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**Plant Breeders' Rights Registry**

**Plant Breeders' Rights Journal**



Official Journal of Plant Breeders' Rights Registry, Pakistan

*October 2025*

# **PLANT BREEDERS' RIGHTS JOURNAL**

An official journal

of

**Plant Breeders' Rights Registry  
Ministry of National Food Security and Research  
Government of Pakistan**

Plant Breeders' Rights Registry G-9/4,  
Maive Area, Islamabad, Pakistan  
October, 2025

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## EDITORIAL



It gives me an immense pleasure to present the 13<sup>th</sup> Edition of the Plant Breeders' Rights (PBR) Journal published by the Plant Breeders' Rights Registry (PBRR), Ministry of National Food Security and Research, Government of Pakistan. This issue serves an important awareness tool to promote intellectual property rights in the plant varietal R&D and business.

This edition highlights the issuance of Plant Breeders' Rights Certificates to twenty-four newly protected plant varieties, covering cotton, rice, and potato crops. Each variety's detailed characteristics reflect the tireless efforts of national and international breeders.

The documentation of varietal profiles in this journal aims to ensure transparency, encourage fair use, and provide a reference point for stakeholders, breeders, researchers, and policymakers. These profiles are crucial for determining distinctness, uniformity, and stability (DUS), key criteria for granting protection under the Plant Breeders' Rights Act, 2016.

The News and Events section underline recent developments at the policy level, including government initiatives to promote agricultural mechanization and crop production. These efforts are aligned with our broader goals of enhancing agricultural productivity, climate resilience, and economic uplift.

I would like to commend all breeders, scientists, and institutions whose contributions are featured in this edition. Let us continue to promote and protect plant variety innovation for a sustainable agricultural future of Pakistan.

*Dr. Muhammad Naeem*

## CASES FOR OPPOSITION

### 1. Application No.: PBRR-Maize-110/25

Name of the Applicant: Syngenta Crop Protection AG  
 Institute: Syngenta Crop Protection AG  
 Name of Breeder(s): Syngenta Crop Protection AG  
 Name of Co-breeder(s):  
 Application for: New Plant Variety  
 Denomination of Variety: NK7530  
 Crop: Maize (*Zea mays* L.)  
 Type of Variety: Hybrid  
 Name of Initial Variety (in case of EDV): Not Applicable  
 Salient features:

CHARACTERISTICS	DESCRIPTION
Origin	Local
Type of variety	Hybrid
Comparable Variety	S7328
Maturity Duration	Medium
Plant Length up to Flag leaf	>180 cm (Long)
<b>SEEDLING CHARACTERISTICS</b>	
Coleoptile's anthocyanin	Absent
First leaf colour	Green
First leaf tip	Round
<b>STEM CHARACTERISTICS</b>	
Stem length (cm)	210
Taller than	NK6253
Shorter than	S7328
Stem tillering	Absent
Stem anthocyanin coloration of brace roots	Absent
<b>LEAF CHARACTERISTICS</b>	
Leaf angle between blade and stem (on leaf just above upper ear)	Wide (>450)

Leaf attitude of blade (on leaf just above upper ear)	Straight
Leaf width of blade (leaf of upper ear)	Medium (8-9 cm)
<b>TASSEL CHARACTERISTICS</b>	
50% Tassel emergence (Days)	54 days
50% Tassel emergence (Days)	Medium (50-55 days)
Anthocyanin coloration at base of glume (middle third of main axis)	absent
Anthocyanin coloration of glume excluding base (middle third of main axis)	present
Angle between main axis and lateral branches (in lower third of tassel)	Straight
Anthocyanin coloration of anthers (in middle third of main axis on fresh anthers)	absent
Density of spikelets (in middle third of tassel)	sparse
Tassel angle between main axis and lateral branches (in lower third of tassel)	<45 (narrow)
Earlier than	NK6253
Tassel length (cm)	37.02
Tassel stalk length (cm)	27.78
Exsertion above flag leaf (cm)	31.78
No. of lateral branches	8-11
Lateral branches density	Semi dense
<b>FLOWER CHARACTERISTICS</b>	
Anther fertility	Normal
Pollen shedding	Medium
Anther color	Pink
Pollen color	Yellow
Glume color	Green
<b>EAR CHARACTERISTICS</b>	
50% silk emergence(days)	54-59 days
Silk color	Pink
Insertion Height (cm)	100-105
Peduncle length (cm)	7-8
Ear leafy extensions	Absent
Ear husk length	Short

Ear shape	Conico cylindrical
Ear length (cm)	16-17
Ear diameter (cm)	4-5
Seed rows/ ear	14-16
Seed row arrangement	Straight
No. of ears/ plant	One
Cob color	White
<b>SEED CHARACTERISTICS</b>	
Seed color	orange
Seed tip color	orange
Color of sides	orange
Seed type	flint
Seed size	medium
Yield/ ha. (MT)	9-11.5
<b>RESISTANCE</b>	
Flowering Response to seasons	stable
Drought tolerance	Least tolerant
Heat tolerant	Least tolerant
Fall Army worm	Mod. Resistant
Diplodia ear rot	Mod. Resistant
Fusarium ear rot	Resistant

*Opposition can be filed up to: 10-07-2025*

## **2. Application No.: PBRR-Potato-111/25**

Name of the Applicant: Cooperatie Agrico U.A. Netherlands  
Institute: Cooperatie Agrico U.A. Netherlands  
Name of Breeder(s): i. Kweek  
ii. Bant  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: Meryem  
Crop: Potato (*Solanum tuberosum* L.)

Type of Variety:

Crossing

Name of Initial Variety (in case of EDV):

Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Light sprout: proportion of blue in anthocyanin colouration of base	Absent or low
Flower corolla: intensity of anthocyanin colouration on inner side	Medium or strong
Flower corolla: proportion of blue in anthocyanin colouration on inner side	medium
Plant: time of maturity	Late
Tuber: colour of skin	Dark red
Light sprout: size	Large
Light sprout: shape of base	Ovoid
Light sprout: anthocyanin colouration of base	Strong
Light sprout: proportion of blue in anthocyanin colouration of base	Absent or low
Light sprout: pubescence of base	Medium or strong
Light sprout: size of tip in relation to base	Medium to strong
Light sprout: habit of tip	Closed to intermediate
Light sprout: anthocyanin colouration of tip	Medium to strong
Light sprout: pubescence of tip	Medium
Light sprout: number of root tips	Many
Light sprout: length of lateral shoots	Short
Plant: foliage structure	Intermediate
Plant: growth habit	Upright to semi upright
Stem: anthocyanin colouration	Strong
Leaf: outline size	Large to very large
Leaf: openness	Intermediate
Leaf: presence of secondary leaflets	Medium
Leaf: green colour	Medium to dark
Leaf: anthocyanin colouration on midrib of upper side	Medium to strong
Second pair of lateral leaflets: width in relation to length	Medium to broad
Terminal and lateral leaflets: frequency of coalescence	Low

Flower bud: anthocyanin colouration	weak
Plant: frequency of inflorescence	High
Inflorescence: size	Large
Inflorescence: anthocyanin colouration on peduncle	Strong
Flower corolla: size	Large to very large
Flower corolla: intensity of anthocyanin colouration on inner side	Medium to strong
Flower corolla: proportion of blue in anthocyanin colouration on inner side	medium
Flower corolla: extent of anthocyanin colouration on inner side	Medium to large
Plant: height	Tall
Plant: time of maturity	late
Tuber: shape	Oval
Tuber: depth of eyes	Very shallow to shallow
Tuber: colour of skin	Dark red
Tuber: smoothness of skin	Smooth
Tuber: colour of base of eye	Red
Tuber: colour of flesh	Medium yellow
Light sprout: shape of base	spherical
Flower corolla: size	Medium

