VG211

# Assessment of the fruit and vegetable industry situation and adoption of new technologies in the South Queensland region March 1995

**Alex Banks**
**Queensland Department of Primary Industries**


*Know-how for Horticulture™*

VG211

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**Part I**
Final Report
Assessment of the fruit and vegetable industry situation and adoption of new technologies in the South Queensland region
March 1995

## INTRODUCTION

The Queensland Department of Primary Industries was approached by the Deciduous Sectional Group of Queensland Fruit and Vegetable Growers in 1992 to conduct a survey of horticultural production in south Queensland and especially on the Granite Belt. Accurate information regarding the size and value of horticultural industries in the region was needed by growers for appropriate decision making about those industries. Concern also existed about the amount of levies being collected to support research and promotion activities. This needed to be checked against the amount of production on which levies should have been collected. The Department also recognised the value of such information for their decision making when allocating staff and resources.

Current estimates being used by decision makers vary considerably depending on the source and date of information. Significant changes have occurred in most horticultural industries in the region in the last five years. These have been caused by changes in the nature of the grower community, consumer preferences, domestic and export market needs, prices for commodities and not least by drought conditions prevalent for the last three years. These factors make previous assessments of production unreliable.

## MATERIALS and METHODS

### Survey method

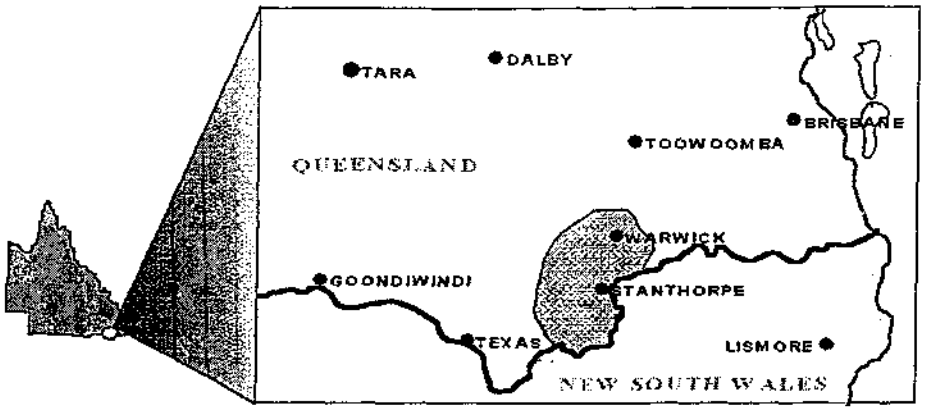
Manifests and records of transporters of horticultural produce within and out of the survey area were used as the primary source of data. Transporters included the four main commercial transport companies, rail and individual growers who transported their own and, in some cases, other grower's produce. In addition to these, information was obtained from several handlers of produce who supply customers outside of the region making use of transport passing through. Major roadside stalls who either grow their own produce or pick up produce directly from growers or produce handlers were also surveyed.

### Crops covered

The list of crops covered is given in APPENDIX 1. Potatoes, carrots and onions were not included as they are normally grouped with agricultural production as heavy vegetables. No figures are presented for ornamental or cut flower production.

## Production areas covered

The survey covered production areas on the Granite Belt and around Warwick as shown in the figure below.




## Years covered

The survey covered two production years, 1992-1993 and 1993-1994. Analysis of harvest dates indicated that yearly horticultural production was best presented using a period from July to June (ie similar to a financial year).

## Value of production

Value of horticultural production was derived by multiplying each crop's monthly production in standard cartons by a figure for the wholesale market value of that standard package in that month. Wholesale market value was calculated from average monthly figures for the Brisbane and Sydney wholesale markets over the three calendar years covered by the survey. In the case of Pome fruit, fruit sent to processors was valued using prices supplied by Golden Circle Cannery in Brisbane.

## Reliability of information

The accuracy of information was reviewed by a panel which included DSGC members, local DPI staff and agri-business representatives.

## RESULTS

The main findings of the survey were:-

- Total horticultural production (fruit and vegetables) amounted to 85,647 tonnes valued at $75 Million in 1993/94. This represents approximately 10% and 7% of Queensland's horticultural production and value of production annually.

- Both horticultural production and value of production are made up of fruit and vegetables at comparative proportions of 60% and 40% respectively.

- Pome fruit (Apples, Pears and Nashi) dominate fruit production followed by Stonefruit and Grapes.

- Tomatoes are the largest individual vegetable crop but as a group, Brassicas have greater production and value.

- In spite of drought conditions which have prevailed for over three years, horticultural production increased by 30% from 1992/93 to 1993/94, with significant increases in Pome and Stonefruit production and slight increases in most vegetable crops. Grape production decreased by 15% due to a decline in Table Grape production in favour of increased production of Wine Grapes. Tomato production decreased by nearly 50% over the two seasons of the survey.

- The value of horticultural production was relatively constant over the two seasons, reflecting static prices for produce.

- The majority of produce is sent to Brisbane, Sydney and Newcastle wholesale markets. Approximately 10% of produce is sold locally, much of it through roadside stalls while a still smaller amount is sent to Victoria. Significant amounts of produce are sold directly to stores especially in northern New South Wales.

- Pome (30%), Stonefruit (5%) and Grapes (nearly 50% into wine) were the only crops processed. The principle processor of Granite Belt produce is Golden Circle Cannery in Brisbane.

## DISCUSSION

### Extension/adoption by industry

A report was prepared and presented to the February meeting of the DSGC at Stanthorpe. It described the background to the project, the methods used to collect and present data and results of the survey. Copies of the report were also sent to participating transporters, growers and secondary fruit handlers and to agribusiness members of the review team. Copies of the report are being kept in the GBHRS Information Centre.

### Directions for future activities

The DSGC and DPI recognise the value of such surveys but also the cost in time and resources to collect accurate and meaningful information. Discussions with DSGC looked at ways of updating the information while minimising costs. Similar surveys in other regions (eg Bundaberg) use a sub-sample of transporters and multiplying factors to give final figures. This approach needs to be investigated further for its suitability for this region. Such an approach may provide an appropriate mechanism given that a base line of information has now been set by this survey.

## APPENDIX 1

## CROPS SURVEYED, STANDARD PACKAGE SIZE & WEIGHT

| Fruit | Crops Included | Standard Package | Weight (kg) |
|---|---|---|---|
| Apple | All varieties | Apple and pear carton | 19 |
| Apricot | | T35 carton | 10 |
| Berries | Raspberry, strawberry | Tray of punnets | 5 |
| Cherry | | Box | 5 |
| Citrus | All types | Citrus box | 9 |
| Fig | | Tray | 5 |
| Table grapes | | Styrofoam box | 10 |
| Wine grapes | | Bin | 1000 |
| Nashi | | Tray | 4 |
| Nectarine | | Single layer tray | 5 |
| Peach | | Single layer tray | 5 |
| Pear | | Apple and pear carton | 19 |
| Plum | | T35 carton | 10 |
| Stonefruit | Unidentified stonefruit | T35 carton | 10 |
| Other fruit | Unidentified fruit | T35 carton | 10 |
| **Vegetables** | | | |
| Asparagus | | Box | 1 |
| Bean | | Box | 10 |
| Broccoli | | Styro icepack | 8 |
| Brusssel sprouts | | Stryo icepack | 8 |
| Cabbage | Chinese, wombok | 78 litre box | 25 |
| Capsicum | Peppers and chillies | T35 carton | 10 |
| Cauliflower | | 78 litre box | 25 |
| Celery | | 54 litre box | 18 |
| Corn | Sweet corn | Styrofoam box | 8 |
| Cucumber | All types | T35 carton | 10 |
| Eggplant | | 18 litre carton | 6 |
| Garlic | | Tray | 5 |
| Leek | Leek, shallots, endive | 78 litre box | 17 |
| Lettuce | Iceberg, mignonette | 58 litre carton | 12 |
| Mushroom | Standard, oyster | Mushroom box | 4 |
| Pea | Snowpea, sugar snap | Tray | 10 |
| Pumpkin | All types | Bin | 1000 |
| Rockmelon | Honeydew, muskmelon | 32 litre carton | 18 |
| Silverbeet | | 78 litre carton | 17 |
| Squash | Button, scallopini | T35 carton | 10 |
| Tomato | Cherry, egg | T35 carton | 10 |
| Watermelon | Mini-melons | Bin | 1000 |
| Zucchini | | T35 carton | 10 |
| Other vegetables | Unidentified vegetables | T35 carton | 10 |

**Part II**
Survey of horticultural production in South Queensland
January 1995

# SUMMARY

The amount and value of horticultural production on the Granite Belt and around Warwick was surveyed in 1994/95. The survey was conducted over two consecutive seasons primarily by accessing data from transport companies servicing the region and records of growers who transport their own or other grower's produce. The main findings of the survey were:-

- Total horticultural production (fruit and vegetables) amounted to 85,647 tonnes valued at $75 Million in 1993/94. This represents approximately 10% and 7% of Queensland's horticultural production and value of production annually.

- Both horticultural production and value of production are made up of fruit and vegetables at comparative proportions of 60% and 40% respectively.

- Pome fruit (Apples, Pears and Nashi) dominate fruit production followed by Stonefruit and Grapes.

- Tomatoes are the largest individual vegetable crop but as a group, Brassicas have greater production and value.

- In spite of drought conditions which have prevailed for over three years, horticultural production increased by 30% from 1992/93 to 1993/94, with significant increases in Pome and Stonefruit production and slight increases in most vegetable crops. Grape production decreased by 15% due to a decline in Table Grape production in favour of increased production of Wine Grapes. Tomato production decreased by nearly 50% over the two seasons of the survey.

- The value of horticultural production was relatively constant over the two seasons, reflecting static prices for produce.

- The majority of produce is sent to Brisbane, Sydney and Newcastle wholesale markets. Approximately 10% of produce is sold locally, much of it through roadside stalls while a still smaller amount is sent to Victoria. Significant amounts of produce are sold directly to stores especially in northern New South Wales.

- Pome (30%), Stonefruit (5%) and Grapes (nearly 50% into wine) were the only crops processed. The principle processor of Granite Belt produce is Golden Circle Cannery in Brisbane.

# REASON FOR THIS SURVEY

Accurate information about fruit and vegetable industries in all areas has become a necessity for both government and the industries themselves. Increasingly, decisions regarding the future of industries are made on the basis of their value to the state's or local region's economy. If the information used is inaccurate or out of date, incorrect decision making can disadvantage an industry or a region.

Current estimates of horticultural production from the Granite Belt vary immensely depending on the source and date of the information. For example, figures for Apple production range from 21,000 tonnes[1] to nearly 29,000 tonnes[2] for the same period. Significant changes have occurred in most horticultural industries in the region in the last five years. These have been caused by changes in the nature of the grower community, consumer preferences, domestic and export market needs, prices for commodities and not least by drought conditions prevalent for the last three years. These make previous assessments of production unreliable.

