**AVRDC-GRSU CHARACTERIZATION RECORD SHEET**

**Crop:** Brassica spp.  
**Plot No.:**  
**Accession No.:**  
**Sowing Date:**  
**Name:**  
**Transplanting Date:**  
**Species:**  
**Location:**  
**Origin:**

### SEEDLING DATA

**B050**  
**Hypocotyl color** (胚莖色)  
1 = White  
2 = Pale green  
3 = Green  
4 = Pink  
5 = Red  
6 = Purple  
7 = Others  
X = Mixture

**B060**  
**Seedling leaf color** (苗葉色)  
1 = White green  
2 = Yellow green  
3 = Light green  
4 = Green  
5 = Dark green  
6 = Purple green  
7 = Purple  
8 = Others  
X = Mixture

**B070**  
**Margin of seedling leaf** (苗葉緣)  
0 = Entire  
1 = Crenate  
2 = Dentate  
3 = Serrate  
4 = Undulate  
5 = Doubly dentate  
6 = Others  
X = Mixture

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**B080**  
**Seedling pubescence** (苗絨毛)  
0 = Glabrous  
1 = Very sparse  
2 = Dentate  
3 = Sparse  
5 = Intermediate  
7 = Abundant  
X = Mixture

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![Figure 1. Leaf division, margin.](image)
B101 Plant growth habit (植株形状)

1 = Shortened nonbranching stem supporting leafy rosette
2 = Shortened nonbranching stem terminating in leafy head
3 = Extremely shortened branching stems forming leafy crown
4 = Elongate and/or enlarged nonbranching stem (tubers) supporting leaves and/or head
5 = Elongate nonbranching stem supporting enlarged compact axillary buds
6 = Elongate branching stems supporting leaves and/or heads
7 = Elongate nonbranching stem terminating in enlarged floral or prefloral apex (curd)
8 = Elongate branching stems terminating in enlarged floral or prefloral apices
9 = Enlarged root
10 = Other (specify) __________

Figure 2. Plant growth habit.
B103  Plant height (cm) – measure extremity of plant (株高)

B105  Plant diameter (cm) – measure extremity of plant (株寛)

B107  Lodging (倒伏性)
    3 = Low  5 = Intermediate  7 = High

B109  Number of leaves (estimated) (葉數)
    3 = Few  5 = Intermediate  7 = Many

B111  Leaf length (cm) (largest leaf including petiole) (葉長)

B113  Leaf blade width (cm) (widest point of largest leaf) (葉寛)

B115  Leaf angle (angle of petiole with horizontal) (葉柄角度)
    1 = Erect (>87°C)  2 = Open (~67°C)  3 = Semiprostrate (~45°C)
    4 = Prostrate (<30°C)  5 = Horizontal  6 = Oblique (>10°C)
    X = Mixture

B117  Leaf shape (outline) (葉形)
    1 = Orbicular  2 = Elliptic  3 = Obovate
    4 = Spathulate  5 = Ovate  6 = Lanceolate
    7 = Oblong  8 = Others  X = Mixture

Figure 3.  Leaf blade shape in outline.

B119  Leaf margin (葉緣) (see Figure 1)
    0 = Entire  1 = Crenate  2 = Dentate
    3 = Serrate  4 = Undulate  5 = Doubly dentate
    X = Mixture
B121 Leaf division (葉裂)
1 = Entire   2 = Sinuate   3 = Lyrate   4 = Lacerate   X = Mixture

Figure 4. Leaf division, incision.

B123 Leaf apex shape (葉尖形)
1 = Acute   3 = Intermediate   5 = Rounded
7 = Broadly rounded   X = Mixture

Figure 5. Leaf apex shape.

B125 Leaf blade thickness (葉厚)
3 = Thin   5 = Intermediate   7 = Thick

B127 Leaf blade blistering (葉緣褶起)
0 = None   3 = Low   5 = Intermediate   7 = High   X = Mixture

Figure 6. Leaf blade blistering, in transverse section.

B129 Leaf tip attitude (葉尖彎曲)
3 = Curving upward   5 = Straight   7 = Drooping   X = Mixture

B131 Leaf color (葉色)
1 = Yellow green   2 = Light green   3 = Green
4 = Dark green   5 = Purple green   6 = Purple
7 = Others   X = Mixture

B133 Leaf pubescence (葉毛)
0 = Absent   3 = Sparse   5 = Intermediate   7 = Abundant   X = Mixture

B134 Leaf bloom (葉面粉衣)
0 = Absent   3 = Low   5 = Intermediate
7 = High glaucous   X = Mixture
**VEGETATIVE DATA**

