



# Evaluation of Peach Cultivars for North Mississippi, 1973-1986

**MAFES**

**S  
U**

MISSISSIPPI AGRICULTURAL & FORESTRY EXPERIMENT STATION

R. Rodney Foil, Vice President and Director

Donald W. Zacharias, President

Mississippi State University, Mississippi State, MS 39762

# **Evaluation of Peach Cultivars for Northern Mississippi, 1973-1986**

**Frank B. Matta, Associate Professor**  
Department of Horticulture, MSU-MAFES

**Max L. Allison, Research Horticulturist**  
Horticulture Research Center  
Kansas State University, Wichita, KS

**Juan Silva, Food Technologist**  
Department of Horticulture, MAFES

**J. P. Overcash, Professor Emeritus**  
Department of Horticulture, MSU-MAFES

# Evaluation of Peach Cultivars for Northern Mississippi, 1973-1986

Peach cultivar evaluations by the Mississippi Agricultural and Forestry Experiment Station were initiated in 1898 (7), with results reported in 1905 (7), 1911 (6), 1930 (11), 1947 (5), 1959 (10), and 1966 (9). Recommended practices for growing peaches in Mississippi have been published by the Mississippi Cooperative Extension Service (8).

Many of the old peach cultivars recommended for Mississippi have been lost through discontinued propagation or have succumbed to pests and diseases. In recent years, new, more desirable cultivars have been developed and renewed interest in peach production in Mississippi has prompted potential growers to seek information on adapted cultivars. Inquiries concerning performance and adaptability of new peach cultivars prompted the continuation of peach cultivar evaluations. This bulletin presents results of peach cultivars evaluated from 1973 through 1986.

## Materials and Methods

A total of 108 peach cultivars were evaluated from 1973 through 1986 at the MAFES Pontotoc Ridge-Flatwoods Branch Experiment Station. Trees were spaced 20 by 22 feet in randomized complete block design with four replications and a single tree per replicate. Fifty-six (56) cultivars were planted in 1973, 23 were planted in 1976, and 27 cultivars were planted in 1979. Trees were trained to the open center system and pruned annually. The sod strip method of

culture was maintained using herbicides under tree rows (14-foot band) and a mowed grass strip between rows. Nitrogen was applied when new shoot growth was less than 12 inches each year. Split applications were used; one in mid-February and one in early May. Current recommended spray schedules provided by the Mississippi Cooperative Extension Service were followed for the control of insects and diseases.

Fruits were thinned to maintain a fruit approximately every six inches on a fruiting limb. Fruit thinning was done soon after blossoming and completed shortly after the "June drop."

Fruit of each cultivar were harvested as indicated by changes in ground color. Therefore, fruit from a given tree was harvested more than once, and only when the fruit was fully matured. The fruit was not allowed to become over ripe to avoid picking of soft fruit.

Yields of cultivars planted in a given year were analyzed by analysis of variance and yield means separated by the L.S.D. procedure.

Fruit characteristics were based on sub-sample of 20 peaches per cultivar. Texture and flavor were measured by a taste panel using a 9-point hedonic scale for organoleptic evaluation. On this scale, 9 means "like extremely" and 1 means "dislike extremely." Soluble solids were measured with an Abbe refractometer at 20°C.

Attractiveness scores were based on overall appearance of the fruit. On this scale 8 was "excellent" and 5 was "poor." Skin red color of fruit

was determined by visual observation and expressed as percentage of red on entire fruit.

## Results

Table 1 presents total and annual yields in pounds per tree of peach cultivars planted in 1973 and evaluated through 1982. First significant production for all cultivars occurred in 1977, 4 years after transplanting. There was a significant difference in total yield between cultivars in the years tested. Yields by cultivar varied depending on year. There was a significant difference in annual yields between cultivars.

Yields in 1977 were generally lower than other years because the trees were growing rapidly and just coming into production. Low yields reported in 1979 resulted from a late spring frost that reduced the crop severely. In general, maximum production for all cultivars occurred in 1981, the fifth year of production.

On a 6-year production average, cultivars Harbelle, Harbrite, Loring, Princess Anne, Redhaven, Sunqueen, and Troy significantly out-yielded all cultivars except Bisco, Candor, Earlired, Harbinger, Harken, Legacy, Pacific Gold, Pratt's Redhaven, Redskin, Reliance, Rosy Dawn, Rubired, Sam Houston, Sentinel, Summergold, Suncrest, Sunshine, Winblo, and Zachary Taylor.

