

FLORIDA AGRICULTURAL STATISTICS

Citrus Maturity and Yield Tests

FLORIDA DEPARTMENT OF AGRICULTURE
AND CONSUMER SERVICES
BOB CRAWFORD, COMMISSIONER
TALLAHASSEE, FLORIDA

FLORIDA AGRICULTURAL
STATISTICS SERVICE

Robert L. Freie, State Statistician
Orlando, Florida

DIVISION OF MARKETING
AND DEVELOPMENT

Nelson L. Pugh, Director
Tallahassee, Florida

Cooperating with

U.S. Department of Agriculture
Agricultural Marketing Service
And
National Agricultural Statistics Service

University of Florida
Institute of Food & Agricultural Sciences
Agricultural Experiment Stations
Department of Food & Resource Economics

ACKNOWLEDGMENT

The Citrus Maturity Testing Program historic series contained in this publication was prepared by the Florida Agricultural Statistics Service from tests made at the Maturity Test Laboratory, located at the Orange County Agricultural Center.

We offer our sincere thanks to the many growers who allow picking of fruit samples from their groves, the Orange County Commissioners who maintain our test facilities, and citrus organizations who voluntarily cooperate in this program.

The report was assembled under the direction of Robert R. Terry and Harry M. Whittaker of the Florida Agricultural Statistics Service.

For information call: 1-800-344-6277

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 established at 73, midseasons at 55, and Valencias at 100. September 1 continued as the first test date and the schedule of midmonth tests was retained.

In the 1964-65 season, seedless grapefruit tests were added to the program with a separate series for white and colored varieties. A series for seedy grapefruit was added in the 1965-66 season and retained through the 1983 season, but has been discontinued because of steadily declining production.

SAMPLING

The Florida Agricultural Statistics Service collects fruit samples starting the first of October, and monthly thereafter. Each sample consists of 15 oranges or 5 grapefruit. The samples are picked from preselected groves and predetermined sample trees. During the 1994-95 season the number of sample groves were increased to: early orange, 120; midseason orange, 55; late (Valencia) orange, 150; white seedless grapefruit, 50; and colored seedless, 50.

Sample groves and trees remain relatively constant from year to year in order to assure the greatest continuity of data. Each sample is picked from a randomly selected cluster of five trees, a central (pivot) tree and four adjacent trees. Sample fruit are selected from the pivot tree's side nearest the road of travel and from the sides of the other four sample trees nearest the pivot tree. 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 October 1 and continuing through February 1. Late oranges are tested on the first of each month beginning October 1 and ending June 1. Grapefruit tests are run the first of each month from October through December.

All maturity tests are conducted at a testing facility 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 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 1/8 inch for the 3 and 4 inch cups and 1 inch for the 5 inch cup with no restrictors used. The 3 and 4 inch cups are used for oranges, while the 4 and 5 inch cups are used for grapefruit depending on sizes. The extractor and specifications correspond to those used for official State tests when the program began. State tests are now run on the FMC 091 B utilizing air pressure.

COMPARISONS OF FRUIT TEST RESULTS

These Maturity Test Results are not directly comparable with the results of tests being taken by the Division of Fruit and Vegetable (DFV) for each load of fruit delivered for processing. The Maturity Tests are from a sample of all fruit remaining on trees at the time of sampling, whereas the DFV tests are of fruit currently being delivered. Secondly, the Maturity Test Results are based on an extraction procedure which has not varied or changed over the entire history of the tests, and the resulting measures of acids, solids and juice are unadjusted, whereas the DFV tests are made primarily to establish a basis for payment of fruit, in accord with industry regulations. Thus, the Maturity Tests Results are stated for unfinished juice, and the DFV tests are made, then adjusted to calculate finished juice based on current factoring.

The finished juice from test results entered on DFV inspection certificates will always be less than the unfinished juice extracted by the inspector and the amount of unfinished juice reported in Maturity Test Results for the corresponding date.

FORECASTS OF YIELD OF FCOJ

Yield forecasts per 90 pound box equivalents are based on historic relationships, adjusted to reflect the effects of changing regulations on allowable extraction rates and current Brix standards. The forecast is made and measured against the history of actual final yields reported by the Florida Citrus Processors Association. Variables used in the forecasts include Maturity Test Results, and the forecasts properly take into account the actual cumulative yield to date as reported by the Florida Citrus Processors Association.

Starting in the 1965-66 season the standard for Florida orange juice was increased to 45.0° Brix, from the previous standard of 42.0°. This standard was changed to 43.4° with the 1980-81 season, then to the U.S. standard of 42.0° Brix, in 1981-82, and subsequently has remained unchanged.

THE 1986-87 SEASON

The all orange FCOJ yield projection on October 1, 1986 was 1.44 gallons of 42.0° Brix. This all orange yield forecast was continued until January when the yield was increased to 1.46 gallons per box. Near ideal weather continued throughout the winter with absence of freezing temperatures. Yield forecasts were further increased in March and again in April to 1.50 gallons per box for all oranges. The early and midseason orange yield was final at 1.44643 gallons per box. Continued excellent growing conditions prevailed and Valencias reached 1.59621 gallons per box. The final all orange FCOJ yield was 1.50827 gallons.

THE 1987-88 SEASON

The October 1, 1987 all orange FCOJ yield projection was 1.46 gallons per box of 42.0° Brix concentrate. This projection was held until January when the forecast was increased to 1.48 gallons per box. There was almost ideal growing weather with good moisture through the winter. The yield projection was increased to 1.51 gallons the first of February and again to 1.53 in March. The spring months had adequate rainfall and no damaging cold weather. The early and midseason orange yield was final at 1.48982 gallons per box. The late type (Valencia) oranges set an all time record high yield at 1.64573. The all orange yield was also at a record level 1.55342 gallons per box.

THE 1988-89 SEASON

The October 1 all orange FCOJ yield projection was 1.52 gallons of 42.0° Brix concentrate. This level was maintained until January when the unseasonably warm weather and lack of rain had depressed juice levels and the all orange FCOJ projection was lowered to 1.50 gallons per box. Improvements in weather and the Valencia orange crop returned the all orange projection to 1.52 for the February forecast. Continuing improvements in the late oranges supported an increase in all oranges the first of April to 1.53 gallons per box. The early and midseasons were final at 1.47532 gallons of FCOJ per box. The all orange yield projection remained at 1.53. The late type Valencia oranges were final at 1.62816 gallons per box. The all orange yield was final at 1.53625 gallons per box which was second only to the record 1987-88 season yield of 1.55342.

THE 1989-90 SEASON

The first all orange FCOJ yield projection for the 1989-90 season on October 1 was 1.48 gallons of 42.0° Brix concentrate. This projection was continued until January when the all orange yield expectation was lowered to 1.30 gallons due to the 1989 Christmas freeze. The National Weather Service recorded temperatures lower with the durations below 28 degrees longer than in the severe 1983 Christmas freeze. The February 1 all orange yield projection was lowered to 1.29. The March 1 yield projection was lowered again to 1.24 gallons per box. On April 1, the all orange yield projection continued lower to 1.21 gallons per box. The May and June projections for all oranges were raised respectively to 1.22 and 1.23 gallons per box. The final all orange yield was 1.22604 gallons per box. The final early and midseason orange yield was 1.23446 gallons per box and the Valencias were final at 1.20566 gallons.

