60	6.12	53.97	5.72
FEB	1	1.42	11.47	8.16	55.13	6.32
MAR	1	1.33	12.05	9.23	55.33	6.67
APR	1	1.12	12.50	11.34	55.84	6.98
APR	15	1.11	12.68	11.63	55.47	7.04
MAY	1	1.04	12.68	12.60	55.69	7.17
1974-75 (74 GROVES)						
OCT	1	2.55	8.40	3.34	48.16	4.04
NOV	1	2.18	9.18	4.28	52.34	4.80
DEC	1	1.91	10.51	5.57	53.35	5.61
JAN	1	1.65	11.05	6.80	53.78	5.94
FEB	1	1.44	11.68	8.21	54.11	6.32
MAR	1	1.31	12.37	9.51	54.96	6.79
APR	1	1.19	12.98	11.04	55.51	7.20
APR	15	1.20	13.24	11.21	54.75	7.25
MAY	1	1.09	13.57	12.77	54.74	7.42
1975-76 (74 GROVES)						
OCT	1	2.47	8.53	3.51	48.95	4.17
NOV	1	1.97	9.11	4.73	52.92	4.82
DEC	1	1.64	9.87	6.09	55.05	5.43
JAN	1	1.54	10.67	7.06	54.96	5.83
FEB	1	1.43	11.35	8.06	54.65	6.20
MAR	1	1.33	12.08	9.22	54.10	6.54
APR	1	1.14	12.36	11.08	54.52	6.74
APR	15	1.06	12.38	11.87	54.68	6.77
MAY	1	1.01	12.81	12.93	56.24	7.20

CONTINUED

LATE ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79--CONTINUED

SEASON AND DATE	PERCENT			POUNDS	
	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
1976-77 (49 GROVES)					
OCT 1	2.72	8.74	3.26	44.93	3.92
NOV 1	2.16	9.50	4.45	48.93	4.64
DEC 1	1.83	10.46	5.78	51.53	5.39
JAN 1	1.58	11.04	7.07	53.37	5.89
FEB 1	1.39	11.57	8.41	50.22	5.82
MAR 1	1.30	12.25	9.51	46.49	5.69
APR 1	1.15	12.57	11.06	46.46	5.84
APR 15	1.05	12.89	12.36	46.13	5.94
MAY 1	1.00	13.19	13.31	46.78	6.17
1977-78 (77 GROVES)					
OCT 1	2.87	8.73	3.07	44.94	3.93
NOV 1	2.25	9.38	4.22	48.90	4.58
DEC 1	1.89	10.16	5.46	51.33	5.22
JAN 1	1.61	10.71	6.72	52.96	5.67
FEB 1	1.44	11.57	7.98	53.22	6.01
MAR 1	1.37	11.85	8.76	52.81	6.26
APR 1	1.19	12.37	10.58	52.07	6.45
APR 15	1.12	12.56	11.40	53.08	6.67
MAY 1	1.03	12.89	12.68	52.96	6.83
1978-79 (65 GROVES)					
OCT 1	2.90	8.98	3.11	42.13	3.78
NOV 1	2.31	9.78	4.27	47.98	4.69
DEC 1	1.95	10.61	5.51	50.51	5.35
JAN 1	1.65	11.19	6.85	51.61	5.77
FEB 1	1.48	12.04	8.24	52.62	6.32
MAR 1	1.32	12.51	9.60	51.85	6.48
APR 1	1.21	13.16	11.05	53.04	6.98
APR 15	1.14	13.33	11.86	53.58	7.14
MAY 1	1.06	13.57	13.04	52.67	7.15

EARLY ORANGES

MATURITY AND YIELD TEST RESULTS
UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
FROM IDENTICAL SAMPLE TREES
1970-71 THROUGH 1978-79