Pekin and Norman significantly out-yielded Candor, Compact Redhaven, Sam Houston, Sentinel, Summergold, Suncrest, Zachary Taylor, and all remaining cultivars except Harbelle, Harbrite, Loring,

**Table 1. Annual, total, and average yields of peach tree cultivars grown at the Pontotoc Ridge-Flatwoods Branch Experiment Station, 1973-1982.**

| Cultivar         | Year             |      |      |      |      |      | Total | Average |
|------------------|------------------|------|------|------|------|------|-------|---------|
|                  | 1977             | 1978 | 1979 | 1980 | 1981 | 1982 |       |         |
|                  | pounds per tree* |      |      |      |      |      |       |         |
| Bisco            | 121              | 154  | 135  | 114  | 111  | 140  | 775   | 129     |
| Camdon           | 105              | 158  | 31   | 74   | 156  | -    | 524   | 105     |
| Candor           | 102              | 271  | 80   | 88   | 82   | 125  | 748   | 125     |
| Comanche         | 41               | 113  | 28   | 148  | 117  | 123  | 570   | 95      |
| Compact Redhaven | 80               | 127  | 36   | 70   | 189  | 141  | 643   | 107     |
| Dixired          | 111              | 115  | 37   | 86   | 272  | 31   | 652   | 109     |
| Earlired         | 113              | 217  | 72   | 77   | 181  | 124  | 784   | 131     |
| Emery            | 126              | 122  | 33   | 82   | 146  | 119  | 628   | 105     |
| Harbelle         | 180              | 245  | 50   | 125  | 232  | 74   | 906   | 151     |
| Harbinger        | 60               | 155  | 36   | 74   | 201  | 162  | 688   | 115     |
| Harbrite         | 106              | 225  | 56   | 84   | 173  | 216  | 860   | 143     |
| Harken           | 144              | 246  | 53   | 84   | 186  | 108  | 821   | 137     |
| Harmony          | 126              | 182  | 21   | 52   | 253  | 34   | 668   | 111     |
| Harvester        | 54               | 82   | 4    | 4    | 151  | 120  | 415   | 69      |
| Jefferson        | 109              | 88   | 32   | 76   | 264  | 53   | 622   | 104     |
| Jim Bowie        | 44               | 103  | -    | 20   | 71   | 5    | 243   | 49      |
| La Gold          | 120              | 229  | 7    | 45   | 165  | 81   | 647   | 108     |
| Legacy           | 134              | 220  | 49   | 157  | 147  | 86   | 793   | 132     |
| Loring           | 124              | 202  | 28   | 80   | 337  | 114  | 885   | 148     |
| Marglow          | 35               | 106  | 27   | 13   | 103  | 171  | 482   | 80      |
| Marqueen         | 63               | 86   | 10   | -    | 7    | 77   | 243   | 49      |
| Marhigh          | 83               | 104  | 18   | 20   | 70   | 114  | 409   | 68      |
| Marland          | 53               | 68   | 12   | 84   | 70   | 149  | 436   | 73      |
| Marpride         | 77               | 92   | 15   | 86   | 146  | 110  | 526   | 88      |
| Marsun           | 80               | 116  | -    | 62   | 83   | 4    | 345   | 69      |
| Maycrest         | 40               | 72   | 62   | 123  | 170  | 90   | 557   | 93      |
| McNeely          | 126              | 144  | 5    | 42   | 274  | 60   | 651   | 109     |
| Norman           | 154              | 252  | 59   | 162  | 139  | 168  | 934   | 156     |
| Pacific Gold     | 130              | 193  | 86   | 151  | 176  | 98   | 834   | 139     |
| Pekin            | 169              | 244  | 99   | 160  | 199  | 159  | 1,030 | 172     |
| Pratt's Redhaven | 61               | 173  | 12   | 74   | 182  | 273  | 775   | 129     |
| Princess Anne    | 177              | 237  | 13   | 147  | 192  | 79   | 845   | 141     |
| Redhaven         | 138              | 200  | 96   | 118  | 186  | 173  | 911   | 152     |
| Redskin          | 104              | 144  | 74   | 180  | 142  | 175  | 819   | 137     |
| Reliance         | 128              | 162  | 45   | 71   | 194  | 178  | 778   | 130     |
| Rio Oso Gem      | 62               | 120  | 14   | 40   | 127  | 174  | 537   | 90      |
| Rosy Dawn        | 134              | 251  | 8    | 81   | 279  | 64   | 817   | 136     |
| Rubired          | 184              | 190  | 31   | 170  | 195  | 48   | 818   | 136     |
| Sam Houston      | 72               | 102  | 31   | 79   | 179  | 270  | 733   | 122     |
| Sentinel         | 62               | 128  | 37   | 124  | 189  | 201  | 741   | 124     |
| Somerset         | 116              | 152  | 59   | 76   | 199  | 57   | 659   | 110     |
| Springbrite      | 29               | 54   | 20   | 77   | 114  | 114  | 408   | 68      |
| Springcrest      | 44               | 67   | 17   | 92   | 111  | 96   | 427   | 71      |
| Springgold       | 57               | 65   | 13   | 81   | 121  | 48   | 385   | 64      |
| Summergold       | 58               | 132  | 48   | 99   | 173  | 171  | 681   | 114     |
| Suncrest         | 54               | 113  | 10   | 172  | 135  | 200  | 684   | 114     |
| Sunqueen         | 143              | 170  | 25   | 66   | 323  | 118  | 845   | 141     |
| Sunshine         | 88               | 196  | 23   | 89   | 220  | 184  | 800   | 133     |
| Surecrop         | 53               | 117  | 31   | 63   | 188  | 160  | 612   | 102     |
| Troy             | 161              | 257  | 39   | 57   | 212  | 127  | 853   | 142     |
| Tyler            | 117              | 144  | 25   | 17   | 208  | 48   | 559   | 93      |
| Velvet           | 76               | 123  | 15   | 84   | 161  | 168  | 627   | 105     |
| Washington       | 120              | 79   | 18   | 16   | 234  | 68   | 535   | 89      |
| Whynot           | 49               | 10   | 5    | 73   | 87   | -    | 224   | 45      |
| Winblo           | 152              | 199  | 45   | 99   | 257  | 33   | 785   | 131     |
| Zachary Taylor   | 58               | 124  | 49   | -    | 157  | 176  | 564   | 113     |
| LSD (0.05)       | 40.5             | 73.0 | 38.0 | 80.2 | 79.5 | 84.0 | 181.4 | 30.2    |

