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

Exhibit C

**OBJECTIVE DESCRIPTION OF VARIETY
Pumpkin/Squash/Gourd (*Cucurbita* spp.)**

NAME OF APPLICANT (S)	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME
ADDRESS (Street and No. or RD No., City, State, Zip Code and Country)		<div style="background-color: #cccccc; padding: 2px;">FOR OFFICIAL USE ONLY</div> PVPO NUMBER

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

In the spaces on the left, enter the appropriate numbers that describe the characteristics of the application variety. On the right, enter the appropriate numbers that describe the characteristics of the most similar comparison variety. Right justify whole numbers by adding leading zeros if necessary. The variety that you choose for comparison should be the most similar one in terms of overall morphology, background and maturity. The comparison variety should be grown in field trials **with** the application variety for 2-3 location/years (environments) in the region and season of best adaptability. At least one year of trials should be conducted within the United States of America. In general, measurements of quantitative traits should be taken **from one trial on 15-25 randomly selected plants or plant parts** to obtain averages and statistics that describe a typical field of the variety. (Form technical content last updated March 1979.)

<p>1. SPECIES:</p> <p>___ Species: 1 = Lagenaria 2 = Maxima 3 = Mixta 4 = Moschata 5 = Pepo 6 = Other (Specify) _____</p>	Comparison Variety Name _____ ___ Species
<p>2. KIND: (According to use)</p> <p>___ Kind/Use: 1 = Pumpkin 2 = Squash 3 = Gourd</p>	___ Kind/Use
<p>3. TYPE:</p> <p>___ Type: 1 = Summer (Vegetable Marrow) 2 = Winter (Boston Marrow)</p>	___ Type
<p>4. COTYLEDON:</p> <p>___ ___ mm Long ___ ___ mm Wide</p> <p>___ Apex: 1 = Tapered 2 = Rounded 3 = Notched</p> <p>___ Veining: 1 = Obscure 2 = Plainly Visible 3 = Prominent</p> <p>___ Cotyledon Color: 1 = Light Green 2 = Gray-Green 3 = Medium Green 4 = Dark Green</p> <p>Color Chart Name _____ Color Chart Value _____</p>	___ ___ mm Long ___ ___ mm Wide <p>___ Apex ___ Veining ___ Cotyledon Color Color Chart Value _____</p>
Application Variety Data	Comparison Variety Data

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<p>5. MATURE PLANT:</p> <p>___ Growth Habit: 1 = Bush 2 = Semi-Bush 3 = Long Vines</p> <p>___ Plant Type: 1 = Pilose 2 = Prickly 3 = Glabrous</p>	<p>___ Growth Habit</p> <p>___ Plant Type</p>
<p>6. MAIN STEM:</p> <p>___ X-Section Shape: 1 = Round 2 = Angled</p> <p>___ mm Diameter at Mid-Point of First Internode</p> <p>___ cm Average Length</p> <p>___ Average Number of Internodes</p>	<p>___ X-Section Shape</p> <p>___ mm Diameter</p> <p>___ mm Length</p> <p>___ Number of internodes</p>
<p>7. LEAVES:</p> <p>___ Blade Shape: 1 = Ovate 2 = Orbicular 3 = Reniform 4 = Retuse</p> <p>___ Blade Form: 1 = Not Lobed 2 = Shallow Lobed 3 = Deep Lobed</p> <p>___ Margin: 1 = Entire 2 = Denticulate 3 = Dentate</p> <p>___ Margin Edges: 1 = Flat 2 = Frilled</p> <p>___ cm Wide</p> <p>___ cm Long</p> <p>___ Leaf Surface: 1 = Smooth 2 = Blistered</p> <p>___ Dorsal Surface Pubescence: 1 = Glabrous 2 = Soft Hairy 3 = Bristled</p> <p>___ Ventral Surface Pubescence: 1 = Glabrous 2 = Soft Hairy 3 = Bristled</p> <p>___ Leaf Color: 1 = Light Green 2 = Gray-Green 3 = Medium Green 4 = Dark Green</p> <p>Color Chart Name _____ Color Chart Value _____</p> <p>___ Leaf Blotching: 1 = Not Blotched 2 = Blotched with Gray</p> <p>___ cm Petiole Length</p>	<p>___ Blade Shape</p> <p>___ Blade Form</p> <p>___ Margin</p> <p>___ Margin Edges</p> <p>___ cm Wide</p> <p>___ cm Long</p> <p>___ Leaf Surface</p> <p>___ Dorsal Surface Pubescence</p> <p>___ Ventral Surface Pubescence</p> <p>___ Leaf Color</p> <p>Color Chart Value _____</p> <p>___ Leaf Blotching</p> <p>___ cm Petiole Length</p>
<p>8a. FLOWER – Pistillate:</p> <p>___ cm Diameter</p> <p>___ Ovary: 1 = Drum-like 2 = Turbinate 3 = Fusiform</p> <p>___ cm Pedicel Length</p> <p>___ Margin Shape: 1 = Straight 2 = Curved</p> <p>___ Margin Edges: 1 = Plain 2 = Frilled</p> <p>___ mm Sepal Width</p> <p>___ mm Sepal Length</p> <p>___ Color: 1 = White 2 = Lemon Yellow 3 = Mid-Yellow 4 = Deep Yellow 5 = Orange</p> <p>Color Chart Name _____ Color Chart Value _____</p>	<p>___ cm Diameter</p> <p>___ Ovary</p> <p>___ cm Pedicel Length</p> <p>___ Margin Shape</p> <p>___ Margin Edges</p> <p>___ mm Sepal Width</p> <p>___ mm Sepal Length</p> <p>___ Color</p> <p>Color Chart Value _____</p>
Application Variety Data	Comparison Variety Data

