| Plant $\quad$ C | Cucumber |  |  | 8001) Primary essential character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Seed shape | 10 seeds | Measurement | * (round to the 2nd decimal place) | The ratio of width to length of seeds |
| 2 | Shape of cotyledon | 5 plants | Measurement | * (round to the 2nd decimal place) | The ratio of width to length of cotyledons at the first true leaf expanding stage |
| 3 | Hypocotyl length | 5 plants | Measurement | cm (round to the 1st decimal place) | Distance from the soil surface to the base of cotyledon at the first true leaf expanding stage |
| 4 | Plant type | 5 plants | Observation | 1:Dwarf 2:Self-pruning 3:Normal |  |
| 5 | Plant height | 5 plants | Measurement | cm (integer) | Distance from the soil surface to the shoot tip of the main stem at the time of the 20 th leaf expanding or 5 days before the main stem is pinched |
| 6 | Internode length | 5 plants | Measurement | cm (round to the 1st decimal place) | Average length of internode at the $10 \mathrm{th}-15 \mathrm{th}$ nodes at the time of the 20th leaf expanding or 5 days before the main stem is pinched |
| 7 | Leaf shape | 5 plants | Observation | 3:Round 5:Roundish pentagonal 7:Sharp pentagonal | Shape of the 6th-10th leaf at the time of the 20th leaf expanding or 5 days before the main stem is pinched |
| 8 | Leaf size | 5 plants | Measurement | (round to the 1st decimal place) | Width of the 6th-10th fully unfolded leaf at the time of the 20th leaf expanding or 5 days before the main stem is pinched |
| 9 | First pistillate flower bearing node | 5 plants | Observation | ```0:Not bearing 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high``` | Order of node which bears the lst female or bisexual flower |


| Plant ${ }^{\text {Cu}}$ | Cucumber |  |  | 8001) Primary essential character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 10 | Sex type | 5 plants | Observation | ```1:Androecious 2:Monoecious 3:Hermaphroditic and monoecious 4:Andromonoecious 5:Gynomonoecious 6:Gynoecious 7:Hermaphroditic``` |  |
| 11 | Fruit shape at maturity for table use | 5 plants, 10 fruits | Observation | ```1:Globular 2:Ovoid 3:Obovoid 4:Spindle- shaped 5:Elliptical 6:Cylindrical 7:Sickle- shaped 8:Snake-shaped``` | Observe at the peak harvest season |
| 12 | Fruit length at maturity for table use | 5 plants, 10 fruits | Measurement | cm (round to the 1st decimal place) | Measure at the peak harvest season |
| 13 | Fruit width at maturity for table use | 5 plants, 10 fruits | Measurement | cm (round to the 1st decimal place) | The position at one-third fruit length from the stem-end |
| 14 | Fruit color at maturity for table use | 5 plants, 10 fruits | Observation | 1:White 2:Yellow 3:Partly white 4:Light green 5:Medium green 6:Dark green | Observe at the peak harvest season |
| 15 | Wart size of fruit at maturity for table use | 5 plants, 10 fruits | Observation | $\begin{aligned} & \text { 0:No warts 1:Extremely small 2:Very small } \\ & \text { 3:Small 4:Slightly small } 5: \text { Intermediate } \\ & \text { 6:Slightly large 7:Large 8:Very large } \\ & \text { 9:Extremely large } \end{aligned}$ | Observe at the peak harvest season |
| 16 | Fruit spine color at maturity for table use | 5 plants, 10 fruits | Observation | 0:No spines 3:White 5:Brown 7:Black | Observe at the season of harvesting |
| 17 | Fruit color at maturity <br> for seed harvest | 5 plants, 10 fruits | Observation | 1:White 2:Yellow 3:Yellowish green 4:Reddish brown 5:Brown 9:Other |  |
| 18 | Net formation at maturity for seed harvest | 5 plants, 10 fruits | Observation | $0:$ Absent $1:$ Extremely sparse $2:$ Very sparse 3:Sparse $4:$ Slightly sparse $5:$ Intermediate 6:Slightly dense 7:Dense $8:$ Very dense 9:Extremely dense |  |