The information contained in this report will enable government and grower organisations as well as agribusiness servicing these areas to better target resources to promote the development of horticulture within the region.

# EXTENT OF SURVEY

## Crops included

The survey includes production figures on all horticultural crops growing in the region. A complete list of the crops appearing in the report is given in APPENDIX 1. Potatoes, carrots and onions were not included as they are normally grouped with agricultural production as heavy vegetables.

No figures are presented for ornamental or cut flower production.

[1] Source: GBHRS Annual Report 1991-1992
[2] Source: AHC Hort Statistics Handbook 1994/95 Edition

# METHOD OF DATA COLLECTION

## Data sources

The main source of data was the records of transporters of horticultural produce within and out of the survey area. These included commercial transport companies, rail and individual growers who transported their own and, in some cases, other grower's produce. In addition to these, information was obtained from several handlers of produce who supply customers outside of the region by making use of transport passing through. Major roadside stalls who either grow their own produce, or pick up produce directly from growers or produce handlers were also surveyed.

A list of cooperators is included in APPENDIX 3.

## Value of production

The value of horticulture in the region was derived by multiplying each crop's monthly production in standard cartons by a figure for the wholesale market value of that standard package in that month. Wholesale market value was calculated from average monthly figures for the Brisbane and Sydney wholesale markets over the three calendar years covered by the survey. Brisbane figures were provided by Market Information Services and for Sydney by NSW Agriculture's Flemington Market Reporting Service. In the case of Pome crops, fruit sent to processors was valued using prices supplied by Golden Circle Cannery in Brisbane.

## Reliability of information

While every effort has been made to make the survey as accurate as possible, some level of inaccuracy is bound to occur. This happens through :-

- a failure to identify all sources of information that should be included
- the use of estimates rather than actual records of produce handled
- the reluctance of identified sources to cooperate
- the same data being included from two (or more) sources

The accuracy of this survey is considered to be high because the majority of figures were obtained from actual manifests of the four main transport companies servicing the area. Queensland Rail and the main fruit handlers. Only three grower transporters did not have written records which necessitated reliance upon their memories and

- Where a crop has different varieties or types such as with lettuce (iceberg, mignonette) or cabbage (drum, chinese, wombok), these have been grouped under their general crop heading.

## ACKNOWLEDGMENTS

The author gratefully acknowledges the assistance of the following people and organisations.

- DSGC and HRDC for providing casual wages and operating funds to conduct the survey.

- DPI professional and administrative staff at GBHRS for their assistance to identify data sources, review survey results and publish the survey report.

- Halina Kruger for her diligence and energy in collecting and collating survey data.

- Members of the initial review team and the DSGC sub-committee appointed to review the data.

Table 1 Horticultural production

| CROP GROUP | 1992-1993 Std. Packages | 1992-1993 Tonnes | 1993-1994 Std. Packages | 1993-1994 Tonnes |
|---|---|---|---|---|
| Pome | 1654234 | 31369 | 2076193 | 39403 |
| Stonefruit | 870603 | 5489 | 1353501 | 8391 |
| Grapes | 98442 | 1601 | 70337 | 1381 |
| Other Fruit | 30616 | 238 | 22732 | 168 |
| | | | | |
| Tomatoes | 713689 | 7137 | 444167 | 4442 |
| Brassicas | 940899 | 16569 | 980304 | 17643 |
| Lettuce | 355741 | 4269 | 362849 | 4354 |
| Cucurbits | 222026 | 2429 | 169171 | 2588 |
| Other Vegetables | 737320 | 6693 | 790136 | 7277 |
| | | | | |
| TOTAL PRODUCTION | | 75795 | | 85647 |

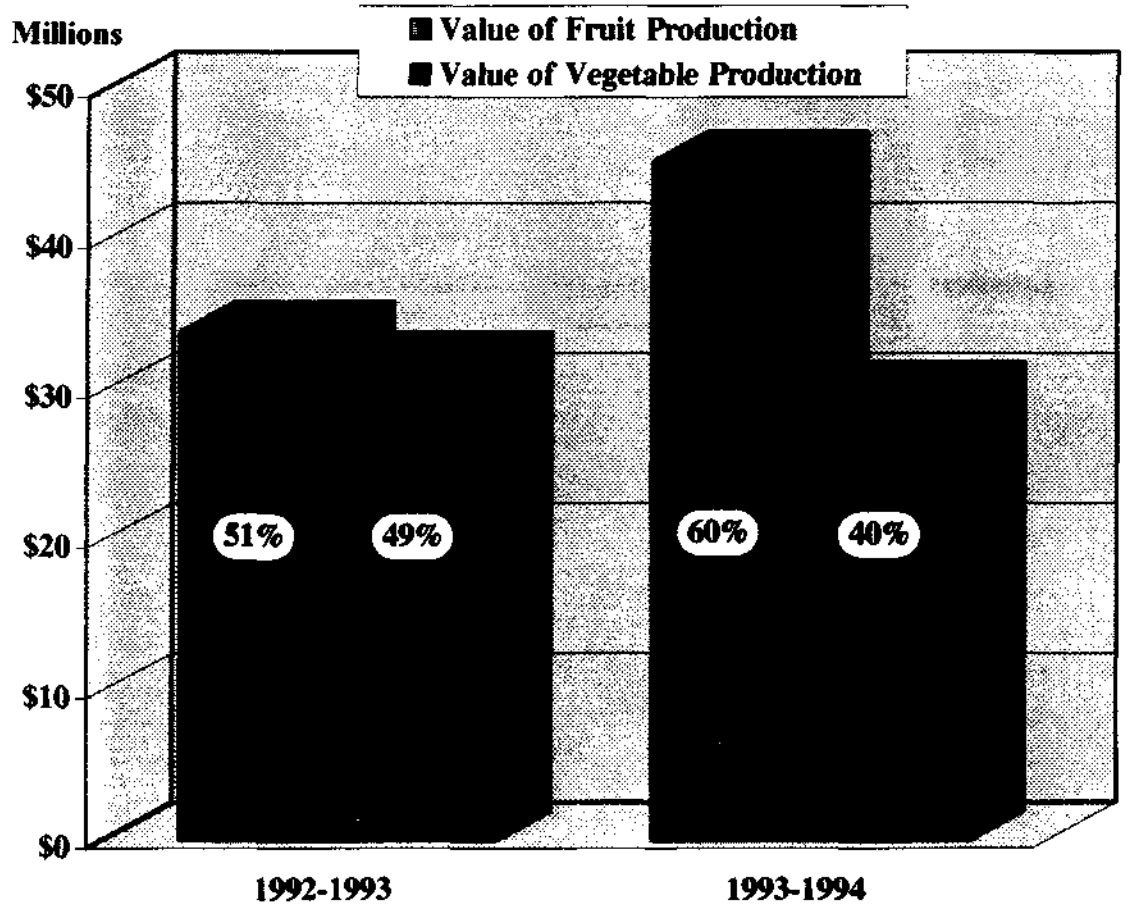



Figure 2 Value of fruit and vegetable production

**Table 2 Destination of fresh produce in 1993/94**
**(Numbers are standard packages)**

| Crop Group | Qld | NSW | Vic |
|---|---|---|---|
| Pome | 1282711 | 136224 | 7964 |
| Stonefruit | 1171380 | 118978 | 121 |
| Grapes | 62432 | 7905 | 0 |
| Other Fruit | 11523 | 11209 | 0 |
| Tomatoes | 369860 | 72083 | 2224 |
| Brassicas | 890258 | 83916 | 6138 |
| Lettuce | 294564 | 68285 | 0 |
| Cucurbits | 147847 | 21227 | 101 |
| Other Vegetables | 640609 | 146508 | 3019 |

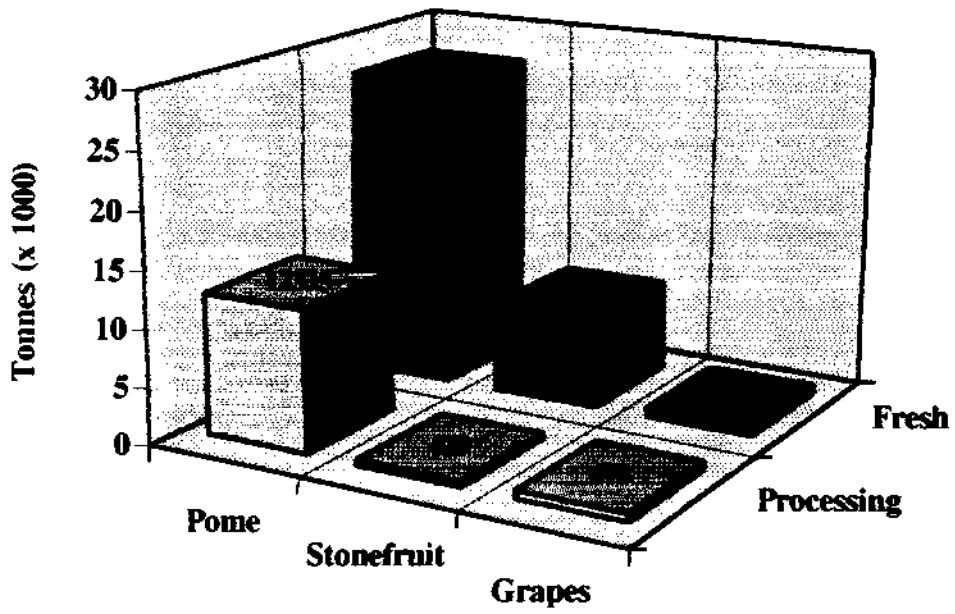



**Figure 4 Amount of fresh and processed produce**

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| Table grapes | | Styrofoam box | 10 |
| Wine grapes | | Bin | 1000 |
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| Nectarine | | Single layer tray | 5 |
| Peach | | Single layer tray | 5 |
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| Bean | | Box | 10 |
| Broccoli | | Styro icepack | 8 |
| Brusssel sprouts | | Stryo icepack | 8 |
| Cabbage | Chinese, wombok | 78 litre box | 25 |
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| Cauliflower | | 78 litre box | 25 |
| Celery | | 54 litre box | 18 |
| Corn | Sweet corn | Styrofoam box | 8 |
| Cucumber | All types | T35 carton | 10 |
| Eggplant | | 18 litre carton | 6 |
| Garlic | | Tray | 5 |
| Leek | Leek, shallots, endive | 78 litre box | 17 |
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| Squash | Button, scallopini | T35 carton | 10 |
| Tomato | Cherry, egg | T35 carton | 10 |
| Watermelon | Mini-melons | Bin | 1000 |
| Zucchini | | T35 carton | 10 |
| Other vegetables | Unidentified vegetables | T35 carton | 10 |