*Opposition can be filed up to: 10-07-2025*

### **3. Application No.: PBRR-Potato-139/25**

Name of the Applicant: HZPC, IPR B.V Netherlands  
Institute: HZPC, IPR B.V Netherlands  
Name of Breeder(s): HZPC, IPR B.V  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: Quintera  
Crop: Potato (*Solanum tuberosum* L.)  
Type of Variety: OPV  
Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Light sprout: proportion of blue in anthocyanin colouration of base	Absent or low
Flower corolla: intensity of anthocyanin colouration on inner side	Medium or strong
Flower corolla: proportion of blue in anthocyanin colouration on inner side	Absent or low
Plant: time of maturity	Medium
Tuber: colour of skin	Yellow
Light sprout: size	Medium to large
Light sprout: shape of base	Broad cylindrical
Light sprout: anthocyanin colouration of base	Medium to strong
Light sprout: proportion of blue in anthocyanin colouration of base	Absent or low
Light sprout: pubescence of base	Medium
Light sprout: size of tip in relation to base	Small to medium
Light sprout: habit of tip	Intermediate
Light sprout: anthocyanin colouration of tip	Medium
Light sprout: pubescence of tip	Weak to Medium
Light sprout: number of root tips	Many to very many
Light sprout: length of lateral shoots	Short
Plant: foliage structure	Intermediate type
Plant: growth habit	Semi upright
Stem: anthocyanin colouration	Very weak to weak
Leaf: outline size	Medium to large
Leaf: openess	closed
Leaf: presence of secondary leaflets	Medium to strong
Leaf: green colour	dark
Leaf: anthocyanin colouration on midrib of upper side	Absent or very weak
Second pair of lateral leaflets: width in relation to length	Medium
Terminal and lateral leaflets: frequency of coalescence	Absent or very low
Flower bud: anthocyanin colouration	medium
Plant: frequency of inflorescence	High to very high

Inflorescence: size	Medium
Inflorescence: anthocyanin colouration on peduncle	Very weak to weak
Flower corolla: size	Medium
Flower corolla: intensity of anthocyanin colouration on inner side	Medium to strong
Flower corolla: proportion of blue in anthocyanin colouration on inner side	Absent or low
Flower corolla: extent of anthocyanin colouration on inner side	Large
Plant: height	Tall
Plant: time of maturity	Medium
Tuber: shape	Oval
Tuber: depth of eyes	shallow
Tuber: colour of skin	Yellow
Tuber: smoothness of skin	Medium
Tuber: colour of base of eye	Yellow
Tuber: colour of flesh	light yellow
Light sprout: shape of base	Ovoid
Flower corolla: intensity of anthocyanin colouration on inner side	Weak to Medium
Plant: time of maturity	Medium to late

*Opposition can be filed up to: 10-07-2025*

#### **4. Application No.: PBRR-Wheat-141/25**

Name of the Applicant:

Agriculture Research Institute, Tarnab  
Peshawar

Institute:

Agriculture Research Institute, Tarnab  
Peshawar

Name of Breeder(s):

- i. Iltaf Ullah
- ii. Dr. Masood Jan Turnagzai
- iii. Ahamd Said
- iv. Haneef Raza
- v. Shah Farhad
- vi. Salman Ali
- vii. Fahim Ullah Khan
- viii. Hidayat Ullah
- ix. Sultan Akbar Jadoon
- x. Sadia Mukhtiar

Name of Co-breeder(s):

Application for: New Plant Variety  
Denomination of Variety: Tarnab Rehbar  
Crop: Wheat (*Triticum aestivum* L.)  
Type of Variety: OPV  
Name of Initial Variety (in case of EDV): Not Applicable  
Salient features:

CHARACTERISTICS	DESCRIPTION
Maturity Duration	Medium
<b>SEEDLING CHARACTERISTICS</b>	
Growth habit	Erect
Coleoptile color	White
Seedling anthocyanin	Weak
<b>PLANT CHARACTERISTICS</b>	
Plant height (cm)	79-120
Color at booting stage	Green
<b>STEM CHARACTERISTICS</b>	
Stem anthocyanin	Absent
Stem waxy bloom	Strong
Stem wall thickness	Thin
Stem stiffness	Stiff
Stem diameter (mm)	3-5
Peduncle length (cm)	28-38
Productive tillers/ m <sup>2</sup>	181
No. of nodes/ stem	3-4
Straw Color	Yellowish White
Lodging	Absent
<b>FLAG LEAF CHARACTERISTICS</b>	
Flag leaf attitude	Semi erect
Flag leaf twist	Strong
Length (cm)	22-30
Width (cm)	2-2.5

Sheath wax	Medium
Sheath hairiness	Absent
Auricle hairiness	Medium
Auricle anthocyanin	Absent
<b>EAR CHARACTERISTICS</b>	
Ear emergence	102
Ear size	Medium
Length (cm)	12-14
Width (cm)	1.5-2.5
Wax at anthesis	Medium
Color at maturity	Yellowish White
Ear shape	Tapering
Ear density	Medium dense
Super numerary spikelets	Absent
Speltoids	Absent
Shattering	Resistance
Ear kink/twist	Weak
Ear Awnedness	Awned
Awn distribution	Whole
Awn length	Medium
Awn color	Yellowish White
Awn habit	Horizontal/ erect
Anther Color	Yellow
Rachis hairs apical	Absent
Rachis hairs margin	Absent
Rachis length (cm)	11-13
Rachis width (mm)	2-2.5
No. of segments	20-23
<b>GLUME CHARACTERISTICS</b>	
Glume length (mm)	12-14
Glume width size (mm)	5-6

Glume length Size	Medium
Glume width size	Medium
Lower glume shape	Broad flat/ narrow flat
Glume attachment	Medium
Glume Pubescence	Absent
Glume surface	Rough
Lower glume shoulder shape	Slopping/ straight/ indent
Lower glume shoulder width	Narrow Medium Broad
Beak length (mm)	6-6
Lower glume beak shape	Curved/ humped
Lower glume Beak Size	Medium/ long
Beak spicules	Present
Keel spicules	Present
Glume internal hair	Sparse
Glume internal imprint/ impression	Small
<b>SEED CHARACTERISTICS</b>	
Seed color	White/ amber
Seed surface	Shiny
Seed shape	Oval/ ovate
Seed length (mm)	5-6
Seed width (mm)	3
Seed Thickness (mm)	2
Seed size	Medium
Seed brush	Medium
Seed Germ size	Medium/ small
1000 seed weight (g)	30.3
Seed groove	Shallow/ deep
Seed/ ear	54
Seed hardness	Medium

*Opposition can be filed up to: 10-07-2025*

## 5. Application No.: PBRR-Rice-142/25

Name of the Applicant: Nuclear Institute for Agriculture & Biology,  
Faisalabad  
Institute: Nuclear Institute for Agriculture & Biology,  
Faisalabad  
Name of Breeder(s): i. Dr. Zi-ul-Qamar  
Name of Co-breeder(s): i. Dr. Muhammad Ashraf  
ii. Dr. Muhammad Rashid  
Application for: New Plant Variety  
Denomination of Variety: NIAB HT-18  
Crop: Rice (*Oryza sativa* L.)  
Type of Variety: OPV  
Name of Initial Variety (in case of  
EDV): Not Applicable  
Salient features:

