

Supplementary Table S3 Indicators and criteria of phenotypic diversity of *Phalaenopsis*

Number	Trait	Trait Expression and Scoring Criteria	Trait Type
1	Plant Size	Maximum Leaf Spread During Flowering Period	Quantitative
2	Inflorescence Stalk Length	Natural Length from Pedicel Base to Below the Flower	Quantitative
3	Inflorescence Length	Distance from the first flower to the last flower	Quantitative
4	Pedicel Thickness	Diameter at the base of the pedicel	Quantitative
5	Number of Pedicels	Number of Pedicels	Quantitative
6	Number of Pedicel Side Branches	Number of Pedicel Side Branches	Quantitative
7	Number of Leaves	Number of Leaves	Quantitative
8	Longest Leaf Length	Distance from leaf base to tip	Quantitative
9	Width of the Longest Leaf	Measured at the widest point	Quantitative
10	Number of Flowers per Inflorescence	Average flower count per inflorescence	Quantitative
11	Flower Length	Vertical distance from the tip of the middle sepal to the tip of the lateral sepals when fully open	Quantitative
12	Flower Width	Distance between the tips of the petals when fully open	Quantitative
13	Petal Length	Distance from base to tip of the petal	Quantitative
14	Petal Width	Petal Width	Quantitative
15	Sepal Length	Sepal Length	Quantitative
16	Sepal Width	Sepal Width	Quantitative
17	Central Lobe Length of Labellum	Distance from Base to Tip	Quantitative
18	Central Lobe Width of Labellum	Distance from Left to Right	Quantitative
19	Column Diameter	Distance from Column Base to Anther Cap	Quantitative
1	Leaf Tip Symmetry	Asymmetrical = 1, Both Asymmetrical and Symmetrical = 2, Symmetrical = 3	Quality
2	Leaf Posture Type	Semi-Erect = 3, Semi-Erect or Horizontal = 4, Horizontal = 5, Horizontal or Semi-Pendulous = 6, Semi-Pendulous = 7	Quality
3	Leaf Shape	Lanceolate = 1, Lanceolate or Narrow Ovate = 2, Narrow Ovate = 3, Narrow Ovate or Elliptic = 4, Elliptic = 5, Elliptic or Narrow Obovate = 6, Narrow Obovate = 7, Narrow Obovate or Obovate = 8, Obovate = 9	Quality
4	Leaf Tip Shape	Acute = 1, Acute or Rounded = 3, Rounded = 5, Rounded or Emarginate = 7, Emarginate = 9	Quality
5	Inflorescence Type	Solitary = 1, Raceme = 2, Panicle = 3	Quality
6	Petal Cross-Section Shape	Incurved = 1, Straight = 2, Outcurved = 3	Quality
7	Petal Margin Undulation	Absent = 1, Present = 9	Quality
8	Sepal Margin Undulation	Absent = 1, Present = 9	Quality
9	Median Sepal Shape	Ovate = 3, Elliptic = 5, Obovate = 9	Quality
10	Presence of Lip Hairs	Absent = 1, Present = 9	Quality
11	Flower Surface Waxy Coating	Absent = 1, Present = 9	Quality
12	Flower Fragrance	Absent = 1, Present = 9	Quality
13	Overall Petal and Sepal Orientation	Incurved = 1, Straight = 2, Outcurved = 3	Quality
14	Petal and Sepal Surface Texture	Smooth = 1, Rough = 2	Quality
15	Petal Arrangement	Separate = 1, Adjoined = 2, Overlapping = 3	Quality