

Plant		Cabbage		74(08011)	Primary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Plant habit	10 plants	Observation	3:Erect 4:Semi-erect 5:Intermediate 6:Semi-prostrate 7:Prostrate		At head initiation stage or when rosette growth is the most vigorous
2	Outer leaf shape	10 plants	Observation	3:Depressed circle 4:Depressed circle-Circle 5:Circle 6:Circle-Reverse ovate 7:Reverse ovate		Observe the largest leaf at harvesting stage
3	Outer leaf color	10 plants	Observation	1:Yellowish green 2:Slightly yellowish green 3:Pale green (purple) 4:Slightly pale green (purple) 5:Green (Purple) 6:Slightly dark green (purple) 7:Dark green (purple) 8:Slightly grayish green 9:Grayish green		Descriptions in () are for red cabbage.
4	Head shape	5 heads	Observation	1:Flat 2:Rather flat 3:Circular tapering bottom 4:Circular 5:Circular pointed 6:Long circular 7:Cornic 8:Elliptic 9:Elliptic pointd		Observe heads of medium growth
5	Head height	5 heads	Measurement	3:Short 4:Slightly short 5:Intermediate 6:Slightly long 7:Long		Observe heads of medium growth. Short:<10 cm, intermediate:16-20 cm, long:>26 cm
6	Head diameter	5 heads	Measurement	3:Narrow 4:Slightly narrow 5:Intermediate 6:Slightly broad 7:Broad		Measure heads of medium growth. Narrow:<10 cm, intermediate:16-20 cm, broad:>26 cm
7	Number of wrapping leaf in head	10 heads	Observation	1:One 2:Two 3:Three 4:Four		Of harvested heads
8	Maturity	10 plants	Observation	1:Extremely early 2:Very early 3:Early 4:Slightly early 5:Intermediate 6:Slightly late 7:Late 8:Very late 9:Extremely late		At 50% harvestable stage

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No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Number of outer leaves	10 plants	Observation	3:Few 4:Slightly few 5:Intermediate 6:Slightly many 7:Many		Measure mature outer leaves at harvesting stage. Few:<=10, intermediate:14-16, many:>=20
2	Outer leaf pigmentation	10 plants	Observation	0:Absent 1:Extremely little 2:Very little 3:Little 4:Slightly little 5:Intermediate 6:Slightly much 7:Much		Observe after frost
3	Outer leaf wax	10 plants	Observation	0:Absent 3:Little 4:Slightly little 5:Intermediate 6:Some 7:Much		
4	Undulation of marginal area in outer leaf	10 plants	Observation	0:Absent 1:Extremely weak 2:Very weak 3:Weak 4:Slightly weak 5:Intermediate 6:Slightly strong 7:Strong		
5	Size of undulation of outer leaf	10 plants	Observation	3:Small 4:Slightly small 5:Intermediate 6:Slightly large 7:Large		
6	Wrinkle or savoy of outer leaf	10 plants	Observation	0:Absent 1:Extremely weak (fine) 2:Very weak (fine) 3:Weak (fine) 4:Slightly weak (fine) 5:Intermediate 6:Slightly strong (rough) 7:Strong (rough)		Description in () are for savoy cabbage.
7	Distinctness of veins in outer leaf	10 plants	Observation	3:Indistinct 4:Slightly indistinct 5:Intermediate 6:Slightly distinct 7:Distinct		
8	Outer leaf size	10 plants	Observation	3:Small 4:Slightly small 5:Intermediate 6:Slightly large 7:Large		
9	Petiole length of outer leaf	10 plants	Observation	3:Short 4:Slightly short 5:Intermediate 6:Slightly long 7:Long		
10	Petiole shape of outer leaf	10 plants	Observation	3:Flat 4:Slightly flat 5:Intermediate 6:Slightly round 7:Round		Observe transverse section at half length
11	Midrib shape of outer leaf	5 heads	Observation	3:Flat 4:Slightly flat 5:Intermediate 6:Slightly round 7:Round		
12	Stem length	10 plants	Observation	3:Short 4:Slightly short 5:Intermediate 6:Slightly long 7:Long		From the base of stem to the bottom of head