DATE |1970-71|1971-72|1972-73|1973-74|1974-75|1975-76|1976-77|1977-78|1978-79

PERCENT ACID

	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
SEP 1	2.24	1.93	2.10	2.00	1.60	1.56	1.84	2.08	2.01
OCT 1	1.38	1.34	1.57	1.45	1.23	1.20	1.33	1.41	1.50
NOV 1	1.08	1.09	1.20	1.10	1.04	1.04	1.09	1.20	1.13
DEC 1	1.05	0.95	1.07	0.97	0.99	0.86	1.01	0.99	1.02
DEC 15	1.03	0.88	1.01	0.94	1.01	0.92	0.99	0.94	0.95
JAN 1	0.97	0.83	0.92	0.95	0.93	0.88	0.92	0.91	0.91
FEB 1	0.82	0.75	0.88	0.85	0.85	0.85	0.78	0.89	0.89

PERCENT SOLUBLE SOLIDS

	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
SEP 1	9.29	8.77	9.20	8.98	9.01	9.35	9.35	9.60	9.35
OCT 1	9.64	9.18	9.50	9.21	9.43	9.73	9.59	9.37	9.84
NOV 1	10.89	9.91	10.52	9.97	10.31	10.72	10.94	10.45	10.68
DEC 1	11.60	10.94	11.33	11.22	11.40	11.76	11.83	11.44	11.96
DEC 15	11.87	11.13	11.61	11.50	11.68	12.03	12.10	11.68	12.26
JAN 1	12.39	11.46	11.85	11.76	11.82	12.18	12.21	12.05	12.47
FEB 1	13.29	12.16	12.63	12.79	12.89	12.90	12.83	12.51	13.57

RATIO

	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
SEP 1	4.26	4.60	4.42	4.54	5.96	6.52	5.15	4.64	4.70
OCT 1	7.06	6.69	6.16	6.54	8.12	8.43	7.38	6.76	6.65
NOV 1	10.24	9.31	8.93	9.37	10.37	10.87	10.23	8.91	9.54
DEC 1	11.18	11.75	10.78	11.82	11.78	13.97	11.78	11.66	11.89
DEC 15	11.63	13.02	11.75	12.57	11.81	13.31	12.51	12.54	13.13
JAN 1	12.98	14.00	13.08	12.73	13.04	14.17	13.50	13.47	13.86
FEB 1	16.51	16.57	14.61	15.38	15.55	15.45	16.95	14.56	15.49

EARLY ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79

DATE	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
POUNDS JUICE PER BOX									
SEP 1	46.15	45.48	40.35	43.14	46.50	46.54	43.15	41.62	40.78
OCT 1	50.36	51.56	46.25	47.79	50.42	50.14	47.51	45.89	45.56
NOV 1	52.87	52.16	49.83	52.25	52.75	52.10	49.74	48.77	48.96
DEC 1	52.46	53.16	50.18	52.28	51.61	52.64	50.30	49.70	51.31
DEC 15	51.97	52.51	50.47	52.60	50.75	52.66	48.98	49.33	50.74
JAN 1	50.10	51.46	51.61	51.47	50.29	51.86	49.65	48.26	49.79
FEB 1	45.74	50.62	49.81	51.05	49.79	49.34	42.52	47.89	48.44

POUNDS SOLIDS PER BOX

SEP 1	4.28	3.99	3.70	3.85	4.18	4.33	4.03	3.98	3.81
OCT 1	4.86	4.74	4.38	4.40	4.76	4.87	4.55	4.30	4.41
NOV 1	5.74	5.16	5.24	5.21	5.44	5.57	5.43	5.09	5.22
DEC 1	6.07	5.81	5.68	5.86	5.89	6.18	5.95	5.69	6.13
DEC 15	6.17	5.84	5.86	6.05	5.93	6.31	5.93	5.76	6.20
JAN 1	6.21	5.90	6.12	6.05	5.75	6.31	6.06	5.82	6.20
FEB 1	6.09	6.18	6.29	6.53	6.42	6.37	5.48	6.01	6.57

MIDSEASON ORANGES

MATURITY AND YIELD TEST RESULTS
UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
FROM IDENTICAL SAMPLE TREES
1970-71 THROUGH 1978-79