\*Dash (-) indicates that data are not available.

Princess Anne, Redhaven, Sunqueen, and Troy.

Low producers were Whynot, Jim Bowie, Marqueen, Springgold, Marsun, Marland, Marhigh, Marglow, Harvester, Springbrite, and Springcrest. Yields per tree ranged from an average high for Pekin of 172 to a low for Whynot of 45.

Table 2 summarizes yields of cultivars planted in 1975. Yields in 1978 and 1980 were low since the trees were still growing and coming into production. In 1979, a late spring frost reduced the crop severely and low yields were reported. In general, maximum production for all cultivars occurred in 1982, the fifth year of production.

Autumn Gold, Elberta, Yakima Hale, and La Gem produced significantly higher yields than La Red, Sunside, Red Top, Summer-time, Fairway, Fairtime, and Hamlet. Elberta also out-yielded Inman Tinsley, Magnolia, Sunbrite, and Ranger. La Premier, Monroe, Yakima Hale, Clayton, NJ 97, Beekman, and Ellerbe had comparable yields. Yields ranged from an average high for Elberta of 99 pounds per tree to a low for Fairtime of 35 pounds per tree.

Table 3 summarizes yields of cultivars planted in 1979. Yields in 1981 were generally low since the trees were growing and coming into production. In 1983, the temperature dropped to 25°F during bloom, reducing yields about 63 percent below those of 1982. Cultivars were affected differently, depending on the stage of flowering at the time of the freeze. In 1984, the trees were approaching maximum yield potential. In 1985, a complete crop loss was recorded due to a winter freeze January 19 which destroyed all flower buds. In 1986, a 90 percent crop loss was reported due to a late spring frost when temperature dipped to 21°F on March 20. Cultivars which produced a 50 percent crop or more in 1986 were

Stark Frost King, Royalvee, NJ 97, and Redkist.

Stark Sunbright and Vivid significantly out-produced all cultivars except Blake, Brighton, Cullinan, Harrison, and Spartan. Cultivars with extremely low total yields were Flamecrest, Golden Monarch, and Stark Frost King. Four-year average yields ranged from a high of 154 pounds per tree for Vivid to a low of 27 pounds per tree for Flamecrest. Average peach tree yields (4 production years) reported in Alabama ranged from a high of 192 to a low of 42 pounds per tree. The average yield for all cultivars in the Alabama trials was 98 pounds per tree (4). Mississippi yields reported in this bulletin are similar to those reported in Alabama. The average yield for all cultivars planted in 1973 was 111 pounds. The average yield per tree for all cultivars planted in 1975 was 67 pounds, and those planted in 1979 averaged 81 pounds per tree. When making yield comparisons, it should be remembered that yields are dependent on cultivar, the climate in a given year, and geographical location and cultural practices.

Table 4 presents cultivars by average first harvest date. The ripening season is important for selecting cultivars with a ripening sequence to provide ripe fruit continuously from late May to mid or late August. First harvest dates may vary from year to year because of prolonged dormancy, very early spring bloom, very cold weather in early spring, and/or other weather variables. Heavy spring nitrogen applications can also delay harvest dates.

Fruit characteristics are also listed in Table 4. Flesh color is of primary importance when peaches are grown for fresh market. Yellow-fleshed peaches are usually preferred. However, local markets may demand white-fleshed peaches with unusual qualities, such as the