CHARACTERISTICS	DESCRIPTION
Seedling colour	Light Green
Coleoptile color	Colorless
Seedling length (cm)	10
Leaf length (cm)	23
Leaf length of blade	Medium
Leaf anthocyanin	Absent
Leaf width (cm)	2
Leaf width	Medium
Leaf pubescence	Spars
Leaf color	Green
Leaf sheath color	Pale green
Leaf senescence	Intermediate
Ligule color	Other
Ligule length (cm)	2.4
Shape	2 cleft
Collar color	Pale green
Flag leaf attitude	Erect

Flag leaf length	20
Flag leaf width	2
Mature stem length (cm)	66
Stem attitude	Erect
Stem thickness (cm)	0.33
Stem stiffness	Semi stiff
Tillers/ plant	15-12
Internode color	L. Yellow
No. of nodes/ stem	5
Maturity straw color	Straw
Panicle length (cm)	12
Panicle length	Medium
Panicle type	Medium compact
Spikelet density	Semi dense
Spikelets/ panicle	110
Branches/ panicle	Moderate
Secondary branches	Present
Intensity of secondary branches	Moderate
Attitude of branches	Semi erect
Panicle exertion	Mostly exerted
Panicle curvature of main axes	Semi straight
Awning at maturity	Absent
Awn color at maturity	Straw
Shattering	Very low
Threshability	Easy
Seed awning	Awned
Apiculus color (maturity)	Starw
Husk color	Starw
Husk pigment	Absent
Husk pubescence	Sparse
Pubescence length	Short

Seed shape	Semi crescent
Seed length (mm)	12
Seed width (mm)	2
Seed thickness (mm)	2

*Opposition can be filed up to: 10-07-2025*

## 6. Application No.: PBRR-Rice-143/25

Name of the Applicant: Nuclear Institute for Agriculture & Biology,  
Faisalabad

Institute: Nuclear Institute for Agriculture & Biology,  
Faisalabad

Name of Breeder(s): i. Dr. Zi-ul-Qamar

Name of Co-breeder(s): i. Dr. Muhammad Ashraf  
ii. Dr. Muhammad Rashid

Application for: New Plant Variety

Denomination of Variety: NIAB RC-195

Crop: Rice (*Oryza sativa* L.)

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Seedling colour	Green
Coleoptile color	Colorless
Seedling length (cm)	11
Leaf length (cm)	19
Leaf length of blade	Medium
Leaf anthocyanin	Absent
Leaf width (cm)	1.6
Leaf width	Medium
Leaf pubescence	Sparse
Leaf color	Green
Leaf sheath color	Pale Green
Leaf senescence	Intermediate

Ligule color	Other
Ligule length (cm)	2.4
Shape	Truncate
Collar color	Pale Green
Flag leaf attitude	Erect
Flag leaf length	20
Flag leaf width	2
Mature stem length (cm)	91
Stem attitude	Erect
Stem thickness (cm)	0.33
Stem stiffness	Stiff
Tillers/plant	9
Internode color	Light Yellow
No. of nodes/ stem	5
Maturity straw color	Straw
Panicle length (cm)	10
Panicle length	Medium
Panicle type	Medium compact
Spikelet density	Semi dense
Spikelets/panicle	163
Branches/panicle	Moderate
Secondary branches	Present
Intensity of secondary branches	Moderate
Attitude of branches	Semi erect
Panicle exertion	Mostly Exerted
Panicle curvature of main axes	Semi straight
Awning at maturity	Absent
Awn color at maturity	Straw
Shattering	Very Low
Threshability	Easy
Seed awning	Absent

Apiculus color (maturity)	Straw
Husk color	Straw
Husk pigment	Absent
Husk pubescence	Sparse
Pubescence length	Short
Seed shape	Spear
Seed length (mm)	1.025
Seed width (mm)	2
Seed thickness (mm)	2

*Opposition can be filed up to: 10-07-2025*

### 7. Application No.: PBRR-Rice-144/25

Name of the Applicant: Nuclear Institute for Agriculture & Biology,  
Faisalabad

Institute: Nuclear Institute for Agriculture & Biology,  
Faisalabad

Name of Breeder(s): i. Dr. Zi-ul-Qamar

Name of Co-breeder(s): i. Dr. Muhammad Ashraf  
ii. Dr. Muhammad Rashid

Application for: New Plant Variety

Denomination of Variety: NIAB S-39

Crop: Rice (*Oryza sativa* L.)

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Seedling colour	Light Green
Coleoptile color	Colorless
Seedling length (cm)	8
Leaf length (cm)	18
Leaf length of blade	Medium
Leaf anthocyanin	Absent
Leaf width (cm)	0.5

Leaf width	Medium
Leaf pubescence	Sparse
Leaf color	Green
Leaf sheath color	Green
Leaf senescence	Intermediate
Ligule color	Papery
Ligule length (cm)	2.3
Shape	2-Cleft
Collar color	Pale Green
Flag leaf attitude	Erect
Flag leaf length	15
Flag leaf width	1.6
Mature stem length (cm)	142
Stem attitude	Semi Erect
Stem thickness (cm)	0.35
Stem stiffness	Semi Stiff
Tillers/ plant	25-26
Internode color	Light Yellow
No. of nodes/ stem	5
Maturity straw color	Straw
Panicle length (cm)	12
Panicle length	Medium
Panicle type	Compact
Spikelet density	Dense
Spikelets/ panicle	142
Branches/ panicle	Moderate
Secondary branches	Present
Intensity of secondary branches	Profuse
Attitude of branches	Semi erect
Panicle exertion	Well exerted
Panicle curvature of main axes	Semi straight

Awning at maturity	Absent
Awn color at maturity	Absent
Shattering	Low
Threshability	Easy
Seed awning	Absent
Apiculus color (maturity)	Straw
Husk color	Starw
Husk pigment	Absent
Husk pubescence	Medium
Pubescence length	Short
Seed shape	Semi crescent
Seed length (mm)	10.1
Seed width (mm)	2.1
Seed thickness (mm)	1.5

*Opposition can be filed up to: 10-07-2025*

### 8. Application No.: PBRR-Rice-145/25

Name of the Applicant: Nuclear Institute for Agriculture & Biology,  
Faisalabad

Institute: Nuclear Institute for Agriculture & Biology,  
Faisalabad

Name of Breeder(s): i. Dr. Zi-ul-Qamar

Name of Co-breeder(s): i. Dr. Muhammad Ashraf  
ii. Dr. Muhammad Rashid

Application for: New Plant Variety

Denomination of Variety: NIAB ST-9

Crop: Rice (*Oryza sativa* L.)