# APPENDIX 4

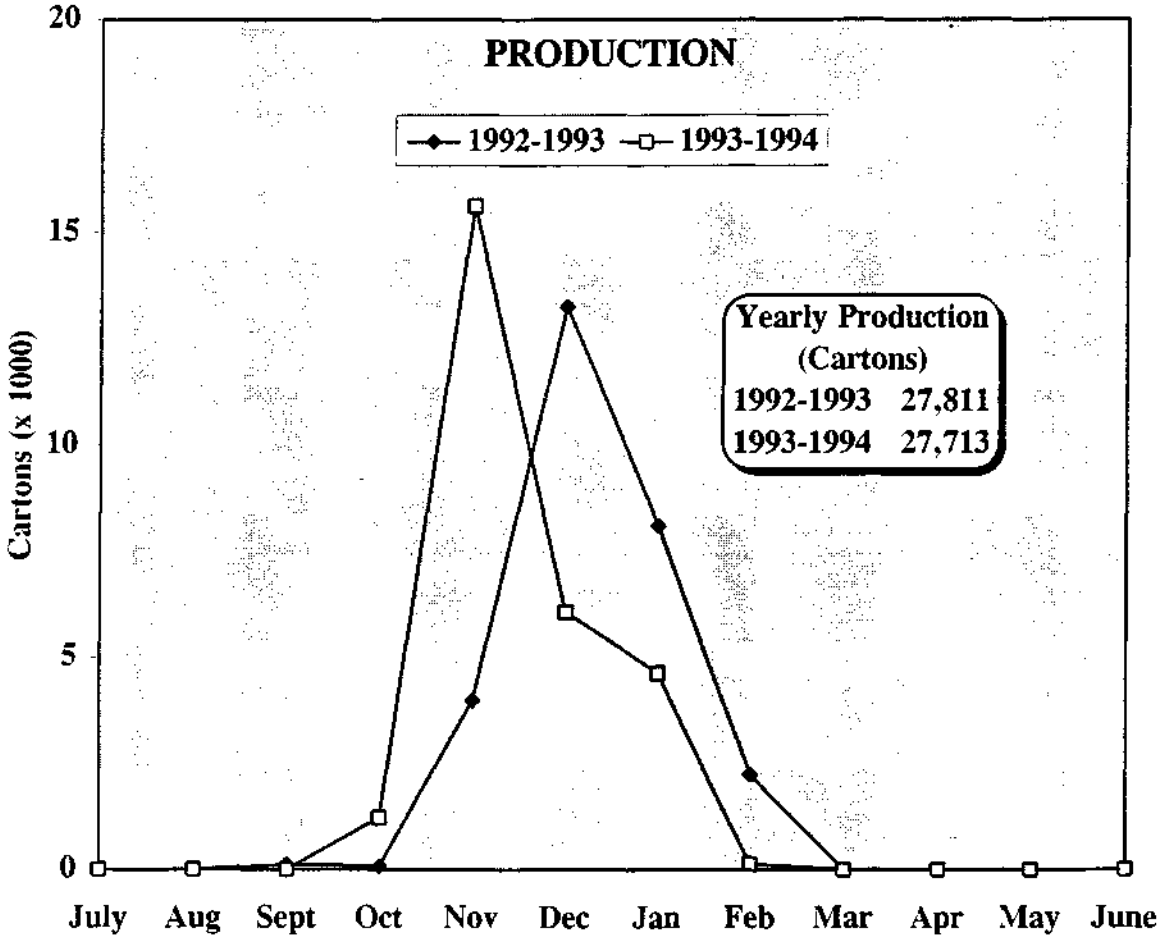
## DETAILED MAJOR CROP SHEETS

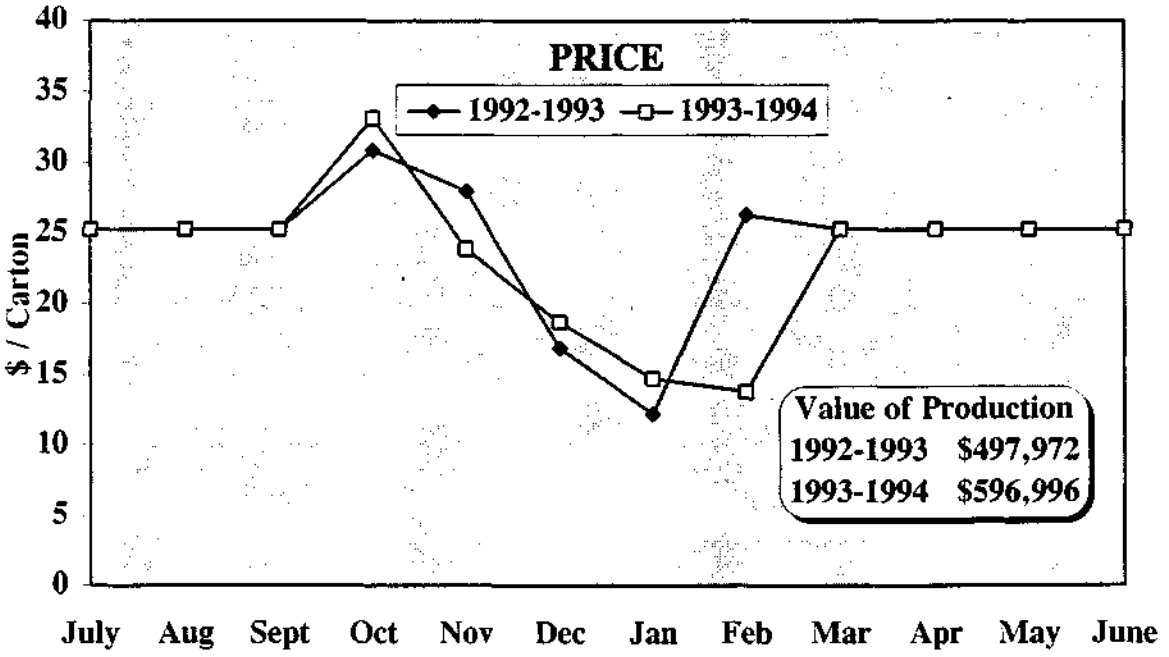
Information is presented on individual crops whose annual production exceeds 200 tonnes and/or whose annual value of production is greater than $1 Million. This information includes:-

- Monthly production of each crop in standard packages.
- Total yearly production in standard packages.
- Monthly price received per standard package. These figures are an average between Brisbane and Sydney wholesale market prices.
- Annual value of production.

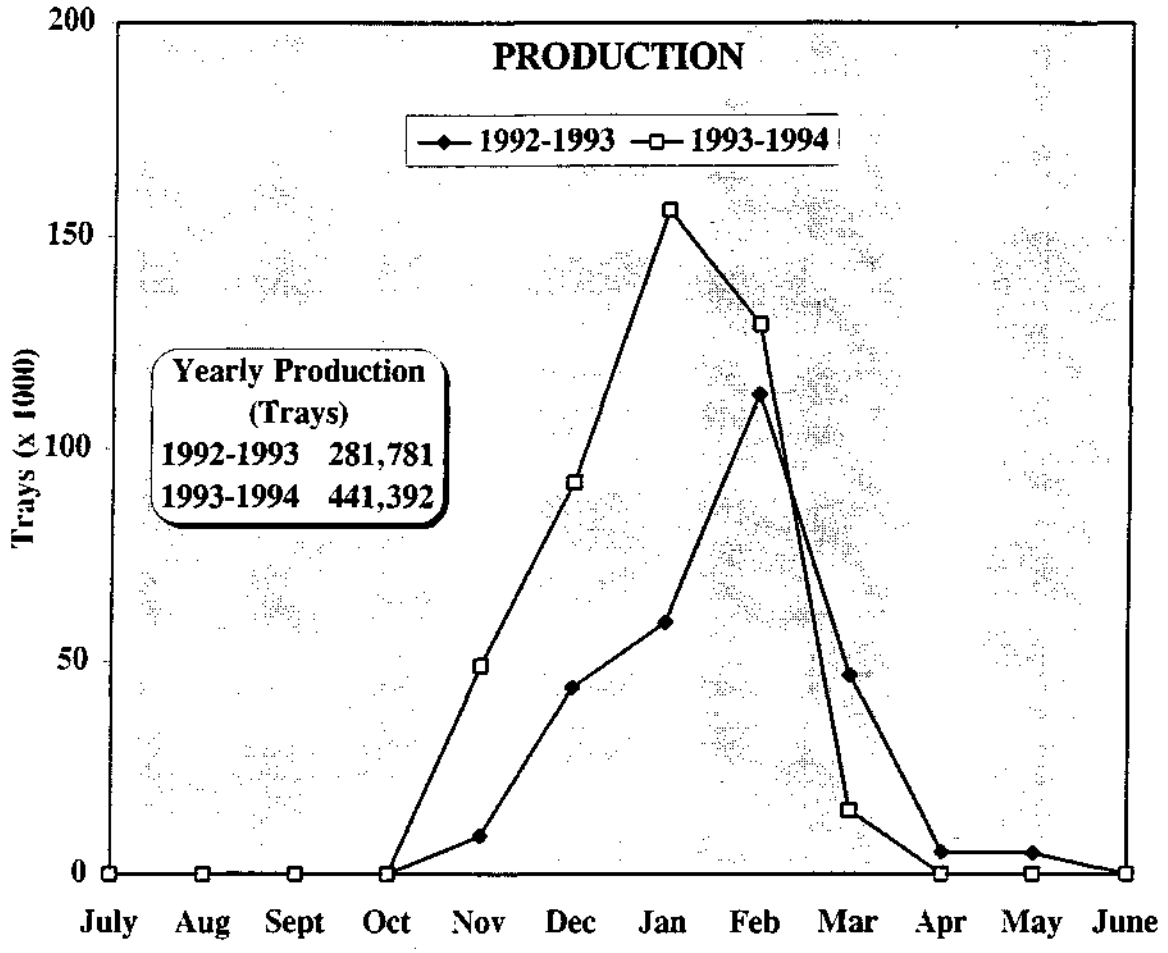
Crops are listed alphabetically with fruit crops appearing first followed by vegetable crops.