**Table 2. Annual, total, and average yields of peach cultivars planted in 1975 at the Pontotoc Ridge-Flatwoods Branch Experiment Station.**

| Cultivar      | Year                       |      |      |      |      |      |      | Total | Average |
|---------------|----------------------------|------|------|------|------|------|------|-------|---------|
|               | 1978                       | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |       |         |
|               | -----pounds per tree*----- |      |      |      |      |      |      |       |         |
| Autumn Gold   | 19                         | 12   | 6    | 125  | 230  | 104  | 200  | 722   | 90      |
| Beekman       | 3                          | 12   | 60   | 102  | 195  | 44   | 86   | 502   | 72      |
| Clayton       | 16                         | 3    | 83   | 96   | 176  | 56   | 86   | 516   | 74      |
| Correll       | 4                          | 6    | 15   | 53   | 102  | 38   | 79   | 297   | 42      |
| Elberta       | 37                         | 18   | 55   | 116  | 309  | 88   | 147  | 789   | 99      |
| Ellerbe       | 5                          | 7    | 67   | 147  | 195  | 54   | 120  | 595   | 85      |
| Fairtime      | 0                          | 0    | 10   | 72   | 8    | 25   | 62   | 177   | 35      |
| Fairway       | 0                          | 4    | 13   | 67   | 36   | 37   | 146  | 303   | 51      |
| Hamlet        | 0                          | 0    | 1    | 32   | 84   | 35   | 60   | 212   | 42      |
| Inman Tinsley | 32                         | 2    | 112  | 66   | 104  | 81   | 101  | 510   | 64      |
| La Gem        | 0                          | 4    | 23   | 87   | 187  | 17   | 219  | 537   | 90      |
| La Premier    | 69                         | 6    | 89   | 129  | 221  | 58   | 62   | 652   | 82      |
| La Red        | 7                          | 2    | 17   | 93   | 192  | 49   | 24   | 384   | 55      |
| Magnolia      | 9                          | 4    | -    | 117  | 132  | 119  | 93   | 478   | 68      |
| Monroe        | 28                         | 12   | 12   | 142  | 114  | 74   | 189  | 583   | 73      |
| NJ 97         | 16                         | 0    | 10   | 106  | 221  | 48   | 73   | 474   | 79      |
| Ranger        | 5                          | 0    | 19   | 80   | 187  | 15   | 94   | 400   | 67      |
| Red Top       | 8                          | 2    | 15   | 104  | 160  | 28   | 65   | 382   | 55      |
| Summertime    | 5                          | 0    | 9    | 22   | 162  | 17   | 51   | 266   | 44      |
| Sunbrite      | 18                         | 3    | 22   | 112  | 213  | 89   | 52   | 513   | 64      |
| Sunside       | 9                          | 0    | 11   | 53   | 180  | 15   | 53   | 321   | 54      |
| Yakima Hale   | 24                         | 6    | 17   | 170  | 144  | 87   | 159  | 607   | 87      |
| LSD (0.05)    | 15.5                       | 4.8  | 29.2 | 50.9 | 67.5 | 44.4 | 72.7 | 250.5 | 31.3    |

\*Dash (-) indicates data are not available.

**Table 3. Annual, total, and average yield of peach tree cultivars planted in 1979 at the Pontotoc Ridge-Flatwoods Branch Experiment Station.**

| Cultivar           | Year                       |      |      |      | Total | Average |
|--------------------|----------------------------|------|------|------|-------|---------|
|                    | 1981                       | 1982 | 1983 | 1984 |       |         |
|                    | -----pounds per tree*----- |      |      |      |       |         |
| Blake              | 28                         | 96   | 78   | 156  | 358   | 90      |
| Brighton           | 24                         | 113  | 54   | 244  | 435   | 109     |
| Cary Mac           | 42                         | 49   | 74   | 103  | 268   | 67      |
| Cullinan           | 20                         | 107  | 108  | 318  | 553   | 138     |
| Fayette            | 49                         | 124  | 15   | 69   | 257   | 64      |
| Flamecrest         | 4                          | 26   | 76   | -    | 106   | 27      |
| Georgia Belle      | 20                         | 93   | 23   | 135  | 271   | 68      |
| Golden Monarch     | 18                         | 75   | 45   | 47   | 185   | 46      |
| Harrison           | 31                         | 120  | 114  | 240  | 505   | 126     |
| Havis              | 16                         | 102  | 24   | 151  | 293   | 73      |
| Jersey Queen       | 43                         | 98   | 18   | 77   | 236   | 59      |
| Kimbo              | 20                         | 31   | 38   | 146  | 235   | 59      |
| Milam              | 31                         | 70   | 32   | 177  | 310   | 78      |
| Redkist            | 22                         | 68   | 51   | 116  | 257   | 64      |
| Royalvee           | 18                         | 75   | 68   | 111  | 272   | 68      |
| Spartan            | 31                         | 126  | 102  | 142  | 401   | 100     |
| Stark Earliglo     | 10                         | 59   | 69   | 52   | 190   | 48      |
| Stark Earli Loring | 20                         | 112  | 31   | 117  | 280   | 70      |
| Stark Frost King   | 16                         | 60   | 32   | 53   | 161   | 40      |
| Stark Sunbright    | 20                         | 204  | 132  | 236  | 592   | 148     |
| Vivid              | 70                         | 288  | 100  | 158  | 616   | 154     |
| LSD (0.05)         | 16.3                       | 42.3 | 25.2 | 42.0 | 276.8 | 69.2    |

\*Dash (-) indicates data are not available.

