OBJECTIVE DESCRIPTION OF VARIETY

Lettuce (Lactuca sativa L.)

NAME OF APPLICANT (S) TEMPORARY OR EXPERIMENTAL DESIGNATION VARIETY NAME

ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country)

FOR OFFICIAL USE ONLY PVPO NUMBER

Place the appropriate number that describes the varietal character on the lines below. The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle. Each test should be designed to result in a total of at least 60 plants per variety, which should be divided between two or more replicates. Unless otherwise indicated, all observations should be made on 20 plants or parts taken from each of 20 plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The Location of the Test Area is: Color System Used:

1. _____ PLANT TYPE: (See List of Suggested Check Varieties on Page 8)
   01 = Cutting/Leaf
   02 = Butterhead
   03 = Bibb
   04 = Cos or Romaine
   05 = Great Lakes Group
   06 = Vanguard Group
   07 = Salinas Group
   08 = Eastern (Ithaca) Group
   09 = Stem
   10 = Latin
   11 = Other (Specify) ________________

2. SEED: _____ COLOR _______ LIGHT DORMANCY _______ HEAT DORMANCY
   1 = White (Silver Gray)
   2 = Black (Grey Brown)
   3 = Brown (Amber)
   1 = Light Required
   2 = Light Not Required
   1 = Susceptible
   2 = Not Susceptible

3. COTYLEDON TO FOURTH LEAF STAGE: NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day-old seedling grown under optimal conditions.
   ______ SHAPE OF COTYLEDONS: 1 = Broad  2 = Intermediate  3 = Spatulate
   ______ SHAPE OF FOURTH LEAF:

LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

<table>
<thead>
<tr>
<th>APICAL MARGIN</th>
<th>---</th>
<th>---</th>
<th>---</th>
<th>---</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Entire</td>
<td>4 = Moderately Dentate</td>
<td>7 = Lobed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Crenate/Gnawed</td>
<td>5 = Coarsely Dentate</td>
<td>8 = Other (Specify)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = Finely Dentate</td>
<td>6 = Incised</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BASAL MARGIN: (Use the options for Apical Margin above)

<table>
<thead>
<tr>
<th>UNDULATION</th>
<th>1 = Flat</th>
<th>2 = Slight</th>
<th>3 = Medium</th>
<th>4 = Marked</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>GREEN COLOR</th>
<th>1 = Yellow Green</th>
<th>3 = Medium Green</th>
<th>5 = Blue Green</th>
<th>7 = Grey Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 = Light Green</td>
<td>4 = Dark Green</td>
<td>6 = Silver Green</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ANTHOCYANIN:

<table>
<thead>
<tr>
<th>DISTRIBUTION</th>
<th>1 = Absent</th>
<th>3 = Spotted</th>
<th>5 = Other (Specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 = Margin Only</td>
<td>4 = Throughout</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONCENTRATION</th>
<th>1 = Light</th>
<th>2 = Moderate</th>
<th>3 = Intense</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>CUPPING</th>
<th>1 = None</th>
<th>2 = Apical Margin</th>
<th>3 = Lateral Margins</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>REFLEXING</th>
<th>1 = None</th>
<th>2 = Apical Margin</th>
<th>3 = Lateral Margins</th>
</tr>
</thead>
</table>

4. MATURE LEAVES (Observe Harvest-Mature Outer Leaves)

NOTE: Provide color photo of a harvest-mature leaf which accurately shows color and margin characteristics.

MARGIN:

<table>
<thead>
<tr>
<th>INCISION DEPTH</th>
<th>1 = Absent/Shallow (Dark Green Boston)</th>
<th>2 = Moderate (Vanguard)</th>
<th>3 = Deep (Great Lakes 659)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>INCISION DENSITY</th>
<th>3 = Sparse</th>
<th>5 = Medium</th>
<th>7 = Dense</th>
<th>9 = Very Dense</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>INDENTATION</th>
<th>1 = Entire (Dark Green Boston)</th>
<th>4 = Crenate (Vanguard)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 = Shallowly Dentate (Great Lakes 65)</td>
<td>5 = Other (Specify)</td>
<td></td>
</tr>
<tr>
<td>3 = Deeply Dentate (Great Lakes 659)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UNDULATIONS OF THE APICAL MARGIN</th>
<th>1 = Absent/Shl (Dark Green Boston)</th>
<th>2 = Moderate (Vanguard)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 = Strong (Great Lakes 659)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GREEN COLOR</th>
<th>1 = Very Light Green (Bibb)</th>
<th>3 = Medium Green (Great Lakes)</th>
<th>5 = Very Dark Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 = Light Green (Minetto)</td>
<td>4 = Dark Green (Vanguard)</td>
<td>6 = Other (Specify)</td>
<td></td>
</tr>
</tbody>
</table>