DATE	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

PERCENT ACID

SEP 1	2.30	2.28	2.36	2.30	1.93	1.77	2.11	2.33	2.19
OCT 1	1.72	1.65	1.87	1.73	1.45	1.38	1.52	1.66	1.63
NOV 1	1.34	1.34	1.44	1.29	1.26	1.11	1.25	1.29	1.25
DEC 1	1.24	1.14	1.30	1.16	1.15	0.95	1.17	1.13	1.12
DEC 15	1.24	1.06	1.16	1.07	1.21	1.00	1.09	1.10	1.01
JAN 1	1.17	1.01	1.16	1.09	1.06	0.98	1.05	1.04	1.01
FEB 1	1.01	0.95	1.07	0.95	0.99	0.97	0.92	0.95	1.00

PERCENT SOLUBLE SOLIDS

SEP 1	9.28	8.91	9.13	8.85	8.68	9.04	9.01	9.33	8.92
OCT 1	9.57	9.28	9.55	8.98	9.03	9.37	9.36	9.26	9.34
NOV 1	10.71	9.83	10.72	9.91	10.25	10.50	10.68	10.33	10.20
DEC 1	11.66	10.87	11.39	11.01	11.45	11.42	11.59	11.24	11.48
DEC 15	12.14	11.35	11.80	11.48	11.86	11.77	11.73	11.67	11.68
JAN 1	12.39	11.73	12.28	11.78	11.92	11.87	12.01	11.96	12.06
FEB 1	13.30	12.42	13.08	12.73	12.80	12.82	12.65	12.25	13.09

RATIO

SEP 1	4.07	3.98	3.92	3.91	4.70	5.25	4.36	4.07	4.13
OCT 1	5.77	5.78	5.24	5.23	6.56	7.09	6.36	5.73	5.83
NOV 1	7.74	7.82	7.71	7.90	8.47	9.76	8.74	8.14	8.32
DEC 1	9.65	9.88	8.94	9.77	10.43	12.35	10.20	10.19	10.43
DEC 15	9.89	11.12	10.37	10.94	10.16	12.01	11.09	10.80	11.81
JAN 1	10.85	12.05	10.72	10.98	11.53	12.33	11.65	11.78	12.15
FEB 1	13.53	13.54	12.57	13.68	13.28	13.41	14.19	13.03	13.33

MIDSEASON ORANGES

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79

 DATE |1970-71|1971-72|1972-73|1973-74|1974-75|1975-76|1976-77|1977-78|1978-79

POUNDS JUICE PER BOX

DATE	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
SEP 1	46.26	45.54	41.16	43.64	46.77	49.56	44.66	42.32	42.55
OCT 1	49.38	49.76	48.59	49.58	51.24	52.62	49.60	47.89	47.40
NOV 1	55.09	53.17	52.00	54.21	53.85	55.33	51.81	52.08	51.55
DEC 1	54.16	53.80	51.70	55.15	53.23	55.88	51.45	52.30	53.27
DEC 15	52.55	54.37	52.20	54.17	52.19	54.56	51.14	52.64	53.23
JAN 1	52.62	53.96	52.04	54.19	52.63	54.37	51.55	52.62	52.10
FEB 1	47.97	52.20	51.49	53.64	51.20	52.98	45.97	51.26	51.31

POUNDS SOLIDS PER BOX

DATE	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
SEP 1	4.29	4.05	3.75	3.85	4.07	4.47	4.01	3.95	3.79
OCT 1	4.73	4.63	4.64	4.45	4.63	4.93	4.63	4.44	4.43
NOV 1	5.90	5.23	5.58	5.37	5.52	5.82	5.53	5.38	5.26
DEC 1	6.24	5.85	5.89	6.07	6.09	6.38	5.95	5.88	6.11
DEC 15	6.38	6.17	6.17	6.21	6.19	6.42	6.00	6.14	6.22
JAN 1	6.53	6.33	6.38	6.38	6.28	6.46	6.19	6.29	6.28
FEB 1	6.38	6.49	6.74	6.83	6.56	6.79	5.82	6.29	6.71

