

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

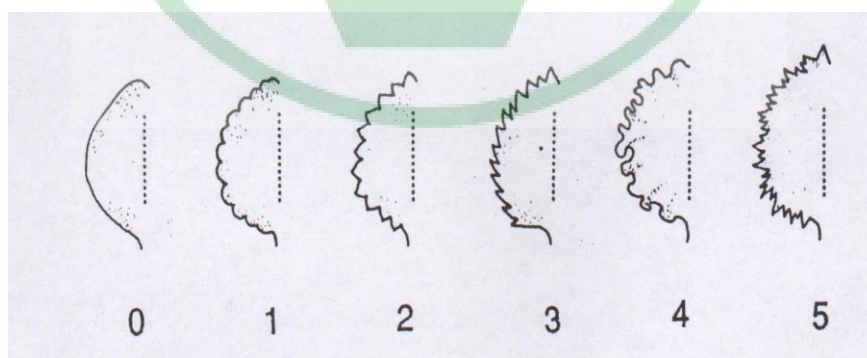


Figure 1. Leaf division, margin.

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

VEGETATIVE DATA (Leaf)

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) _____

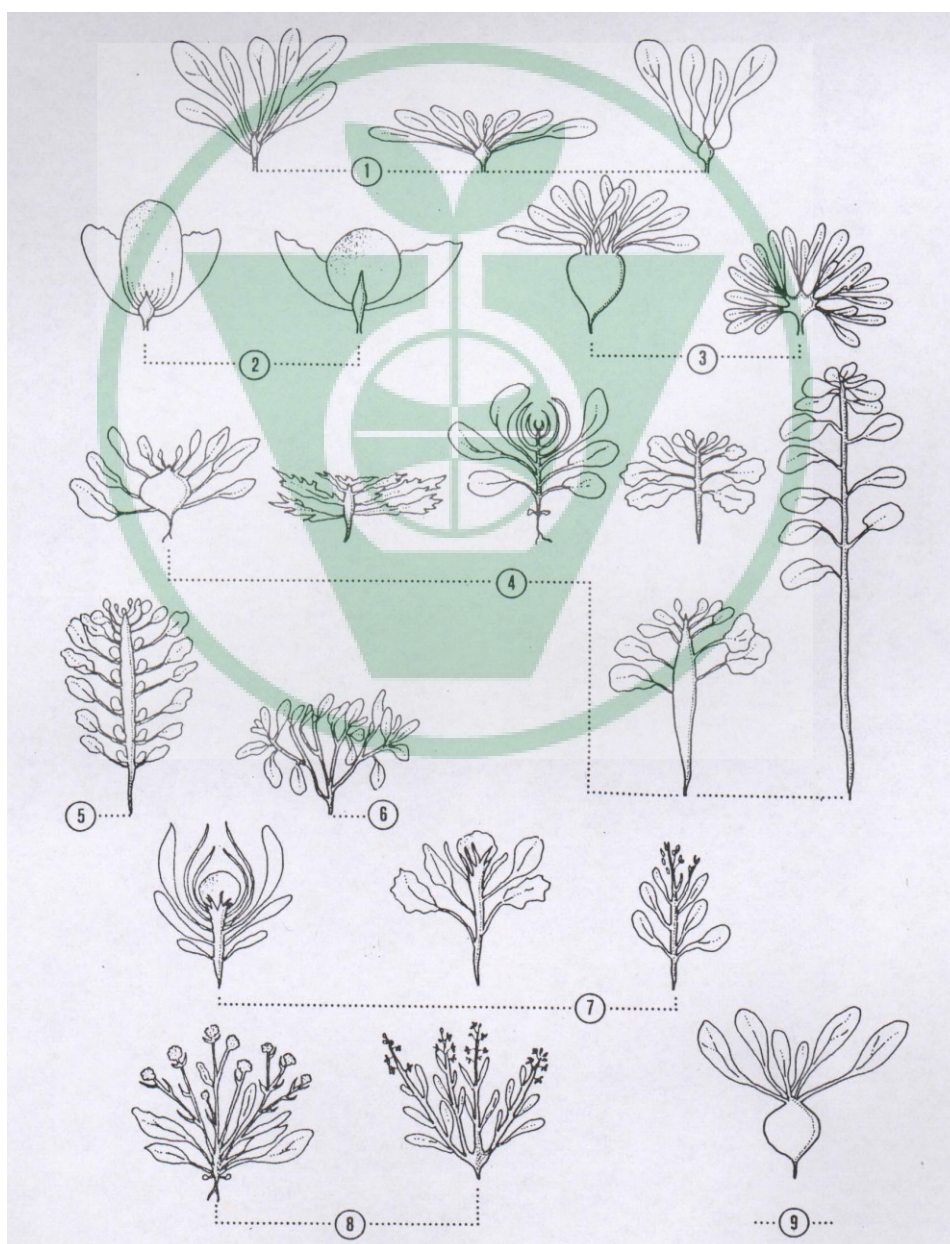


Figure 2. Plant growth habit.