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Seedling colour	Green
Coleoptile color	Colorless

Seedling length (cm)	15
Leaf length (cm)	19
Leaf length of blade	Medium
Leaf anthocyanin	Absent
Leaf width (cm)	2
Leaf width	Medium
Leaf pubescence	Sparse
Leaf color	Green
Leaf sheath color	Green
Leaf senescence	Intermediate
Ligule color	Other
Ligule length (cm)	2.28
Shape	2-cleft
Collar color	Pale Green
Flag leaf attitude	Erect
Flag leaf length	20
Flag leaf width	2
Mature stem length (cm)	84
Stem attitude	Semi erect
Stem thickness (cm)	0.35
Stem stiffness	Semi stiff
Tillers/plant	9-10
Internode color	Light Yellow
No. of nodes/ stem	5
Maturity straw color	Straw
Panicle length (cm)	10
Panicle length	Short
Panicle type	Compact
Spikelet density	Semi Dense
Spikelets/panicle	148
Branches/panicle	Moderate

Secondary branches	Present
Intensity of secondary branches	Moderate
Attitude of branches	Semi erect
Panicle exertion	Mostly exerted
Panicle curvature of main axes	Semi straight
Awning at maturity	Absent
Awn color at maturity	Absent
Shattering	Moderate
Threshability	Easy
Seed awning	Absent
Apiculus color (maturity)	Straw
Husk color	Straw
Husk pigment	Sparse
Husk pubescence	Weak
Pubescence length	Short
Seed shape	Spear
Seed length (mm)	11
Seed width (mm)	2
Seed thickness (mm)	2

*Opposition can be filed up to: 10-07-2025*

### **9. Application No.: PBRR-Cotton-151/25**

Name of the Applicant: Tara Crop Sciences (Pvt) Ltd. Lahore  
Institute: Tara Crop Sciences (Pvt) Ltd. Lahore  
Name of Breeder(s): i. Dr. Khalid Hameed  
ii. Muhammad Shahbaz  
iii. Dr. Ahmad Saleem Akhtar  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: Tara-224  
Crop: Cotton (*Gossypium hirsutum* L.)  
Type of Variety: OPV

Name of Initial Variety (in case of EDV):

Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Days to maturity	90-100 (50%)
Maturity duration	Early
Earlier than	MNH 886
Later than	None
Days to opening 50%	90-105 (50% not mentioned)
<b>SEEDLING CHARACTERISTICS</b>	
Seedling length (cm)	6-8
Seedling colour	Dark green
Foliage spot	Absent
<b>PLANT CHARACTERISTICS</b>	
Growth habit	Spreading
Plant height (cm)	90-140
Plant shape	Spreading
Fruiting branch type	Cluster
Monopodia attitude	Semi erect
Sympodia attitude	Semi erect
Nodes to 1st monopodia	4-6
Monopodia/plant	0-4
Sympodia/plant	25-35
Stem pigmentation	Weak
Stem tip hairiness	Sparse
Bud gossypol	Low
<b>LEAF CHARACTERISTICS</b>	
Foliage density	Intermediate
Leaf colour	Green
Leaf length (cm)	12-14
Leaf width (cm)	16-19
Petiole length (cm)	13-17

Petiole anthocyanin	Present
Leaf attitude	Semi erect
Leaf type	Normal
Leaf appearance	Cup
Leaf Nectarie's	Present
Leaf hairiness	Sparse
<b>FLOWER CHARACTERISTICS</b>	
Days to flowering 50%	60-65
Flowering duration	Medium
Flower size	Medium
Sepal pigmentation	Present
Petal spot	Absent
Nectarie's	Present
Petal colour	Creamy
Anther colour	Creamy
Stamen density	Semi dense
Position of stigma	Exserted
Stigma exertion (mm)	9-10
Stigma height (mm)	10-35
Calyx size	Intermediate
<b>BOLL CHARACTERISTICS</b>	
Boll bearing habit	Solitary
Boll shape	Round
Boll colour	Green
Boll size (boll width at maximum point)	Medium
Beak size	Short
Boll length (cm)	3-3.1
Boll breadth (cm)	2.3-2.6
Boll broad at	Middle
Boll surface	Roughly pit
Gossypol	Normal

Bracteole length	Medium
Bracteole width	Wide
Bolls/plant	41-45
Boll opening	Open
Boll weight (g)	1.19-2.7
Yield (seed cotton) (kg/acre)	2200-2400
Yield (lint) kg/acre	600-800
<b>SEED CHARACTERISTICS</b>	
Seed size	Bold
Seed shape	Oblong
Seed length (mm)	9-12
Seed width (mm)	4-6
Seed index (g)	8-10
Seed coat colour	Dark brown
Seed fuzz	Fuzzy
Fuzz colour	Dusky white
Oil contents (%)	10-16
<b>Fiber Characteristics</b>	
Fiber colour	White
GOT/Lint (%)	39
Staple length (mm)	28.5
Fineness (micronaire)	4.4 ( $\mu\text{g}/\text{inch}$ )
Fiber strength (tpsi)	33.2 (g/tex)
Uniformity (%)	86.5
Spinning index	42.3
Fiber length group	Medium long
<b>ENVIRONMENTAL ADAPTABILITY</b>	
<b>Drought tolerance</b> (Measured as reduction in yield)	Most tolerant
<b>Tolerance to acid soils</b> (Measured as reduction in plant height 30 days after sowing)	Most tolerant
<b>Heat tolerance</b> (Measured as yield reduction when continuously	Most tolerant

exposed to average of 40 °C during the flowering period)	
<b>Resistance to Insect/Pest</b>	Tolerant to sucking pests
<b>Resistance to Disease</b>	Resistant to CLCuV diseases
<b>Distinguishing Characteristics</b>	Slightly cup shaped leaves, creamy anther, exerted stigma, cluster fruit branches, spreading plant.

*Opposition can be filed up to: 10-07-2025*

#### 10. Application No.: PBRR-Rice-152/25

Name of the Applicant: Program Leader, Rice Program, PARC-NARC, Islamabad

Institute: PARC-NARC, Islamabad

Name of Breeder(s): i. Dr. Muhammad Shahzad Ahmed  
ii. Dr. Abid Majeed  
iii. Rana Arsalan Javaid  
iv. Faiza Siddique

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: NARC-Rice-1

Crop: Rice (*Oryza sativa* L.)

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
<b>LEAF CHARACTERISTICS</b>	
Leaf length (cm)	45
Leaf width (cm)	1.2
Leaf pubescence	Absent
Leaf colour	Green
Leaf sheath colour	Pale Green
Flag leaf attitude	Erect
Flag leaf length (cm)	32.5-45.5
Flag leaf width (cm)	1.5-1.7

Ligule colour	Papery
Ligule length (mm)	16
Ligule shape	2-cleft
<b>STEM CHARACTERISTICS</b>	
Mat stem length (cm)	115
Stem height	Medium
Stem diameter (cm)	Medium
Internode color	Light yellow
No. of nodes/ stem	2-3
Mat straw color	Straw
<b>PANICLE CHARACTERISTICS</b>	
Panicle length (cm)	25
Grains/ panicle	240-260
Panicle type	Medium compact
Spikelets density	Semi dense
Panicle exertion	Partly exerted
Attitude	Erect
Awning at flowering	Shortly & partly
Awning at maturity	Long & partly
Sterility	Very low
Shattering	Very low
Threshability	Easy
<b>SEED CHARACTERISTICS</b>	
Seed awning	Awned
Stigma color	White
Husk color	Straw
Husk pigment	Weak
Husk pubescence	Medium
Pubescence length	medium
Seed shape	Semi crescent
Seed length (mm)	9.72

Seed size	Medium
Seed dormancy	Medium
<b>KERNEL CHARACTERISTICS</b>	
Kernel length (mm)	7.4
Kernel size	Medium long
Kernel appearance	Translucent
Kernel Chalkiness	0.00
Kernel quality	Coarse
Kernel aroma	Weak
Yield potential (tons/hac)	10