LATE ORANGES

MATURITY AND YIELD TEST RESULTS
UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
FROM IDENTICAL SAMPLE TREES
1970-71 THROUGH 1978-79

DATE	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

PERCENT ACID

OCT 1	2.61	2.76	3.03	2.86	2.55	2.47	2.72	2.87	2.90
NOV 1	2.12	2.25	2.47	2.31	2.18	1.97	2.16	2.25	2.31
DEC 1	1.88	1.84	2.04	1.92	1.91	1.64	1.83	1.89	1.95
JAN 1	1.69	1.52	1.74	1.75	1.65	1.54	1.58	1.61	1.65
FEB 1	1.44	1.28	1.51	1.42	1.44	1.43	1.39	1.44	1.48
MAR 1	1.26	1.20	1.44	1.33	1.31	1.33	1.30	1.37	1.32
APR 1	1.16	1.07	1.25	1.12	1.19	1.14	1.15	1.19	1.21
APR 15	1.12	1.01	1.14	1.11	1.20	1.06	1.05	1.12	1.14
MAY 1	1.05	0.97	1.07	1.04	1.09	1.01	1.00	1.03	1.06

PERCENT SOLUBLE SOLIDS

OCT 1	8.52	8.46	8.98	8.41	8.40	8.53	8.74	8.73	8.98
NOV 1	9.18	8.57	9.66	8.97	9.18	9.11	9.50	9.38	9.78
DEC 1	9.98	9.50	9.99	9.95	10.51	9.87	10.46	10.16	10.61
JAN 1	10.83	10.30	10.99	10.60	11.05	10.67	11.04	10.71	11.19
FEB 1	11.62	11.28	11.63	11.47	11.68	11.35	11.57	11.57	12.04
MAR 1	12.17	11.74	12.11	12.05	12.37	12.08	12.25	11.85	12.51
APR 1	12.34	12.32	12.71	12.50	12.98	12.36	12.57	12.37	13.16
APR 15	12.57	12.41	12.86	12.68	13.24	12.38	12.89	12.56	13.33
MAY 1	12.55	12.65	13.07	12.86	13.57	12.81	13.19	12.89	13.57

RATIO

OCT 1	3.31	3.09	2.99	2.96	3.34	3.51	3.26	3.07	3.11
NOV 1	4.39	3.90	3.95	3.91	4.28	4.73	4.45	4.22	4.27
DEC 1	5.37	5.22	4.99	5.26	5.57	6.09	5.78	5.46	5.51
JAN 1	6.51	6.85	6.43	6.12	6.80	7.06	7.07	6.72	6.85
FEB 1	8.19	8.87	7.82	8.16	8.21	8.06	8.41	7.98	8.24
MAR 1	9.82	9.92	8.59	9.23	9.51	9.22	9.51	8.76	9.60
APR 1	10.72	11.61	10.36	11.34	11.04	11.03	11.06	10.58	11.05
APR 15	11.31	12.42	11.43	11.63	11.21	11.87	12.36	11.40	11.86
MAY 1	12.06	13.18	12.38	12.60	12.77	12.93	13.31	12.68	13.04

LATE ORANGES

MATURITY AND YIELD TEST RESULTS
UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
FROM IDENTICAL SAMPLE TREES
1970-71 THROUGH 1978-79

DATE	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

POUNDS JUICE PER BOX

OCT 1	45.90	46.66	44.18	45.95	48.16	48.95	44.93	44.94	42.13
NOV 1	49.92	49.91	49.19	51.13	52.34	52.92	48.93	48.90	47.98
DEC 1	52.06	52.57	50.89	54.48	53.35	55.05	51.53	51.33	50.51
JAN 1	52.46	53.93	53.07	53.97	53.78	54.69	53.37	52.96	51.61
FEB 1	51.92	54.99	53.40	55.13	54.11	54.65	50.22	53.22	52.62
MAR 1	49.97	55.94	53.52	55.33	54.96	54.10	46.49	52.81	51.85
APR 1	50.40	54.91	53.42	55.84	55.51	54.52	46.46	52.07	53.04
APR 15	50.29	54.09	54.81	55.47	54.75	54.68	46.13	53.08	53.58
MAY 1	50.53	55.07	54.67	55.69	54.74	56.24	46.78	52.96	52.67