**Table 4. Average first harvest date and marketable fruit characteristics of peach cultivars grown at the Pontotoc Ridge-Flatwoods Branch Experiment Station, 1973-1986.**

| Cultivar           | Av. date first harvest | No. years fruited | Skin red (%) | Attractive-ness <sup>1</sup> | Stone freeness <sup>2</sup> | Texture <sup>3</sup> | Flesh color <sup>4</sup> | Flavor <sup>3</sup> | Soluble solids (%) |
|--------------------|------------------------|-------------------|--------------|------------------------------|-----------------------------|----------------------|--------------------------|---------------------|--------------------|
| Whynot             | 5/26                   | 6                 | -            | -                            | C                           | -                    | Y                        | -                   | -                  |
| Springcrest        | 5/30                   | 6                 | 95           | 8                            | C                           | 7                    | Y                        | 6                   | 10.0               |
| Harbinger          | 5/31                   | 6                 | 60           | 7                            | C                           | 7                    | Y                        | 5                   | 11.2               |
| Hamlet             | 6/4                    | 7                 | -            | -                            | C                           | -                    | Y                        | -                   | -                  |
| Springbrite        | 6/4                    | 6                 | 94           | 8                            | F                           | 6                    | Y                        | 6                   | 10.0               |
| Springold          | 6/4                    | 6                 | 95           | 8                            | C                           | 7                    | Y                        | 6                   | 10.0               |
| Candor             | 6/6                    | 6                 | 85           | 7                            | SC                          | 9                    | Y                        | 8                   | 11.6               |
| Earlired           | 6/6                    | 6                 | 88           | 8                            | C                           | 7                    | Y                        | 7                   | 11.3               |
| Correll            | 6/9                    | 7                 | 85           | 6                            | C                           | 7                    | Y                        | 6                   | 12.1               |
| Inman Tinsley      | 6/10                   | 7                 | 80           | 7                            | F                           | 7                    | Y                        | 8                   | 12.7               |
| Magnolia           | 6/10                   | 7                 | 90           | 5                            | C                           | 5                    | Y                        | 5                   | 14.0               |
| Dixired            | 6/13                   | 6                 | 95           | 8                            | C                           | 8                    | Y                        | 8                   | 12.2               |
| Harbelle           | 6/13                   | 6                 | 60           | 7                            | SF                          | 7                    | Y                        | 7                   | 12.0               |
| Legacy             | 6/13                   | 6                 | 82           | 7                            | C                           | 7                    | Y                        | 8                   | 11.6               |
| Maycrest           | 6/14                   | 6                 | 93           | 8                            | C                           | 7                    | Y                        | 8                   | 10.6               |
| Pacific Gold       | 6/14                   | 6                 | 88           | -                            | C                           | -                    | Y                        | 8                   | 10.9               |
| Rubired            | 6/14                   | 6                 | 82           | 7                            | C                           | 7                    | Y                        | 7                   | 12.9               |
| Surecrop           | 6/15                   | 6                 | 50           | 6                            | C                           | 7                    | Y                        | 8                   | 13.0               |
| Comanche           | 6/17                   | 6                 | 65           | 6                            | SF                          | 6                    | Y                        | 7                   | 12.5               |
| Stark Earliglo     | 6/19                   | 4                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Harken             | 6/20                   | 6                 | 88           | 8                            | F                           | 7                    | Y                        | 8                   | -                  |
| Royalvee           | 6/20                   | 4                 | -            | -                            | SC                          | -                    | Y                        | -                   | -                  |
| Golden Monarch     | 6/21                   | 4                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Sam Houston        | 6/21                   | 6                 | 77           | 7                            | SC                          | 7                    | Y                        | 8                   | 14.9               |
| Clayton            | 6/25                   | 7                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Sentinel           | 6/25                   | 6                 | 84           | 8                            | SF                          | 7                    | Y                        | 8                   | 12.9               |
| Sunside            | 6/25                   | 7                 | 90           | 7                            | F                           | 8                    | Y                        | 8                   | 15.3               |
| Brighton           | 6/26                   | 4                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Pekin              | 6/27                   | 6                 | 95           | 8                            | SF                          | 8                    | Y                        | 7                   | 11.8               |
| Harbrite           | 6/29                   | 6                 | 88           | 8                            | F                           | 8                    | Y                        | 7                   | 11.2               |
| Sunshine           | 6/29                   | 6                 | 88           | 8                            | F                           | 8                    | Y                        | 8                   | 11.7               |
| NJ 97              | 6/3                    | 0                 | 50           | 6                            | C                           | 8                    | Y                        | 8                   | 16.8               |
| Ranger             | 7/1                    | 7                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Redhaven           | 7/2                    | 6                 | 93           | 8                            | F                           | 7                    | Y                        | 8                   | 13.2               |
| Reliance           | 7/2                    | 6                 | 65           | 7                            | F                           | 7                    | Y                        | 7                   | 13.5               |
| Norman             | 7/3                    | 6                 | 95           | 7                            | SF                          | 8                    | Y                        | 8                   | 13.2               |
| Princess Anne      | 7/3                    | 6                 | 95           | 8                            | F                           | 8                    | Y                        | 8                   | 13.9               |
| Compact Redhaven   | 7/5                    | 6                 | 70           | 7                            | F                           | 7                    | Y                        | 7                   | 11.4               |
| Stark Earli Loring | 7/4                    | 4                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Velvet             | 7/4                    | 6                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Pratt's Redhaven   | 7/5                    | 6                 | 20           | 6                            | F                           | 8                    | Y                        | 7                   | 11.0               |
| Red Top            | 7/5                    | 7                 | 88           | 7                            | F                           | 8                    | Y                        | 8                   | 14.2               |
| Loring             | 7/6                    | 6                 | 60           | 8                            | F                           | 7                    | Y                        | 7                   | 12.0               |
| Troy               | 7/6                    | 6                 | 90           | 8                            | F                           | 8                    | Y                        | 8                   | 11.5               |
| Vivid              | 7/6                    | 4                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Harvester          | 7/7                    | 6                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Spartan            | 7/7                    | 4                 | -            | -                            | C                           | -                    | Y                        | -                   | -                  |
| Sunbrite           | 7/8                    | 7                 | 94           | 8                            | F                           | 6                    | Y                        | 6                   | 10.0               |
| Washington         | 7/8                    | 6                 | 90           | 8                            | F                           | 7                    | Y                        | 7                   | 13.0               |
| Cary Mac           | 7/9                    | 4                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Cullinan           | 7/9                    | 4                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Harrison           | 7/9                    | 4                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| La Premier         | 7/9                    | 7                 | 90           | 8                            | F                           | 8                    | Y                        | 8                   | 13.4               |
| Stark Sunbright    | 7/9                    | 4                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Winblo             | 7/9                    | 6                 | 83           | 8                            | F                           | 7                    | Y                        | 8                   | 12.3               |
| Flamecrest         | 7/10                   | 4                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| McNeely            | 7/10                   | 6                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Summertime         | 7/10                   | 7                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |
| Beekman            | 7/11                   | 7                 | -            | -                            | F                           | -                    | Y                        | -                   | -                  |