- B103** Plant height (cm) – measure extremity of plant (株高) _____

- B105** Plant diameter (cm) – measure extremity of plant (株寬) _____

- 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) (葉寬) _____

- 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

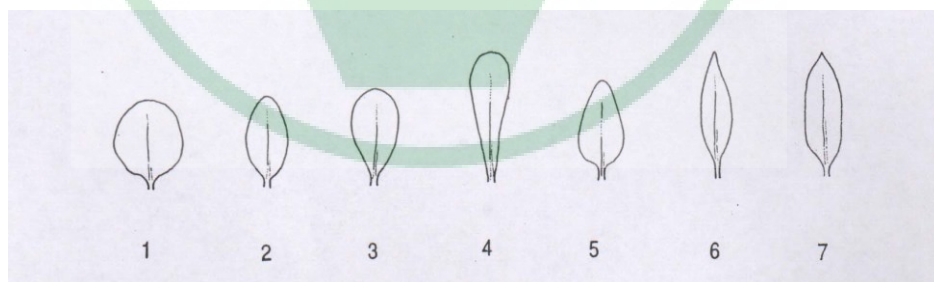


Figure 3. Leaf blade shape in outline.

- 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

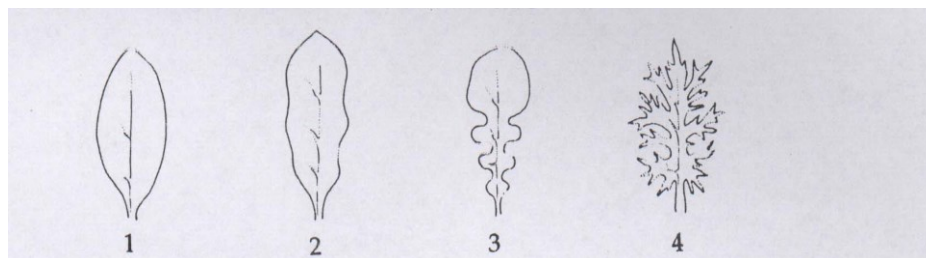


Figure 4. Leaf division, incision.

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

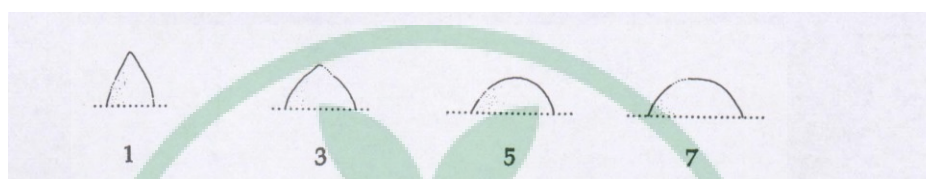


Figure 5. Leaf apex shape.

- 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

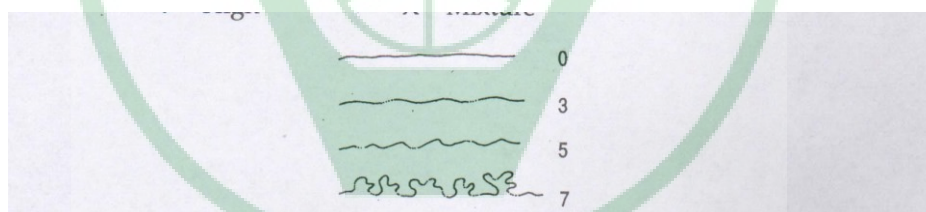


Figure 6. Leaf blade blistering, in transverse section.

- 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

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

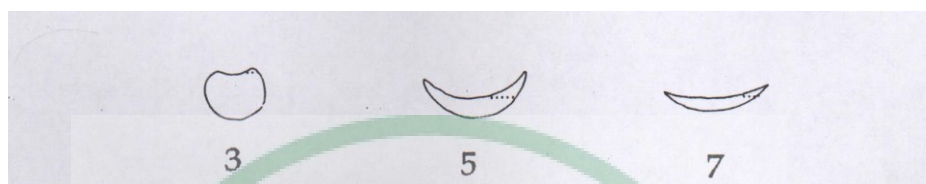


Figure 7. Petiole thickness, section.