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<p>8b. FLOWER – Staminate:</p> <p>___ mm Sepal Length</p> <p>___ mm Sepal Width</p> <p>___ cm Pedicel Length</p> <p>___ Color: 1 = White 2 = Lemon Yellow 3 = Mid-Yellow 4 = Deep Yellow 5 = Orange</p> <p>Color Chart Name _____ Color Chart Value _____</p>	<p>___ mm Sepal Length</p> <p>___ mm Sepal Width</p> <p>___ cm Pedicel Length</p> <p>___ Color</p> <p>Color Chart Value _____</p>																																				
<p>9. FRUIT: (Market Maturity)</p> <p>___ cm Length</p> <p>___ cm Width (Stem end)</p> <p>___ cm Width (Blossom end)</p> <p>___ gm Average Weight</p> <p>___ Shape According to Variety Type: 1 = Acorn 2 = Banana 3 = Buttercup 4 = Butternut 5 = Connecticut Field 6 = Crookneck 7 = Hubbard 8 = Scallop 9 = Straightneck 10 = Other (Specify) _____</p> <p>Table 1. Descriptions of fruit shapes, with examples.</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;">Fruit type</th> <th style="width:45%;">Fruit general shape</th> <th style="width:30%;">Example varieties</th> </tr> </thead> <tbody> <tr> <td>Pumpkin</td> <td>from flattened globular to elliptical globular</td> <td>Connecticut Field, Halloween, Little Boo, Small Sugar</td> </tr> <tr> <td>Miniature Pumpkin</td> <td>transverse elliptical</td> <td>Jack Be Little</td> </tr> <tr> <td>Scallop</td> <td>flattened disc shaped with equatorial margin</td> <td>Patty Pan, Scallopini</td> </tr> <tr> <td>Acorn</td> <td>top shaped with furrows</td> <td>Table Queen</td> </tr> <tr> <td>Neck</td> <td>bottle-shaped with pointed blossom end</td> <td>Early Prolific Straightneck, Yellow Summer Crookneck</td> </tr> <tr> <td>Zucchini</td> <td>from pear-shaped to elliptical to cylindrical to club-shaped</td> <td>Ambassador, Beirut, Clarita, Elite, Ibis, Romano</td> </tr> <tr> <td>Rounded Zucchini</td> <td>globular</td> <td>De Nice à fruit rond, Redondo</td> </tr> <tr> <td>Delicata</td> <td>elliptical</td> <td>Delicata</td> </tr> <tr> <td>Spaghetti Squash</td> <td>elliptical</td> <td>Pasta, Vegetable Spaghetti</td> </tr> <tr> <td>Rondini</td> <td>globular</td> <td>Little Gem</td> </tr> <tr> <td>Ölkürbis</td> <td>globular</td> <td>Markant</td> </tr> </tbody> </table> <p>___ Apex: 1 = Depressed 2 = Flattened 3 = Rounded 4 = Taper Pointed</p> <p>___ Base: 1 = Depressed 2 = Flattened 3 = Rounded 4 = Taper Pointed</p> <p>___ Ribs: 1 = None 2 = Inconspicuous 3 = Prominent</p> <p>___ Rib Furrow Depth: 1 = Shallow 2 = Medium Deep</p> <p>___ Rib Furrow Width: 1 = Narrow 2 = Medium Wide 3 = Wide</p> <p>___ Fruit Surface: 1 = Smooth 2 = Fine Wrinkle 3 = Shallowly Wavy</p> <p>___ Warts: 1 = None 2 = Few 3 = Many</p> <p>___ Blossom Scar Button 1 = Depressed 2 = Slightly Extended 3 = Raised Acorn</p>	Fruit type	Fruit general shape	Example varieties	Pumpkin	from flattened globular to elliptical globular	Connecticut Field, Halloween, Little Boo, Small Sugar	Miniature Pumpkin	transverse elliptical	Jack Be Little	Scallop	flattened disc shaped with equatorial margin	Patty Pan, Scallopini	Acorn	top shaped with furrows	Table Queen	Neck	bottle-shaped with pointed blossom end	Early Prolific Straightneck, Yellow Summer Crookneck	Zucchini	from pear-shaped to elliptical to cylindrical to club-shaped	Ambassador, Beirut, Clarita, Elite, Ibis, Romano	Rounded Zucchini	globular	De Nice à fruit rond, Redondo	Delicata	elliptical	Delicata	Spaghetti Squash	elliptical	Pasta, Vegetable Spaghetti	Rondini	globular	Little Gem	Ölkürbis	globular	Markant	<p>___ cm Length</p> <p>___ cm Width (Stem end)</p> <p>___ cm Width (Blossom end)</p> <p>___ gm Average Weight</p> <p>___ Shape According to Variety Type</p> <p>___ Apex</p> <p>___ Base</p> <p>___ Ribs</p> <p>___ Rib Furrow Depth</p> <p>___ Rib Furrow Width</p> <p>___ Fruit Surface</p> <p>___ Warts</p> <p>___ Blossom Scar Button</p>