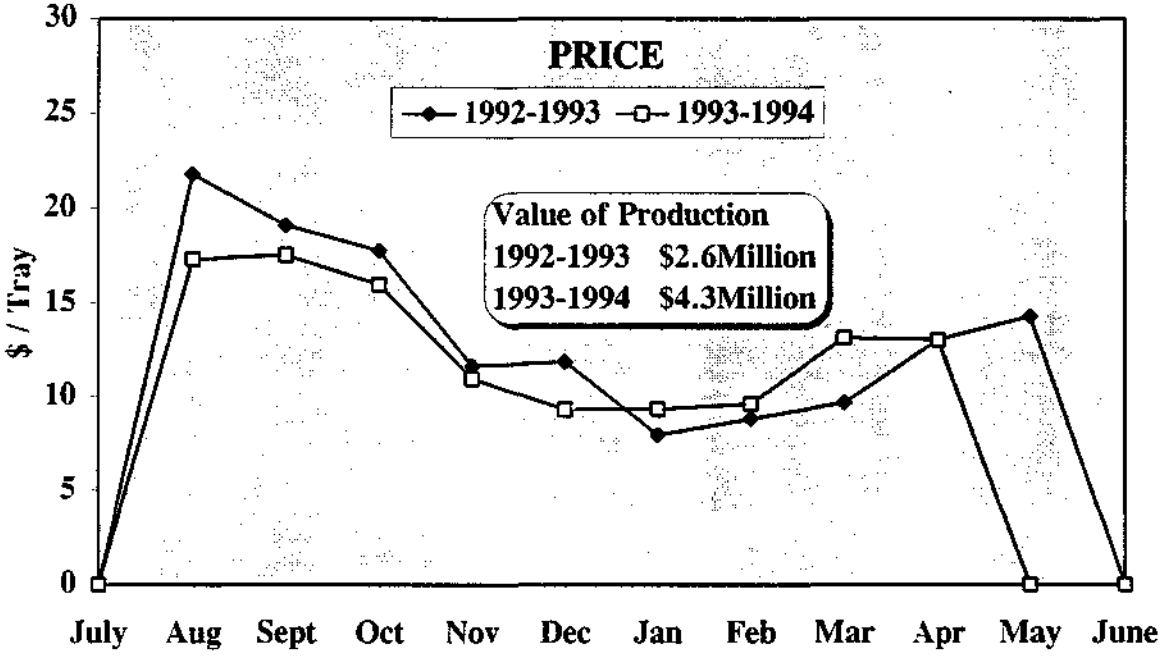
# APRICOT


PRODUCTION
1992-1993
1993-1994
Cartons (x 1000)
20
15
10
5
0
Yearly Production
(Cartons)
1992-1993 27,811
1993-1994 27,713
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

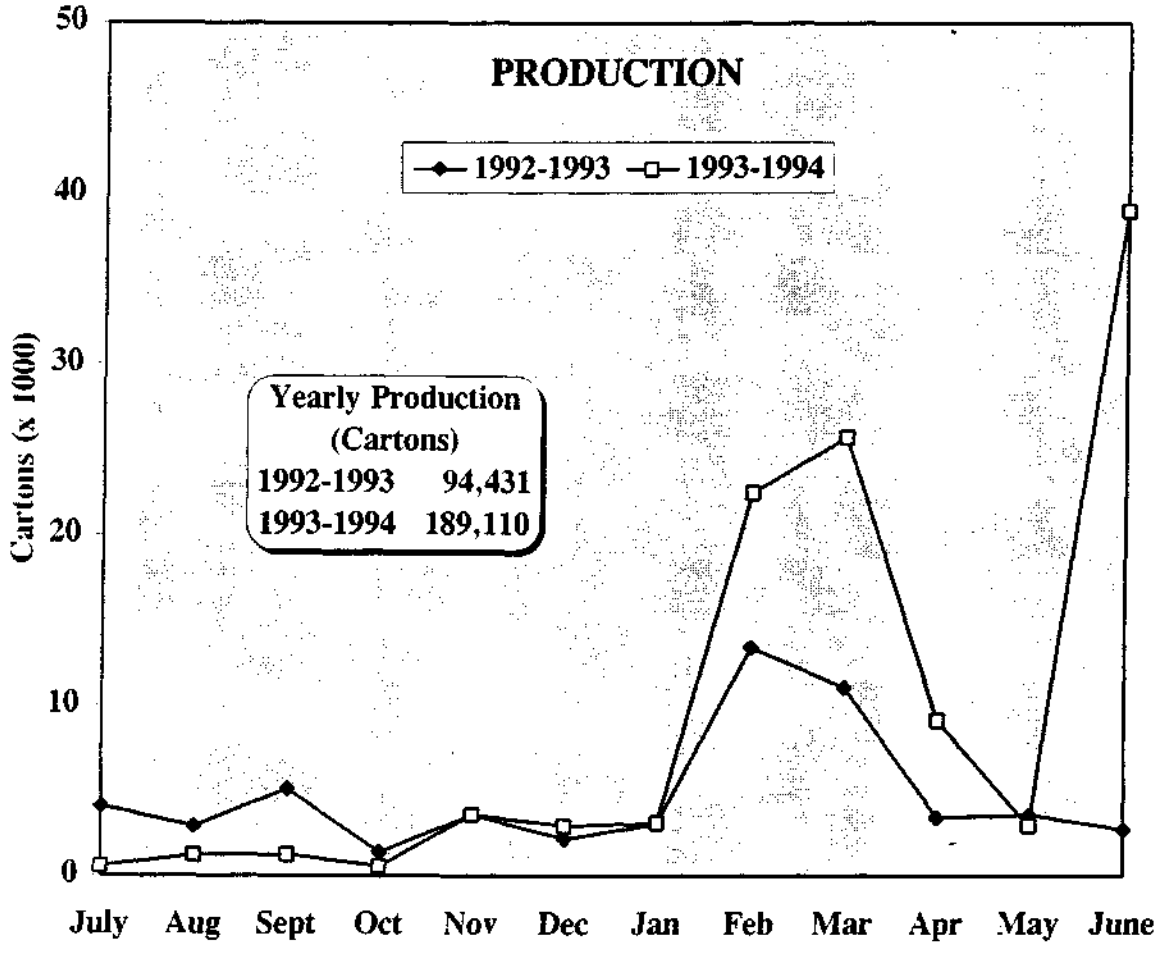

PRICE
1992-1993
1993-1994
$ / Carton
40
35
30
25
20
15
10
5
0
Value of Production
1992-1993 $497,972
1993-1994 $596,996
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

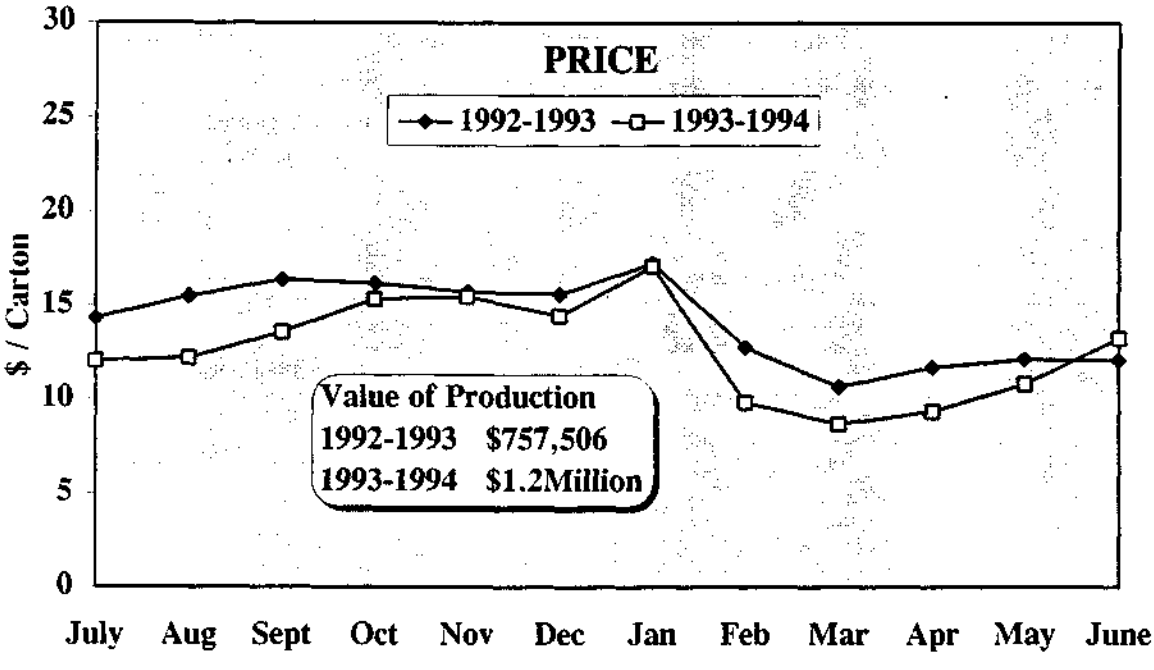
# NECTARINE


PRODUCTION
1992-1993
1993-1994
Yearly Production
(Trays)
1992-1993 281,781
1993-1994 441,392
Trays (x 1000)
200
150
100
50
0
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

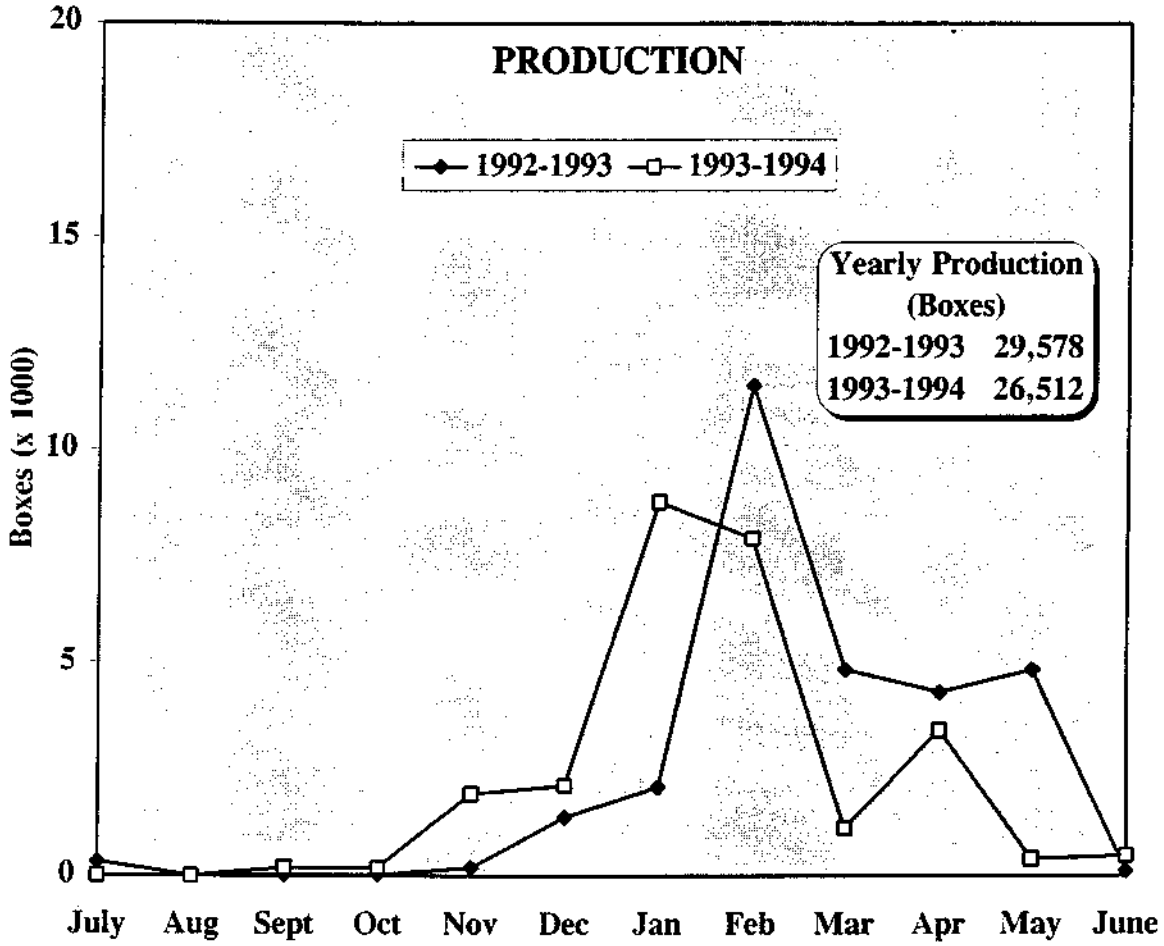

PRICE
1992-1993
1993-1994
Value of Production
1992-1993 $2.6Million
1993-1994 $4.3Million
$ / Tray
30
25
20
15
10
5
0
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