B143 Petiole color (葉柄色) _____
 1 = White 2 = Light green 3 = Green
 4 = Purple 5 = Red 6 = Others
 X = Mixture

B144 Leaf lamina attitude (葉片曲度) _____
 3 = Convex 5 = Straight 7 = Concave, drooping X = Mixture

VEGETATIVE DATA (Heading)

B210 Heading habit (結球習性) _____
 0 = Nonheading 5 = Semi-heading 7 = Heading X = Mixture

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

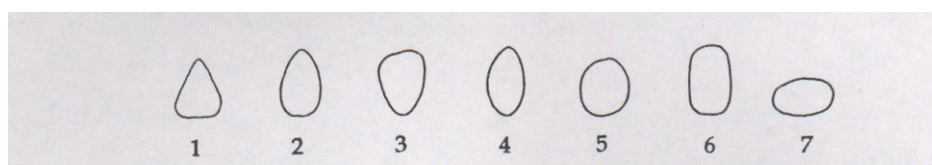


Figure 8. Head and enlarged bud shape in longitudinal section.

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 X = Mixture

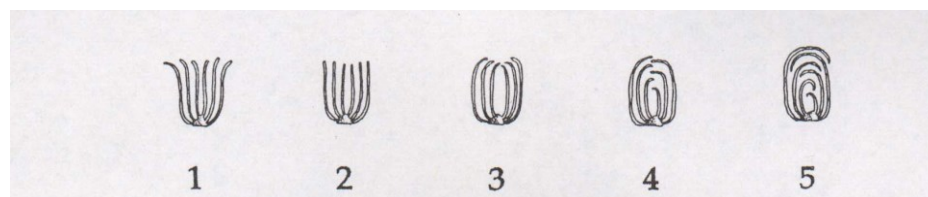


Figure 9. Head-forming leaf overlap.

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) _____

B270 Head diameter (cm) (葉球直徑) _____

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

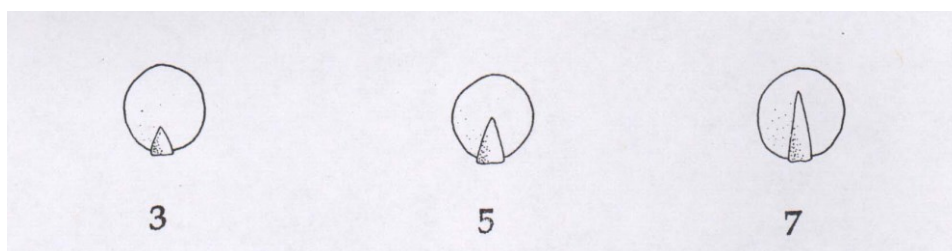


Figure 10. Stem length in head.

VEGETATIVE DATA (Enlarged stem and bud)

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

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

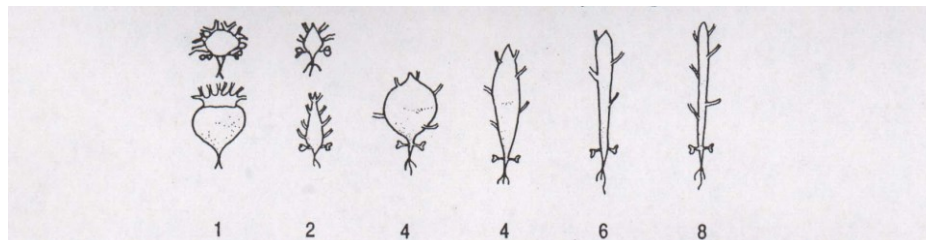


Figure 11. Stem axis elongation and enlargement.

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

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

VEGETATIVE DATA (Flowering head)

B410 Floral apex branch (花莖分枝)

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

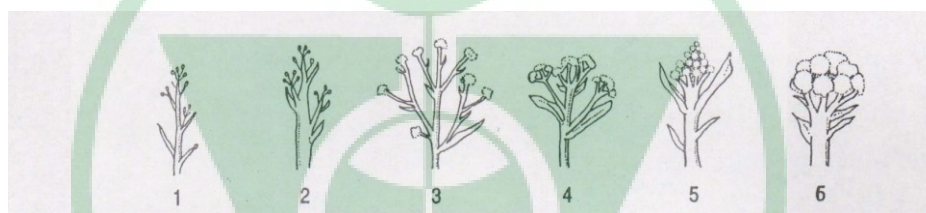


Figure 13. Floral apex branching pattern.