THE 1990-91 SEASON

The October 1, 1990 all orange FCOJ yield projection was 1.52 gallons per box of 42.0° Brix concentrate. This projection was held until December when the 1.52 was lowered to 1.50 gallons per box. The January 1 yield projection was lowered again to 1.48 gallons. This level was maintained until April 1 when the all orange yield was decreased to 1.47. The May projection was reduced to 1.45 gallons per box and this level was held through June and July when the final for all oranges was 1.45383. The early and midseason oranges were final at 1.39285 and the late type Valencias were final at 1.55915 gallons per box.

THE 1991-92 SEASON

The first all orange FCOJ yield projection for the 1991-92 season was 1.50 gallons of 42.0° Brix concentrate. This level was maintained until February when the all orange level was raised to 1.51 gallons per box. The all orange yield projection was raised again the first of March to 1.52 gallons. This level was held until May when the all orange projections increased to 1.54 gallons due to the excellent quality developed by the Valencia oranges. The all oranges were raised to 1.55 gallons the first of June. The final all orange average yield was 1.54818 gallons per box. The early and midseasons were final at 1.46846 and the Valencias at 1.69608 gallons per box.

THE 1992-93 SEASON (1st non-factored season)

The October 1, 1992 all orange yield projection was 1.48 gallons per box of 42.0° Brix concentrate. This projection was held until January when the 1.48 level was raised to 1.52 gallons per box. The all orange projected yield was again increased the first of February to 1.55 gallons per box. The all orange level was increased to 1.57 March 1 and held through April. May projection was increased to 1.58 gallons per box. The final early and midseason yield as reported by the Florida Citrus Processors Association was a record high 1.52480 gallons per box. The late portion was final at 1.68686 and the all orange was final at 1.57893 gallons per box.

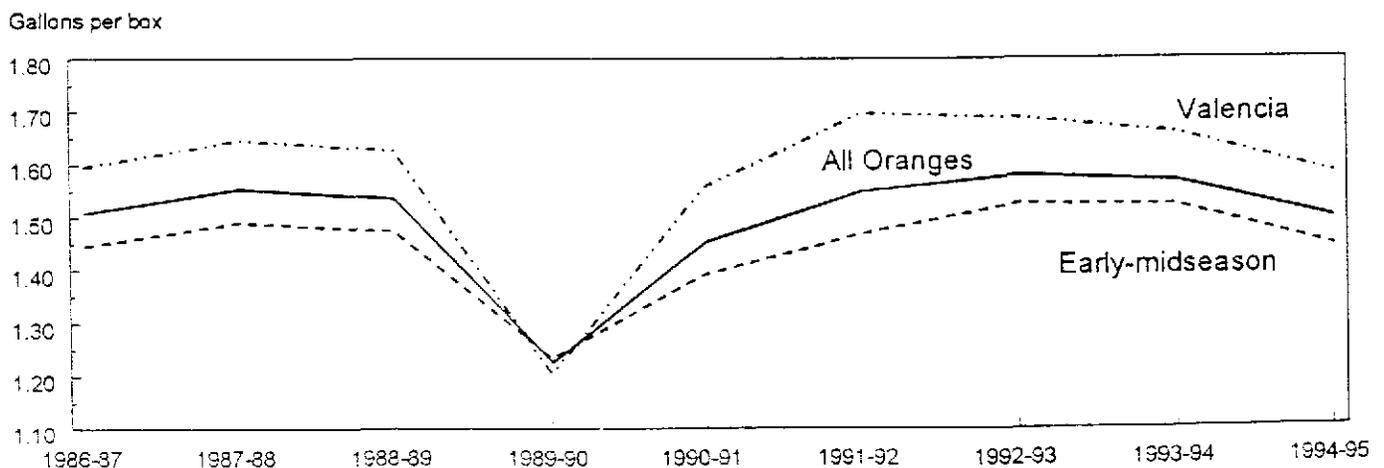
THE 1993-94 SEASON (non-factored)

The first all orange FCOJ yield projection for the 1993-94 season was 1.55 gallons of 42.0° Brix concentrate per box. This level was maintained until January when the forecast was raised to 1.56 gallons per box. The February, all orange projection was raised again to 1.57 gallons. This level remained for the rest of the season. The final all orange yield was 1.56760 gallons per box. The early and midseason orange yield was 1.52073 and the Valencias were final at 1.65942.

THE 1994-95 SEASON (non-factored)

The October 1, 1994 all orange FCOJ yield projection was 1.54 gallons of 42.0° Brix concentrate. This level was maintained until December when the forecast was lowered to 1.52 gallons per box. In January, the FCOJ projected yield for all oranges was lowered to 1.51 gallons. The yield forecast was lowered to 1.50 the first of April and held at that level for the remainder of the season. The final all orange yield was 1.49644 gallons per box. The early and mid season portion of the crop was final at 1.44399 gallons and the Valencias reached 1.58230. All areas of the citrus belt received above average rainfall from the March 1994 bloom period through December. From January through June when the last of the Valencias were picked rains were generally a little above to a little below average depending on location.

FCOJ Final Reported Yield



EARLY ORANGES

Maturity and yield test results
unadjusted averages for regular bloom fruit
from sample groves

1986-87 through 1994-95

Crop year	Sample groves	Acid	Soluble solids	Ratio	Juice per box	Solids per box
	Number	Percent			Pounds	
October 1						
1986-87	90	1.30	9.53	7.49	49.07	4.67
1987-88	90	1.47	9.79	6.80	47.58	4.65
1988-89	90	1.43	9.54	6.76	48.22	4.59
1989-90	90	1.32	9.65	7.57	48.35	4.66
1990-91	90	0.92	9.76	10.97	50.81	4.96
1991-92	115	0.96	9.73	10.43	49.56	4.82
1992-93	115	1.10	9.25	8.61	47.79	4.42
1993-94	115	1.33	9.73	7.53	46.78	4.55
1994-95	120	0.93	9.53	10.49	49.78	4.74
November 1						
1986-87	90	1.04	10.18	9.99	51.69	5.25
1987-88	90	1.17	10.23	8.85	50.60	5.17
1988-89	89	1.12	10.46	9.49	51.01	5.33
1989-90	88	1.02	10.36	10.35	51.62	5.34
1990-91	82	0.77	10.37	13.87	52.64	5.46
1991-92	111	0.81	10.30	13.05	51.50	5.31
1992-93	114	0.95	10.06	10.93	50.69	5.10
1993-94	114	0.99	10.27	10.58	49.70	5.11
1994-95	111	0.73	10.16	14.29	52.30	5.32
December 1						
1986-87	81	0.79	10.95	14.28	52.80	5.77
1987-88	84	0.95	11.31	12.13	52.11	5.88
1988-89	84	0.99	11.23	11.53	51.77	5.81
1989-90	82	0.90	11.28	12.83	52.20	5.88
1990-91	54	0.77	11.15	14.70	50.55	5.64
1991-92	81	0.72	11.44	16.12	51.47	5.89
1992-93	86	0.79	11.21	14.43	51.46	5.77
1993-94	101	0.84	11.30	13.71	51.50	5.82
1994-95	78	0.67	10.75	16.37	52.22	5.62