**B135** Petiole and/or midvein enlargement (葉柄肥大)

3 = Narrow  
5 = Intermediate  
7 = Enlarged

**B137** Petiole length (cm) (葉柄長)

**B139** Petiole width (cm) (葉柄寬)

**B141** Petiole section (葉柄切面)

3 = Round  
5 = Semi-round  
7 = Flat

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**B143** Petiole color (葉柄色)

1 = White  
2 = Light green  
3 = Green  
4 = Purple  
5 = Red  
6 = Others

X = Mixture

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**B144** Leaf lamina attitude (葉片曲度)

3 = Convex  
5 = Straight  
7 = Concave, drooping

X = Mixture

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**B210** Heading habit (結球習性)

0 = Nonheading  
5 = Semi-heading  
7 = Heading

X = Mixture

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**B220** Head shape (葉球形)

1 = Triangular  
2 = Ovate  
3 = Obovate  
4 = Elliptic  
5 = Spheric  
6 = Cylindric  
7 = Transverse elliptic

8 = Others

X = Mixture

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**Figure 7. Petiole thickness, section.**

**Figure 8. Head and enlarged bud shape in longitudinal section.**
**B230**  Head-forming leaf overlap at terminal region (葉球葉片重疊)

1 = Leaves curled outward  
2 = Erect  
3 = Curled inward  
4 = Slight overlap  
5 = Strong overlap  
6 = Mixture

Figure 9. Head-forming leaf overlap.

**B240**  Head cover from subtending leaves (葉球外葉)

3 = Exposed  
5 = Intermediate  
7 = Covered

**B250**  Primary color of outer head leaves (葉球外表色)

1 = Yellow green  
2 = Pale green  
3 = Green  
4 = Dark green  
5 = Red green  
6 = Red or purple  
X = Mixture

**B260**  Head length (cm) (葉球長)

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**B270**  Head diameter (cm) (葉球直徑)

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**B280**  Primary color inside cut (葉球內部色)

1 = White  
2 = Yellow  
3 = Pale green  
4 = Green  
5 = Red green  
6 = Red or purple  
X = Mixture

**B290**  Head solidity (葉球硬度)

3 = Low  
5 = Intermediate  
7 = High (firm, hard)  
X = Mixture

**B300**  Stem length in head (葉球內莖長)

3 = Short  
5 = Intermediate  
7 = Long  
X = Mixture

Figure 10. Stem length in head.
VEGETATIVE DATA (Enlarged stem and bud)

B310 Stem axis elongation and enlargement (茎肥大形態)

1 = Extremely short  2 = Short  4 = Enlarged
6 = Elongate  8 = Very elongate  X = Mixture

Figure 11. Stem axis elongation and enlargement.

B320 Vegetative stem length (cm) (from cotyledon to tip) (莖長)

B330 Vegetative stem width (cm) (莖寬)

B340 Stem color (莖色)

1 = Light green  2 = Green  3 = Dark green
4 = Red or purple green  5 = Red or purple  6 = Others
X = Mixture

B350 Axillary stem and bud growth (莖側芽生長)

0 = Absent  1 = Present but dormant
2 = Very short leafy stems forming crown
3 = Elongate branching leafy stems
4 = Elongate terminating in flower buds
5 = Shoot growth condensed into enlarged buds

Figure 12. Axillary stem and bud growth.

B360 Number of shoots or enlarged buds (肥大芽數)

3 = Few  5 = Intermediate  7 = Many  X = Mixture

B370 Shape of enlarged vegetative buds (肥大芽形狀)

1 = Transverse elliptic  2 = Round
3 = Elliptic  4 = Ovate
5 = Obovate  X = Mixture
VEGETATIVE DATA (Flowering head)

B380 Size of enlarged vegetative buds (肥大芽大小)
3 = Small  5 = Intermediate  7 = Large  X = Mixture

B390 Color of enlarged vegetative buds or shoots (肥大芽色)
1 = Light green  2 = Green  3 = Dark green
5 = Red/purple green  6 = Red/purple  X = Mixture

B410 Floral apex branch (花茎分枝)
1 = Single raceme
2 = Enlarged stem with terminally raceme
3 = Loosely branch small terminal heads
4 = Terminal head with smaller heads on axillary shoots
5 = Compact head of regularly packed subheads
6 = Single compact head of irregularly packed subheads
7 = Others
8 = Mixture

Figure 13. Floral apex branching pattern.

B420 Flowering head size (花球大小)
3 = Small  5 = Intermediate  7 = Large  X = Mixture

B430 Flowering head shape (花球形状)
1 = Concave  3 = Flat  5 = Spheric  7 = Elliptic  X = Mixture

Figure 14. Flowering head shape in longitudinal section.