*Opposition can be filed up to: 10-07-2025*

#### **11. Application No.: PBRR-Maize-153/25**

Name of the Applicant: Bayer Pakistan (Private) Limited, Karachi  
Institute: Bayer Pakistan (Private) Limited, Karachi  
Name of Breeder(s): Ebenezer Hyde  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: DK8222  
Crop: Maize (*Zea mays* L.)  
Type of Variety: Hybrid  
Name of Initial Variety (in case of EDV): Not Applicable  
Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Origin	Selection from Exotic
type of variety	Hybrid
Days to Maturity	105-115 days
Maturity Duration	Medium
<b>SEEDLING CHARACTERISTICS</b>	
Seedling length (cm)	13.1
Coleoptile's anthocyanin	Absent

First leaf colour	Green
First leaf tip	Round
First leaf length (cm)	1
First leaf width (cm)	1.9
<b>STEM CHARACTERISTICS</b>	
Stem length (cm)	230-240
Taller than	DK6714 (cv)
Shorter than	NA (cv)
Internodal length (cm)	14-16
Internodal diameter (cm)	6-8
Mid node anthocyanin	Absent
Stem tillering	Absent
Lodging	Low
Root anthocyanin	Absent
<b>LEAF CHARACTERISTICS</b>	
Leaf Color	Green
Mid leaves attitude	Semi erect
Leaf Sheath Anthocyanin	Absent
Leaf Margin waves	Few
Cob Leaf Length (cm)	80-90
Cob leaf width c(m)	9-10
Sheath hairs	Absent
Leaf Senescence	Medium
Leaves per Plant	18-20
Marginal Serration	Absent
<b>TASSEL CHARACTERISTICS</b>	
50% Tassel emergence	52-53 days (50% shedding)
Tassel length (cm)	30-32
Tassel stalk length (cm)	8-10
Exsertion above flag leaf (cm)	9-10
No. of lateral branches	8-10

Lateral branches density	Intermediate
Lateral branches attitude	Erect
<b>FLOWER CHARACTERISTICS</b>	
Anther fertility	Normal
Pollen shedding	Heavy
Anther color	Purple
Pollen color	Yellow
Glume color	Green
<b>EAR CHARACTERISTICS</b>	
50% silk emergence (days)	53-53 days
Silk color	Pink
Peduncle length (cm)	6-8
Ear leafy extensions	Medium
Ear husk length	long
No. of husk blades	6-8
Ear shape	Slight Conical
Ear length (cm)	20
Ear width (cm)	9.5-10.5
Seed rows/ ear	12-14
Seeds/ row	42-46
Seed Row attitude	Straight
No. of ears/ plant	One
Ear weight (g)	>300 grams fresh weight
Cob color	White
<b>SEED CHARACTERISTICS</b>	
Seed color	Orange
Seed tip color	Yellow
Color of sides	Orange
Seed length (mm)	9
Seed width (mm)	6
Seed thickness (mm)	2.5

Seed type	Intermediate
Seed wax	Absent
Seed size	Medium
1000 Seed weight (g)	345
Grain. Cob ratio	80-84%
Yield/ ha. (MT)	8.4-8.7
<b>RESISTANCE</b>	
Helminthosporium spp.	Mod. Resistant
Fusarium	Mod. Resistant
Streak Virus	Resistant
Insects	Mod. Resistant

*Opposition can be filed up to: 10-07-2025*

## **12. Application No.: PBRR-Maize-154/25**

Name of the Applicant: Bayer Pakistan (Private) Limited, Karachi

Institute: Bayer Pakistan (Private) Limited, Karachi

Name of Breeder(s): Ebenezer Hyde

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: DK9229

Crop: Maize (*Zea mays* L.)

Type of Variety: Hybrid

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Origin	Selection from Exotic
type of variety	Hybrid
Days to Maturity	105-115 days
Maturity Duration	Medium
<b>SEEDLING CHARACTERISTICS</b>	
Seedling length (cm)	14

Coleoptile's anthocyanin	Absent
First leaf colour	Green
First leaf tip	Round
First leaf length (mm)	3.8
First leaf width (mm)	1.8
<b>STEM CHARACTERISTICS</b>	
Stem length (cm)	210-220
Taller than	Garanon & C-220
Shorter than	NA (cv)
Internodal length (cm)	16.7
Internodal diameter (cm)	8
Mid node anthocyanin	Absent
Stem tillering	Absent
Lodging	Low
Root anthocyanin	Absent
<b>LEAF CHARACTERISTICS</b>	
Leaf Color	Green
Mid leaves attitude	Semi erect
Leaf Sheath Anthocyanin	Absent
Leaf Margin waves	Few
Cob Leaf Length (cm)	95.7
Cob leaf width (cm)	10.16
Sheath hairs	Sparse
Leaf Senescence	Late
Leaves per Plant	16-18
Marginal Serration	Absent
<b>TASSEL CHARACTERISTICS</b>	
50% Tassel emergence	58-59 days (50% shedding)
Tassel length (cm)	28-30
Tassel stalk length (cm)	10
Exsertion above flag leaf (cm)	7.6

No. of lateral branches	5.7
Lateral branches density	Intermediate
Lateral branches attitude	Semi erect
<b>FLOWER CHARACTERISTICS</b>	
Anther fertility	Normal
Pollen shedding	Medium
Anther color	Yellow
Pollen color	Yellow
Glume color	Green
<b>EAR CHARACTERISTICS</b>	
50% silk emergence(days)	60-61 days
Silk color	Pink
Insertion Height (cm)	100-108
Peduncle length (cm)	10.16
Ear leafy extensions	Long
Ear husk length	Medium
No. of husk blades	7-10
Ear shape	Cylindrical
Ear length (cm)	17.7
Ear width (cm)	6.7
Seed rows/ ear	16-18
Seeds/ row	38-45
Seed Row attitude	Straight
No. of ears/ plant	One
Cob color	White
<b>SEED CHARACTERISTICS</b>	
Seed color	White
Seed tip color	White
Color of sides	White
Seed type	Intermediate
Seed wax	Absent

Seed size	Bold
1000 Seed weight (g)	420
Grain. Cob ratio	80-84%
Yield/ ha. (MT)	7-8
<b>RESISTANCE</b>	
Helminthosporium spp.	Mod. Resistant
Fusarium	Mod. Resistant
Streak Virus	Resistant
Insects	Mod. Resistant

*Opposition can be filed up to: 10-07-2025*

### 13. Application No.: PBRR-Wheat-156/25

Name of the Applicant: Wheat Research Institute, Faisalabad  
Institute: Wheat Research Institute, Faisalabad  
i. Dr. Javed Ahmad  
ii. Dr. Aziz-ur-Rehman  
iii. Dr. Nadeem Ahmad  
iv. Mr. Muhammad Zulkiffal  
Name of Breeder(s): v. Dr. Muhammad Sarwar  
vi. Mr. Muhammad Owais  
vii. Mr. Majid Nadeem  
viii. Mr. Muhammad Hammad Tanveer  
ix. Mrs. Sadia Ajmal  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: Sawera-24  
Crop: Wheat (*Triticum aestivum* L.)  
Type of Variety: OPV  
Name of Initial Variety (in case of EDV): Not Applicable  
Salient features:

CHARACTERISTICS	DESCRIPTION
Maturity Duration	Early to Medium
Comparable variety	Akbar-19
<b>SEEDLING CHARACTERISTICS</b>	