ANTHOCYANIN:

<table>
<thead>
<tr>
<th>DISTRIBUTION</th>
<th>1 = Absent</th>
<th>3 = Spotted (California Cream Butter)</th>
<th>5 = Other (Specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 = Margin Only (Big Boston)</td>
<td>4 = Throughout (Prize Head)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONCENTRATION</th>
<th>1 = Light (Iceberg)</th>
<th>2 = Moderate (Prize Head)</th>
<th>3 = Intense (Ruby)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SIZE</th>
<th>1 = Small</th>
<th>2 = Medium</th>
<th>3 = Large</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>GLOSSINESS</th>
<th>1 = Dull (Vanguard)</th>
<th>2 = Moderate (Salinas)</th>
<th>3 = Glossy (Great Lakes)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>BLISTERING</th>
<th>1 = Absent/Shl (Salinas)</th>
<th>2 = Moderate (Vanguard)</th>
<th>3 = Strong (Prize Head)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>LEAF THICKNESS</th>
<th>1 = Thin</th>
<th>2 = Intermediate</th>
<th>3 = Thick</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>TRICHOMES</th>
<th>1 = Absent (Smooth)</th>
<th>2 = Present (Spiny)</th>
</tr>
</thead>
</table>
5. PLANT:
   ___ SPREAD OF FRAME LEAVES (cm):
   ___ HEAD DIAMETER: (Market Trimmed with Single Cap Leaf)
   ___ HEAD SHAPE:  
      1 = Flattened  3 = Spherical  5 = Non-Heading
      2 = Slightly Flattened  4 = Elongate  6 = Other (Specify)___________________________
   ___ VARIETIES WITH CLOSED HEAD FORMATION ONLY:  (Head: degree of overlapping of upper part of leaves)
      1=Very Weak  3=Weak  5=Medium  7=Strong  9=Very Strong
   ___ HEAD SIZE CLASS:  
      1 = Small  2 = Medium  3= Large
   ___ HEAD PER CARTON ________ HEAD WEIGHT
   ___ HEAD FIRMNESS:  
      1 = Loose  2 = Moderate  3= Firm  4 = Very Firm

6. BUTT:
   ___ SHAPE:  
      1 = Slightly Concave  2 = Flat  3 = Rounded
   ___ MIDRIB:  
      1 = Flattened (Salinas)  2 = Moderately Raised  3 = Prominently Raised (Great Lakes 659)

7. CORE:
   ___ DIAMETER AT BASE OF HEAD (mm):
   ___ : ___ RATIO OF HEAD DIAMETER/CORE DIAMETER:
   CORE HEIGHT FROM BASE OF HEAD TO APEX:
   ___ AVERAGE: (mm)
   RANGE (mm) ___ to ___

8. BOLTING: (Give First Water Date: _____________________) NOTE: First Water Date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.
   ___ NUMBER OF DAYS FROM FIRST WATER DATE TO SEED STALK EMERGENCE: (summer conditions)
   ___ BOLTING CLASS:  
      1 = Very Slow  3 = Medium  5 = Very Rapid
      2 = Slow  4 = Rapid
   ___ HEIGHT OF MATURE SEED STALK (cm)
   ___ SPREAD OF BOLTER PLANT: (cm) (At widest point)
   ___ BOLTER LEAVES:  
      1 = Straight  2 = Curved
   ___ MARGIN:  
      1 = Entire  2 = Dentate
   ___ COLOR:  
      1 = Light Green  2 = Medium Green  3 = Dark Green

   BOLTER HABIT:
   ___ TERMINAL INFLORESCENCE:  
      1 = Absent  2 = Present
   ___ LATERAL SHOOTS:  
      1 = Absent  2 = Present
   ___ BASAL SIDE SHOOTS:  
      1 = Absent  2 = Present
9. MATURITY: (earliness of harvest-mature head formation)

NOTE: Complete this section for at least one season.