Continued

EARLY ORANGES

Maturity and yield test results
unadjusted averages for regular bloom fruit
from sample groves
1986-87 through 1994-95 (continued)

Crop year	Sample groves	Acid	Soluble solids	Ratio	Juice per box	Solids per box
	Number	Percent			Pounds	
January 1						
1986-87	45	0.81	11.86	14.99	52.97	6.28
1987-88	57	0.87	12.22	14.21	52.01	6.35
1988-89	50	0.87	12.26	14.21	51.46	6.31
1989-90	47	0.83	11.73	14.36	46.91	5.52
1990-91	26	0.77	12.02	15.89	51.26	6.16
1991-92	39	0.76	12.17	16.33	49.98	6.09
1992-93	57	0.77	12.00	15.94	51.10	6.13
1993-94	61	0.85	12.19	14.66	51.24	6.24
1994-95	45	0.66	11.29	17.57	48.77	5.52
February 1						
1986-87	13	0.83	12.97	15.72	50.52	6.54
1987-88	29	0.86	13.12	15.46	51.06	6.70
1988-89	19	0.82	13.23	16.32	51.10	6.76
1989-90 1/						
1990-91 1/						
1991-92 1/						
1992-93	32	0.73	12.76	17.84	51.02	6.51
1993-94	24	0.77	13.33	17.64	49.77	6.64
1994-95	9	0.62	11.88	19.35	49.66	5.91

1/ Too few samples to test.

MIDSEASON ORANGES

Maturity and yield test results
unadjusted averages for regular bloom fruit
from sample groves
1986-87 through 1994-95

Crop year	Sample groves	Acid	Soluble solids	Ratio	Juice per box	Solids per box
	Number	Percent			Pounds	
October 1						
1986-87	65	1.49	9.37	6.47	51.17	4.79
1987-88	65	1.65	9.41	5.79	48.39	4.55
1988-89	65	1.53	9.16	6.08	49.62	4.54
1989-90	65	1.57	9.47	6.14	49.55	4.68
1990-91	65	1.07	9.74	9.54	52.33	5.10
1991-92	55	1.22	9.54	8.04	51.00	4.86
1992-93	55	1.38	9.06	6.76	49.12	4.45
1993-94	55	1.62	9.36	5.95	46.49	4.35
1994-95	55	1.19	9.23	7.97	51.08	4.71
November 1						
1986-87	65	1.20	10.05	8.62	53.46	5.37
1987-88	65	1.36	10.12	7.55	51.93	5.25
1988-89	65	1.32	10.10	7.83	52.61	5.31
1989-90	65	1.20	10.11	8.50	53.10	5.37
1990-91	64	0.90	10.43	12.04	53.80	5.61
1991-92	55	1.05	10.38	10.19	52.69	5.47
1992-93	55	1.19	10.01	8.61	52.71	5.28
1993-94	55	1.22	9.93	8.35	50.64	5.02
1994-95	55	0.91	10.18	11.49	54.53	5.55
December 1						
1986-87	63	0.93	11.13	12.27	55.46	6.17
1987-88	65	1.10	11.16	10.33	53.83	6.00
1988-89	65	1.06	11.10	10.71	52.89	5.86
1989-90	65	1.03	11.12	11.09	53.55	5.95
1990-91	55	0.88	11.25	13.21	54.01	6.08
1991-92	52	0.91	11.65	13.05	52.64	6.13
1992-93	54	1.00	11.34	11.59	53.11	6.02
1993-94	53	0.98	11.04	11.53	53.20	5.87
1994-95	49	0.82	10.99	13.62	54.57	5.99

Continued

MIDSEASON ORANGES

Maturity and yield test results
unadjusted averages for regular bloom fruit
from sample groves
1986-87 through 1994-95 (continued)

Crop year	Sample groves	Acid	Soluble solids	Ratio	Juice per box	Solids per box
	Number	Percent			Pounds	
January 1						
1986-87	54	0.89	12.10	13.91	54.48	6.59
1987-88	63	1.00	12.04	12.15	53.19	6.40
1988-89	60	0.98	11.93	12.35	52.99	6.33
1989-90	58	0.94	11.50	12.50	49.14	5.65
1990-91	33	0.87	11.78	13.81	53.86	6.35
1991-92	36	0.90	12.44	14.27	51.14	6.36
1992-93	49	0.97	12.04	12.79	52.33	6.30
1993-94	44	1.00	12.00	12.23	52.72	6.33
1994-95	40	0.79	11.60	14.77	52.39	6.09
February 1						
1986-87	23	0.90	12.55	14.41	53.69	6.74
1987-88	40	1.00	12.68	12.86	52.39	6.64
1988-89	32	0.96	13.37	14.14	50.69	6.77
1989-90 1/						
1990-91 1/						
1991-92 1/						
1992-93	32	0.85	12.99	15.77	51.83	6.74
1993-94	23	0.95	12.95	13.80	50.39	6.53
1994-95	10	0.82	12.13	14.89	51.62	6.28

1/ Too few samples to test.

LATE ORANGES

Maturity and yield test results
unadjusted averages for regular bloom fruit
from sample groves
1986-87 through 1994-95

Crop year	Sample groves	Acid	Soluble solids	Ratio	Juice per box	Solids per box
	Number	Percent			Pounds	
October 1						
1986-87	120	2.70	8.79	3.28	46.96	4.13
1987-88	120	2.86	8.86	3.13	46.36	4.11
1988-89	120	2.80	8.64	3.12	46.15	3.98
1989-90	120	2.74	8.33	3.28	47.73	4.24
1990-91	120	1.98	8.96	4.64	50.95	4.57
1991-92	145	2.15	8.71	4.13	48.35	4.21
1992-93	145	2.45	8.50	3.51	46.16	3.92
1993-94	145	2.69	8.96	3.38	44.81	4.01
1994-95	150	2.19	8.69	4.05	48.84	4.25
November 1						
1986-87	120	2.18	9.27	4.28	51.14	4.74
1987-88	120	2.34	9.12	3.95	49.47	4.51
1988-89	120	2.40	9.30	3.91	50.10	4.66
1989-90	120	2.14	9.30	4.39	51.76	4.82
1990-91	120	1.50	9.43	6.46	54.98	5.21
1991-92	145	1.77	9.22	5.33	51.48	4.75
1992-93	145	2.06	9.04	4.51	50.85	4.60
1993-94	145	2.17	8.89	4.20	48.55	4.36
1994-95	150	1.66	9.22	5.66	53.61	4.95
December 1						
1986-87	120	1.61	9.97	6.28	53.61	5.35
1987-88	120	1.85	9.94	5.42	53.93	5.36
1988-89	120	1.84	10.07	5.54	52.96	5.33
1989-90	120	1.80	10.10	5.70	54.28	5.48
1990-91	120	1.31	10.18	7.99	55.84	5.69
1991-92	145	1.46	10.37	7.22	53.50	5.56
1992-93	145	1.64	10.11	6.27	53.39	5.40
1993-94	145	1.72	9.86	5.84	52.92	5.22
1994-95	150	1.38	9.86	7.25	55.38	5.47

