**U.S. DEPARTMENT OF AGRICULTURE**
**AGRICULTURAL MARKETING SERVICE**
**SCIENCE AND TECHNOLOGY**
**PLANT VARIETY PROTECTION OFFICE**
**BELTSVILLE, MD 20705**

**Exhibit C**

# OBJECTIVE DESCRIPTION OF VARIETY
# Okra (*Abelmoschus esculentus* (L.) Moench)

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

| ADDRESS *(Street and No. or RD No., City, State, and Zip Code, Country)* | FOR OFFICIAL USE ONLY |
|---|---|
| | PVPO NUMBER |

**PLEASE READ ALL INSTRUCTIONS CAREFULLY**:

Complete the form as fully as possible. For quantitative characteristics (e.g., plant height) show typical means for the application variety and at least one check variety grown in the same trial(s). Give detailed analyzed trial data in Exhibit D, if necessary to substantiate novelty of your variety. If color comparisons are important in distinguishing your variety from another, use a standard, published color chart (e.g., Royal Horticultural Society, Munsell, U.S. Bureau of Standards), and specify the standard used. Use leading zeroes when necessary ( 0 9, 0 8 2 ).

Check Varieties: Use "Clemson Spineless" when possible; but, give comparisons of your variety with other varieties if data are available; specify names of checks.

**1. MATURITY**:

Heat units (growing degree days) to 50% bloom (at least one open flower on 50% of plants)

☐☐☐☐ Application Variety ☐☐☐☐ Check Variety _____

Days to 50% Bloom:

☐☐☐☐ Application Variety ☐☐☐☐ Check Variety _____

Application variety at (50% bloom):

☐☐ Days Earlier Than: _____ (Check Variety)

☐☐ Days Later Than: _____ (Check Variety)

Location(s) of Trial(s) _____

Date(s) Seeded _____

**2. CHROMOSOME NUMBER**:

☐☐☐ =2n

**3. PLANT**:

☐ Type: 1 = Dwarf (Dwarf Green Long Pid) 2 = Medium (Clemson Spineless)
3 = Tall (Green Velvet) 4 = Very Tall (Perkins Mammoth)

☐☐☐ Branches at Basal Nodes: 1 = Absent 2 = Present

**3. PLANT**: (continued)

Plant Height (Mature Plant at End of Growing Season):

☐☐☐☐ cm, Application Variety ☐☐☐☐ cm, Check Variety _____

Application Variety:

☐☐ cm Taller Than: _____ (Check Variety)

☐☐ cm Shorter Than: _____ (Check Variety)

Number of Nodes on Main Stem:

☐☐ Application Variety ☐☐ Check Variety _____

Number of Lateral Branches:

☐☐ Application Variety ☐☐ Check Variety _____

Total Number of Fruiting Nodes (on Main Stem Plus Branches):

☐☐ Application Variety ☐☐ Check Variety _____

Node Number of First Bloom (Cotylendonary Node = 0):

☐☐ Application Variety ☐☐ Check Variety _____

**4. STEM**:

☐ Color: 1 = Green 2 = Reddish or Purplish-green 3 = Deep Red

☐ Spiny hairs: 1 = Absent 2 = Present

**5. LEAF** (Make observations on leaves at 7th through 11th nodes on plant):

☐ Petiole Anthocyanin: 1 = Absent 2 = Present

☐ Leaf-vein Anthocanin: 1 = Absent 2 = Present

☐ Leaf=blade Anthocanin: 1 = Absent 2 = Present

☐ Leaf lobing: 1 = Shallow (Emerald) 2 = Intermediate (Dwarf Green Long Pod) 3 = Deep (Clemson Spineless)

☐ Spiny hairs: 1 = Absent 2 = Present

**6. FLOWER**:

☐ Calyx color: 1 = Green 2 = Reddish

☐ Color of basal petal spot on outside of petal: 1 = Red 2 = Yellow or Whitish

☐ Petal Color: 1 = Yellow 2 = White

**7. FRUIT**:

☐ Pod color (at green harvest stage): 1 = White or Dream (White Velvet) 2 = Light Green (Lousiana Green Velvet) 3 = Medium to Dark Green (Emerald) 4 = Pink or Red (Red Okra)