Continued

Table 4 (cont.). Average first harvest date and marketable fruit characteristics of peach cultivars grown at the Pontotoc Ridge-Flatwoods Branch Experiment Station, 1973-1986.

| Cultivar         | Av. date first harvest | No. years fruited | Skin red (%) | Attractiveness <sup>1</sup> | Stone freeness <sup>2</sup> | Texture <sup>3</sup> | Flesh color <sup>4</sup> | Flavor <sup>3</sup> | Soluble solids (%) |
|------------------|------------------------|-------------------|--------------|-----------------------------|-----------------------------|----------------------|--------------------------|---------------------|--------------------|
| Rosy Dawn        | 7/11                   | 6                 | 65           | 7                           | F                           | 6                    | Y                        | 7                   | 12.8               |
| Ellerbe          | 7/12                   | 7                 | 60           | 7                           | F                           | 8                    | Y                        | 8                   | 14.7               |
| Harmony          | 7/12                   | 6                 | 85           | -                           | F                           | 7                    | Y                        | 8                   | 12.5               |
| Suncrest         | 7/12                   | 6                 | 95           | -                           | F                           | 8                    | Y                        | 8                   | 13.8               |
| Fairway          | 7/13                   | 7                 | 60           | 6                           | F                           | 8                    | Y                        | 7                   | 15.0               |
| La Red           | 7/15                   | 7                 | 90           | 7                           | F                           | 7                    | Y                        | 8                   | 13.4               |
| Redkist          | 7/15                   | 4                 | -            | -                           | F                           | -                    | Y                        | -                   | -                  |
| Summergold       | 7/15                   | 6                 | 88           | 8                           | F                           | 8                    | Y                        | 8                   | 13.8               |
| Sunqueen         | 7/15                   | 6                 | 50           | 7                           | F                           | 8                    | Y                        | 7                   | 12.4               |
| Zachary Taylor   | 7/15                   | 6                 | 90           | 8                           | F                           | 8                    | Y                        | 8                   | 14.8               |
| La Gold          | 7/16                   | 6                 | 30           | 7                           | F                           | 7                    | Y                        | 7                   | 13.0               |
| Stark Frost King | 7/17                   | 4                 | -            | -                           | F                           | -                    | Y                        | -                   | -                  |
| Milam            | 7/18                   | 4                 | -            | -                           | F                           | -                    | Y                        | -                   | -                  |
| Belle of Georgia | 7/27                   | 4                 | -            | 8                           | F                           | 6                    | W                        | 8                   | 12.2               |
| Biscoe           | 7/27                   | 6                 | 70           | 7                           | F                           | 8                    | Y                        | 8                   | -                  |
| Marqueen         | 7/27                   | 6                 | 60           | 7                           | F                           | 8                    | Y                        | 8                   | 16.4               |
| Redskin          | 7/28                   | 6                 | 85           | 8                           | F                           | 7                    | Y                        | 8                   | 14.7               |
| Jefferson        | 7/29                   | 6                 | 40           | 7                           | F                           | 7                    | Y                        | 8                   | -                  |
| Somerset         | 7/31                   | 6                 | 95           | 8                           | F                           | 8                    | Y                        | 8                   | 13.7               |
| Autumn Gold      | 8/3                    | 7                 | 30           | 7                           | F                           | 7                    | Y                        | 7                   | 15.0               |
| Blake            | 8/3                    | 4                 | -            | -                           | F                           | -                    | Y                        | -                   | -                  |
| Elberta          | 8/3                    | 7                 | -            | 7                           | F                           | 8                    | Y                        | 8                   | 15.9               |
| Havis            | 8/5                    | 4                 | -            | -                           | F                           | -                    | Y                        | -                   | -                  |