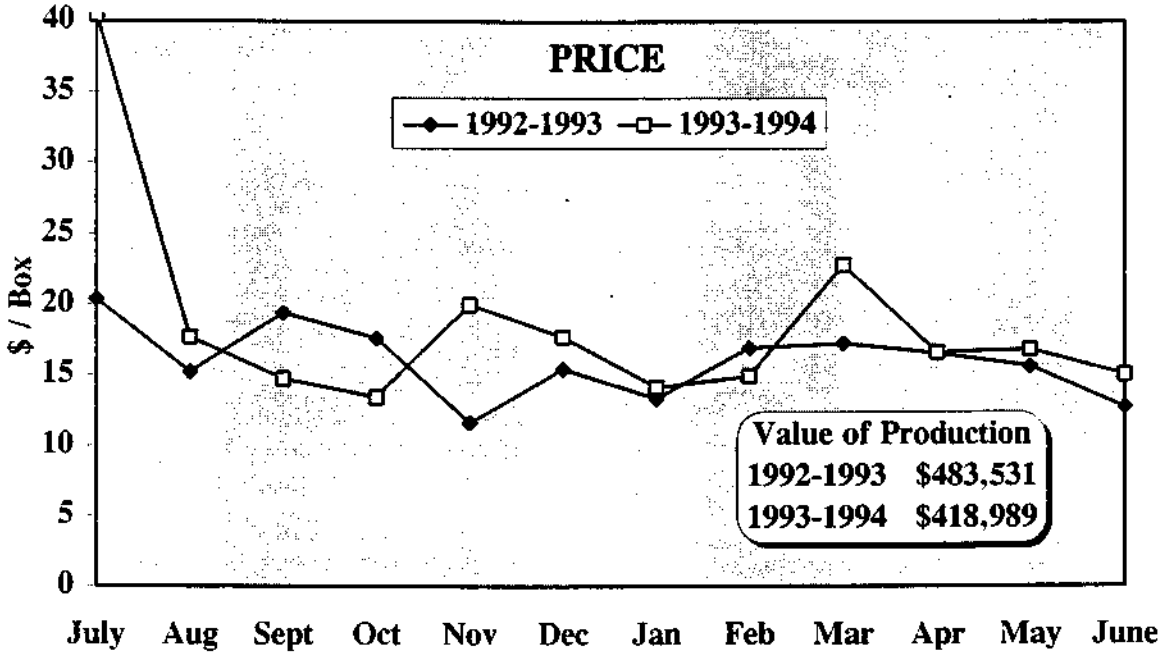
# PEAR


PRODUCTION
1992-1993
1993-1994
Cartons (x 1000)
50
40
30
20
10
0
Yearly Production
(Cartons)
1992-1993 94,431
1993-1994 189,110
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

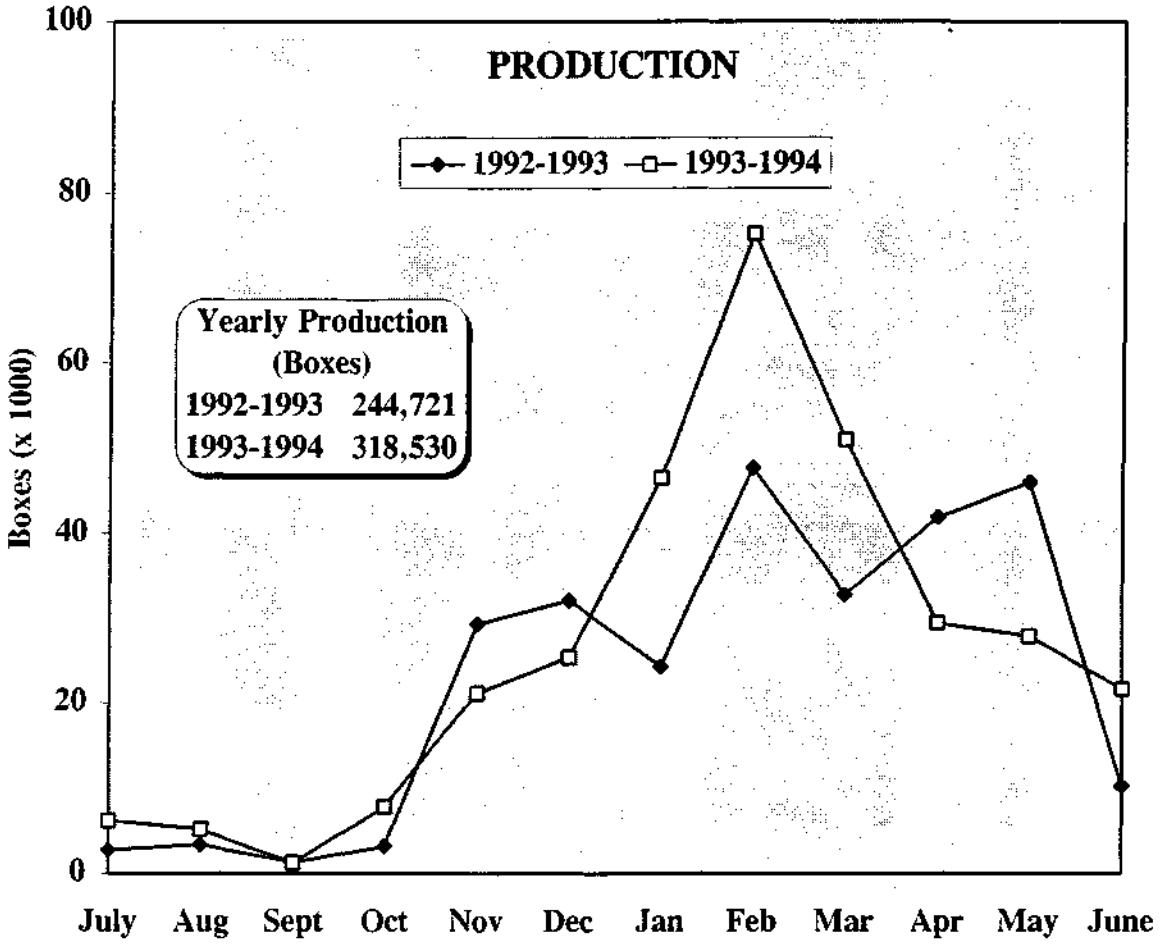

PRICE
1992-1993
1993-1994
$ / Carton
30
25
20
15
10
5
0
Value of Production
1992-1993 $757,506
1993-1994 $1.2Million
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

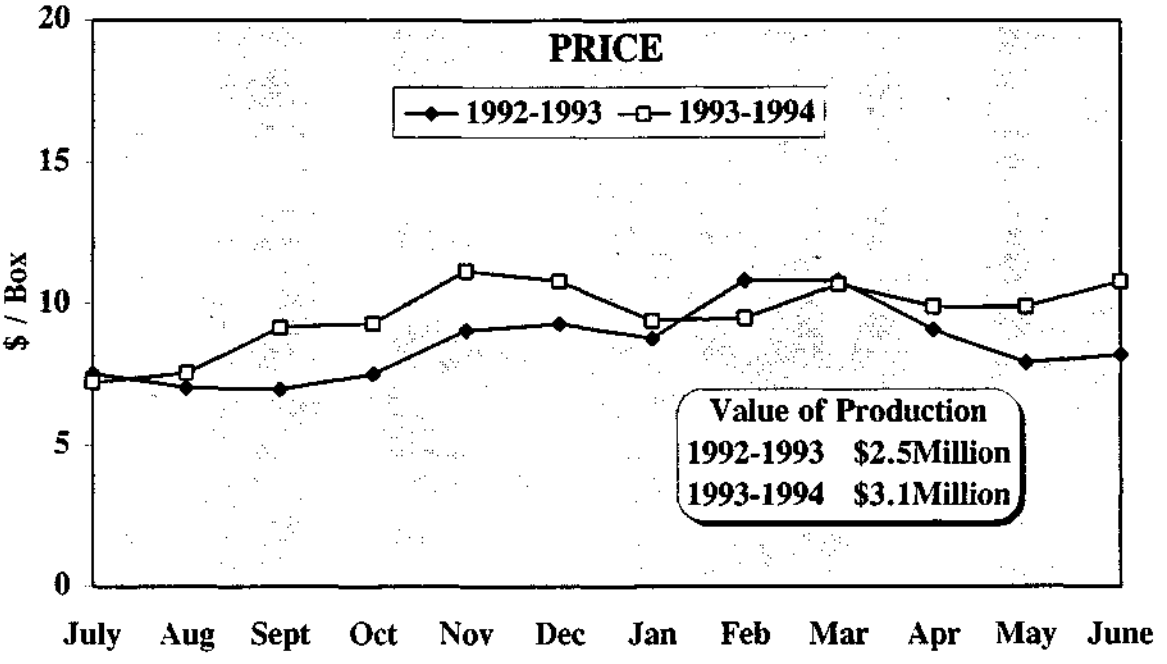
# BEAN


PRODUCTION
1992-1993
1993-1994
Yearly Production
(Boxes)
1992-1993 29,578
1993-1994 26,512
Boxes (x 1000)
20
15
10
5
0
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