Growth habit	Semi erect
Coleoptile color	absent
Seedling anthocyanin	White
<b>PLANT CHARACTERISTICS</b>	
Plant height (cm)	90-100
Color booting stage	green
<b>STEM CHARACTERISTICS</b>	
Stem anthocyanin (at flowering)	absent
Stem waxy bloom	Medium
Stem wall thickness	intermediate
Stem stiffness	intermediate
Stem diameter (mm)	4.2-4.5
Peduncle length cm	30-36
Productive tillers/ m	360-400
No. of nodes/ stem	4-5
Straw Color	Yellow white
Lodging	Low
<b>FLAG LEAF CHARACTERISTICS</b>	
Flag leaf attitude	Semi erect
Flag leaf twist	medium
Flag leaf Length (cm)	29-34.5
Flag leaf Width (cm)	2.0-2.2
Flag leaf Sheath wax	medium
Sheath hairiness	absent
Auricle hairiness	sparse
Auricle anthocyanin	Absent
<b>EAR CHARACTERISTICS</b>	
Ear emergence	100-105
Ear size	medium
Length (cm)	12-13
Width (cm)	1.3-1.5

Color at maturity	Yellowish white
Ear shape	tapering
Ear density	Medium dense
Super numerary spikelets	absent
Speltoids	absent
Shattering	resistant
Ear kink/twist	medium
Ear Awnedness	awned
Awn distribution	whole
Awn length	long
Awn color	Yellowish white
Awn habit	Divaricate
Anther Color	Yellow
Rachis hairs apical	sparse
Rachis hairs margin	Sparse
Rachis length (cm)	10-12
Rachis width (mm)	3.5-4.2
No. of segments	17-19
<b>GLUME CHARACTERISTICS</b>	
Glume length (mm)	10.1-10.3
Glume width (mm)	3.8-4.1
Glume length Size	Medium
Glume width size	Medium
Lower glume shape	Narrow humped
Glume attachment	Medium
Glume Pubescence	Absent
Glume surface	Rough
Lower glume shoulder shape	Slopping
Lower glume shoulder width	Narrow
Beak length (mm)	2.5-2.8
Lower glume beak shape	Short/ straight

Lower glume Beak Size	Medium
Beak spicules	Present
Keel spicules	1
Glume internal hair	Sparse
<b>SEED CHARACTERISTICS</b>	
Seed color	Amber
Seed surface	Opaque
Seed shape	Oval
Seed length (mm)	6.5-7
Seed width (mm)	3-4
Seed thickness (mm)	3-3.2
Seed size	Medium
Seed brush	Short
Seed Germ size	Medium
1000 seed weight	40-42
Seed groove	Shallow
Seed/ Ear	57-63
Seed hardness	Soft
Protein%	13-15
Chapati quality	Good
Yield (kg/ ha)	7600-7800
<b>ENVIRONMENTAL ADAPTABILITY</b>	
Flowering response to season	stable
Drought tolerance	Medium
Tolerance to salinity	Medium
Tolerance to acidic soils	Medium
Cold tolerance	Medium
Heat tolerance	Least tolerant
<b>RESISTANCE TO INSECTS/ PEST</b>	
Lodging	Resistant
shattering	Resistant

Stem rust	Resistant
Leaf rust	Resistant
Stripe rust	Resistant

*Opposition can be filed up to: 10-07-2025*

#### 14. Application No.: PBRR-Wheat-156/25

Name of the Applicant: Wheat Research Institute, Faisalabad  
Institute: Wheat Research Institute, Faisalabad  
i. Dr. Javed Ahmad  
ii. Dr. Aziz-ur-Rehman  
iii. Dr. Nadeem Ahmad  
iv. Mr. Muhammad Zulkiffal  
Name of Breeder(s): v. Dr. Muhammad Sarwar  
vi. Mr. Muhammad Owais  
vii. Mr. Majid Nadeem  
viii. Mr. Muhammad Hammad Tanveer  
ix. Mrs. Sadia Ajmal  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: Falak-24  
Crop: Wheat (*Triticum aestivum* L.)  
Type of Variety: OPV  
Name of Initial Variety (in case of EDV): Not Applicable  
Salient features:

CHARACTERISTICS	DESCRIPTION
Maturity Duration	Early to Medium
Comparable variety	Akbar-19
<b>SEEDLING CHARACTERISTICS</b>	
Growth habit	Semi erect
Coleoptile color	absent
Seedling anthocyanin	White
<b>PLANT CHARACTERISTICS</b>	
Plant height (cm)	96-105
Color booting stage	Green

<b>STEM CHARACTERISTICS</b>	
Stem anthocyanin (at flowering)	absent
Stem waxy bloom	Weak
Stem wall thickness	intermediate
Stem stiffness	intermediate
Stem diameter (mm)	4.5-5.0
Peduncle length (cm)	34-35.5
Productive tillers/ m	350-400
No. of nodes/ stem	3-4
Straw color	Yellow white
Lodging	Low
<b>FLAG LEAF CHARACTERISTICS</b>	
Flag leaf attitude	Semi erect
Flag leaf twist	medium
Flag leaf Length (cm)	28-30
Flag leaf Width (cm)	2.3-2.5
Flag leaf Sheath wax	Weak
Sheath hairiness	absent
Auricle hairiness	sparse
Auricle anthocyanin	Absent
<b>EAR CHARACTERISTICS</b>	
Ear emergence	100-105
Ear size	medium
Length (cm)	12-13
Width (cm)	1.5-1.8
Color at maturity	Yellowish white
Ear shape	tapering
Ear density	Medium dense
Super numerary spikelets	Absent
Speltoids	Absent
Shattering	resistant

Ear kink/twist	medium
Ear Awnedness	Awned
Awn distribution	Whole
Awn length	Long
Awn color	Yellowish white
Awn habit	erect
Anther Color	Yellow
Rachis hairs apical	sparse
Rachis hairs margin	Sparse
Rachis length (cm)	11.5-12.5
Rachis width (mm)	3.5-4.0
No. of segments	19-21
<b>GLUME CHARACTERISTICS</b>	
Glume length (mm)	10.5-11
Glume width (mm)	3.5-4.5
Glume length Size	Medium
Glume width size	Medium
Lower glume shape	Narrow humped
Glume attachment	Medium
Glume Pubescence	Absent
Glume surface	Rough
Lower glume shoulder shape	Slopping
Lower glume shoulder width	Narrow
Beak length (mm)	6-6.5
Lower glume beak shape	Short/ straight
Lower glume Beak Size	Long
Beak spicules	Present
Keel spicules	1
Glume internal hair	Sparse
<b>SEED CHARACTERISTICS</b>	
Seed color	Amber

Seed surface	Opaque
Seed shape	Oval
Seed length (mm)	6.5-7.2
Seed width (mm)	3.8-4.2
Seed Thickness (mm)	3-3.2
Seed size	Medium
Seed brush	Short
Seed Germ size	Medium
1000 seed weight	40-46
Seed groove	Intermediate
Seed/ ear	55-60
Seed hardness	Medium
Protein%	13-15
Chapati quality	Good
Yield (kg/ ha)	7400-7600
<b>ENVIRONMENTAL ADAPTABILITY</b>	
Flowering response to season	Stable
Drought tolerance	Medium
Tolerance to salinity	Medium
Tolerance to acidic soils	Medium
Cold tolerance	Medium
Heat tolerance	Least tolerant
<b>RESISTANCE TO INSECTS/ PEST</b>	
Lodging	Resistant
shattering	Resistant
Stem rust	Resistant
Leaf rust	Resistant
Stripe rust	Resistant

*Opposition can be filed up to: 10-07-2025*

**15. Application No.: PBRR-Rye-1/21**

Name of the Applicant: Korean Rural Development Administration, 300 Nongsaengmyeong-ro, Deokjin-gu, Jeonju-si, Jeollabuk-do 54875, Republic of Korea.