| Yakima Hale      | 8/6                    | 7                 | 80           | 8                           | F                           | 8                    | Y                        | 8                   | 16.1               |
| Marhigh          | 8/7                    | 6                 | 95           | 8                           | F                           | 8                    | Y                        | 8                   | 14.4               |
| Kimbo            | 8/8                    | 4                 | -            | -                           | F                           | -                    | Y                        | -                   | -                  |
| Marland          | 8/9                    | 6                 | 95           | 8                           | F                           | 8                    | Y                        | 8                   | 15.2               |
| Marglow          | 8/10                   | 6                 | 90           | 8                           | F                           | 7                    | Y                        | 8                   | 14.9               |
| Marpride         | 8/10                   | 6                 | 90           | 8                           | F                           | 8                    | Y                        | 8                   | 15.4               |
| Tyler            | 8/10                   | 6                 | 55           | 8                           | F                           | 8                    | Y                        | 7                   | 13.1               |
| Fayette          | 8/12                   | 4                 | 85           | 6                           | F                           | 7                    | Y                        | 7                   | 15.2               |
| Monroe           | 8/12                   | 7                 | 90           | 8                           | F                           | 8                    | Y                        | 8                   | 15.4               |
| Rio Oso Gem      | 8/12                   | 6                 | 77           | 7                           | F                           | 8                    | Y                        | 8                   | 13.2               |
| Emery            | 8/13                   | 6                 | 45           | 7                           | F                           | 8                    | Y                        | 7                   | 15.4               |
| La Gem           | 8/13                   | 7                 | 85           | 7                           | SF                          | 8                    | Y                        | 8                   | 16.2               |
| Jersey Queen     | 8/14                   | 4                 | -            | -                           | F                           | -                    | Y                        | -                   | -                  |
| Jim Bowie        | 8/19                   | 6                 | -            | -                           | F                           | 8                    | Y                        | 7                   | -                  |
| Fairtime         | 8/29                   | 7                 | -            | -                           | F                           | -                    | Y                        | -                   | -                  |
| Marsun           | 9/4                    | 6                 | 30           | 7                           | F                           | 8                    | Y                        | 8                   | 16.0               |

<sup>1</sup> Rating; 8 = excellent, 5 = poor.

<sup>2</sup> C = cling, F = freestone, SF = semi-freestone.

<sup>3</sup> Taste panel score; 9 = like extremely, 1 = dislike extremely.

<sup>4</sup> Y = yellow, W = white.

excellent texture and flavor of Georgia Belle. The processing quality of peach cultivars is influenced by many factors, such as fruit size, season, uniformity of maturity, taste, color intensity and uniformity, ease of pitting, and freedom from discoloration. Ease of pitting, freedom from split-pits, and freedom from discoloration are perhaps the three most important factors affecting suitability for processing. Many early season cultivars having excellent dessert qualities cannot be successfully pitted with equipment currently in use. In contrast, the late-season cultivars tend to discolor after canning. Cultivars such as Blake and Rio Oso Gem may contain too much red pigment in the flesh for satisfactory canning but provide a very attractive frozen product (3).

In general, early-ripening peach cultivars are clingstone or

semifree, and late-ripening cultivars are freestone. Consumer acceptance studies of Mississippi canned peaches have previously been reported (1, 2). Consumers generally considered Mississippi and California peaches more similar in flavor than in appearance. In this study, flavor and texture ratings (on a scale of 1-9) were 6 or above for all cultivars, indicating good quality as measured by taste panels.

Peach attractiveness and fruit size are primary factors that contribute to the sale of fresh market peaches. Attractiveness is influenced by the amount (percent) of skin that's colored red, color intensity, and shape of fruit. Percent skin colored red ranged from a high of 95 for Springcrest, Springgold, Dixired, Pekin, Norman, and Princess Anne, to a low of 20 percent for Pratt's Redhaven. Most

peaches in this study received an attractiveness rating of 6 or above with the exception of 'Magnolia' which scored only 5. Percent soluble solids ranged from a low of 10 for Springcrest, Springbrite, Springgold, and Sunbrite, to a high of 16.8 for NJ 97 and 16.4 for Marqueen. In general, the early ripening peaches have less sugar (low % soluble solids) than late-ripening cultivars. Therefore, peaches with high soluble solids are not necessarily sweet. A cultivar with medium sugar and low acid might taste sweeter than a high sugar-high acid cultivar. As noted in Table 4, cultivars that have excellent flavor do not always have high soluble solids.