POUNDS SOLIDS PER BOX

OCT 1	3.91	3.95	3.96	3.86	4.08	4.17	3.92	3.93	3.78
NOV 1	4.58	4.32	4.74	4.59	4.80	4.82	4.64	4.58	4.69
DEC 1	5.20	5.00	5.08	5.42	5.61	5.43	5.39	5.22	5.35
JAN 1	5.69	5.56	5.84	5.72	5.94	5.83	5.89	5.67	5.77
FEB 1	6.05	6.21	6.21	6.32	6.32	6.20	5.82	6.01	6.32
MAR 1	6.10	6.58	6.48	6.67	6.79	6.54	5.69	6.26	6.48
APR 1	6.25	6.76	6.79	6.98	7.20	6.74	5.84	6.45	6.98
APR 15	6.34	6.72	7.05	7.04	7.25	6.77	5.94	6.67	7.14
MAY 1	6.35	6.97	7.15	7.17	7.42	7.20	6.17	6.83	7.15

SEEDY GRAPEFRUIT

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES NUMBER	ACID PERCENT	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX POUNDS
SEPTEMBER 1						
1970-71	25	1.70	9.67	5.73	32.17	3.11
1971-72	25	1.70	8.98	5.34	31.64	2.84
1972-73	25	1.78	9.50	5.35	29.00	2.75
1973-74	25	1.84	9.03	4.93	30.28	2.74
1974-75	25	1.60	8.81	5.59	38.73	3.41
1975-76	25	1.56	9.37	6.06	35.75	3.36
1976-77	25	1.76	9.19	5.27	28.73	2.64
1977-78	25	1.79	9.28	5.23	28.76	2.68
1978-79	25	1.79	9.08	5.10	29.06	2.64
OCTOBER 1						
1970-71	25	1.53	9.96	6.58	37.67	3.75
1971-72	25	1.57	9.22	5.93	36.35	3.35
1972-73	25	1.63	10.02	6.18	35.40	3.54
1973-74	25	1.54	9.11	5.98	35.64	3.26
1974-75	24	1.43	9.16	6.50	37.33	3.42
1975-76	25	1.40	9.51	6.88	38.59	3.68
1976-77	25	1.61	9.38	5.88	33.83	3.17
1977-78	25	1.55	9.65	6.29	32.63	3.15
1978-79	25	1.74	9.90	5.74	32.50	3.22

SEEDY GRAPEFRUIT

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES NUMBER	ACID PERCENT	SOLUBLE SOLIDS PERCENT	RATIO	JUICE PER BOX POUNDS	SOLIDS PER BOX POUNDS
NOVEMBER 1						
1970-71	22	1.51	10.41	7.00	41.50	4.32
1971-72	25	1.49	9.46	6.46	41.08	3.88
1972-73	25	1.70	10.71	6.32	40.79	4.36
1973-74	23	1.56	9.70	6.29	41.80	4.06
1974-75	22	1.53	9.84	6.55	40.39	3.97
1975-76	23	1.36	10.05	7.52	40.39	4.34
1976-77	25	1.60	10.12	6.41	37.06	3.76
1977-78	23	1.57	10.14	6.53	37.17	3.76
1978-79	25	1.78	10.73	6.16	36.70	3.94
DECEMBER 1						
1970-71	18	1.60	10.83	6.88	44.77	4.84
1971-72	22	1.45	9.99	7.01	44.28	4.42
1972-73	21	1.55	10.96	7.10	41.85	4.59
1973-74	19	1.46	10.29	7.15	44.54	4.58
1974-75	20	1.56	10.85	7.08	43.02	4.66
1975-76	16	1.38	10.38	7.72	43.91	4.56
1976-77	18	1.69	10.67	6.40	38.01	4.06
1977-78	21	1.58	10.59	6.76	39.35	4.17
1978-79	22	1.72	11.29	6.68	39.57	4.47