☐ Spiny Hairs on Pod: 1 = Absent 2 = Present

☐ Pod Cross-section: 1 = Round 2 = Moderately Angled 3 = Sharply Angled

☐ Fruiting Pedicel Texture: 1 = Flexible (Not Suitable for “Snap” Harvest 2 = Brittle (Pod Easily Snapped off)

☐ Mature, Dry Pod: 1 = Indehiscent 2 = Dehiscent

Mature Pod Length:

☐☐☐ mm Application Variety ☐☐☐ mm Check Variety _____

**7. FRUIT**: (continued)

Mature Pod Diameter:

☐☐ mm Application Variety ☐☐ mm Check Variety _____

Ascorbic Acid Content of Edible Pods (mg/100 g. fresh wt.):

☐☐ mg Application Variety ☐☐ mg Check Variety _____

☐☐ mg Check Variety #2 _____

Vitamin A Content of Edible Pods (International Units/mg. fresh wt.):

☐☐ I.U. Application Variety ☐☐ I.U. Check Variety _____

☐☐ I.U. Check Variety #2_____

**8. SEED**:

Number per fruit:

☐☐☐ Application Variety ☐☐☐ Check Variety _____

☐☐☐ Check Variety #2_____

Seed Weight (g per 1,000 seeds):

☐☐☐ g. Application Variety ☐☐☐ g. Check Variety _____

☐☐☐ g. Check Variety #2_____

☐ 1 = Tight-fitting on Locule 2 = Loose-fitting in Locule

☐ Hilum: 1 = Not Hairy 2 = Hairy

Oil Composition as % Dry Weight:

☐☐ % Application Variety ☐☐ % Check Variety _____

☐☐ % Check Variety #2 _____

**9. DISEASE REACTION**: (code: 1 = Not Tested, 1 = Susceptible 2 = Resistant)

☐ Okra Yellow-vein Mosaic Virus ☐ Cercospora Blight (*C*. spp.)

☐ Powdery Mildew (*Erysiphe cichoreacaerum*) ☐ Fusarium Wilt (*F. oxysporum*)

☐ Verticillium Wilt (*V. albo-atrum*) ☐ Other _____

**10. PEST REACTION**: (code: 1 = Not Tested, 1 = Susceptible 2 = Resistant)

☐ Nematodes (*Meloidogyne incognita*) ☐ Aphid, Cotton (*Aphis gossypii*)

☐ Aphid, Melon (*Myzus persicae*) ☐ Blister Beetle (*Epicauta* spp.)

☐ Borer, Fruit (*Earias insulana*) ☐ Borer, Shoot (*Earias fabia*)

☐ Corn Earworm (*Heliothis zea*) ☐ Flea Beetles (Specify _____)

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☐ Leaf Miner (*Liriomyza sativae*) ☐ Looper (*Trichoplusia ni*)

☐ Stinkbug (*Nezara viridula*) ☐ Other _____

**11. ENVIRONMENTAL STRESS**: (code: 0 = Not Tested, 1 = Susceptible, 2= Resistant)

☐ Drought ☐ Heat

☐ Atmospheric Pollutants (Specify Types) _____

References

1. Boswell, V.R. & L.B. Reed. 1962. Okra Culture. U. S. Department of Agriculture Leaflet No. 449. Washington D.C.

2. Erickson, H.T. & F.A.A. Couto. 1963. Inheritance of four plant and floral characters in okra (*Hibiscus Esculentus* L.) Proceedings of the American Society for Horticultural Science 83:605-608.

3. Sackett, C. 1975. Okra. Friut & Vegetable Facts & Pointers. United Fresh Fruit and Vegetable Assn., Washington, D.C., 7 pages.