| Plant ${ }^{\text {C }}$ | Cucumber |  |  | 8001) Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Seed size | 10 seeds | Measurement | mm (round to the 1st decimal place) | Length of seeds |
| 2 | Size of cotyledon | 5 plants | Measurement | cm (round to the 1st decimal place) | Length of cotyledons at the first true leaf expanding stage |
| 3 | Color of cotyledon | 5 plants | Observation | 3:Light green 4:Slightly light green 5:Green 6:Slightly dark green 7:Dark green | Color of cotyledon at the first true leaf expanding stage |
| 4 | Thickness of hypocotyl | 5 plants | Measurement | mm (round to the 1st decimal place) | Diameter of hypocotyls at the first true leaf expanding stage |
| 5 | Thickness of stem | 5 plants | Measurement | mm (round to the 1st decimal place) | Diameter of main stems from the 10 th-15th nodes at the time of the 20 th leaf expanding or 5 days before the main stem is pinched |
| 6 | Degree of stem pubescence | 5 plants | Observation | ```0:Absent 1:Extremely thin 2:Very thin 3:Thin 4:Slightly thin 5:Intermediate 6:Slightly dense 7:Dense 8:Very dense 9:Extremely dense``` | Degree of pubescence at the 10th-15th nodes of main stem at the time of the 20th leaf expanding or 5 days before the main stem is pinched |
| 7 | Time of lateral shoot emergence | 5 plants | Observation | ```0:Absent 1:Extremely early 2:Very early 3:Early 4:Slightly early 5:Intermediate 6:Slightly late 7:Late 8:Very late 9:Extremely late``` | Date when the first primary lateral shoot reaches 10 cm in length |
| 8 | Number of lateral shoots | 5 plants | Measurement | * (round to the 1st decimal place) | Number of primary lateral shoots from the 6th15 th nodes of the main stem at the end of harvesting time |
| 9 | Internode length of lateral shoot | 5 plants | Measurement | cm (round to the 1st decimal place) | Length of the first internode of lateral shoots from the 6th-15th nodes of main stem at the end of harvesting time |
| 10 | Depth of sinus of leaves | 5 plants | Observation |  | Depth of sinus of the 6th-10th leaf at the time of 20th leaf expanding or 5 days before main stem is pinched |


| Plant $\quad$ C | Cucumber 65 |  |  | 8001) Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 11 | Degree of serration of leaves | 5 plants | Observation | 0:Absent 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly prominent 7:Prominent 8:Very prominent 9:Extremely prominent | Degree of serration of the 6th-10th leaf at the time of the 20 th leaf expanding or 5 days before main stem is pinched |
| 12 | Degree of leaf pubescence | 5 plants | Observation | ```0:Absent 1:Extremely thin 2:Very thin 3:Thin 4:Slightly thin 5:Intermediate 6:Slightly dense 7:Dense 8:Very dense 9:Extremely dense``` | Degree of pubescence of the 6th-10th leaf at the time of the 20 th leaf expanding or 5 days before main stem is pinched |
| 13 | Leaf color | 5 plants | Observation | 3:Light green 4:Slightly light green 5:Green 6:Slightly dark green 7:Dark green | Color of the 6th-10th leaf at the time of the 20th leaf expanding or 5 days before main stem is pinched |
| 14 | Length of petiole | 5 plants | Measurement | cm (round to the 1st decimal place) | Length of petiole of the 6th-10th leaf at the time of the 20 th leaf expanding or 5 days before main stem is pinched |
| 15 | Multi-flowering of pistillate flowers | 5 plants | Observation | 1:One 2:Two 3:Three or more 9:Multiflowering | Number of pistillate flowers per node at the peak harvest season |
| 16 | Shape of stem-end of fruit at maturity for table use | 5 plants, 10 fruits | Observation | ```1:Depressed 2:Slightly depressed 3:Flattened 4:Slightly round 5:Rounded 6:Slightly pointed 7:Pointed``` | Observe at the peak harvest season |
| 17 | Shape of blossom-end of fruit at maturity for table use | 5 plants, 10 fruits | Observation | 1:Depressed 2:Slightly depressed 3:Flattened 4:Slightly round 5:Rounded 6:Slightly pointed 7:Pointed | Observe at the peak harvest season |
| 18 | ```Depth of furrow on fruit surface at maturity for table use``` | 5 plants, 10 fruits | Observation |  | Observe at the peak harvest season |
| 19 | Pattern of fruit <br> surface at maturity for <br> table use | 5 plants, 10 fruits | Observation | ```0:Absent 1:Faded yellow stripe 2:Yellow stripe (tip) 3:Yellow stripe (half) 4:Yellow stripe (full) 5:Faded white spot 6:White spot 7:Faded chinzy 8:Chinzy 9:Other``` | Observe at the peak harvest season |