SEEDY GRAPEFRUIT

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79

DATE	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

PERCENT ACID

OCT 1	1.59	1.60	1.64	1.60	1.47	1.44	1.67	1.56	1.76
NOV 1	1.55	1.51	1.70	1.58	1.57	1.40	1.65	1.57	1.80
DEC 1	1.60	1.45	1.55	1.46	1.56	1.38	1.69	1.58	1.72

PERCENT SOLUBLE SOLIDS

OCT 1	10.05	9.30	10.07	9.27	9.23	9.58	9.52	9.71	9.97
NOV 1	10.50	9.52	10.71	9.81	9.87	10.13	10.22	10.14	10.79
DEC 1	10.85	9.99	10.90	10.29	10.85	10.38	10.67	10.59	11.29

RATIO

OCT 1	6.38	5.86	6.18	5.85	6.31	6.73	5.73	6.31	5.72
NOV 1	6.82	6.39	6.32	6.25	6.39	7.39	6.26	6.54	6.09
DEC 1	6.88	7.01	7.10	7.15	7.08	7.72	6.40	6.76	6.68

POUNDS JUICE PER BOX

OCT 1	38.40	36.64	35.47	35.91	36.44	38.50	33.98	32.73	32.84
NOV 1	41.98	41.60	40.87	42.07	39.88	42.83	37.55	37.01	36.85
DEC 1	44.77	44.28	41.85	44.54	43.02	43.91	38.01	39.35	39.57

POUNDS SOLIDS PER BOX

OCT 1	3.86	3.40	3.58	3.34	3.37	3.69	3.23	3.19	3.23
NOV 1	4.40	3.96	4.37	4.14	3.93	4.35	3.84	3.75	3.98
DEC 1	4.84	4.42	4.59	4.58	4.66	4.56	4.06	4.17	4.47

WHITE SEEDLESS GRAPEFRUIT

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER		PERCENT			POUNDS	
SEPTEMBER 1						
1970-71	60	1.81	9.95	5.33	31.83	3.16
1971-72	60	1.81	9.76	5.45	32.73	3.18
1972-73	60	1.87	9.64	5.16	29.89	2.88
1973-74	60	1.84	8.89	4.86	31.39	2.79
1974-75	61	1.51	8.76	5.85	34.38	3.01
1975-76	62	1.56	9.35	6.04	35.99	3.37
1976-77	62	1.76	9.40	5.34	29.45	2.76
1977-78	62	1.79	9.64	5.42	28.88	2.78
1978-79	62	1.77	9.09	5.16	27.63	2.51
OCTOBER 1						
1970-71	60	1.51	10.04	6.69	36.55	3.66
1971-72	60	1.56	9.83	6.33	38.23	3.75
1972-73	60	1.62	9.86	6.14	35.85	3.52
1973-74	60	1.49	8.78	5.92	36.75	3.23
1974-75	59	1.40	8.98	6.52	37.95	3.40
1975-76	62	1.35	9.30	6.96	39.44	3.66
1976-77	61	1.53	9.26	6.08	34.11	3.15
1977-78	62	1.52	9.37	6.21	33.79	3.17
1978-79	62	1.62	9.54	5.94	32.43	3.09