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<p>10. RIND:</p> <p>___ mm Thickness at Medial</p> <p>___ Toughness: 1 = Soft 2 = Hard 3 = Woody & Tough</p> <p>___ Overall Color Pattern: 1 = Regular 2 = Irregular</p>	<p>___ mm Thickness at Medial</p> <p>___ Toughness</p> <p>___ Overall Color Pattern</p>																																				
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<p>12. SEED CAVITY: (Sectioned Apex to Base)</p> <p>___ ___ cm Length</p> <p>___ ___ cm Width</p> <p>___ Location: 1 = Conforms to Fruit Shape 2 = Near Apex 3 = Apex Only</p> <p>___ Placental Tissue: 1 = Sparse 2 = Moderately Abundant 3 = Abundant</p> <p>___ Center Core: 1 = Inconspicuous 2 = Prominent</p>	<p>___ ___ cm Length</p> <p>___ ___ cm Width</p> <p>___ Location</p> <p>___ Placental Tissue</p> <p>___ Center Core</p>
<p>13. FRUIT STALKS:</p> <p>___ ___ cm Length</p> <p>___ ___ cm Diameter</p> <p>___ X-Section Shape: 1 = Round 2 = Irregular</p> <p>___ Twisting: 1 = Not Twisted 2 = Twisted</p> <p>___ Tapering: 1 = Not Tapered 2 = Tapered</p> <p>___ Straightness: 1 = Straight 2 = Slightly Curved 3 = Curved</p> <p>___ Texture: 1 = Soft 2 = Spongy 3 = Hard</p> <p>___ Farrows: 1 = None 2 = Shallow 3 = Deep</p> <p>___ Surface: 1 = Smooth 2 = Rough 3 = Spiny</p> <p>___ Attachment End: 1 = Not Expanded 2 = Slightly Expanded 3 = Expanded</p> <p>___ Detaches: 1 = Easily 2 = With Difficulty</p> <p>___ Color: 1 = Light Green 2 = Medium Green 3 = Dark Green</p> <p>Color Chart Name _____ Color Chart Value _____</p>	<p>___ ___ cm Length</p> <p>___ ___ cm Diameter</p> <p>___ X-Section Shape</p> <p>___ Twisting</p> <p>___ Tapering</p> <p>___ Straightness</p> <p>___ Texture</p> <p>___ Farrows</p> <p>___ Surface</p> <p>___ Attachment End</p> <p>___ Detaches</p> <p>___ Color</p> <p>Color Chart Value _____</p>
<p>14. SEEDS:</p> <p>___ ___ mm Length</p> <p>___ ___ mm Width</p> <p>___ ___ mm Thickness</p> <p>___ Face Surface: 1 = Smooth 2 = Wrinkled 3 = Slightly Pitted 4 = Scaly 5 = Creased</p> <p>___ Color: 1 = White 2 = Cream 3 = Buff 4 = Brown</p> <p>Color Chart Name _____ Color Chart Value _____</p> <p>___ Luster: 1 = Dull 2 = Glossy</p> <p>___ Margin: 1 = Straight 2 = Curved 3 = Twisted</p> <p>___ Margin Edge: 1 = Rounded 2 = Wedge-like</p> <p>___ Separation from pulp: 1 = Easy 2 = Moderately Easy 3 = Difficult</p> <p>___ ___ gms per 100 Seeds</p> <p>___ ___ No. Seeds per Fruit</p> <p>___ Seed Coat: 1 = Normal 2 = Naked</p>	<p>___ ___ mm Length</p> <p>___ ___ mm Width</p> <p>___ ___ mm Thickness</p> <p>___ Face Surface</p> <p>___ Color</p> <p>Color Chart Value _____</p> <p>___ Luster</p> <p>___ Margin</p> <p>___ Margin Edge</p> <p>___ Separation from pulp</p> <p>___ ___ gms per 100 Seeds</p> <p>___ ___ No. Seeds per Fruit</p> <p>___ Seed Coat: 1 = Normal 2 = Naked</p>
Application Variety Data	Comparison Variety Data