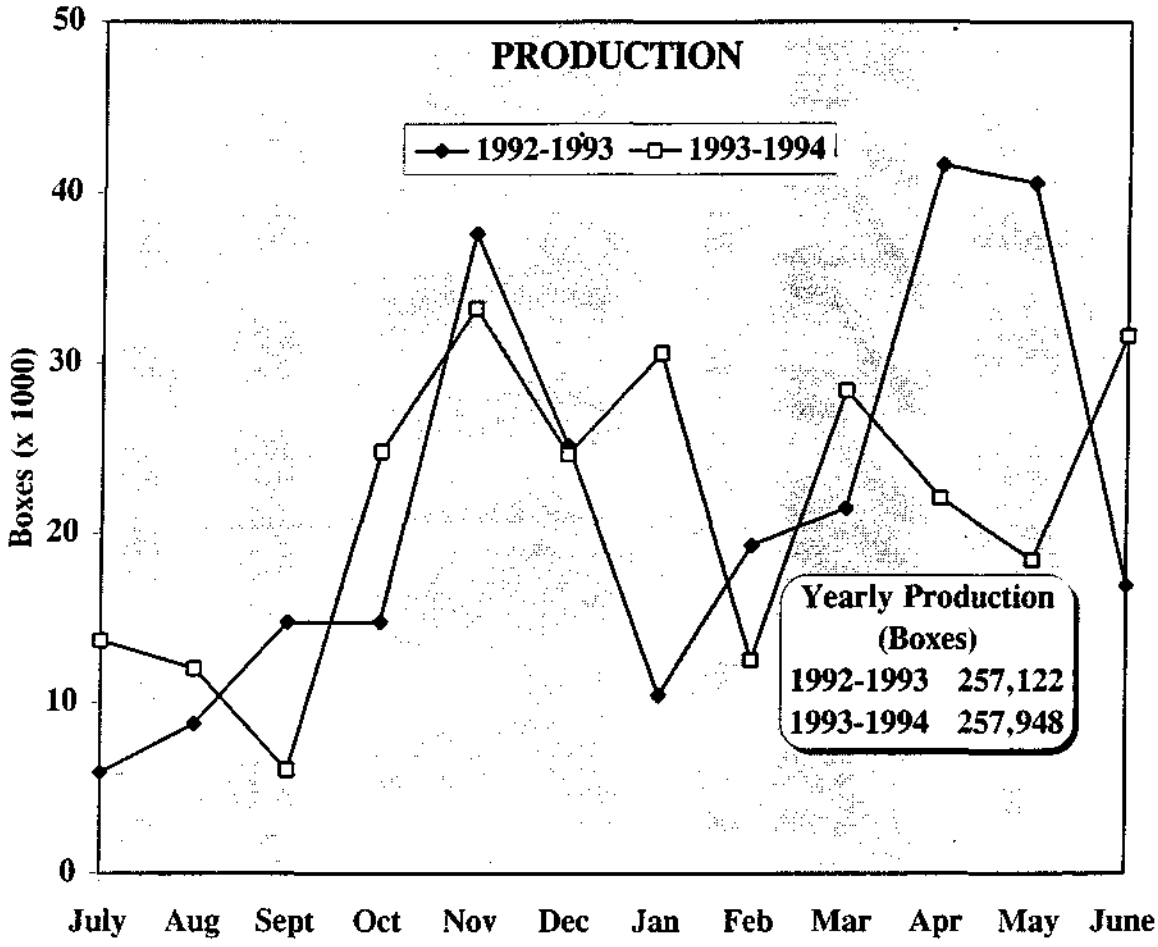

PRICE
1992-1993
1993-1994
Value of Production
1992-1993 $483,531
1993-1994 $418,989
$ / Box
40
35
30
25
20
15
10
5
0
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

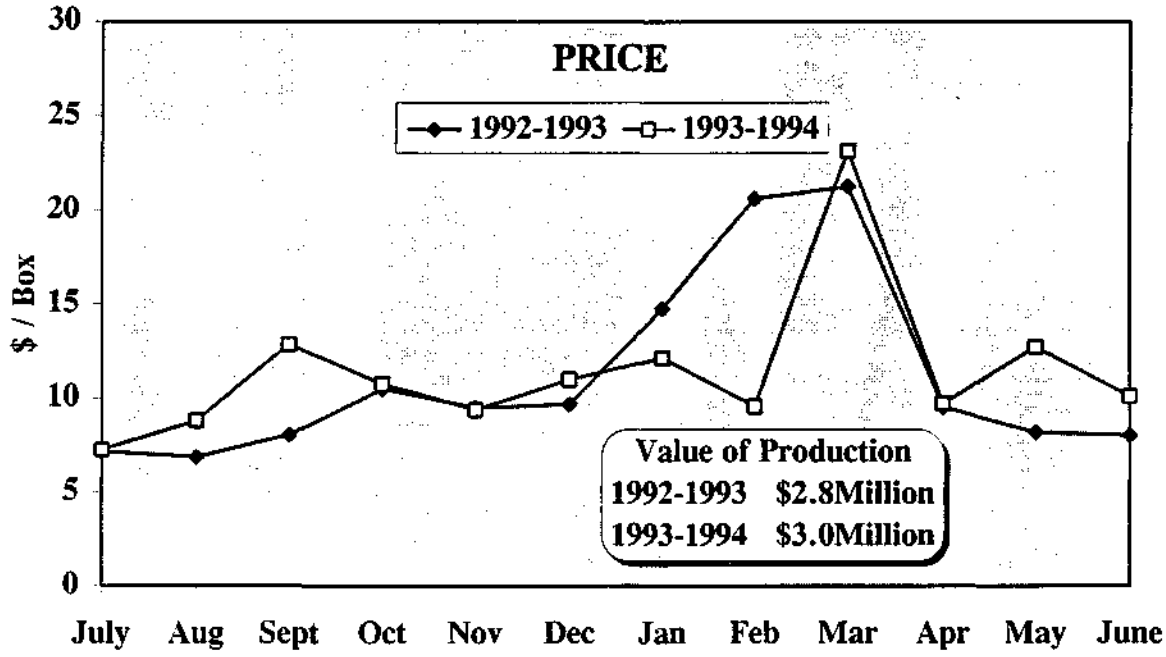
# CABBAGE


PRODUCTION
1992-1993
1993-1994
Yearly Production
(Boxes)
1992-1993 244,721
1993-1994 318,530
Boxes (x 1000)
100
80
60
40
20
0
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June


PRICE
1992-1993
1993-1994
Value of Production
1992-1993 $2.5Million
1993-1994 $3.1Million
$ / Box
20
15
10
5
0
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