| Plant $\quad$ C | Cucumber 65 |  |  | 8001) Primary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 20 | Glossiness of fruit skin at maturity for table use | 5 plants, 10 fruits | Observation | 0 :Absent 1:Extremely weak 2:Very weak 3:Weak 4:Slightly weak 5:Intermediate 6:Slightly prominent 7:Prominent 8:Very prominent 9:Extremely prominent | Observe at the peak harvest season |
| 21 | Bloominess of fruit at maturity for table use | 5 plants, 10 fruits | Observation | 0:Absent 1:Extremely weak 2:Very weak 3:Weak 4:Slightly weak 5:Intermediate 6:Slightly prominent 7:Prominent 8:Very prominent 9:Extremely prominent | Observe at the peak harvest season |
| 22 | Density of warts of fruit | 5 plants, 10 fruits | Observation | ```0:Absent 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high``` | Observe at the peak harvest season |
| 23 | Spine size of fruit at maturity for table use | 5 plants, 10 fruits | Observation | ```0:Absent 1:Extremely small 2:Very small 3:Small 4:Slightly small 5:Intermediate 6:Slightly large 7:Large 8:Very large 9:Extremely large``` | Observe at the peak harvest season |
| 24 | Shape of the cross section of fruit at maturity for table use | 5 plants, 5 fruits | Observation | 1:Rounded 2:Triangular and round 3:Triangular 4:Sharply triangular | Observe at the peak harvest season |
| 25 | Thickness of flesh at maturity for table use | 5 plants, 5 fruits | Observation | ```1:Extremely thin 2:Very thin 3:Thin 4:Slightly thin 5:Intermediate 6:Slightly thick 7:Thick 8:Very thick 9:Extremely thick``` | Observe at the peak harvest season |
| 26 | Flesh color at maturity <br> for table use | 5 plants, 5 fruits | Observation | 3:White 4:White to milky green 5:Milky green 6:Milky green to light green 7:Light green | Observe at the peak harvest season |
| 27 | Surface of fruit at maturity for seed harvest | 5 plants, 3 fruits | Observation | 1:Smooth 2:Ridgy 3:Warty |  |


| Plant C | Cucumber 6 |  |  | 8001) Secondary essential character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Resistance to Fusarium wilt | 5 plants | Observation | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high | Artificial inoculation for young seedling or natural infection in field |
| 2 | Resistance to downy mildew | 5 plants | Observation | ```1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very High 9:Extremely high``` | Artificial inoculation for young seedling or natural infection in field |
| 3 | Resistance to powdery <br> mildew | 5 plants | Observation | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very High 9:Extremely high | Artificial inoculation for young seedling or natural infection in field |
| 4 | Resistance to virus diseases | 5 plants | Observation | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very High 9:Extremely high | Artificial inoculation for young seedling or natural infection in field |
| 5 | Resistance to nematodes | 5 plants | Observation | ```1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very High 9:Extremely high``` | Artificial inoculation for young seedling or natural infection in field |
| 6 | Time of harvesting | 5 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``` | Date of harvesting of half of the plants investigated |