Continued

LATE ORANGES

Maturity and yield test results
unadjusted averages for regular bloom fruit
from sample groves
1986-87 through 1994-95 (continued)

Crop year	Sample groves	Acid	Soluble solids	Ratio	Juice per box	Solids per box
	Number	Percent			Pounds	
January 1						
1986-87	120	1.42	10.71	7.66	55.49	5.94
1987-88	120	1.61	10.86	6.82	55.20	5.99
1988-89	120	1.62	10.79	6.74	54.26	5.85
1989-90	120	1.54	10.69	7.03	51.27	5.49
1990-91	120	1.19	10.85	9.29	56.02	6.08
1991-92	145	1.33	11.28	8.64	53.57	6.05
1992-93	145	1.47	10.97	7.59	53.66	5.89
1993-94	145	1.58	10.71	6.89	54.12	5.79
1994-95	150	1.23	10.53	8.70	55.75	5.88
February 1						
1986-87	120	1.30	11.29	8.81	55.94	6.32
1987-88	120	1.45	11.54	8.04	55.56	6.41
1988-89	120	1.39	11.63	8.47	55.24	6.43
1989-90	105	1.17	10.86	9.41	46.85	5.13
1990-91	120	1.03	11.52	11.34	56.23	6.49
1991-92	145	1.23	12.01	9.90	53.54	6.43
1992-93	145	1.23	11.75	9.67	55.03	6.47
1993-94	145	1.35	11.81	8.85	53.91	6.37
1994-95	150	1.12	11.31	10.26	55.67	6.30
March 1						
1986-87	118	1.20	11.89	10.02	55.07	6.55
1987-88	120	1.31	12.17	9.35	55.93	6.81
1988-89	120	1.27	12.20	9.67	55.17	6.73
1989-90	62	1.03	11.30	11.09	49.38	5.62
1990-91	108	0.96	12.13	12.83	55.46	6.74
1991-92	139	1.12	12.58	11.39	53.64	6.75
1992-93	142	1.19	12.43	10.60	55.80	6.94
1993-94	143	1.18	12.38	10.60	54.89	6.80
1994-95	143	1.07	11.97	11.29	55.94	6.70

Continued

LATE ORANGES

Maturity and yield test results
unadjusted averages for regular bloom fruit
from sample groves
1986-87 through 1994-95 (continued)

Crop year	Sample groves	Acid	Soluble solids	Ratio	Juice per box	Solids per box
	Number	Percent			Pounds	
				April 1		
1986-87	113	1.09	12.50	11.60	54.97	6.87
1987-88	116	1.16	12.60	11.02	56.01	7.06
1988-89	110	1.09	12.73	11.83	56.02	7.13
1989-90	39	0.97	11.97	12.47	52.44	6.30
1990-91	82	0.89	12.29	14.10	56.58	6.96
1991-92	89	1.01	12.91	12.92	53.68	6.95
1992-93	118	1.04	12.72	12.38	55.53	7.07
1993-94	143	1.04	12.68	12.28	55.27	7.01
1994-95	103	0.94	12.13	13.05	55.38	6.73
				May 1		
1986-87	71	0.99	12.67	12.94	56.52	7.16
1987-88	79	1.01	12.89	12.86	56.02	7.23
1988-89	71	0.97	13.00	13.55	55.42	7.21
1989-90	10	0.90	12.97	14.73	54.53	7.11
1990-91	28	0.70	12.47	18.07	57.06	7.14
1991-92	39	0.93	13.57	14.81	54.56	7.42
1992-93	63	0.94	13.22	14.34	55.78	7.38
1993-94	84	0.87	13.25	15.34	55.39	7.34
1994-95	45	0.79	12.57	16.21	56.04	7.06

Continued

LATE ORANGES

Maturity and yield test results
unadjusted averages for regular bloom fruit
from sample groves
1986-87 through 1994-95 (continued)

Crop year	Sample groves	Acid	Soluble solids	Ratio	Juice per box	Solids per box
	Number	Percent			Pounds	
				June 1		
1986-87	17	0.78	12.27	15.85	55.42	6.81
1987-88	26	0.88	13.08	14.97	55.75	7.30
1988-89	27	0.81	13.17	16.53	56.00	7.39
1989-90 1/						
1990-91 1/						
1991-92 1/						
1992-93	15	0.84	13.88	16.74	55.20	7.68
1993-94	23	0.78	13.22	17.31	54.64	7.23
1994-95	10	0.72	12.87	18.09	56.26	7.24

1/ Too few samples to test.

EARLY ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, within season
1986-87 through 1994-95

Season and date	Acid	Soluble solids	Ratio	Juice per box	Solids per box
Number	Percent	Pounds			
1986-87 (45 groves)					
Oct 1	1.34	9.59	7.34	49.13	4.70
Nov 1	1.07	10.25	9.82	51.84	5.31
Dec 1	0.81	11.02	13.98	53.46	5.88
Jan 1	0.81	11.86	14.99	52.97	6.28
1987-88 (57 groves)					
Oct 1	1.50	9.86	6.69	47.49	4.67
Nov 1	1.21	10.31	8.62	50.60	5.21
Dec 1	0.98	11.39	11.78	51.85	5.89
Jan 1	0.87	12.22	14.21	52.01	6.35
1988-89 (50 groves)					
Oct 1	1.48	9.56	6.53	48.04	4.59
Nov 1	1.13	10.51	9.39	50.69	5.32
Dec 1	1.01	11.35	11.39	51.87	5.88
Jan 1	0.87	12.26	14.21	51.46	6.31

Continued

EARLY ORANGES

Maturity and yield test results
 Unadjusted matched averages for regular bloom fruit
 from identical sample trees, within season
 1986-87 through 1994-95 (continued)

Season and date	Acid	Soluble solids	Ratio	Juice per box	Solids per box
Number	Percent			Pounds	
1989-90 (47 groves)					
Oct 1	1.37	9.70	7.29	48.35	4.69
Nov 1	1.04	10.39	10.16	51.57	5.35
Dec 1	0.92	11.36	12.60	52.65	5.97
Jan 1	0.83	11.73	14.36	46.91	5.52
1990-91 (26 groves)					
Oct 1	0.97	9.87	10.42	51.50	5.08
Nov 1	0.76	10.45	13.93	52.73	5.51
Dec 1	0.79	11.33	14.57	48.73	5.51
Jan 1	0.77	12.02	15.89	51.26	6.16
1991-92 (39 groves)					
Oct 1	1.00	9.74	9.97	49.34	4.80
Nov 1	0.82	10.41	12.84	52.00	5.42
Dec 1	0.74	11.45	15.76	51.48	5.90
Jan 1	0.76	12.17	16.33	49.98	6.09

Continued

EARLY ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, within season
1986-87 through 1994-95 (continued)

