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

**EXHIBIT**

**OBJECTIVE DESCRIPTION OF VARIETY  
SORGHUM AND RELATED CROPS**

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

**NOTE: Observations should be made on an appropriate number of well spaced plants (approximately 15 cm spacing).**

**1. GENERAL CATEGORIES**

- \_\_\_ Kind: 1 = Sorghum 2 = Sorghum X Alum 3 = Sudangrass 4 = Johnsongrass 5 = Other \_\_\_\_\_
- \_\_\_ Inbred Type: 1 = Male Sterile 2 = Maintainer 3 = Restorer
- \_\_\_ Male Sterile Cytoplasm: 1 = A-1 2 = A-2 3 = A-3 4 = A-4 5 = A-5 6 = Other \_\_\_\_\_
- \_\_\_ Use Class: 1 = Grain 2 = Forage 3 = Silage 4 = Sugar 5 = Syrup 6 = Broomcorn 7 = Multipurpose (specify) \_\_\_\_\_

**2. MATURITY**

- \_\_\_ \_\_\_ Days From Planting To Mid-Anthesis
- \_\_\_ Number Days Earlier Than \_\_\_ 1 = TX3042 2 = Wheatland 3 = TX2737 4 = TX430 5 = Redlan
- \_\_\_ Number Days Later Than \_\_\_ 6 = Other Public Line (Specify) \_\_\_\_\_

**3. PLANT**

- \_\_\_ Coleptile: 1 = Green 2 = Red
- \_\_\_ Plant Pigment: 1 = Tan 2 = Red 3 = Purple 4 = Other (Specify) \_\_\_\_\_

**4. STALK**

- \_\_\_ Diameter (Main Stalk): 1 = Slim 2 = Mid-Stout 3 = Stout

**5. STALK HEIGHT**

\_\_\_ \_\_\_ cm From Soil To Top Of Panicle

\_\_\_ \_\_\_ cm Less Than \_\_\_ 1 = TX3042 2 = Wheatland 3 = TX2737 4 = TX430 5 = Redlan

\_\_\_ \_\_\_ cm Greater Than \_\_\_ 6 = Other Public Line (Specify) \_\_\_\_\_

\_\_\_ No of Recessive Height Genes Plant Height Genotype (Mark only recessive): \_\_\_ dw1 \_\_\_ dw2 \_\_\_ dw3 \_\_\_ dw4

\_\_\_ Waxy Bloom 1 = Present 2 = Absent

\_\_\_ Tillers: 1 = Few 2 = Moderate 3 = Many

\_\_\_ Sweetness: 1 = Sweet 2 = Insipid

\_\_\_ Juiciness: 1 = Dry (Pithy) 2 = Juice

\_\_\_ Panicle Exsertion: 1 = Short 2 = Medium 3 = Long

\_\_\_ Degree of Senescence: 1 = Senescent 2 = Nonsenescent 3 = Intermediate

**6. LEAF** (First leaf below flag leaf)

\_\_\_ Width (Relative to Class): 1 = Narrow 2 = Moderate 3 = Wide

\_\_\_ Color: 1 = Light Green 2 = Dark Green

\_\_\_ Margin: 1 = Smooth 2 = Wavy

\_\_\_ Attitude: 1 = Erect 2 = Horizontal 3 = Drooping

\_\_\_ Ligule: 1 = Present 2 = Absent

\_\_\_ Midrib Color: 1 = White 2 = Intermediate 3 = Cloudy 4 = Yellow 5 = Brown

**7. PANICLE**

\_\_\_ ANTHOR COLOR (At Flowering) 1 = White 2 = Light Yellow 3 = Dark Yellow 4 = Wine

\_\_\_ \_\_\_ cm Panicle Length

\_\_\_ \_\_\_ cm Less Than \_\_\_ 1 = TX3042 2 = Wheatland 3 = TX2737 4 = TX430 5 = Redlan