| Plant $\quad$ C | Cucumber |  |  | 8001) Secondary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Resistance to bacterial spot | 5 plants | Observation | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high | Artificial inoculation for young seedling or natural infection in field |
| 2 | Resistance to gummy stem blight | 5 plants | Observation | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high | Artificial inoculation for young seedling or natural infection in field |
| 3 | Resistance to scab | 5 plants | Observation |  | Artificial inoculation for young seedling or natural infection in field |
| 4 | Resistance to <br> Phytophthora rot | 5 plants | Observation | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high | Artificial inoculation for young seedling or natural infection in field |
| 5 | Resistance to aphid | 5 plants | Observation | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high | Artificial inoculation for young seedling or natural infection in field |
| 6 | Resistance to <br> Aulacophora femoralis | 5 plants | Observation | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high | Artificial inoculation for young seedling or natural infection in field |
| 7 | Tolerance to high temperature | 5 plants | Observation | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high | Seedling or field test |
| 8 | Tolerance to low temperature | 5 plants | Observation | ```1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high``` | Seedling or field test |
| 9 | Vigor of root expansion | 5 plants | Observation | ```1:Extremely weak 2:Very weak 3:Weak 4:Slightly weak 5:Intermediate 6:Slightly vigorous 7:Vigorous 8:Very vigorous 9:Extremely vigorous``` | Seedling or field test |


| Plant Cut | Cucumber |  |  | 8001) Tertiary essential character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Fruit bearing position | 5 plants | Observation | 1:On the main stem only $2: O n$ the main stem and lateral 3:On lateral shoots only | The position of pistillate flowers on vines at the end of harvesting time |
| 2 | Fruit weight at maturity for table use | 5 plants, 10 fruits | Measurement | g (round to the 1st decimal place) | Measure at the peak harvest season |
| 3 | Bitterness of fruit | 5 plants, 10 fruits | Sensory | ```0:Absent 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high``` | Evaluate at the peak harvest season by sensory test |


| Plant | Cucumber 6 |  |  | 8001) Tertiary optional character |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Characters | No. of samples | Methods | Rank or measurement unit | Remarks |
| 1 | Fruit re-bearing | 5 plants | Observation | $\begin{aligned} & \text { 0:None 1:Extremely low 2:Very low 3:Low } \\ & \text { 4:Slightly low 5:Intermediate 6:Slightly high } \\ & \text { 7:High 8:Very high 9:Extremely high } \end{aligned}$ | Frequency of fruit re-bearing at the same node at the end of harvesting time |
| 2 | Parthenocarpy | 5 plants | Observation | ```0:Absent 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high``` | Fruit setting ability of non-pollinated female or bisexual flowers at the best season for harvesting |
| 3 | Yield | 5 plants | Observation | ```1:Extremely low 2:Very low 3:Low 4:Slightly``` |  |
| 4 | Eating quality of fresh fruit | 5 plants, 5 fruits | Sensory | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high | Evaluate at the best season for harvesting |
| 5 | Storability | 5 plants, 5 fruits | Observation | $\begin{aligned} & \text { 1:Extremely short } 2: \text { Very short } 3: \text { Short } \\ & \text { 4:Slightly short } 5: \text { Intermediate 6:Slightly } \\ & \text { long 7:Long 8:Very long 9:Extremely long } \end{aligned}$ | Evaluate at the best season for harvesting |
| 6 | Hardness of fruit skin | 5 plants, 5 fruits | Sensory | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high | Evaluate at the mid season of harvesting by sensory test |
| 7 | Hardness of flesh | 5 plants, 5 fruits | Sensory | 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high | Evaluate at the peak harvest season by sensory test |
| 8 | Weight of ripe fruit | 5 plants, 10 fruits | Measurement | $g$ (integer) |  |
| 9 | Sweetness of ripe fruit | 5 plants, 10 fruits | Measurement | \% (round to the 1st decimal place) | Brix of juice by refractometer |