B420 Flowering head size (花球大小)

3 = Small 5 = Intermediate 7 = Large X = Mixture

B430 Flowering head shape (花球形狀)

1 = Concave 3 = Flat 5 = Spheric 7 = Elliptic X = Mixture

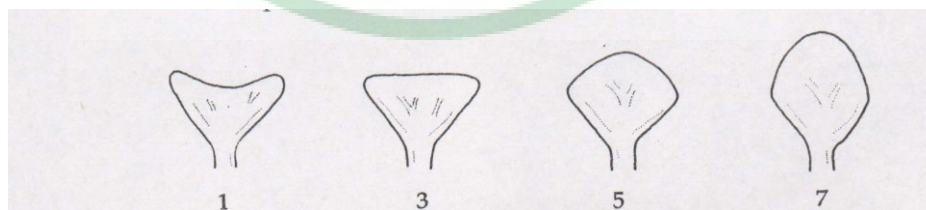


Figure 14. Flowering head shape in longitudinal section.

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 |

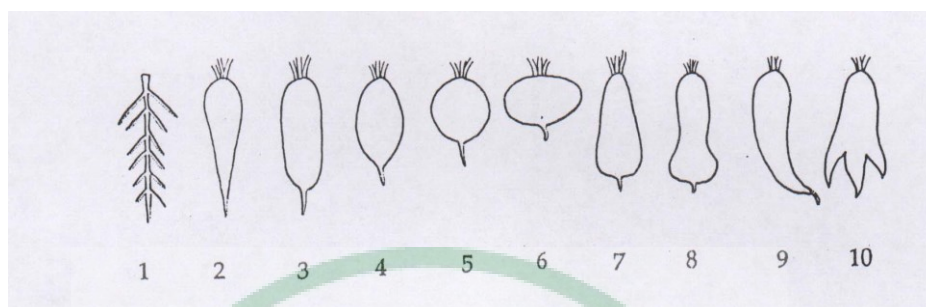


Figure 15. Root, shape in longitudinal section.

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

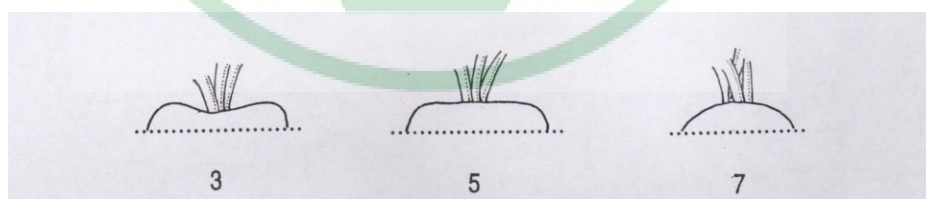


Figure 16. Root, shape of shoulder.

B560 Root shape at base (根基形)

- 1 = Acute 3 = Obtuse 5 = Convex 7 = Plane 9 = Concave

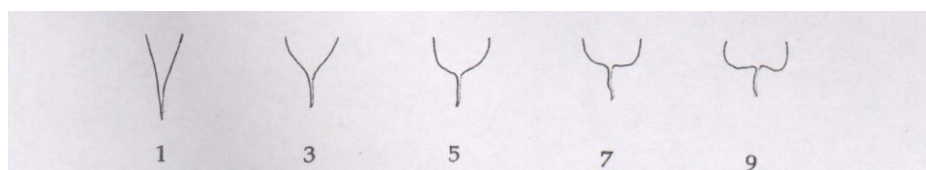


Figure 17. Root, shape at base.

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		

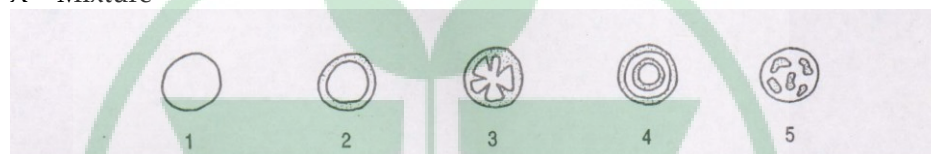


Figure 18. Root, flesh color distribution in transverse section.

