| Plant ${ }^{\text {C }}$ | Cymbidium 50 |  |  | Primary essential character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Height of pseudobulb | 5 plants | Measurement | mm (integer) | Height of normal pseudobulb at flowering time |
| 2 | Leaf length | 5 plants | Measurement | cm (integer) | Maximum leaf length |
| 3 | Leaf width | 5 plants | Measurement | mm (integer) | Maximum leaf width |
| 4 | Leaf number | 5 plants | Measurement | leaves (integer) | Leaf number on normal pseudobulb at flowering time |
| 5 | Flower number per pseudobulb | 5 flowers | Measurement | flowers (round to the 1st decimal place) |  |
| 6 | Lateral length of flower | 5 flowers | Measurement | mm (integer) |  |
| 7 | Length of dorsal sepal | 5 flowers | Measurement | mm (integer) | Longitudinal length of dorsal petal |
| 8 | Length of petal | 5 flowers | Measurement | mm (integer) | Longitudinal length of petal |
| 9 | Length of lip | 5 flowers | Measurement | mm (integer) | Longitudinal length of lip |
| 10 | Color of whole flower | 5 flowers | Observation | $\begin{array}{ll}\text { 1:White } & \text { 2:Yellow } \quad \text { 4:Red } \\ \text { 7:Brown } & \text { 8:Green } \\ \text { 9:Multi-colored }\end{array}$ |  |


| Plant $\quad$ C | Cymbidium |  |  | Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Shape of plant | 5 plants | Observation | 2:Erect 5:Intermediate 8:Deflected |  |
| 2 | Shape of <br> pseudobulb(front view) | 5 plants | Observation | 5:Broad linear 6:Ovate 7:Elliptic 8:Orbicular |  |
| 3 | Shape of cross section of pseudobulb | 5 plants | Observation | 8:Elliptic 9:Orbicular |  |
| 4 | Diameter of pseudobulb | 5 plants | Measurement | mm (integer) |  |
| 5 | Shape of leaf | 5 plants | Observation | 2:Linear lanceolate 3:Broad linear 4:Linear 5:Oblanceolate 7:Spathulate |  |
| 6 | Shape of leaf apex | 5 plants | Observation | 2:Acute 3:Unequal acute 5:Obtuse 6:Unequal obtuse 7:Emarginate 8:Unequal emarginate |  |
| 7 | Shape of cross section of leaf | 5 plants | Observation | 3:Flat 5:Shallow V shape 7:Deep V shape |  |
| 8 | Leaf serration | 5 plants | Observation | 0:Absent 8:Present |  |
| 9 | Thickness of leaf | 5 plants | Measurement | mm (round to the 1st decimal place) |  |
| 10 | Leaf color | 5 plants | Observation | 3:Light green 5:Green 7:Dark green 9:Other | Surface color |
| 11 | Mottle on leaf | 5 plants | Observation | 3:Absent 5:Partially present 7:Present |  |
| 12 | Coloration of sheath | 5 plants | Observation | 0:Absent 8:Present |  |
| 13 | Color of sheath | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 14 | Intlorescense | 5 plants | Observation | 5:Raceme 7:Panicle |  |
| 15 | Length of flower stem | 5 plants | Measurement | cm (integer) |  |
| 16 | Thickness of flower stem | 5 plants | Measurement | mm (round to the 1st decimal place) |  |


| Plant | Cymbidium |  |  | Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 17 | Color of flower stem (upper) | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 18 | Color of flower stem (middle) | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 19 | Color of flower stem (lower) | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 20 | Angle of flower stem | 5 plants | Observation | 1:Erect 3:Semi-erect 5:Horizontal 7:Deflected |  |
| 21 | Type of flower | 5 plants | Observation | 2:Single 5:Semi-double 8:Double |  |
| 22 | Type of flowering | 5 plants | Observation | 1:Folding 3:Semi-folding 5:Flat 7:Semireverse 9:Reverse |  |
| 23 | Longitudinal length of flower | 5 plants | Measurement | mm (integer) |  |
| 24 | Shape of dorsal sepal | 5 plants | Observation | 2:Linear lanceolate 3:Broad linear 6:Oblong 7:Spathulate |  |
| 25 | Shape of vertical <br> section of dorsal sepal | 5 plants | Observation | 1:I $2: I I \quad 3: I I I \quad 4: I V \quad 5: V \quad 6: V I \quad 7: V I I$ |  |
| 26 | Shape of dorsal sepal apex | 5 plants | Observation | 3:Attenuate-acuminate 4:Acute 5:Mucronate 6:Truncate 7:Retuse |  |
| 27 | Curvature of dorsal sepal margin | 5 plants | Observation | 0:Absent 3:Weak 5:Intermediate 7:Strong |  |
| 28 | Undulation of dorsal sepal margin | 5 plants | Observation | 0:Absent 3:Weak 5:Intermediate 7:Strong |  |
| 29 | Width of dorsal sepal | 5 plants | Measurement | mm (integer) |  |