Institute: Korean Rural Development Administration, 300 Nongsaengmyeong-ro, Deokjin-gu, Jeonju-si, Jeollabuk-do 54875, Republic of Korea.

Name of Breeder(s): i. Hee Chung JI  
ii. Tae Young HWANG  
iii. Ki Won LEE

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: Green Call 2ho

Crop: Italian Ryegrass (*Lolium multiflorum* Lam.)

Type of Variety: Hybrid

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Chromosomal polyploidy	Diploid
Plant type: Before wintering	Semi erect
Plant type: spring	Erect
Leaf colour	Green
Terminal leaf at heading stage: length	Very long (26.1 cm)
Terminal leaf at heading stage: width	Medium (8 mm)
Characteristics of grain: length	Very long (30.7 cm)
Characteristics of grain: number of spikelets	Many (25.2)
Longest length of stem	Slightly short (72.7 cm)
Thickness of stem	Thick (2.80 mm)

*Opposition can be filed up to: 14-07-2025*

#### **16. Application No.: PBRR-Wheat-92/23**

Name of the Applicant: Wheat Program, PARC-NARC, Islamabad

Institute: PARC-NARC, Islamabad

Name of Breeder(s): i. Dr. Maqsood Qamar  
ii. Mrs. Sundas Waqar  
iii. Dr. Zahid Mehmood  
iv. Syed Haider Abbas

v. Dr. Sikandar Khan Tanveer  
vi. Dr. Imtiaz Hussain  
vii. Dr. Ghulam Muhammad Ali

Name of Co-breeder(s):

Application for:

New Plant Variety

Denomination of Variety:

Wafaq-2023

Crop:

Wheat (*Triticum aestivum* L.)

Type of Variety:

OPV

Name of Initial Variety (in case of EDV):

Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Days to Maturity	150-160
Earlier than	Pakistan-2013
Later than	Fareed-2006
Suitable for sowing	1st week of November
Sowing time	1st Nov to 15th Nov
<b>SEEDLING CHARACTERISTICS</b>	
Growth habit	Erect
Coleoptile color	White
Seedling anthocyanin	Absent
<b>PLANT CHARACTERISTICS</b>	
Plant height (cm)	75-108
Taller than	Fareed-2006
Shorter than	Pakistan-2013
Color at booting stage	Green
<b>STEM CHARACTERISTICS</b>	
Stem anthocyanin	Absent
Stem waxy bloom	Strong
Stem wall thickness	Thin
Stem stiffness	Soft
Stem diameter (mm)	3
Peduncle length (cm)	34-39

Productive tillers/ m	481
No. of nodes/ stem	3-4
Straw color	Yellowish white
Lodging	Absent
<b>FLAG LEAF CHARACTERISTICS</b>	
Flag leaf attitude	Erect
Flag leaf twist	Strong
Length (cm)	14-30
Width (cm)	1.2-2.4
Sheath wax	Medium
Sheath hairiness	Absent
Auricle hairiness	Sparse
Auricle anthocyanin	Weak
<b>EAR CHARACTERISTICS</b>	
Ear emergence	100-125
Ear size	Medium
Length (cm)	9-12.5
Width (cm)	1-1.5
Wax at anthesis	Weak
Color at maturity	Yellowish white
Ear shape	Tapering
Ear density	Lax
Super numerary spikelets	Absent
Speltoids	Absent
Shattering	Resistant
Ear kink/twist	Medium
Ear Awnedness	Awned
Awn distribution	Whole
Awn length	Medium
Awn color	Yellowish white
Awn habit	Erect

Anther color	Yellow
Rachis hairs apical	Medium
Rachis hairs margin	Sparse
Rachis length (cm)	9-10
Rachis width (mm)	0.2-0.5 or 2-5
No. of segments	16-20
<b>GLUME CHARACTERISTICS</b>	
Glume length (mm)	8-12
Glume width size (mm)	3-4
Glume length size	Medium
Glume width size	Medium
Lower glume shape	Narrow humped
Glume attachment	Weak
Glume Pubescence	Absent
Glume surface	Smooth
Lower glume shoulder shape	Slopping
Lower glume shoulder width	Narrow
Beak length (mm)	2-3
Lower glume beak shape	Short straight
Lower glume Beak Size	Short
Beak spicules	Present
Keel spicules	1
Glume internal hair	Absent
Glume internal imprint/ impression	Absent
<b>SEED CHARACTERISTICS</b>	
Seed color	Amber
Seed surface	Opaque
Seed shape	Ovate
Seed length (mm)	6-7
Seed width (mm)	3-4
Seed thickness (mm)	2-3

Seed size	Medium
Seed brush	Short
Seed Germ size	Medium
1000 seed weight (g)	40-45
Seed groove	Shallow
Seed/ Ear	50-70
Seed hardness	Hard
Protein (%)	13.4
Chapati quality	Good
Bread quality	Good
Average Yield	8600 kg/ha
<b>ENVIROMENTAL ADAPTABILITY</b>	
Flowering response to seasons	Stable
<b>Drought tolerance</b> (Measured as reduction in yield)	Tolerant
<b>Tolerance to salinity</b> (Measured by reduction in plant height 30 days after sowing)	Tolerant
<b>Heat tolerance</b> (Measured as yield reduction when continuously exposed to average of 40 °C during the flowering period)	Tolerant
<b>Distinguishing Characteristics</b>	Yellowish white at maturity with erect flag leaf, Short and straight lower glume beak and Narrow humped lower glume shoulder

*Opposition can be filed up to: 14-07-2025*

### **17. Application No.: PBRR-SOY-106/24**

Name of the Applicant:	Crop Science Institute, National Agricultural Research Centre, Islamabad
Institute:	Crop Science Institute, National Agricultural Research Centre, Islamabad
Name of Breeder(s):	i. Dr. Muhammad Haris Khurshid ii. Dr. Doulat Baig
Name of Co-breeder(s):	i. Hala Haroon
Application for:	New Plant Variety
Denomination of Variety:	NARC-SOY-2021

Crop: Soybean (*Glycine max* L.)

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
<b>SEEDLING CHARACTERISTICS</b>	
Seedling height (cm) 2 weeks	13.2
Hypocotyl length (mm)	96
Anthocyanin color	Medium
Cotyledon color	Light yellow
Cotyledon length (mm)	22.2
Cotyledon width (mm)	15.3
Bud pubescence	Medium
<b>PLANT CHARACTERISTICS</b>	
Growth habit	Semi erect
Growth type	Indeterminate
Plant shape	Non bushy
Plant height (cm)	73
Pubescence color	Grey
<b>STEM CHARACTERISTICS</b>	
Stem hairiness	Weak
Stem branching	Strong
No. of branches/ main stem	10
No. of nodes/ main stem	12
Stem color at flowering	Light green
<b>LEAF CHARACTERISTICS</b>	
Leaf color	Dark green
Leaflet shape	Lanceolate
Leaflet size	Large
Leaflet attitude	Horizontal
Leaf pubescence	Absent

Senescence	Medium
<b>FLOWER CHARACTERISTICS</b>	
Flowering days	31-36
Flower size	Medium
Flower color	Violet
<b>POD CHARACTERISTICS</b>	
Pod color	Brown
Pod size	Medium
Pod setting	High
No. of pods/ plant	82-124
No. of seeds/ pod	3
Pubescence	Medium
Shattering	Low
<b>SEED CHARACTERISTICS</b>	
Seed shape	Spherical
Seed coat color	Yellow
Coat luster	Dull
Seed size	Medium
Seed diameter (mm)	2.6-3.7
Seed weight (000) (g)	15
Hilum color	Black
Hilum shape	Oval
Cotyledon color	Light yellow
<b>DISTINGUISHING CHARACTERISTICS</b>	<b>Leaves</b> Color: Dark green Shape: Narrow long pointed <b>Pod</b> Color: Brown Pubescence: Medium

*Opposition can be filed up to: 14-07-2025*

**18. Application No.: PBRR-Wheat-155/25**

Name of the Applicant:

Executive Director, Wheat Research Centre  
Sakrand, District Shaheed Benazirabad

Institute: Wheat Research Centre Sakrand, District  
Shaheed Benazirabad

Name of Breeder(s): i. Imdad Ali Vistro  
ii. Dr. Muhammad Ismail Lashari  
iii. Rub Dino Keerio  
iv. Jay Kumar

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: IV-3

Crop: Wheat (*Triticum aestivum* L.)