Season and date	Acid	Soluble solids	Ratio	Juice per box	Solids per box
Number	Percent	Pounds			
1992-93 (57 groves)					
Oct 1	1.15	9.32	8.35	48.11	4.48
Nov 1	0.99	10.11	10.60	51.00	5.15
Dec 1	0.80	11.30	14.52	51.20	5.78
Jan 1	0.77	12.00	15.94	51.10	6.13
1993-94 (61 groves)					
Oct 1	1.37	9.76	7.31	46.32	4.52
Nov 1	1.04	10.34	10.23	49.74	5.14
Dec 1	0.85	11.39	13.62	51.83	5.90
Jan 1	0.85	12.19	14.66	51.24	6.24
1994-95 (45 groves)					
Oct 1	0.96	9.59	10.24	50.49	4.83
Nov 1	0.76	10.24	13.87	52.41	5.38
Dec 1	0.68	10.76	16.18	52.79	5.96
Jan 1	0.66	11.29	17.57	48.77	5.52

MIDSEASON ORANGES

Maturity and yield test results
 unadjusted matched averages for regular bloom fruit
 from identical sample trees, within season
 1986-87 through 1994-95

Season and date	Acid	Soluble solids	Ratio	Juice per box	Solids per box
Number	Percent			Pounds	
1986-87 (54 groves)					
Oct 1	1.51	9.37	6.40	51.17	4.79
Nov 1	1.21	10.05	8.56	53.28	5.35
Dec 1	0.94	11.14	12.19	55.40	6.17
Jan 1	0.89	12.10	13.91	54.48	6.59
1987-88 (63 groves)					
Oct 1	1.66	9.41	5.76	48.40	4.55
Nov 1	1.37	10.12	7.52	51.96	5.26
Dec 1	1.10	11.16	10.30	54.03	6.03
Jan 1	1.00	12.04	12.15	53.19	6.40
1988-89 (60 groves)					
Oct 1	1.55	9.13	6.01	49.87	4.55
Nov 1	1.33	10.06	7.73	52.83	5.31
Dec 1	1.06	11.09	10.67	53.12	5.89
Jan 1	0.98	11.93	12.35	52.99	6.33

Continued

MIDSEASON ORANGES

Maturity and yield test results
 unadjusted matched averages for regular bloom fruit
 from identical sample trees, within season
 1986-87 through 1994-95 (continued)

Season and date	Acid	Soluble solids	Ratio	Juice per box	Solids per box
Number	Percent	Pounds			
1989-90 (58 groves)					
Oct 1	1.58	9.46	6.11	49.60	4.68
Nov 1	1.21	10.12	8.55	52.99	5.36
Dec 1	1.03	11.16	11.08	53.34	5.94
Jan 1	0.94	11.50	12.50	49.14	5.65
1990-91 (33 groves)					
Oct 1	1.12	9.73	9.01	53.56	5.21
Nov 1	0.95	10.41	11.30	55.25	5.75
Dec 1	0.88	11.23	13.04	54.75	6.15
Jan 1	0.87	11.78	13.81	53.86	6.35
1991-92 (36 groves)					
Oct 1	1.23	9.58	8.08	51.57	4.93
Nov 1	1.03	10.35	10.34	52.50	5.43
Dec 1	0.89	11.63	13.28	52.13	6.06
Jan 1	0.90	12.44	14.27	51.14	6.36

Continued

MIDSEASON ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, within season
1936-87 through 1994-95 (continued)

Season and date	Acid	Soluble solids	Ratio	Juice per box	Solids per box
Number	Percent			Pounds	
1992-93 (49 groves)					
Oct 1	1.40	9.12	6.70	49.18	4.49
Nov 1	1.22	10.10	8.48	52.64	5.32
Dec 1	1.01	11.39	11.56	53.01	6.04
Jan 1	0.97	12.04	12.79	52.33	6.30
1993-94 (44 groves)					
Oct 1	1.64	9.38	5.85	45.76	4.29
Nov 1	1.26	9.95	8.12	50.54	5.03
Dec 1	1.01	11.08	11.24	53.32	5.90
Jan 1	1.00	12.00	12.23	52.72	6.33
1994-95 (40 groves)					
Oct 1	1.19	9.21	7.89	51.13	4.71
Nov 1	0.92	10.13	11.37	54.45	5.52
Dec 1	0.83	10.94	13.50	55.11	6.03
Jan 1	0.79	11.60	14.77	52.39	6.09

LATE ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, within season
1986-87 through 1994-95

Season and date	Acid	Soluble solids	Ratio	Juice per box	Solids per box
Number	Percent	Pounds			
1986-87 (71 groves)					
Oct 1	2.78	8.81	3.20	46.89	4.13
Nov 1	2.24	9.24	4.16	51.09	4.72
Dec 1	1.64	9.98	6.16	53.67	5.36
Jan 1	1.47	10.74	7.41	55.84	6.00
Feb 1	1.32	11.30	8.63	55.73	6.30
Mar 1	1.25	11.93	9.69	54.99	6.56
Apr 1	1.12	12.58	11.35	54.80	6.90
May 1	0.99	12.67	12.94	56.52	7.16
1987-88 (79 groves)					
Oct 1	2.90	8.87	3.09	46.33	4.11
Nov 1	2.35	9.10	3.91	49.35	4.49
Dec 1	1.87	9.95	5.36	54.27	5.40
Jan 1	1.62	10.87	6.77	55.52	6.03
Feb 1	1.47	11.53	7.92	55.69	6.43
Mar 1	1.34	12.23	9.19	56.18	6.88
Apr 1	1.18	12.66	10.83	56.01	7.09
May 1	1.01	12.89	12.86	56.02	7.23
1988-89 (71 groves)					
Oct 1	2.85	8.65	3.06	46.24	3.99
Nov 1	2.41	9.32	3.89	49.81	4.64
Dec 1	1.86	10.09	5.45	53.27	5.37
Jan 1	1.63	10.79	6.69	54.37	5.86
Feb 1	1.39	11.68	8.46	55.34	6.47
Mar 1	1.29	12.27	9.58	54.84	6.73
Apr 1	1.08	12.70	11.86	56.00	7.11
May 1	0.97	13.00	13.55	55.42	7.21

Continued

LATE ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, within season
1986-87 through 1994-95 (continued)

Season and date	Acid	Soluble solids	Ratio	Juice per box	Solids per box
Number	Percent			Pounds	
1989-90 (10 groves)					
Oct 1	2.87	9.19	3.21	48.57	4.46
Nov 1	2.15	9.72	4.53	51.78	5.03
Dec 1	1.69	10.55	6.39	55.08	5.79
Jan 1	1.58	11.40	7.29	54.39	6.21
Feb 1	1.28	11.94	9.37	54.15	6.47
Mar 1	1.13	12.27	10.92	55.38	6.83
Apr 1	0.99	12.57	12.89	54.13	6.83
May 1	0.90	12.97	14.73	54.53	7.11
1990-91 (28 groves)					
Oct 1	2.04	9.01	4.54	51.58	4.64
Nov 1	1.52	9.52	6.31	57.04	5.44
Dec 1	1.34	10.17	7.75	56.74	5.77
Jan 1	1.18	10.92	9.38	56.69	6.20
Feb 1	1.02	11.56	11.49	56.63	6.56
Mar 1	0.96	12.22	12.97	55.77	6.83
Apr 1	0.86	12.39	14.48	56.40	7.00
May 1	0.70	12.47	18.07	57.06	7.14
1991-92 (39 groves)					
Oct 1	2.24	8.81	3.98	48.38	4.26
Nov 1	1.87	9.43	5.12	51.34	4.84
Dec 1	1.55	10.53	6.87	53.62	5.65
Jan 1	1.40	11.48	8.33	54.16	6.22
Feb 1	1.29	12.22	9.64	53.25	6.51
Mar 1	1.19	12.83	10.92	53.69	6.89
Apr 1	1.05	13.14	12.60	53.76	7.07
May 1	0.93	13.57	14.81	54.56	7.42