| Plant ${ }^{\text {C }}$ | Cymbidium |  |  | Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 30 | Shape of leteral sepal | 5 plants | Observation | 2:Curved linear lanceolate 3:S-shape curved linear 5:Curved broad linear 7:Curved obvoid 8:Broad obvoid |  |
| 31 | Shape of vertical section of lateral sepal | 5 plants | Observation | 1:I 2:II 3:III 4:IV 5:V 6:VI 7:VII |  |
| 32 | Shape of lateral sepal apex | 5 plants | Observation | ```3:Unequal atteniate acute 4:Unequal acute 5:Unequal mucronate 6:Unequal obtuse 7:Unequal emarginate``` |  |
| 33 | Curvatune of leteral sepal | 5 plants | Observation | 0:Absent 3:Weak 5:Intermediate 7:Strong |  |
| 34 | Undulation of lateral sepal | 5 plants | Observation | 0:Absent 3:Weak 5:Intermediate 7:Strong |  |
| 35 | Length of lateral sepal | 5 plants | Measurement | mm (integer) |  |
| 36 | Width of lateral sepal | 5 plants | Measurement | mm (integer) |  |
| 37 | Shape of petal | 5 plants | Observation | 1:Linear 3:Broad linear 4:Narrow rectangle 5:Long rhomb 7:Obvoid 9:Wide sickle |  |
| 38 | Shape of vertical section of petal | 5 plants | Observation | 1:I 2:II 3:III 4:IV 5:V 6:VI 7:VII |  |
| 39 | Shape of petal apex | 5 plants | Observation | 3:Unequal acute 4:Unequal atteniate acute <br> 5:Unequal mucronate 6:Unequal obtuse <br> 7:Unequal emarginate |  |
| 40 | Curvature of petal margin | 5 plants | Observation | 0:Absent 3:Weak 5:Intermediate 7:Strong |  |
| 41 | Undulation of petal margin | 5 plants | Observation | 0:Absent 3:Weak 5:Intermediate 7:Strong |  |
| 42 | Width of petal | 5 plants | Measurement | mm (integer) |  |


| Plant ${ }^{\text {C }}$ | Cymbidium |  |  | Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 43 | Vertical length of petal | 5 plants | Measurement | mm (integer) |  |
| 44 | Shape of lip | 5 plants | Observation | ```1:Long spathulate 3:Narrow triangular 4:Triangular 5:Horseshoe-shaped 7:Orbicular 8:Elliptic``` |  |
| 45 | Shape of vertical section of lip | 5 plants | Observation | 1:I $2:$ II $3:$ III $4: I V \quad 5: V \quad 6: V I \quad 7: V I I$ |  |
| 46 | Spape of lip apex | 5 plants | Observation | 1:Attenuate acute 2:Acute 3:Mucronate 5:Obtuse 7:Retuse |  |
| 47 | Fringe (incision) of lip apex | 5 plants | Observation | 0:Absent 8:Present |  |
| 48 | Curvature of lip margin | 5 plants | Observation | 0:Absent 3:Weak 5:Intermediate 7:Strong |  |
| 49 | Undulation of lip margin | 5 plants | Observation | 0:Absent 3:Weak 5:Intermediate 7:Strong |  |
| 50 | Fringe (incision) of lip margin | 5 plants | Observation | 0:Absent 8:Present |  |
| 51 | Hair on lip | 5 plants | Observation | 0:Absent 3:Weak 5:Intermediate 7:Strong |  |
| 52 | Width of lip | 5 plants | Measurement | mm (integer) |  |
| 53 | Length of lip | 5 plants | Measurement | mm (integer) |  |
| 54 | Color distribution of inside of dorsal sepal | 5 plants | Observation | 1:Uniform 2:Mottled tone 3:Soft 4:Marginal <br> 5:Variegation 6:Wedgy 7:Linear 8:Meshed 9:Other |  |
| 55 | Ground color of inside of dorsal sepal | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 56 | Color of multicolored | 5 plants | Observation |  | Indicate reference number of JHS color chart |