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) _____

- B750** Flowering stalk internode length (花莖節長) _____
 3 = Short 5 = Intermediate 7 = Long
- B760** Flowering stalk branching habit (花莖分枝) _____
 3 = Few 5 = Intermediate 7 = Profuse
- B770** Petal color (花冠色) _____
 1 = White 2 = Pale yellow 3 = Yellow
 4 = Orange yellow 5 = Pink 6 = Red
- B780** Flower stalk bloom (花莖粉衣) _____
 1 = Absent, glossy 3 = Low 5 = Intermediate
 7 = High, glaucous X = Mixture

FRUIT & SEED DATA

- B810** Days to maturity (成熟日數) _____
 (Number of days from sowing to when 90% plants are ready for harvest)
- B820** Silique length (cm) (莢長) _____

- B830** Silique width (cm) (莢寬) _____

- B840** Beak length (cm) (莢針長) _____

- B850** Silique color before drying (未乾莢色) _____
 1 = Yellow green 2 = Green 3 = Red green
 4 = Purple green 5 = Purple 6 = others
 X = Mixture

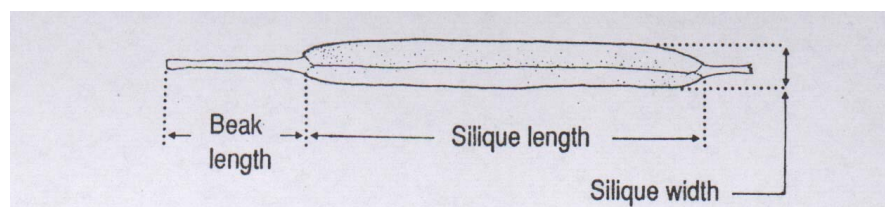


Figure 19. Silique length/width.

- B860** Silique attitude (莢生長角度)
 3 = Erect 5 = Hanging 7 = Pointing down

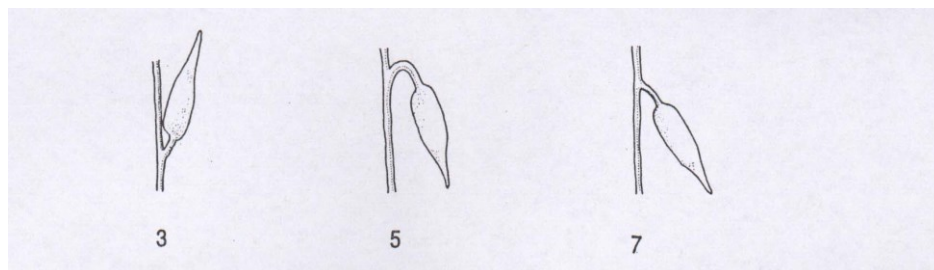


Figure 20. Silique attitude.

- B870** Silique surface outline (莢外形)
 3 = Smooth 5 = Undulating 7 = Constricted between seeds

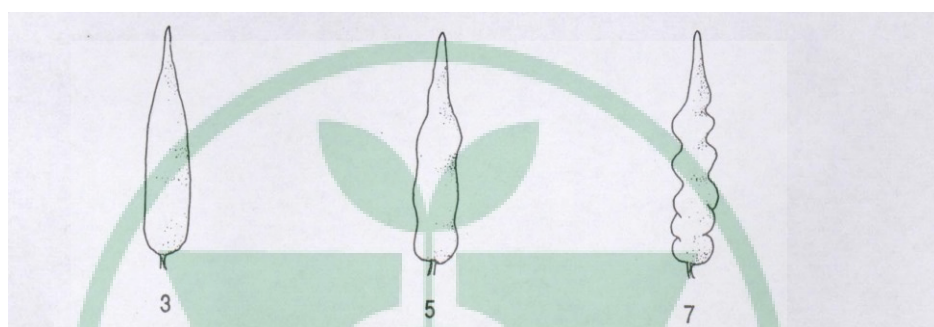


Figure 21. Silique surface.

- B880** Silique hairiness (莢毛)
 0 = Absent 3 = Few 5 = Intermediate 7 = Hairy
- B890** Silique shattering (莢開裂)
 0 = None 3 = Low 5 = Intermediate 7 = High
- B910** Primary seed coat color (種皮色)
 1 = Yellow 2 = Yellow brown 3 = Light brown
 4 = Brown 5 = Dark brown 6 = Red brown
 7 = Red 8 = Blue-black 9 = Gray-black
 10 = Others X = Mixture

- B920** 1000-seed weight (gm) (千粒重)

- B930** Number of seeds per silique (每莢粒長)

- B940** Silique carination (莢表面線狀突起)

0 = Keel absent 1 = Keel present X = Mixture