# CAULIFLOWER



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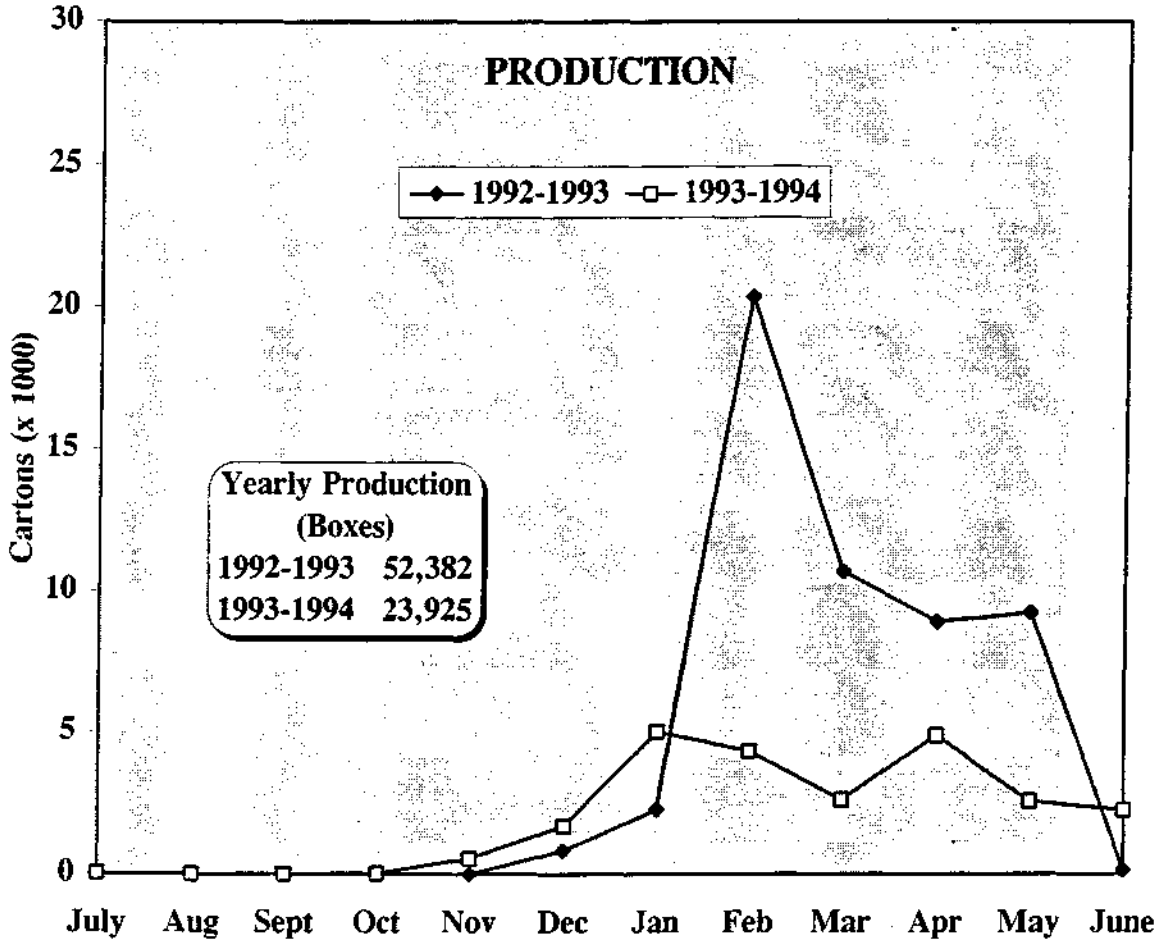
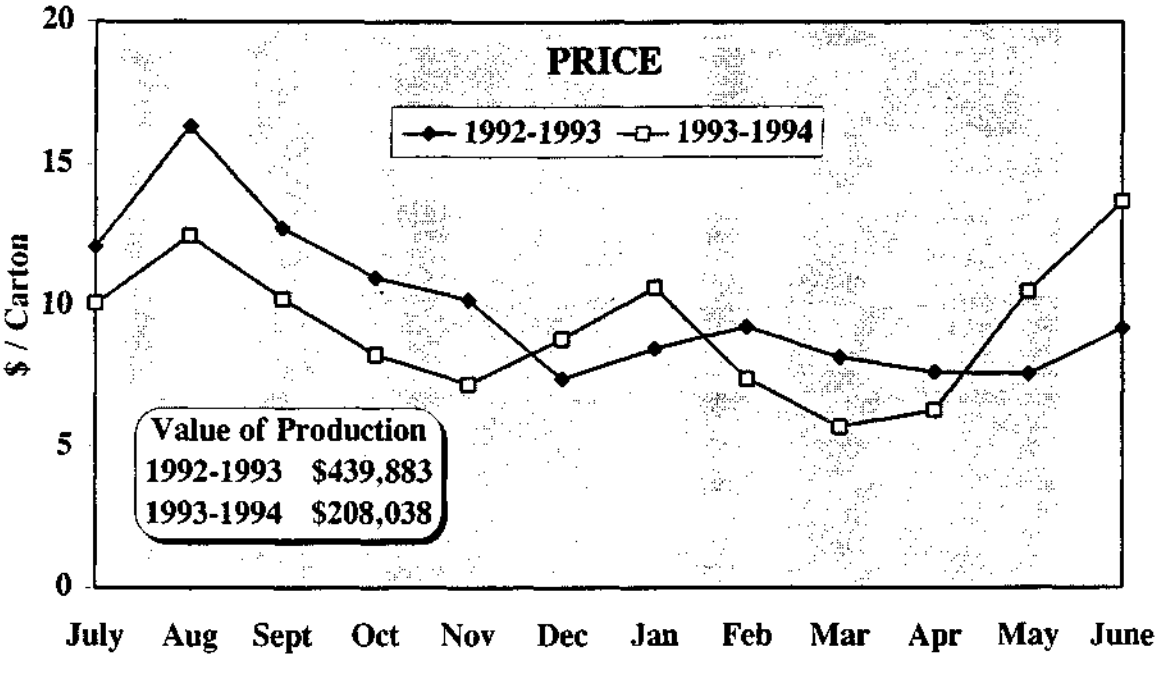
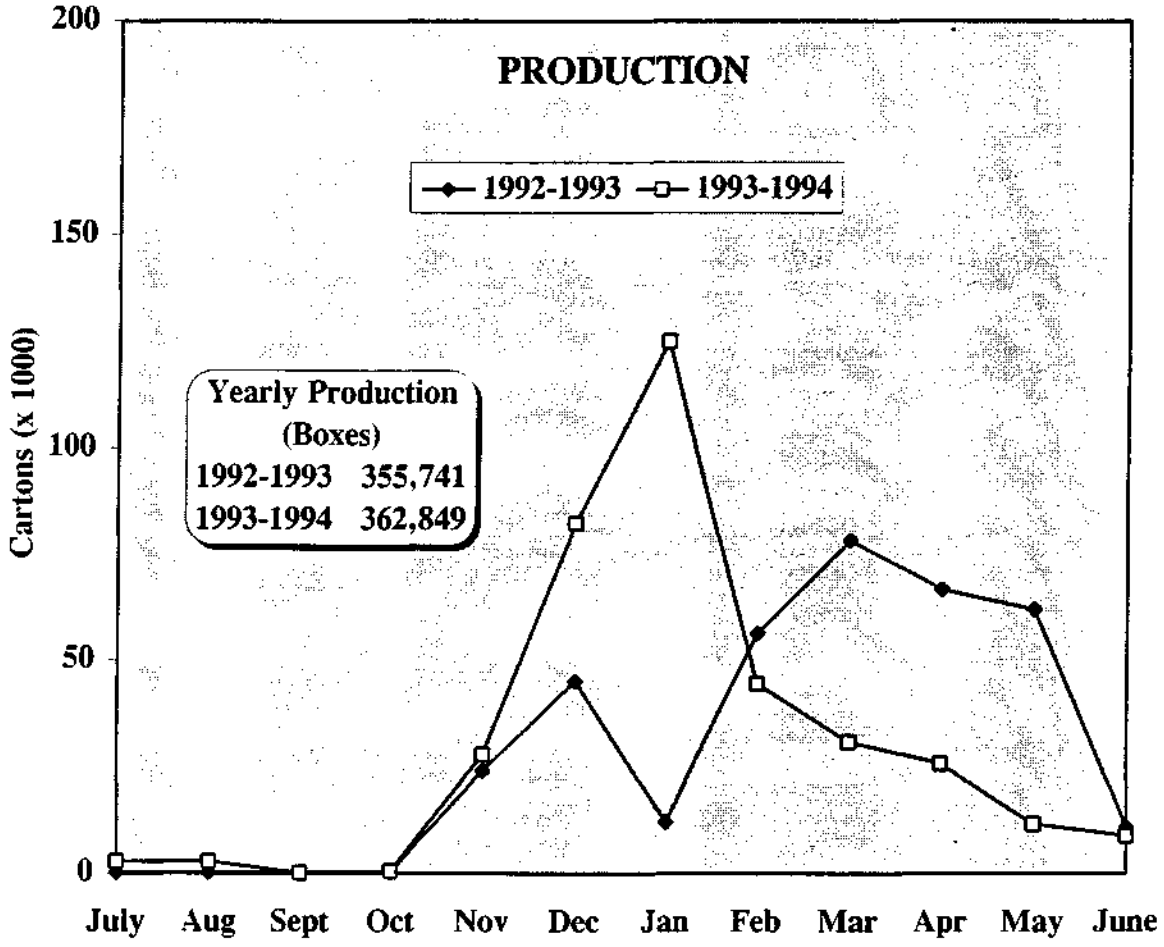
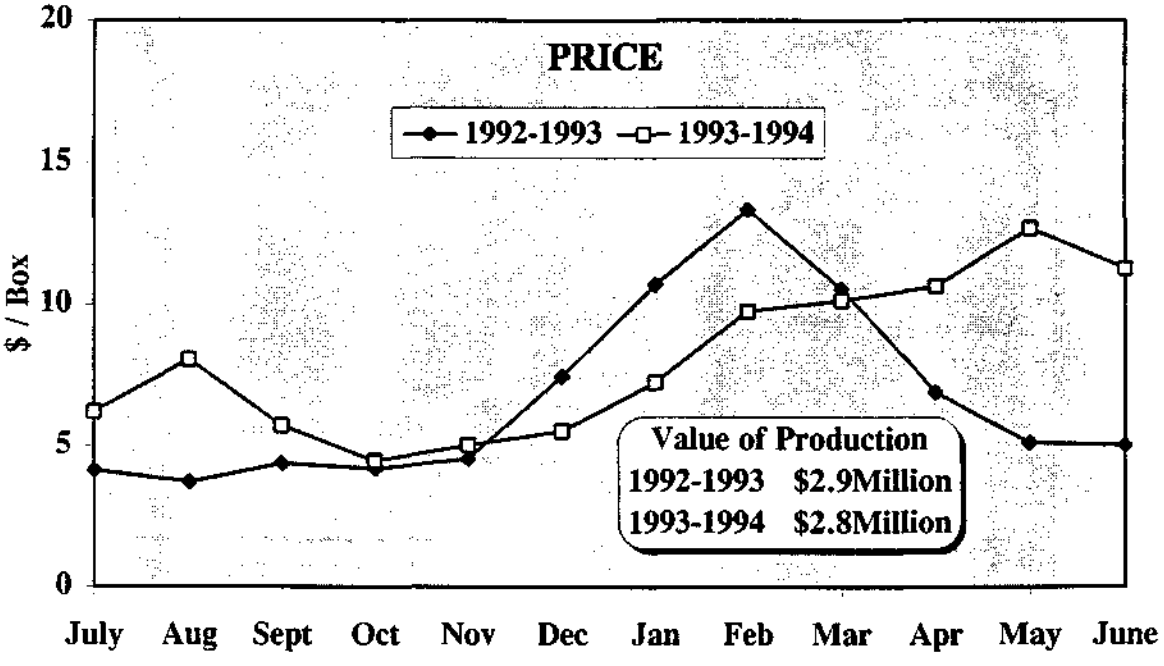

PRODUCTION
1992-1993
1993-1994
Cartons (x 1000)
30
25
20
15
10
5
0
Yearly Production
(Boxes)
1992-1993 52,382
1993-1994 23,925
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

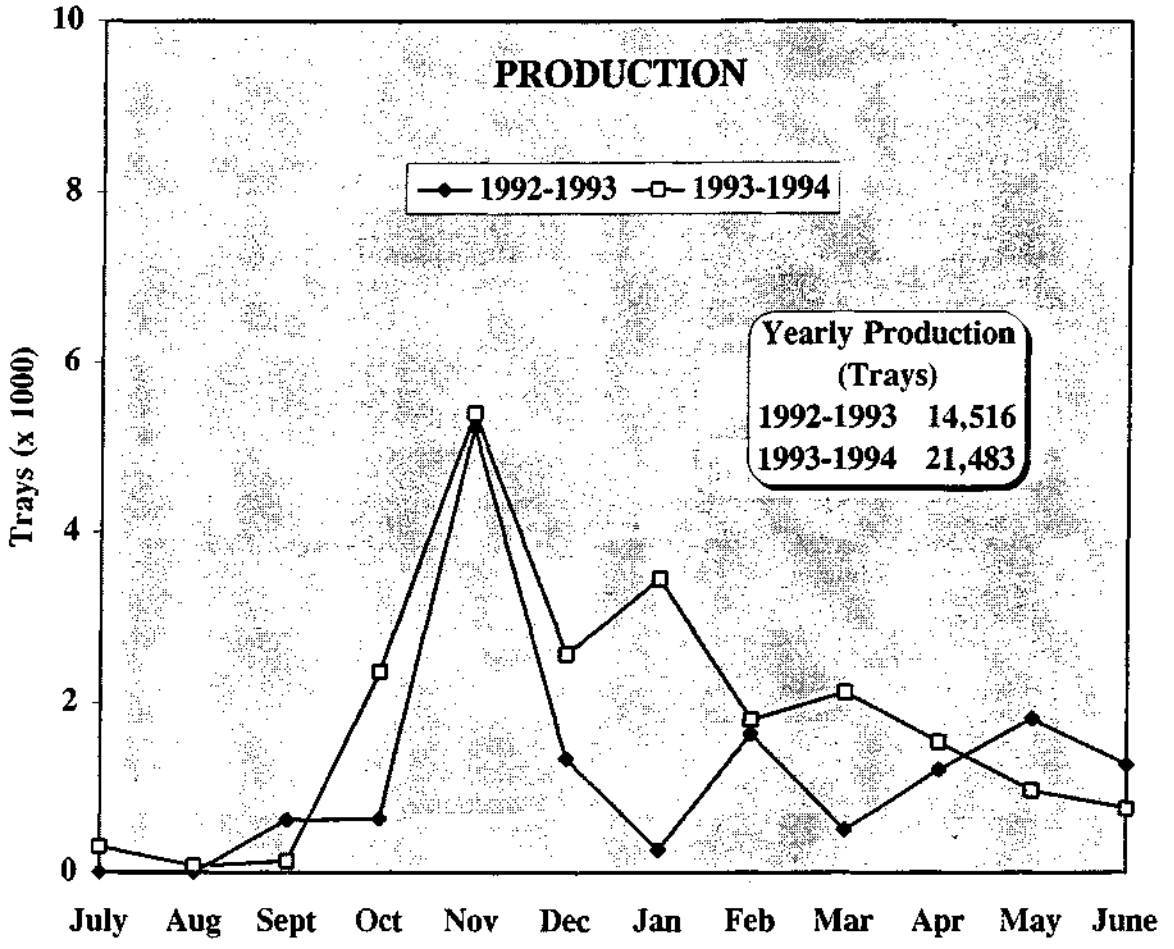

PRICE
1992-1993
1993-1994
$ / Carton
20
15
10
5
0
Value of Production
1992-1993 $439,883
1993-1994 $208,038
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