<table>
<thead>
<tr>
<th>SEASON</th>
<th>APPLICATION VARIETY No. of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>Summer</td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>Winter</td>
<td></td>
</tr>
</tbody>
</table>

<First Water Date to Harvest>

Give Planting Date(s) and Location(s):

Spring: ____________________________________________________________________________________________________

Summer: ____________________________________________________________________________________________________

Fall: ______________________________________________________________________________________________________

Winter: ____________________________________________________________________________________________________

10. ADAPTATION:

PRIMARY REGIONS OF ADAPTATION (tested and proven adapted): 0 = Not Tested 1 = Not Adapted 2 = Adapted

____ Southwest (CA and/or AZ desert) ____ West Coast ____ Northeast

____ North Central ____ Southeast ____ Other (Specify) _______________________

SEASON:

____ Spring  (Area ____________________________)  ____ Fall  (Area ____________________________)

____ Summer  (Area ____________________________)  ____ Winter (Area ____________________________)

____ GREENHOUSE: 0 = Not Tested 1 = Not Adapted 2 = Adapted

____ SOIL TYPE: 1 = Mineral 2 = Organic 3 = Both

11. VIRAL DISEASES:

1 = Immune 3 = Resistant 5 = Moderately Resistant/Moderately Susceptible 7 = Susceptible 9 = Highly Susceptible

____ Big Vein

____ Lettuce Mosaic

____ Cucumber Mosaic

____ Tomato Bushy Stunt, cause of dieback

____ Turnip Mosaic

____ Beet Western Yellows

____ Lettuce Infectious Yellows

____ Other (Specify) ___________________

12. FUNGAL/BACTERIAL DISEASES:

1 = Immune 3 = Resistant 5 = Moderately Resistant/Moderately Susceptible 7 = Susceptible 9 = Highly Susceptible

____ Corky Root Rot-
(Races: _____________________________)

____ Downy Mildew
(Races: _____________________________)
12. FUNGAL/BACTERIAL DISEASES: (continued)
   ___ Powdery Mildew
   ___ Sclerotinia Drop
   ___ Bacterial Soft Rot
   ___ Botrytis (Grey Mold)
   ___ Verticillium Wilt
   ___ Bacterial Leaf Spot
   ___ Anthracnose
   ___ Other (Specify) _______________________

13. INSECTS:
    1 = Immune  3 = Resistant  5 = Moderately Resistant/Moderately Susceptible  7 = Susceptible  9 = Highly Susceptible
    ___ Cabbage Loopers
    ___ Root Aphids
    ___ Green Peach Aphid
    ___ Lettuce Aphid
    ___ Pea Leafminer
    ___ Other (Specify) _______________________

14. PHYSIOLOGICAL STRESSES:
    1 = Immune  3 = Resistant  5 = Moderately Resistant/Moderately Susceptible  7 = Susceptible  9 = Highly Susceptible
    ___ Tipburn
    ___ Heat
    ___ Drought
    ___ Cold
    ___ Salt
    ___ Brown Rib
      (Rib Discoloration, Rib Blight)
    ___ Other (Specify) _______________________

15. POST HARVEST STRESS:
    1 = Immune  3 = Resistant  5 = Moderately Resistant/Moderately Susceptible  7 = Susceptible  9 = Highly Susceptible
    ___ Pink Rib
    ___ Russet Spotting
    ___ Rusty Brown Discoloration
      ___ Internal Rib Necrosis
        (Blackheart, Grey Rib, Grey Streak)
    ___ Brown Stain

16. BIOCHEMICAL OR ELECTROPHORETIC MARKERS:
17. COMMENTS:

SUGGESTED CHECK VARIETIES

<table>
<thead>
<tr>
<th>TYPE</th>
<th>CHECK VARIETY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutting/Leaf</td>
<td>Waldmann's Green</td>
</tr>
<tr>
<td>Butterhead</td>
<td>Dark Green Boston</td>
</tr>
<tr>
<td>Bibb</td>
<td>Bibb</td>
</tr>
<tr>
<td>Cos or Romain</td>
<td>Parris Island</td>
</tr>
<tr>
<td>Great Lakes Group</td>
<td>Great Lakes 659-700</td>
</tr>
<tr>
<td>Vanguard Group</td>
<td>Vanguard</td>
</tr>
<tr>
<td>Salinas Group</td>
<td>Salinas</td>
</tr>
<tr>
<td>Eastern Group</td>
<td>Ithaca</td>
</tr>
<tr>
<td>Stem</td>
<td>Celtuce</td>
</tr>
<tr>
<td>Latin</td>
<td>Little Gem</td>
</tr>
</tbody>
</table>

REFERENCES