WHITE SEEDLESS GRAPEFRUIT

MATURITY AND YIELD TEST RESULTS
UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
FROM SAMPLE GROVES
1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER	PERCENT	POUNDS				
NOVEMBER 1						
1970-71	54	1.37	10.24	7.53	41.06	4.20
1971-72	58	1.43	9.79	6.94	40.88	4.07
1972-73	58	1.50	10.07	6.77	40.38	4.07
1973-74	58	1.36	9.11	6.75	41.88	3.81
1974-75	57	1.37	9.44	7.01	41.01	3.86
1975-76	55	1.24	9.45	7.69	43.63	4.12
1976-77	60	1.45	9.65	6.71	37.65	3.64
1977-78	54	1.52	9.76	6.45	37.79	3.69
1978-79	60	1.53	9.92	6.56	36.88	3.65
DECEMBER 1						
1970-71	45	1.44	10.46	7.34	42.79	4.47
1971-72	55	1.32	9.90	7.62	45.04	4.47
1972-73	55	1.39	10.21	7.39	43.05	4.40
1973-74	55	1.29	9.22	7.24	44.74	4.13
1974-75	53	1.42	9.83	7.04	42.10	4.14
1975-76	49	1.16	9.44	8.19	46.11	4.35
1976-77	58	1.40	9.68	6.94	39.57	3.83
1977-78	51	1.41	9.79	7.03	39.86	3.90
1978-79	53	1.39	10.05	7.30	39.12	3.92

WHITE SEEDLESS GRAPEFRUIT

MATURITY AND YIELD TEST RESULTS
UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
FROM IDENTICAL SAMPLE TREES
1970-71 THROUGH 1978-79

DATE	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

PERCENT ACID

OCT 1	1.56	1.57	1.63	1.49	1.42	1.36	1.54	1.54	1.63
NOV 1	1.38	1.43	1.51	1.35	1.38	1.24	1.45	1.53	1.54
DEC 1	1.44	1.32	1.39	1.29	1.42	1.16	1.40	1.41	1.39

PERCENT SOLUBLE SOLIDS

OCT 1	10.16	9.88	9.92	8.76	9.06	9.38	9.29	9.46	9.57
NOV 1	10.29	9.81	10.14	9.07	9.51	9.51	9.70	9.75	9.97
DEC 1	10.46	9.90	10.21	9.22	9.83	9.44	9.68	9.79	10.05

RATIO

OCT 1	6.57	6.31	6.10	5.94	6.48	6.94	6.04	6.17	5.91
NOV 1	7.52	6.93	6.75	6.78	6.99	7.74	6.70	6.43	6.54
DEC 1	7.34	7.62	7.39	7.24	7.04	8.19	6.94	7.03	7.30

POUNDS JUICE PER BOX

OCT 1	36.30	38.13	35.86	36.88	37.63	39.65	33.89	33.59	32.36
NOV 1	40.62	40.87	40.27	42.12	40.84	44.05	37.71	37.79	36.82
DEC 1	42.79	45.04	43.05	44.74	42.10	46.11	39.57	39.86	39.12

POUNDS SOLIDS PER BOX

OCT 1	3.68	3.76	3.54	3.23	3.40	3.71	3.15	3.18	3.09
NOV 1	4.18	4.08	4.09	3.82	3.88	4.18	3.66	3.68	3.66
DEC 1	4.47	4.47	4.40	4.13	4.14	4.35	3.83	3.90	3.92

PINK SEEDLESS GRAPEFRUIT

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NUMBER		PERCENT		POUNDS		
SEPTEMBER 1						
1970-71	50	1.73	9.55	5.56	32.18	3.07
1971-72	50	1.80	9.39	5.22	32.02	3.00
1972-73	50	1.79	9.57	5.33	29.81	2.85
1973-74	50	1.86	9.02	4.86	30.94	2.79
1974-75	51	1.61	9.04	5.66	33.68	3.04
1975-76	52	1.57	9.57	6.15	35.83	3.43
1976-77	52	1.79	9.62	5.42	28.42	2.73
1977-78	52	1.88	10.00	5.37	27.68	2.76
1978-79	52	1.79	9.30	5.28	26.88	2.50
OCTOBER 1						
1970-71	49	1.42	9.61	6.79	37.23	3.56
1971-72	50	1.52	9.39	6.22	37.93	3.56
1972-73	50	1.56	9.91	6.40	36.49	3.60
1973-74	50	1.48	8.94	6.05	36.61	3.27
1974-75	47	1.43	9.33	6.63	37.64	3.51
1975-76	50	1.35	9.51	7.10	40.10	3.81
1976-77	52	1.53	9.52	6.27	33.73	3.21
1977-78	52	1.57	9.68	6.24	32.98	3.19
1978-79	52	1.63	9.69	5.99	32.18	3.12

