| Plant | Fig 60 |  |  | 7018) Primary essential character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Tree attitude | 3 trees | Observation | 3:Spread 5:Intermediate 7:Upright | Observe in dormant season |
| 2 | Tree vigor | 3 trees | Observation | 3:Weak 5:Intermediate 7:Strong | Observe trunk width and branch in the dormant season |
| 3 | Shoot density | 3 trees | Observation | 3:Sparse 5:Intermediate 7:Dense | Observe in dormant season |
| 4 | Length of shoots | 10 shoots | Measurement | 1:Very short $3:$ Short $5:$ Intermediate $7:$ Long 9:Very long | Observe moderate shoots. Very short: $<=60.0 \mathrm{~cm}$, short: 60.1-100.0 cm, intermediate:100.1-140.0 cm, long:140.1-180.0 cm, very long:>=180.1 cm |
| 5 | Thickness of shoots | 10 shoots | Measurement | $\begin{aligned} & \text { 1:Very thin 3:Thin } 5: \text { Intermediate } 7: \text { Thick } \\ & \text { 9:Very thick } \end{aligned}$ | Observe at the middle portion on moderate shoots. Very thin:<=8.0 mm, thin:8.1-12.0 mm, intermediate:12.1-16.0 mm, thick:16.1-20.0 mm, very thick:>=20.1 mm |
| 6 | Length of internodes in new shoots | 10 shoots | Measurement | 1:Very short $3:$ Short $5:$ Intermediate $7:$ Long 9:Very long | Shoot length/numbers of node on moderate new shoots. Very short:<=3.5 cm, short:3.6-4.0 cm, intermediate:4.1-4.5 cm, long:4.6-5.0 cm, very long:>=5.1 cm |
| 7 | Color of shoots | 10 shoots | Observation | 1:Light gray-brown 2:Gray-green 3:Gray-greenbrown 4:Gray-brown 5:Brown 6:Dark brown | Observe at the middle portion of average shoots in dormant season |
| 8 | Shape of lenticel in shoot | 10 shoots | Observation | 1:Strip 2:Strip-oblong 3:Oblong 4:Oblongellipse 5:Ellipse 6:Ellipse-circle 7:Circle | Observe at the middle portion of average shoots in dormant season |
| 9 | Size of lenticel | 10 shoots | Observation | 3:Small 5:Intermediate 7:Large | Observe at the middle portion of average shoots in dormant season |
| 10 | Shape of leaf | 10 leaves | Observation | 1:Orbicular 2:Orbicular-cordate 3:Cordate 4:Ovate 5:Oval | Observation leaves at the middle rortion on moderate shoots in July. |
| 11 | Size of leaf | 10 leaves | Observation | 1:Small 3:Intermediate 5:Large 7:Very large | Observe leaves at the middle portion of average shoots in July |


| Plant | Fig |  | 60 | Primary essential character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 12 | Shape of fruit | 10 fruits | Observation | 1:Depressed orbicular 2:Orbicular 3:Ovate 4:Long ovate 5:Bent long ovate | Observe matured fruit at the middle portion on shoots moderately bearing fruit |
| 13 | Size of fruit | 10 fruits | Measurement |  | Observe matured fruit at the middle portion of shoots moderately bearing fruit. Very small:<=15 g, small:16-40 g, intermediate:41-75 <br> g , large:76-110 g , very large:>=111 g |
| 14 | Length of peduncle | 10 fruits | Measurement |  | Observe matured fruit in the middle portion of shoots moderately bearing fruit. Very short:<=3.0 mm, short:3.1-7.0 mm, intermediate:7.1-11.0 mm, long:11.1-15.0 cm, very long:>=15.1 mm |
| 15 | Color of fruit skin | 10 fruits | Observation | ```1:Light green 2:Yellowish green 3:Yellowish brown 4:Orange-Yellowish brown 5:Orange-Brown 6:Reddish brown 7:Red-Purple 8:Purple-Brown 9:Purple-Black``` | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 16 | Amount of fruit ribbing | 10 fruits | Observation | 3:Sparse 5:Intermediate 7:Dense | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 17 | Size of eye | 10 fruits | Measurement | 3:Small 5:Intermediate 7:Large | Observe matured fruit at the middle portion of shoots moderately bearing fruit. Small:<=6.0 mm , intermediate:6.1-8.0 mm, large:>=8.1 mm |
| 18 | Opening of scale | 10 fruits | Observation | 3:Closed 5:Intermediate 7:Open | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 19 | Color of fruit receptacle | 10 fruits | Observation | ```1:Milky white 2:Grayish white 3:Light yellowish white 4:Light pinkish white 5:Light pink``` | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 20 | Thickness of fruit receptacle | 10 fruits | Observation | 3:Thin 5:Intermediate 7:Thick | Observe matured fruit at the middle portion of shoots moderately bearing fruit |