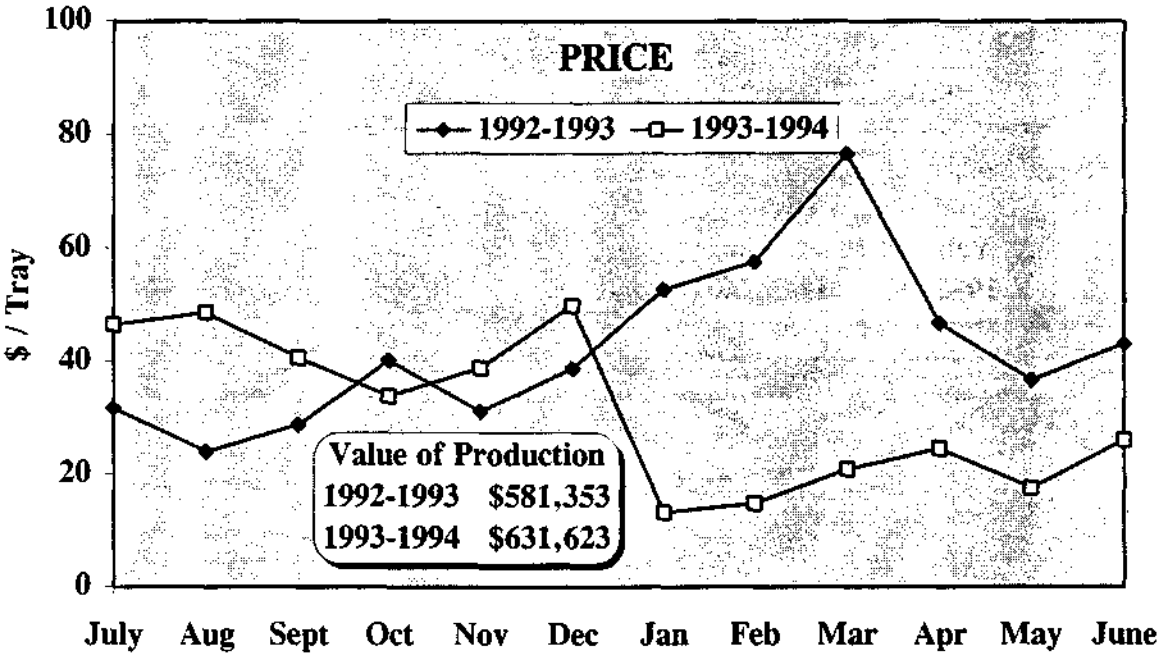
# LETTUCE


PRODUCTION
1992-1993
1993-1994
Cartons (x 1000)
200
150
100
50
0
Yearly Production
(Boxes)
1992-1993 355,741
1993-1994 362,849
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

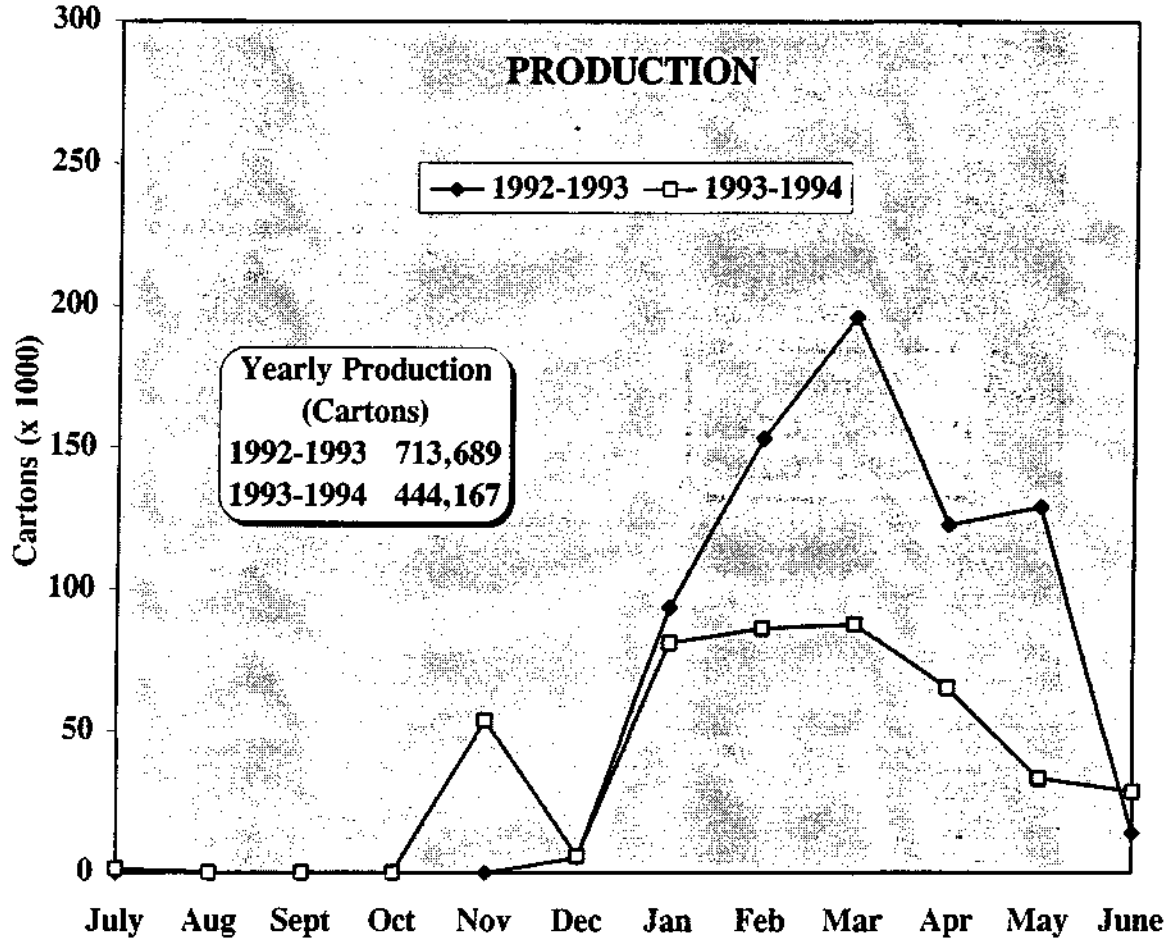

PRICE
1992-1993
1993-1994
$ / Box
20
15
10
5
0
Value of Production
1992-1993 $2.9Million
1993-1994 $2.8Million
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

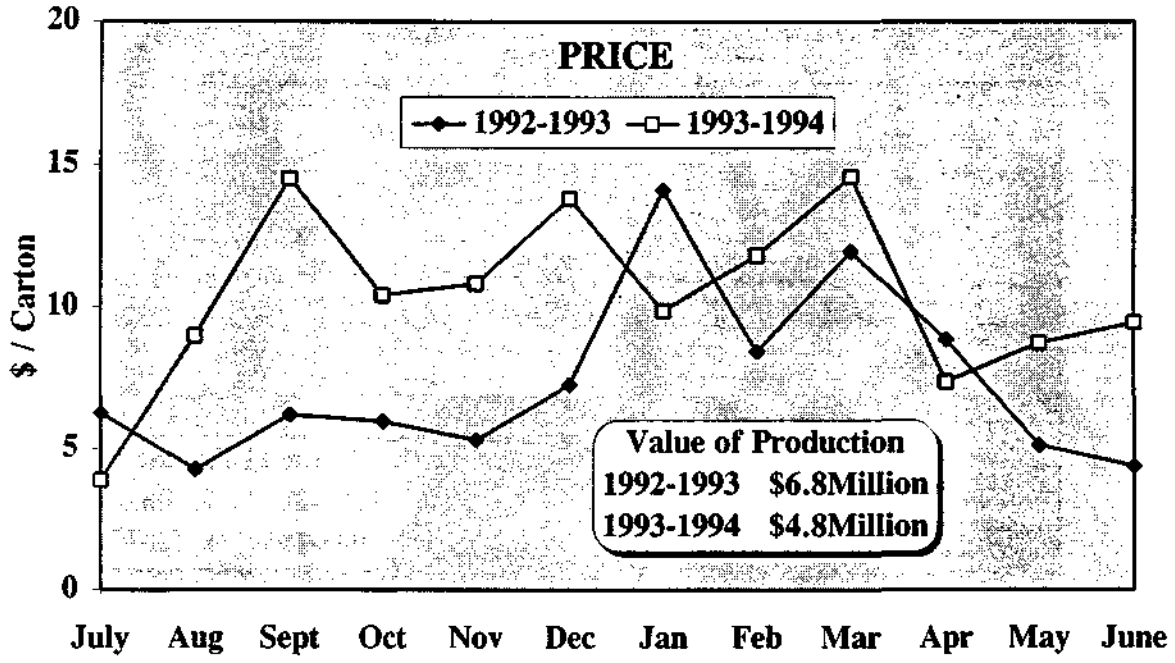
# PEA


PRODUCTION
1992-1993
1993-1994
Yearly Production
(Trays)
1992-1993 14,516
1993-1994 21,483
Trays (x 1000)
0
2
4
6
8
10
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June


PRICE
1992-1993
1993-1994
Value of Production
1992-1993 $581,353
1993-1994 $631,623
$ / Tray
0
20
40
60
80
100
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

# TOMATO


PRODUCTION
1992-1993
1993-1994
Yearly Production
(Cartons)
1992-1993 713,689
1993-1994 444,167
Cartons (x 1000)
300
250
200
150
100
50
0
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June


PRICE
1992-1993
1993-1994
Value of Production
1992-1993 $6.8Million
1993-1994 $4.8Million
$ / Carton
20
15
10
5
0
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June

# APPENDIX 5

## PRODUCTION AND VALUE OF MINOR CROPS

| Crop | Package | Production | | Value of Production | |
|---|---|---|---|---|---|
| | | 1992-1993 | 1993-1994 | 1992-1993 | 1993-1994 |
| Berries | Cartons | 10,772 | 11,043 | $296.486 | $218,799 |
| Cherry | Boxes | 1,036 | 1,623 | $ 26.289 | $ 38,482 |
| Citrus | Boxes | 916 | 58 | $ 10.628 | $ 733 |
| Fig | Trays | 2,620 | 890 | $ 29.379 | $ 8.890 |
| Nashi | Trays | 4,077 | 2,946 | $ 37.995 | $ 23,682 |
| Other Fruit | Cartons | 16,308 | 10,741 | $520.037 | $233,061 |
| Asparagus | Boxes | 39,356 | 46,302 | $192.647 | $222,916 |
| Brussel sprouts | Icepacks | 21,573 | 15,333 | $438.076 | $177,910 |
| Corn | Styro boxes | 479 | 185 | $ 4.325 | $ 928 |
| Eggplant | Cartons | 2,449 | 9,890 | $ 17.949 | $ 43,468 |
| Garlic | Trays | 257 | 155 | $ 5.111 | $ 2.315 |
| Pumpkin | Bins | 66 | 178 | $ 20.232 | $ 37.567 |
| Rockmelon | Cartons | 9,653 | 10,072 | $119.909 | $ 90.039 |
| Squash | Cartons | 21,967 | 12,199 | $257,403 | $190.560 |
| Watermelon | Bins | 67 | 646 | $ 16.060 | $135.810 |
| Other vegetables | Cartons | 94,740 | 53,794 | $876.372 | $606.775 |