| Plant ${ }^{\text {C }}$ | Cymbidium |  |  | Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 57 | Color distribution of outside of dorsal sepal | 5 plants | Observation | ```1:Uniform 2:Mottled tone 3:Soft 4:Marginal 5:Variegation 6:Wedgy 7:Linear 8:Meshed 9:Other``` |  |
| 58 | Ground color of outside of dorsal sepal | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 59 | Color of outside of color-adjacent portion of dorsal sepal | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 60 | Color distribution of inside of lateral sepal | 5 plants | Observation | ```1:Uniform 2:Mottled tone 3:Soft 4:Marginal 5:Variegation 6:Wedgy 7:Linear 8:Meshed 9:Other``` |  |
| 61 | Ground color of inside of lateral sepal | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 62 | ```Color of inside of color-adjacent portion of lateral sepal``` | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 63 | ```Color distribution of outside of lateral sepal``` | 5 plants | Observation | ```1:Uniform 2:Mottled tone 3:Soft 4:Marginal 5:Variegation 6:Wedgy 7:Linear 8:Meshed 9:Other``` |  |
| 64 | Ground color of outside of lateral sepal | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 65 | ```Color of outside of color-adjacent portion of lateral sepal``` | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 66 | Color distribution of inside of petal | 5 plants | Observation | ```1:Uniform 2:Mottled tone 3:Soft 4:Marginal 5:Variegation 6:Wedgy 7:Linear 8:Meshed 9:Other``` |  |


| Plant | Cymbidium |  | 501 | Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 67 | Ground color of inside of petal | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 68 | Color of inside of color-adjacent portion of petal | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 69 | Color distribution of outside of petal | 5 plants | Observation |  |  |
| 70 | Ground color of outside of petal | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 71 | Color of outside of color-adjacent portion of petal | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 72 | Color distribution of inside of lip | 5 plants | Observation |  |  |
| 73 | Ground color of inside of lip | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 74 | ```Color of inside of color-adjacent portion of lip``` | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 75 | Color distribution of outside of lip | 5 plants | Observation |  |  |
| 76 | Ground color of outside of lip | 5 plants | Observation |  | Indicate reference number of JHS color chart |


| Plant |  | Cymbidium |  | 501 | Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No |  | aracters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 77 | ```Color of outside of color-adjacent portion of lip``` |  | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 78 | Color distribution of inside of column |  | 5 plants | Observation | ```1:Uniform 2:Mottled tone 3:Soft 4:Marginal 5:Variegation 6:Wedgy 7:Linear 8:Meshed 9:Other``` |  |
| 79 | Ground color of inside of column |  | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 80 | ```Color of inside of color-adjacent portion of column``` |  | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 81 | Color distribution of outside of column |  | 5 plants | Observation | ```1:Uniform 2:Mottled tone 3:Soft 4:Marginal 5:Variegation 6:Wedgy 7:Linear 8:Meshed 9:Other``` |  |
| 82 | Ground color of outside of column |  | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 83 | Color of outside of color-adjacent portion of column |  | 5 plants | Observation |  | Indicate reference number of JHS color chart |
| 84 | Color of pollen sac |  | 5 plants | Observation |  | Indicate reference number of JHS color chart |


| Plant C |  | Cymbidium 50 |  | Secondary essential character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Flowering time | 5 plants | Observation |  |  |
| 2 | Sprouting time of previous flowering pseudobulb | 5 plants | Observation |  |  |
| 3 | Number of sprouting pseudobulbs per previous pseudobulb | 5 plants | Observation | sprouting pseudobulbs (integer) | Average |
| 4 | Time of flower bud formation | 5 plants | Observation |  |  |


| Plant $\quad$ C | Cymbidium |  |  | Secondary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Days from first to final flowering | 5 plants | Observation | days (integer) | Days from first flowering date to final flowering date |
| 2 | Discontinuity of flower production | 5 plants | Observation | 1:Absent 3:Few 5:Intermediate 7:Many 9:Extremely many |  |
| 3 | Tolerance to diseases | 5 plants | Observation | 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High |  |
| 4 | Tolerance pest insects | 5 plants | Observation | 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High |  |
| 5 | Tolerance to low temperature | 5 plants | Observation | 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High |  |
| 6 | Tolerance to high temperature | 5 plants | Observation | 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High |  |
| 7 | Degree of leaf scorch | 5 plants | Observation | 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High |  |


| Plant ${ }^{\text {C }}$ |  | Cymbidium |  | Tertiary essential character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Longevity of flower | 5 plants | Observation | 3:Bad 5:Intermediate 7:Good |  |
| 2 | Number of flowering stem per pseudobulb | 5 plants | Measurement | flowering stems (integer) | Number of flowering stem per pseudoblub |