| Plant |  | Fig |  | 60 (07018) | Primary essential character |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods |  | Rank or measurement unit | Remarks |
| 21 | Sweetness (Brix) | 10 fruits | Measurement | 3:Low | 5:Intermediate 7:High | Observe matured fruit at the middle portion on shoots moderately bearing fruit. Low:<=15.0\%, intermediate:15.1-18.0\%, high:>=18.1\% |
| 22 | Acidity (pH) | 10 fruits | Measurement | 3:Low | 5:Intermediate 7:High | Observe matured fruit at the middle portion of shoots moderately bearing fruit. Low:>=5.2, intermediate:5.1-4.2, high:<=4.2 |


| Plant | Fig |  | 60 (07018) | 7018) Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Tree size | 3 trees | Observation | 3:Small 5:Intermediate 7:Large | Observe in dormant season |
| 2 | Number of lenticels | 10 shoots | Observation | 3:Few 5:Intermediate 7:Many | Observe at the middle portion of moderate shoots in dormant season |
| 3 | Shape of terminal buds | 10 buds | Observation | 3:Short triangle 5:Triangle 7:Long triangle | Observe in dormant season |
| 4 | Color of terminal buds | 10 buds | Observation | 1:Yellowish green 2:Faint yellowish brown 3:Yellowish brown 4:Reddish brown 5:Dark reddish brown | Observe in dormant season |
| 5 | Number of lobes in leaves | 10 leaves | Observation | $\begin{array}{lllllll}1: 0 & 2: 0-3 & 3: 3 & 4: 3-5 & 5: 5 & 6: 5-7 & 7: 7\end{array}$ | Observe at the middle portion of average shoots |
| 6 | Depth of sinus | 10 leaves | Observation | 1:None 3:Shallow 5:Intermediate 7:Deep 9:Very deep | Observe at the middle portion of average shoots |
| 7 | Shape of lobes | 10 leaves | Observation | ```1:Rhombic 2:Broad spathulate 3:Broad long spathulate 4:Narrow long spathulate 5:Elliptical 6:Oblong 7:Cuneate``` | Observe at the middle portion of average shoots |
| 8 | Amount of protuberance at base of sinus | 10 leaves | Measurement | 1:None 3:Little 5:Intermediate 7:Much | Observe at the middle portion on moderate shoots. Number of protuberances/leaves x 100. Absent: $0 \%$, little:1-30\%, intermediate:31-70\%, much :>=71\% |
| 9 | Shape of leaf tips | 10 leaves | Observation | 1:Obtuse 2:Acute 3:Acuminate | Observe at the middle portion of average shoots |
| 10 | Shape of leaf base | 10 leaves | Observation | 1:Decurrent 2:Truncate $3:$ Cordate $4:$ Sagittate 5:Overlapped | Observe at the middle portion of average shoots |
| 11 | Color of leaf | 10 leaves | Observation | 3:Pale green 5:Green 7:Deep green | Observe at the middle portion of average shoots in July |
| 12 | Pubescence on adaxial surface of leaf | 10 leaves | Observation | 3:Slight 5:Intermediate 7:Much | Observe at the middle portion of average shoots in July |


| Plant | Fig |  | 60 | Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 13 | Length of petiole | 10 leaves | Measurement | 1:Very short 3:Short 5:Intermediate 7:Long 9:Very long | Observe at the middle portion of average shoots in July. Very short:<=6.0 mm, short:6.1-9.0 mm, intermediate:9.1-12.0 mm, long:12.1-15.0 mm, very long:>=15.1 mm |
| 14 | Thickness of petioles | 10 leaves | Measurement | 3:Thin 5:Intermediate 7:Thick | Observe at the middle portion of average shoots in July. Thin:<=5.0 mm, intermediate:5.1-6.0 mm , thick:>=6.1 mm |
| 15 | Thickness of peduncle | 10 fruits | Measurement | 3:Thin 5:Intermediate 7:Thick | Observe matured fruit at the middle portion on shoots moderately bearing fruit. Thin:<=5.0 mm, intermediate:5.1-7.0 mm, thick:>=7.1 mm |
| 16 | Number of blooms | 10 fruits | Observation | 3:Few 5:Intermediate 7:Many | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 17 | Distinctness of fruit ribs | 10 fruits | Observation | 3:Indistinct 5:Intermediate 7:Distinct | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 18 | Distinctness of dots | 10 fruits | Observation | 3:Indistinct 5:Intermediate 7:Distinct | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 19 | Density of dots | 10 fruits | Observation | 3:Sparse 5:Intermediate 7:Dense | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 20 | Size of dots | 10 fruits | Observation | 3:Small 5:Intermediate 7:Large | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 21 | Color of eye | 10 fruits | Observation | ```1:Light yellowish white 2:Light pink 3:Pink 4:Pink-Purple 5:Red 6:Red-Purple 7:Dark red- purple 8:Purple-Black``` | Observe matured fruit at the middle portion of shoots moderately bearing fruit |