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13	Shape of head top	5 heads	Observation	1:Flat 2:Rather flat 3:Half-round 4:Slightly half-round 5:Round 6:Slightly pointed 7:Pointed	
14	Shape of head bottom	5 heads	Observation	3:Flat 4:Slightly flat 5:Round 6:Slightly tapered 7:Tapered	
15	Head color	5 heads	Observation	1:Yellowish green 2:Rather yellowish green 3:Pale green 4:Slightly pale green 5:Green 6:Slightly dark green 7:Dark green	Surface color
16	Core length of head	5 heads	Observation	1:Extremely short 2:Very short 3:Short 4:Slightly short 5:Intermediate 6:Slightly long 7:Long 8:Very long 9:Extremely long	Evaluated as the rate of core/head length. Extremely short: $\leq 1/4$, short: $\leq 1/3$, intermediate: $= 1/2$, long: $\leq 2/3$, extremely long: $> 2/3$
17	Head solidity	5 heads	Observation	1:Extremely loose 2:Very loose 3:Loose 4:Slightly loose 5:Intermediate 6:Slightly solid 7:Solid 8:Very solid 9:Extremely solid	Loose:space present in the upper part. Intermediate:space present around the core, solid:space slightly observed, extremely solid:no space
18	Head exposure	10 plants	Observation	0:Hidden 1:Almost hidden 2:Very hidden 3:Slightly exposed 4:Slightly exposed 5:Partly exposed 6:Very exposed 7:Fully exposed	Appearance of head by horizontal eye point (relative position of head to surrounding leaves) at harvesting stage
19	Splitting and deterioration	10 plants	Observation	1:Extremely early 2:Very early 3:Early 4:Slightly early 5:Intermediate 6:Slightly late 7:Late 8:Very late 9:Extremely late	At 10% harvestable stage
20	Unseasonable bolting	10 plants	Observation	3:Infrequent 4:Slightly infrequent 5:Intermediate 6:Slightly frequent 7:Frequent	

Plant		Cabbage		74(08011)	Secondary essential character
No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Fusarium yellows resistance	30 plants	Observation	0:None 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 9:Very high	3-7:Type-B, 9:Type-A resistance, by natural occurrence or artificial inoculation
2	Clubroot resistance	30 plants	Observation	0:None 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High	By natural occurrence or artificial inoculation
3	Virus resistance	30 plants	Observation	0:None 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High	By natural occurrence or artificial inoculation
4	Soft rot resistance	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High	By natural occurrence or artificial inoculation
5	Black rot resistance	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High	By natural occurrence or artificial inoculation

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1	Verticillium yellows resistance	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High		By natural occurrence or artificial inoculation
2	Diamondback moth resistance	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High		By natural occurrence or artificial inoculation
3	Aphid resistance	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High		By natural occurrence or artificial inoculation
4	Green catapillar resistance	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High		By natural occurrence or artificial inoculation
5	Shelf life	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High		Post-harvest storage ability
6	Heading ability under high temperature	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High		Evaluate head growth under high temperature
7	Frost tolerance	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High		As the degree of damage by low temperature
8	Heading ability under low temperature	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High		Evaluated by head growth under low temperature
9	Tolerance to excessive soil moisture	30 plants	Observation	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High		As the degree of damage by excessive soil moisture

Plant		Cabbage		74(08011)	Tertiary essential character
No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Head weight	5 heads	Measurement	1:Extremely small 2:Very small 3:Small 4:Slightly small 5:Intermediate 6:Slightly large 7:Large 8:Very large 9:Extremely large	Weight of medium-sized marketable head/plant. Extremely small:<=0.5 kg, small:0.6-1.5 kg, intermediate:1.6-3.0 kg, large:3.1-7.0 kg, extremely large:>=7.1 kg
2	Brix	10 heads	Measurement	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High	Brix of juice squeezed from around midlib of heading leaves. Low:<=2.9%, intermediate:3.7- 4.3%, high:>=5.1%

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1	Processing	10 heads	Sensory	0:Not suitable 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High	Record kind of processing
2	Taste	10 heads	Sensory	3:Bad 4:Slightly bad 5:Intermediate 6:Slightly good 7:Good	Evaluated by total taste factors including tenderness, crispness, fibrousness, sucurency, glassy, smell, hardness etc