PINK SEEDLESS GRAPEFRUIT

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM SAMPLE GROVES
 1970-71 THROUGH 1978-79

CROP YEAR	SAMPLE GROVES	ACID	SOLUBLE SOLIDS	RATIO	JUICE PER BOX	SOLIDS PER BOX
NOVEMBER 1						
1970-71	46	1.30	9.78	7.58	41.78	4.08
1971-72	50	1.39	9.50	6.87	41.17	3.91
1972-73	50	1.45	10.13	7.04	40.52	4.10
1973-74	50	1.37	9.28	6.85	42.33	3.93
1974-75	43	1.40	9.95	7.22	41.17	4.09
1975-76	47	1.20	9.78	8.24	44.17	4.32
1976-77	49	1.45	9.98	6.94	37.47	3.74
1977-78	49	1.51	10.15	6.84	37.17	3.76
1978-79	49	1.49	10.12	6.86	36.87	3.72
DECEMBER 1						
1970-71	39	1.31	9.97	7.73	43.50	4.31
1971-72	44	1.31	9.77	7.52	44.65	4.36
1972-73	47	1.33	10.21	7.75	43.12	4.40
1973-74	41	1.27	9.75	7.75	44.73	4.36
1974-75	39	1.39	10.47	7.67	42.50	4.41
1975-76	45	1.19	10.06	8.60	45.81	4.61
1976-77	46	1.39	10.06	7.37	39.25	3.95
1977-78	44	1.46	10.47	7.30	39.42	4.12
1978-79	45	1.34	10.15	7.63	38.95	3.95

PINK SEEDLESS GRAPEFRUIT

MATURITY AND YIELD TEST RESULTS
 UNADJUSTED MATCHED AVERAGES FOR REGULAR BLOOM FRUIT
 FROM IDENTICAL SAMPLE TREES
 1970-71 THROUGH 1978-79

DATE	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

PERCENT ACID

OCT 1	1.44	1.53	1.56	1.51	1.46	1.37	1.37	1.59	1.64
NOV 1	1.32	1.40	1.45	1.37	1.41	1.20	1.46	1.52	1.49
DEC 1	1.31	1.31	1.33	1.27	1.39	1.19	1.39	1.46	1.34

PERCENT SOLUBLE SOLIDS

OCT 1	9.66	9.47	9.94	9.10	9.48	9.60	9.55	9.78	9.73
NOV 1	9.84	9.57	10.15	9.37	10.04	9.83	9.99	10.18	10.14
DEC 1	9.97	9.77	10.21	9.75	10.47	10.06	10.06	10.47	10.15

RATIO

OCT 1	6.78	6.23	6.42	6.06	6.60	7.08	6.24	6.24	5.97
NOV 1	7.55	6.90	7.03	6.89	7.22	8.26	6.94	6.82	6.85
DEC 1	7.73	7.52	7.75	7.75	7.67	8.60	7.37	7.30	7.63

POUNDS JUICE PER BOX

OCT 1	37.15	38.00	36.49	37.19	37.33	40.07	33.89	32.70	32.02
NOV 1	41.75	41.36	40.59	42.69	41.10	44.32	37.64	37.16	36.81
DEC 1	43.50	44.65	43.12	44.73	42.50	45.81	39.25	39.42	38.95

POUNDS SOLIDS PER BOX

OCT 1	3.58	3.60	3.61	3.38	3.53	3.84	3.23	3.19	3.12
NOV 1	4.11	3.96	4.11	4.00	4.11	4.35	3.76	3.77	3.73
DEC 1	4.31	4.36	4.40	4.36	4.41	4.61	3.95	4.12	3.95