\_\_\_ \_\_\_ cm Greater Than \_\_\_ 6 = Other Public Line (Specify) \_\_\_\_\_

\_\_\_ Density: 1 = Open 2 = Semi-Open 3 = Semi-Compact 4 = Compact

\_\_\_ Shape: 1 = Round 2 = Oval 3 = Cylindrical 4 = Conical 5 = Obovate

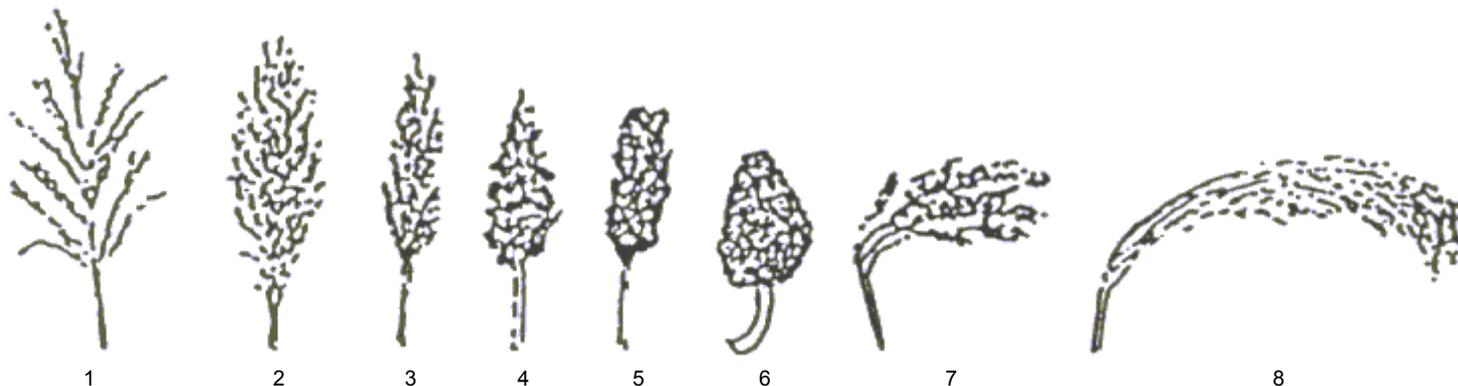
\_\_\_ Length of Central Rachis (% of Panicle Length): 1 = 100% 2 = 75% 3 = 50% 4 = 25%

\_\_\_ Rachis Branches (At Grain Maturity) 1 = Erect 2 = Horizontal 3 = Drooping

\_\_\_ Rachis Branch Averag 1 = Short 2 = Intermediate 3 = Long

**7. PANICLE (Continued)**

\_\_\_ Panicle Type (Select Number from Diagram Below)

**Glumes**

- \_\_\_ Length: 1 = Short 2 = Intermediate 3 = Long
- \_\_\_ % of Grain Covered by Glume: 1 = 25% 2 = 50% 3 = 75% 4 = 100% 5 = Over 100%
- \_\_\_ Texture: 1 = Papery 2 = Intermediate 3 = Tough
- \_\_\_ Color (At Grain Maturity): 1 = Black 2 = Mahogany 3 = Red 4 = Sienna 5 = Dark Tan 6 = Light Tan
- \_\_\_ Hairiness: 1 = Smooth 2 = Intermediate 3 = Hairy
- \_\_\_ Venation: 1 = Present 2 = Absent
- \_\_\_ Transverse Wrinkle: 1 = Present 2 = Absent
- \_\_\_ Awns: 1 = Absent 2 = Short 3 = Intermediate 4 = Long

**8. ROOTS**

- \_\_\_ 1 = Fibrous 2 = Rhizomatous

**9. GRAIN**

- \_\_\_ Testa: 1 = Absent 2 = Present
- \_\_\_ Testa Color: 1 = Brown 2 = Purple
- \_\_\_ Mesocarp Thickness: 1 = Thin 2 = Intermediate 3 = Thick
- \_\_\_ Epicarp Color (Genetic): 1 = White 2 = Lemon Yellow 3 = Red
- \_\_\_ Spreader (Tannin in Pericarp): 1 = Absent 2 = Present
- \_\_\_ Intensifier: 1 = Absent 2 = Present
- \_\_\_ Grain Color (Appearance): 1 = White Pearly 2 = White Chalky (Opaque 3 = Yellow 4 = Lemon Yellow  
5 = Light Red 6 = Dark Red 7 = Light Brown 8 = Reddish Brown 9 = Dark Brown  
10 = Purple 11 = Other (Specify) \_\_\_\_\_

**9. GRAIN** (Continued)

\_\_\_ Endosperm Color: 1 = White 2 = Yellow

\_\_\_ Endosperm Type: 1 = Starchy 2 = Waxy 3 = Sugary

\_\_\_ Endosperm Texture: 1 = Floury 2 = Intermediate 3 = Corneous

\_\_\_ Seed Shape: 1 = Round 2 = Oval 3 = Ovate 4 = Turtleback

5 = Flat 6 = Wedge 7 = Other (Specify) \_\_\_\_\_

\_\_\_ \_\_\_ \_\_\_ No. of Seed per 100 G Genotype (if known): R, Y, I, Z, B1, B2, S, Tp, Wx, Fl

Define) \_\_\_\_\_

**10. DISEASE RESISTANCE** (1 = Susceptible 2 = Intermediate 3 = Resistant)

Bacterial Stripe, Charcoal Rot, Maize Dwarf Mosaic Virus, Puccinia (Rust), Bacterial Streak, Bacterial Spot, Anthracnose, Head Smut, Sooty Stripe, Downy Mildew, Grain Mold, Fusarium Stalk Rot or Others.

REACTION	DISEASE	CAUSAL AGENT	RACE OR PATHOTYPE

**11. INSECT RESISTANCE** ( 1 = Susceptible 2 = Intermediate 3 = Resistant)

Sorghum Midge, Chinch Bug, Greenbug or Others.

REACTION	INSECT	BIOTYPE

**12. MOLECULAR TRAITS**

**13. OTHER DISTINGUISHING TRAITS**