Continued

LATE ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, within season
1986-87 through 1994-95 (continued)

Season and date	Acid	Soluble solids	Ratio	Juice per box	Solids per box
Number	Percent			Pounds	
992-93 (63 groves)					
Oct 1	2.55	8.58	3.41	45.97	3.94
Nov 1	2.15	9.13	4.39	50.82	4.64
Dec 1	1.69	10.13	6.08	53.29	5.40
Jan 1	1.53	11.05	7.31	53.91	5.96
Feb 1	1.28	11.88	9.39	54.87	6.52
Mar 1	1.22	12.50	10.33	56.10	7.02
Apr 1	1.06	12.84	12.23	56.20	7.22
May 1	0.94	13.22	14.34	55.78	7.38
993-94 (84 groves)					
Oct 1	2.73	8.97	3.32	44.61	4.00
Nov 1	2.20	8.97	4.14	48.62	4.37
Dec 1	1.75	9.86	5.73	53.03	5.23
Jan 1	1.61	10.71	6.75	54.34	5.82
Feb 1	1.37	11.83	8.76	54.15	6.41
Mar 1	1.21	12.47	10.40	55.14	6.88
Apr 1	1.06	12.74	12.07	55.51	7.08
May 1	0.87	13.25	15.34	55.39	7.34
1994-95 (45 groves)					
Oct 1	2.25	8.76	3.94	48.95	4.29
Nov 1	1.74	9.30	5.45	53.75	5.00
Dec 1	1.43	10.00	7.08	55.86	5.59
Jan 1	1.28	10.69	8.49	56.31	6.02
Feb 1	1.16	11.50	10.02	56.01	6.45
Mar 1	1.09	12.15	11.30	55.93	6.81
Apr 1	0.95	12.30	13.06	54.98	6.77
May 1	0.79	12.57	16.21	56.04	7.06

EARLY ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, yearly comparisons
1986-87 through 1994-95

Date	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

Percent acid

Oct	1	1.34	1.50	1.48	1.37	0.97	1.00	1.15	1.37	0.96
Nov	1	1.07	1.21	1.13	1.04	0.76	0.82	0.99	1.04	0.76
Dec	1	0.81	0.98	1.01	0.92	0.79	0.74	0.80	0.85	0.68
Jan	1	0.81	0.87	0.87	0.83	0.77	0.76	0.77	0.85	0.66

Percent soluble solids

Oct	1	9.59	9.86	9.56	9.70	9.87	9.74	9.32	9.76	9.59
Nov	1	10.25	10.31	10.51	10.39	10.45	10.41	10.11	10.34	10.24
Dec	1	11.02	11.39	11.35	11.36	11.33	11.45	11.30	11.39	10.76
Jan	1	11.86	12.22	12.36	11.73	12.02	12.17	12.00	12.19	11.29

Ratio

Oct	1	7.34	6.69	6.53	7.29	10.42	9.97	8.35	7.31	10.24
Nov	1	9.82	8.62	9.39	10.16	13.93	12.84	10.60	10.23	13.87
Dec	1	13.98	11.78	11.39	12.60	14.57	15.76	14.52	13.62	16.18
Jan	1	14.99	14.21	14.21	14.36	15.89	16.33	15.94	14.66	17.57

EARLY ORANGES

Maturity and yield test results
 unadjusted matched averages for regular bloom fruit
 from identical sample trees, yearly comparisons

1986-87 through 1994-95

Date	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

Pounds juice per box

Oct 1	49.13	47.49	48.04	48.35	51.50	49.34	48.11	46.32	50.49
Nov 1	51.84	50.60	50.69	51.57	52.73	52.00	51.00	49.74	52.41
Dec 1	53.46	51.85	51.87	52.65	48.73	51.48	51.20	51.83	52.79
Jan 1	52.97	52.01	51.46	46.91	51.26	49.98	51.10	51.24	48.77

Pounds solids per box

Oct 1	4.70	4.67	4.59	4.69	5.08	4.80	4.48	4.52	4.83
Nov 1	5.31	5.21	5.32	5.35	5.51	5.42	5.15	5.14	5.38
Dec 1	5.88	5.89	5.88	5.97	5.51	5.90	5.78	5.90	5.69
Jan 1	6.28	6.35	6.31	5.52	6.16	6.09	6.13	6.24	5.52

MIDSEASON ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, yearly comparisons
1986-87 through 1994-95

Date	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

Percent acid

Oct 1	1.52	1.65	1.63	1.58	1.12	1.00	1.43	1.71	1.26
Nov 1	1.25	1.38	1.41	1.21	0.95	0.82	1.26	1.32	0.96
Dec 1	0.96	1.13	1.11	1.03	0.88	0.74	1.03	1.06	0.83
Jan 1	0.89	1.02	1.02	0.94	0.87	0.76	0.99	1.04	0.81
Feb 1	0.90	1.00	0.96	1/	1/	1/	0.85	0.95	0.82

Percent soluble solids

Oct 1	9.27	9.36	9.30	9.46	9.73	9.74	9.14	9.40	9.04
Nov 1	10.02	10.08	10.18	10.12	10.41	10.41	10.08	9.91	9.99
Dec 1	11.10	11.12	11.30	11.16	11.23	11.45	11.44	11.03	11.00
Jan 1	11.82	11.97	12.20	11.50	11.78	12.17	12.14	12.00	11.41
Feb 1	12.55	12.68	13.37	1/	1/	1/	12.99	12.95	12.13

Ratio

Oct 1	6.33	5.73	5.81	6.11	9.01	9.97	6.55	5.55	7.32
Nov 1	8.26	7.39	7.36	8.55	11.30	12.84	8.18	7.63	10.68
Dec 1	11.88	9.97	10.37	11.08	13.04	15.76	11.30	10.60	13.45
Jan 1	13.76	11.91	12.12	12.50	13.81	16.33	12.52	11.83	14.08
Feb 1	14.41	12.86	14.14	1/	1/	1/	15.77	13.80	14.89

1/ Too few samples to test.