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<p>15. DISEASE RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)</p> <p><input type="checkbox"/> Powdery Mildew</p> <p><input type="checkbox"/> Cucumber Mosaic</p> <p><input type="checkbox"/> Squash Mosaic</p> <p><input type="checkbox"/> Watermelon Mosaic</p> <p><input type="checkbox"/> Other (Specify) _____</p>	<p><input type="checkbox"/> Powdery Mildew</p> <p><input type="checkbox"/> Cucumber Mosaic</p> <p><input type="checkbox"/> Squash Mosaic</p> <p><input type="checkbox"/> Watermelon Mosaic</p> <p><input type="checkbox"/> Other (Specify) _____</p>
<p>16. INSECT RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)</p> <p><input type="checkbox"/> Squash Bug</p> <p><input type="checkbox"/> Squash Borer</p> <p><input type="checkbox"/> Other (Specify) _____</p>	<p><input type="checkbox"/> Squash Bug</p> <p><input type="checkbox"/> Squash Borer</p> <p><input type="checkbox"/> Other (Specify) _____</p>

17. Attach at least ONE photographic print of the application variety and the comparison variety described above, indicating the identity of each variety. This photograph should show fruit rind and flesh of each variety at a magnification sufficient to identify most of the verbal descriptors given above. (Additional information and photographs in support of this application may be supplied as part of the Exhibits B or D.)

REFERENCES:

1. Currence, T. M. 1954. *Vegetable Crops Breeding*, Department of Horticulture, University of Minnesota.
2. Tapley, W.T., Enzie, W.D. and Van Eseltine, G. P., 1937. *Vegetables of New York: The Cucurbits 1 (4)*. J. B. Lyon Company, Albany, New York
3. USDA Farmness Bulletin No. 1086. 1969. *Growing Pumpkins and Squashes*.
4. Whitaker, T.W. and G. N. Davies. *Curcubits*. Interscience Publications, Inc., New York, NY

Color: Munsell Book of Color, Royal Horticultural Society Colour Chart, Nickerson's or any recognized color fan may be used to determine the color of the variety.