Based on over-all cultivar performance, which includes yield and various fruit characteristics, Table 5 lists various cultivar recommendations for northern Mississippi growers.

Other cultivars that should be considered for commercial production are La Premier, Yakima Hale, Monroe, Clayton, NJ 97, Beekman, Ellerbe, Blake, Brighton, Cullinan, Harrison, Spartan, Harken, Legacy, Earlired, Redskin, Winblo, Reliance, Biscoe, Candor, Pratt's Redhaven, Sentinel, and Sam Houston. Cultivars such as Stark Frost King, Redkist, Royalvee, and NJ 97, that produced a significant crop after a late spring frost in 1986 may also be highly desirable.

For additional information on these and other peach cultivars and their uses, write the Department of Horticulture, Mississippi State University, Mississippi State, MS 39762. Peach cultivar evaluations are continuing to provide up-to-date information for cultivar selection in the future.

**Table 5. Peach cultivars recommended for commercial production in northern Mississippi.**

| Cultivar        | Av. first harvest date | Stone freeness | Chilling requirement* |
|-----------------|------------------------|----------------|-----------------------|
| Harbelle        | 6/13                   | SF             | 850                   |
| Pacific Gold    | 6/14                   | C              | N.A.                  |
| Rubired         | 6/14                   | C              | N.A.                  |
| Harken          | 6/20                   | F              | 850                   |
| Pekin           | 6/27                   | SF             | 950                   |
| Harbrite        | 6/29                   | F              | 850                   |
| Sunshine        | 6/29                   | F              | N.A.                  |
| Redhaven        | 7/2                    | F              | 1,050                 |
| Norman          | 7/3                    | SF             | 850                   |
| Princess Anne   | 7/3                    | F              | N.A.                  |
| Loring          | 7/6                    | F              | 900                   |
| Troy            | 7/6                    | F              | N.A.                  |
| Vivid           | 7/6                    | F              | 850                   |
| Stark Sunbright | 7/9                    | F              | N.A.                  |
| Rosy Dawn       | 7/11                   | F              | N.A.                  |
| Sunqueen        | 7/15                   | F              | N.A.                  |
| Redskin         | 7/28                   | F              | 750                   |
| Elberta         | 8/3                    | F              | 950                   |
| Autumn Gold     | 8/3                    | F              | N.A.                  |
| La Gem          | 8/13                   | SF             | N.A.                  |

\*Number of hours below 45°F needed to break dormancy of flower buds. N.A. = Units not available.



## Literature Cited

1. Ammerman, G. R., J. D. Tolleson, and J. O. Hearnberger. 1983. A single-sample consumer acceptance study of Mississippi non-melting cling canned peaches. MAFES Res. Rpt. Vol. 8, No. 2.
2. Ammerman, G. R., J. O. Hearnberger, and J. D. Tolleson. 1977. Consumer acceptance of Mississippi and California non-melting cling canned peaches. HortScience 12(5):501-502.
3. Brittain, J. A., W. S. Jordan, J. D. Ridley, C. E. Gambrell, and R. A. Baumgardner. 1977. Peach varieties for South Carolina. Clemson University Ext. Cir. 574.
4. Dozier, W. A., Jr., J. G. Starling, H. W. Ivey, and O. N. Farrior. Performance of peach and nectarine varieties in the Wiregrass area of Alabama. Auburn University, Agr. Exp. Sta. Cir. 244.
5. Farish, L. R. 1947. Mississippi Delta peach culture. MAFES Bull. 444.
6. McKay, A. B. 1911. Suggestions for growing home fruits. MAFES Bull. 146.
7. McKay, A. B. 1905. Peach and plum culture. MAFES Bull. 93.
8. Mullenax, Richard. Growing peaches in Mississippi. MCES Pub. 376.
9. Overcash, J. P. 1966. Peach variety evaluation in Mississippi. MAFES Bull. 721.
10. Overcash, J. P. 1959. Peach varieties for Mississippi. MAFES Bull. 586.
11. Price, J. C. C. 1930. Varieties of peaches. MAFES Bull. 284.

*Mention of a trademark or proprietary product does not constitute a guarantee or warranty of the product by the Mississippi Agricultural and Forestry Experiment Station and does not imply its approval to the exclusion of other products that also may be suitable.*

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or against handicapped individuals or Vietnam-era veterans.

In conformity with Title IX of the Education Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973, Joyce B. Giglioni, Assistant to the President, 610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibilities and make investigation of complaints relating to discrimination.

28234/3M