MIDSEASON ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, yearly comparisons

1986-87 through 1994-95

Date	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

Pounds juice per box

Oct 1	52.22	48.78	49.11	49.60	53.56	51.57	49.23	45.47	50.07
Nov 1	53.29	52.24	52.31	52.99	55.25	52.50	52.92	50.66	54.29
Dec 1	54.24	54.22	52.76	53.34	54.75	53.13	53.26	53.70	53.62
Jan 1	54.50	53.23	52.90	49.14	53.86	51.14	52.60	53.39	51.08
Feb 1	53.69	52.39	50.69	1/	1/	1/	51.83	50.39	51.62

Pounds solids per box

Oct 1	4.84	4.56	4.56	4.68	5.21	4.93	4.50	4.27	4.54
Nov 1	5.34	5.26	5.32	5.36	5.75	5.43	5.33	5.02	5.43
Dec 1	6.03	6.03	5.95	5.94	6.15	6.06	6.09	5.92	5.90
Jan 1	6.45	6.37	6.45	5.65	6.35	6.36	6.38	6.41	5.83
Feb 1	6.74	6.64	6.77	1/	1/	1/	6.74	6.53	6.28

1/ Too few samples to test.

LATE ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, yearly comparisons
1986-87 through 1994-95

Date	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
Percent acid									
Oct 1	2.78	2.90	2.85	2.87	2.04	2.24	2.55	2.73	2.25
Nov 1	2.24	2.35	2.41	2.15	1.52	1.87	2.15	2.20	1.74
Dec 1	1.64	1.87	1.86	1.69	1.34	1.55	1.69	1.75	1.43
Jan 1	1.47	1.62	1.63	1.58	1.18	1.40	1.53	1.61	1.28
Feb 1	1.32	1.47	1.39	1.28	1.02	1.29	1.28	1.37	1.16
Mar 1	1.25	1.34	1.29	1.13	0.96	1.19	1.22	1.21	1.09
Apr 1	1.12	1.18	1.08	0.99	0.86	1.05	1.06	1.06	0.95
May 1	0.99	1.01	0.97	0.90	0.70	0.93	0.94	0.87	0.79
Percent soluble solids									
Oct 1	8.81	8.87	8.65	9.19	9.01	8.81	8.58	8.97	8.76
Nov 1	9.24	9.10	9.32	9.72	9.52	9.43	9.13	8.97	9.30
Dec 1	9.98	9.95	10.09	10.55	10.17	10.53	10.13	9.86	10.00
Jan 1	10.74	10.87	10.79	11.40	10.92	11.48	11.05	10.71	10.69
Feb 1	11.30	11.53	11.68	11.94	11.56	12.22	11.88	11.83	11.50
Mar 1	11.93	12.23	12.27	12.27	12.22	12.83	12.50	12.47	12.15
Apr 1	12.58	12.66	12.70	12.57	12.39	13.14	12.84	12.74	12.30
May 1	12.67	12.89	13.00	12.97	12.47	13.57	13.22	13.25	12.57
Ratio									
Oct 1	3.20	3.09	3.06	3.21	4.54	3.98	3.41	3.32	3.94
Nov 1	4.16	3.91	3.89	4.53	6.31	5.12	4.39	4.14	5.45
Dec 1	6.16	5.36	5.45	6.39	7.75	6.87	6.08	5.73	7.08
Jan 1	7.41	6.77	6.69	7.29	9.38	8.33	7.31	6.75	8.49
Feb 1	8.63	7.92	8.46	9.37	11.49	9.64	9.39	8.76	10.02
Mar 1	9.69	9.19	9.58	10.92	12.97	10.92	10.33	10.40	11.30
Apr 1	11.35	10.83	11.86	12.89	14.48	12.60	12.23	12.07	13.06
May 1	12.94	12.86	13.55	14.73	18.07	14.81	14.34	15.34	16.21

LATE ORANGES

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, yearly comparisons

1986-87 through 1994-95

Date	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
------	---------	---------	---------	---------	---------	---------	---------	---------	---------

Pounds juice per box

Oct	1	46.89	46.33	46.24	48.57	51.58	48.38	45.97	44.61	48.95
Nov	1	51.09	49.35	49.81	51.78	57.04	51.34	50.82	48.62	53.75
Dec	1	53.67	54.27	53.27	55.08	56.74	53.62	53.29	53.03	55.86
Jan	1	55.84	55.52	54.37	54.39	56.69	54.16	53.91	54.34	56.31
Feb	1	55.73	55.69	55.34	54.15	56.63	53.25	54.87	54.15	56.01
Mar	1	54.99	56.18	54.84	55.38	55.77	53.69	56.10	55.14	55.93
Apr	1	54.80	56.01	56.00	54.13	56.40	53.76	56.20	55.51	54.98
May	1	56.52	56.02	55.42	54.53	57.06	54.56	55.78	55.39	56.04

Pounds solids per box

Oct	1	4.13	4.11	3.99	4.46	4.64	4.26	3.94	4.00	4.29
Nov	1	4.72	4.49	4.64	5.03	5.44	4.84	4.64	4.37	5.00
Dec	1	5.36	5.40	5.37	5.79	5.77	5.65	5.40	5.23	5.59
Jan	1	6.00	6.03	5.86	6.21	6.20	6.22	5.96	5.82	6.02
Feb	1	6.30	6.43	6.47	6.47	6.56	6.51	6.52	6.41	6.45
Mar	1	6.56	6.88	6.73	6.83	6.83	6.89	7.02	6.88	6.81
Apr	1	6.90	7.09	7.11	6.83	7.00	7.07	7.22	7.08	6.77
May	1	7.16	7.23	7.21	7.11	7.14	7.42	7.38	7.34	7.06

WHITE SEEDLESS GRAPEFRUIT

Maturity and yield test results
unadjusted averages for regular bloom fruit
from sample groves
1986-87 through 1994-95

Crop year	Sample groves	Acid	Soluble solids	Ratio	Juice per box	Solids per box
	Number	Percent			Pounds	
October 1						
1986-87	63	1.57	9.78	6.29	38.99	3.81
1987-88	63	1.65	10.11	6.14	37.08	3.74
1988-89	63	1.61	9.86	6.18	37.94	3.74
1989-90	63	1.62	10.34	6.41	37.30	3.85
1990-91	63	1.42	10.18	7.21	36.55	3.72
1991-92	49	1.43	9.90	7.00	38.67	3.83
1992-93	50	1.47	9.84	7.49	37.61	3.70
1993-94	50	1.69	10.36	6.16	35.17	3.63
1994-95	49	1.39	9.56	6.92	39.54	3.78
November 1						
1986-87	61	1.46	10.06	6.95	42.16	4.24
1987-88	62	1.55	10.14	6.59	40.43	4.10
1988-89	63	1.59	10.22	6.49	41.03	4.19
1989-90	59	1.49	10.37	7.04	40.59	4.21
1990-91	62	1.25	10.25	8.26	41.87	4.29
1991-92	49	1.30	9.91	7.67	42.53	4.21
1992-93	47	1.44	10.03	7.01	42.07	4.22
1993-94	50	1.50	10.17	6.84	38.89	3.96
1994-95	46	1.25	9.61	7.78	43.49	4.18
December 1						
1986-87	55	1.26	9.95	7.98	43.83	4.35
1987-88	58	1.38	9.98	7.29	44.14	4.40
1988-89	62	1.45	10.31	7.17	39.05	4.01
1989-90	58	1.40	10.46	7.53	43.35	4.54
1990-91	59	1.23	10.54	8.62	47.08	4.96
1991-92	44	1.31	10.26	7.88	44.04	4.51
1992-93	46	1.34	10.23	7.70	43.29	4.42
1993-94	49	1.42	10.51	7.43	42.81	4.50
1994-95	46	1.18	9.55	8.12	44.93	4.29