B440 Flowering head color surface (花球外表色)
1 = White  2 = Cream  3 = Yellow
4 = Yellow-green  5 = Green  6 = Pink
7 = Green-red  8 = Purple  9 = Red
10 = Orange  11 = Others  X = Mixture

B450 Head cover from subtending leaves (花球外葉)
0 = Exposed  2 = Low  4 = Intermediate
6 = High  8 = Full covered  X = Mixture
VEGETATIVE DATA (Enlarged root)

B510 Root shape (根形)
1 = Nonswollen tap root  2 = Triangular
3 = Cylindric         4 = Elliptic
5 = Spheric          6 = Transverse elliptic
7 = Inverse triangle  8 = Apically bulbous
9 = Horn             10 = Branched
11 = Others          X = Mixture

Figure 15. Root, shape in longitudinal section.

B520 Root length (cm) (根長)

B530 Root diameter (cm) (根直徑)

B540 Root weight (g) (根重)

B550 Root shape of shoulder (根肩形)
3 = Concave  5 = Plane  7 = Convex

Figure 16. Root, shape of shoulder.

B560 Root shape at base (根基形)
1 = Acute  3 = Obtuse  5 = Convex  7 = Plane  9 = Concave

Figure 17. Root, shape at base.
B570 Exterior root color (根外部色)
1 = White      2 = Yellow      3 = Green
4 = Pink       5 = Red        6 = Purple
7 = Bronze     8 = Brown      9 = Black
10 = Others    X = Mixture

B580 Root exterior color pattern (根外部花紋)
0 = Uniform    1 = Bicolor    2 = Multicolor
4 = Mixed color 5 = Lateral root groove of different color than root
6 = Others     X = Mixture

B590 Interior root color (根內部色)
1 = White      2 = Yellow      3 = Green
4 = Pink       5 = Red        6 = Purple
7 = Others     X = Mixture

B600 Flesh color in transverse section (根橫切面顏色分佈)
1 = Uniform    2 = Cortex and cambium 3 = Radially distribute
4 = Rings      5 = Irregular    6 = Others
X = Mixture

Figure 18. Root, flesh color distribution in transverse section.

B610 Root pungency (根辣味)
0 = None       3 = Mild       5 = Intermediate 7 = Strong

B620 Position of 'bulb' in soil (根位置)
1 = Buried     3 = Mostly buried 5 = Half buried
7 = Largely above 9 = Above

FLOWERING PLANT CHARACTERIZATION

B710 Flowering behavior (without vernalization) (開花習性)
1 = Annual    2 = Biennial   3 = Perennial

B720 Days to flowering (開花日數)
(Number of days from sowing to when 50% of plants first flower)

B730 Flowering stalk color (花莖色)
1 = White      2 = Yellow-green 3 = Green
4 = Red green  5 = Red        6 = Purple
7 = Others     X = Mixture

B740 Flower stalk length (cm) (花莖長)

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<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Codes</th>
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<tbody>
<tr>
<td><strong>B750</strong></td>
<td>Flowering stalk internode length (花莖節長)</td>
<td>3 = Short 5 = Intermediate 7 = Long</td>
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<tr>
<td><strong>B760</strong></td>
<td>Flowering stalk branching habit (花莖分枝)</td>
<td>3 = Few 5 = Intermediate 7 = Profuse</td>
</tr>
<tr>
<td><strong>B770</strong></td>
<td>Petal color (花冠色)</td>
<td>1 = White 2 = Pale yellow 3 = Yellow 4 = Orange yellow 5 = Pink 6 = Red</td>
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<td><strong>B780</strong></td>
<td>Flower stalk bloom (花莖粉衣)</td>
<td>1 = Absent, glossy 3 = Low 5 = Intermediate 7 = High, glaucous X = Mixture</td>
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**FRUIT & SEED DATA**

<table>
<thead>
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<th>Description</th>
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<tbody>
<tr>
<td><strong>B810</strong></td>
<td>Days to maturity (成熟日數)</td>
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<tr>
<td><strong>B820</strong></td>
<td>Silique length (cm) (莢長)</td>
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<tr>
<td><strong>B830</strong></td>
<td>Silique width (cm) (莢寬)</td>
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<tr>
<td><strong>B840</strong></td>
<td>Beak length (cm) (莢針長)</td>
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<tr>
<td><strong>B850</strong></td>
<td>Silique color before drying (未乾莢色)</td>
<td>1 = Yellow green 2 = Green 3 = Red green 4 = Purple green 5 = Purple 6 = others X = Mixture</td>
</tr>
</tbody>
</table>

![Figure 19. Silique length/width.](image)
Figure 20. Silique attitude.

Figure 21. Silique surface.