| Plant | Fig |  | 60 (07018) | Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 22 | Size of scales | 10 fruits | Measurement | 1:Very small $3:$ Small 5:Intermediate $7:$ Large 9:Very large | Observe matured fruit at the middle portion of shoots moderately bearing fruit. Very small:<=1.0 mm, small:1.1-1.5 mm, intermediate:1.6-2.0 mm, large:2.1-2.5 mm, very large:>=2.6 mm |
| 23 | Color of scales | 10 fruits | Observation | ```1:Light yellowish white 2:Light yellowish green 3:Light pink 4:Pink 5:Pink-Purple 6:Deep pink-Purple 7:Red-Purple 8:Dark red- Purple 9:Purple-Black``` | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 24 | Thickness of skin | 10 fruits | Observation | 3:Thin 5:Intermediate 7:Thick | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 25 | Color of pistils | 10 fruits | Observation | ```1:Light yellowish brown 2:Light pink 3:Light purple 4:Light red-Purple 5:Red-Orange 6:Red 7:Dark red``` | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 26 | Space at the center of fruit | 10 fruits | Observation | 3:Small 5:Intermediate 7:Large | Observe matured fruit at the middle portion of shoots moderately bearing fruit |
| 27 | Thickness of pistils | 10 fruits | Measurement | 3:Thin 5:Intermediate 7:Thick | Observe matured fruit at the middle portion on shoots moderately bearing fruit. Thin:<=5.0 mm, intermediate:5.1-12.0 mm, thick:>=12.1 mm |
| 28 | Texture of flesh | 10 fruits | Sensory | 3:Coarse 5:Intermediate 7:Fine | Feeling in mouth when eating matured fruit from the middle portion of shoots moderately bearing fruit |
| 29 | Firmness of flesh | 10 fruits | Sensory | 3:Soft 5:Intermediate 7:Firm | Feeling in mouth when eating matured fruit from the middle portion of shoots moderately bearing fruit |
| 30 | Fruit juice | 10 fruits | Sensory | 3:Little 5:Intermediate 7:Much | Feeling in mouth when eating matured fruit from the middle portion of shoots moderately bearing fruit |


|  | Plant | Fig |  |  | 60 (07018) | Primary optional character |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters |  | No. of samples | Methods | Rank or measurement unit |  |  |  | Remarks |
| 31 | Flavor |  | 10 fruits | Sensory | 1:None | 3:Weak | 5:Intermediate | 7:Rich | Feeling in mouth when eating matured fruit from the middle portion of shoots moderately bearing fruit |



| Plant $\quad$ F | Fig |  |  | 60 (07018) | Secondary optional character |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods |  | Rank or meas | surement unit | Remarks |
| 1 | Period of falling of scales | 3 trees | Observation | 3:Early | 5:Intermediate | 7:Late | The period in which majority of scales drops |
| 2 | Expansion period of the 1st leaf | 3 trees | Observation | 3:Early | 5:Intermediate | 7:Late | The period in which majority of the first leaves expanded in new shoots |
| 3 | Period of falling of leaves | 3 trees | Observation | 3:Early | 5:Intermediate | 7:Late | The season at which about $70 \%$ of leaves drop |
| 4 | Amount of roots in cutting | 20 cuttings | Observation | 3:Few 5 | 5:Intermediate 7 | 7:Many | Observation in autumn after cutting in spring |



| Plant |  | Fig |  |  | 60 (07018) | Tertiary essential character |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No |  | aracters | No. of samples | Methods | Rank or measurement unit |  |  | Remarks |
| 7 | $\left\lvert\, \begin{aligned} & \text { Harve } \\ & \text { first } \end{aligned}\right.$ | g time of p fruit | 20 branches | Measurement | 3:Early | 5:Intermediate | 7:Late | The season at which matured first-crop fruit is first harvested at 20 shoots moderately bearing fruit. Early:from mid June, intermediate:from late June, late:from early July |
| 8 | Harvesting time of second-crop fruit |  | 10 branches | Measurement | 3:Early | 5:Intermediate | 7:Late 9:Very late | The season at which matured first-crop fruit is first harvested from 20 shoots moderately bearing fruit. Early:from early August, intermediate:from mid August, late:from late August |


| Plant |  | Fig |  |  | Tertiary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No |  | aracters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Fruit | cking | 20 branches for <br> first-crop,10 for second | Measurement | 1:None 3:Little 5:Intermediate 7:Much 9:Very much | ```Cracked fruit/matured fruit x 100. None:0%, little:<=10%, intermediate:11-30%, much:31-50%, very much:>=51%``` |
| 2 | Stora crop | ty of second- | 10 fruits | Observation | 3:Short 5:Intermediate 7:Long | When matured fruit is kept at room temperature, the time at which the fruit deterioriates is observed in the majority of the harvested fruit. Short:<=12 hr, intermediate:13-24 hr, long:>=25 hr |