COLORED SEEDLESS GRAPEFRUIT

Maturity and yield test results
 unadjusted averages for regular bloom fruit
 from sample groves
 1986-87 through 1994-95

Crop year	Sample groves	Acid	Soluble solids	Ratio	Juice per box	Solids per box
	Number	Percent				Pounds
October 1						
1986-87	53	1.53	9.86	6.47	38.63	3.81
1987-88	53	1.64	10.32	6.31	37.08	3.83
1988-89	53	1.62	9.88	6.12	38.99	3.85
1989-90	53	1.57	10.63	6.80	38.33	4.07
1990-91	53	1.37	10.21	7.49	36.72	3.75
1991-92	48	1.37	9.73	7.13	35.29	3.44
1992-93	50	1.45	9.65	6.69	37.77	3.65
1993-94	48	1.65	10.37	6.32	35.05	3.63
1994-95	49	1.33	9.54	7.18	40.41	3.86
November 1						
1986-87	53	1.38	10.10	7.35	42.75	4.32
1987-88	49	1.53	10.30	6.77	40.37	4.16
1988-89	50	1.57	10.40	6.64	42.09	4.38
1989-90	44	1.49	10.67	7.20	41.39	4.42
1990-91	51	1.14	10.34	9.10	47.38	4.91
1991-92	39	1.22	9.73	8.02	41.33	4.03
1992-93	47	1.41	10.09	7.19	41.37	4.17
1993-94	46	1.45	10.20	7.06	39.24	4.01
1994-95	42	1.21	9.81	8.15	44.26	4.34
December 1						
1986-87	48	1.17	10.05	8.71	46.38	4.66
1987-88	47	1.36	10.25	7.54	43.93	4.50
1988-89	45	1.45	10.61	7.34	40.16	4.26
1989-90	42	1.39	11.00	7.98	44.41	4.90
1990-91	45	1.15	10.66	9.39	48.52	5.18
1991-92	47	1.20	10.55	8.86	45.59	4.81
1992-93	45	1.28	10.35	8.10	43.78	4.54
1993-94	40	1.41	10.65	7.61	41.84	4.46
1994-95	39	1.11	9.88	8.98	45.65	4.52

WHITE SEEDLESS GRAPEFRUIT

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, yearly comparisons
1986-87 through 1994-95

Date	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
Percent acid									
Oct 1	1.60	1.66	1.61	1.62	1.43	1.44	1.48	1.69	1.39
Nov 1	1.48	1.54	1.59	1.48	1.26	1.31	1.44	1.50	1.25
Dec 1	1.26	1.38	1.45	1.40	1.23	1.31	1.34	1.42	1.18
Percent soluble solids									
Oct 1	9.82	10.14	9.88	10.40	10.19	9.92	9.86	10.38	9.55
Nov 1	10.07	10.13	10.24	10.36	10.25	9.92	10.02	10.19	9.61
Dec 1	9.95	9.98	10.31	10.46	10.54	10.26	10.23	10.51	9.55
Ratio									
Oct 1	6.19	6.14	6.19	6.44	7.19	6.93	7.56	6.17	6.89
Nov 1	6.87	6.61	6.50	7.05	8.20	7.60	6.99	6.84	7.78
Dec 1	7.98	7.29	7.17	7.53	8.62	7.88	7.70	7.43	8.12
Pounds juice per box									
Oct 1	39.16	36.98	38.00	37.12	36.61	38.76	37.60	35.16	39.87
Nov 1	42.14	40.46	41.06	40.74	41.72	42.47	42.02	39.26	43.49
Dec 1	43.83	44.14	39.05	43.35	47.08	44.04	43.29	42.81	44.93
Pounds solids per box									
Oct 1	3.84	3.74	3.75	3.85	3.73	3.85	3.70	3.64	3.81
Nov 1	4.24	4.10	4.20	4.22	4.28	4.21	4.21	4.00	4.18
Dec 1	4.35	4.40	4.01	4.54	4.96	4.51	4.42	4.50	4.29

COLORED SEEDLESS GRAPEFRUIT

Maturity and yield test results
unadjusted matched averages for regular bloom fruit
from identical sample trees, yearly comparisons
1986-87 through 1994-95

Date	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
Percent acid									
Oct 1	1.53	1.65	1.63	1.60	1.39	1.38	1.47	1.66	1.35
Nov 1	1.38	1.52	1.58	1.50	1.16	1.24	1.40	1.46	1.21
Dec 1	1.17	1.36	1.45	1.39	1.15	1.20	1.28	1.41	1.11
Percent soluble solids									
Oct 1	9.85	10.39	9.98	10.81	10.22	9.95	9.71	10.45	9.67
Nov 1	10.09	10.31	10.47	10.72	10.36	9.90	10.08	10.24	9.85
Dec 1	10.05	10.25	10.61	11.00	10.66	10.55	10.35	10.65	9.88
Ratio									
Oct 1	6.47	6.31	6.13	6.80	7.41	7.27	6.65	6.33	7.17
Nov 1	7.36	6.80	6.68	7.22	9.01	8.05	7.20	7.07	8.17
Dec 1	8.71	7.54	7.34	7.98	9.39	8.86	8.10	7.61	8.98
Pounds juice per box									
Oct 1	38.50	37.18	39.02	38.25	36.57	35.77	37.68	34.75	40.77
Nov 1	42.58	40.43	42.16	41.43	47.39	42.15	41.38	39.56	44.24
Dec 1	46.38	43.93	40.16	44.41	48.52	45.59	43.78	41.84	45.65
Pounds solids per box									
Oct 1	3.79	3.86	3.89	4.13	3.74	3.56	3.66	3.63	3.94
Nov 1	4.30	4.17	4.41	4.44	4.92	4.18	4.17	4.05	4.36
Dec 1	4.66	4.50	4.26	4.90	5.18	4.81	4.64	4.46	4.52

MATURITY BOOKS TO .PDF PROJECT

Season		No. of pages (w/o covers)
1963 - 64	through 1971 - 72	45
1965 - 66	through 1973 - 74	35
1967 - 68	through 1975 - 76	42
1968 - 69	through 1976 - 77	45
1970 - 71	through 1978 - 79	43
1972 - 73	through 1980 - 81	42
1974 - 75	through 1982 - 83	41
1976 - 77	through 1984 - 85	34
1978 - 79	through 1986 - 87	34
- 1980 - 81	through 1988 - 89	34
- 1981 - 82	through 1990 - 91	34
- 1984 - 85	through 1992 - 93	34
- 1986 - 87	through 1994 - 95	34
- 1988 - 89	through 1996 - 97	34
- 1989 - 90	through 1998 - 99	30
1991 - 92	through 2000 - 01	(already in .pdf format on internet)
1993 - 94	through 2002 - 03	(already in .pdf format on internet)

475

15

561 Total pages