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Maturity Duration	Medium
Days to maturity	125-127 days
<b>SEEDLING CHARACTERISTICS</b>	
Growth habit	Semi erect
Seedling anthocyanin	Absent
<b>PLANT CHARACTERISTICS</b>	
Plant height (cm)	98
Color booting stage	blue
<b>STEM CHARACTERISTICS</b>	
Stem anthocyanin (at flowering)	absent
Stem waxy bloom	strong
Stem wall thickness	Very thick
Stem stiffness	Stiff
Stem diameter (mm)	3.5
Peduncle length (cm)	3.8
Productive tillers/ m	540
No. of nodes/ stem	3-4
Straw color	Yellow white
Lodging	absent

<b>FLAG LEAF CHARACTERISTICS</b>	
Flag leaf attitude	Semi erect
Flag leaf twist	Medium
Flag leaf Length (cm)	21-22
Flag leaf Width (cm)	2
Flag leaf Sheath wax	Very strong
Sheath hairiness	Medium
Auricle hairiness	Sparse
Auricle anthocyanin	Absent
<b>EAR CHARACTERISTICS</b>	
Ear emergence	78
Ear size	Medium
Ear Length (cm)	10-11
Ear Width (cm)	1.0
Wax at anthesis	Strong
Color at maturity	Yellowish white
Ear shape	tapering
Ear density	dense
Super numerary spikelets	absent
Speltoids	absent
Shattering	resistant
Ear kink/twist	medium
Ear Awnedness	awned
Awn distribution	whole
Awn length	Medium
Awn color	White
Awn habit	erect
Anther Color	Yellow
Rachis hairs apical	Profuse
Rachis hairs margin	Profuse
Rachis length (cm)	13.5

Rachis width (mm)	0.5
No. of segments	19
<b>GLUME CHARACTERISTICS</b>	
Glume length (mm)	15
Glume width (mm)	5
Glume length Size	Medium
Glume width size	Wide
Lower glume shape	Narrow humped
Glume attachment	Strong
Glume Pubescence	Absent
Glume surface	Smooth
Lower glume shoulder shape	Indented
Lower glume shoulder width	Medium
Beak length (mm)	4
Lower glume beak shape	Curved & humped
Lower glume Beak Size	Medium
Beak spicules	Present
Keel spicules	3
Glume internal hair	absent
Glume internal impression	Large
<b>SEED CHARACTERISTICS</b>	
Seed color	Amber
Seed surface	Opaque
Seed shape	Ovate
Seed length (mm)	0.2
Seed width (mm)	0.1
Seed thickness (mm)	0.2
Seed size	Bold
Seed brush	Medium
Seed Germ size	Medium
1000 seed weight	60

Seed groove	Deep
Seeds/ ear head	70 grains
Seed hardness	Hard
Protein%	10.8
Chapati quality	Good
Bread quality	Good
Phenol reaction	None
<b>YIELD CHARACTERISTICS</b>	
Average Yield (mds/ acre)	65
Potential Yield (mds/ ha)	185
Potential Yield (mds/ acre)	75
Potential Yield (kg/ acre)	3000
Potential Yield (kg/ ha)	7413
Average Yield (kg/ acre)	2600
<b>RESISTANCE</b>	
Stem rust	Resistant
Stripe rust	Resistant
Loose smut	Resistant
Kernel bunt	Resistant
Variants	Resistant
Distantness	Plants are blue green in colour

*Opposition can be filed up to: 14-07-2025*

### **19. Application No.: PBRR-Wheat-158/25**

Name of the Applicant: Tara Crop Sciences (Pvt) Limited, Lahore  
Institute: Tara Crop Sciences (Pvt) Limited, Lahore  
Name of Breeder(s): i. Dr. Khalid Hameed  
ii. Dr. Shehryar Khalid  
iii. Muhammad Shahbaz  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: Ibrahim-23

Crop: Wheat (*Triticum aestivum* L.)  
 Type of Variety: OPV  
 Name of Initial Variety (in case of EDV): Not Applicable  
 Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Maturity Duration	Medium
Comparable varieties	Arooj-22 & Akbar-19
Origin	Local
<b>SEEDLING CHARACTERISTICS</b>	
Growth habit	Semi erect
Coleoptile color	Absent
Seedling anthocyanin	Absent
<b>PLANT CHARACTERISTICS</b>	
Plant height (cm)	105-115
Taller than	Arooj-22
Color booting stage	Green
<b>STEM CHARACTERISTICS</b>	
Stem anthocyanin (at flowering)	absent
Stem waxy bloom	medium
Stem wall thickness	Thin
Stem stiffness	Intermediate
Stem diameter (mm)	4.0-4.5
Peduncle length (cm)	19-21
Productive tillers/ m	397
No. of nodes/ stem	4-5
Straw color	Yellow white
Lodging	Medium
<b>FLAG LEAF CHARACTERISTICS</b>	
Flag leaf attitude	Semi erect
Flag leaf twist	Medium
Flag leaf Length (cm)	21-24

Flag leaf Width (cm)	1.8-2.2
Flag leaf Sheath wax	medium
Sheath hairiness	sparse
Auricle hairiness	absent
Auricle anthocyanin	absent
<b>EAR CHARACTERISTICS</b>	
Ear emergence (days)	85-95
Ear size	Medium
Ear Length (cm)	12-14
Ear Width (cm)	1.0-1.5
Wax at anthesis	Medium
Color at maturity	Yellowish white
Ear shape	Tapering
Ear density	Medium dense
Super numerary spikelets	absent
Speltoids	absent
Shattering	resistant
Ear kink/ twist	medium
Ear awnedness	awned
Awn distribution	whole
Awn length	Medium
Awn color	Yellowish White
Awn habit	Divaricate
Anther Color	Yellow
Rachis hairs apical	Medium
Rachis hairs margin	Medium
Rachis length (cm)	10.2-10.6
Rachis width (mm)	3-4
No. of segments	18-20
<b>GLUME CHARACTERISTICS</b>	
Glume length (mm)	9-11

Glume width (mm)	3.8-4.1
Glume length Size	Medium
Glume width size	Medium
Lower glume shape	Narrow humped
Glume attachment	Medium
Glume Pubescence	Absent
Glume surface	Rough
Lower glume shoulder shape	Indented
Lower glume shoulder width	Medium
Beak length (mm)	3-4
Lower glume beak shape	Long/ Sharp Inflected
Lower glume Beak Size	Medium
Beak spicules	Present
Keel spicules	3
Glume internal hair	absent
Glume internal impression	Medium
<b>SEED CHARACTERISTICS</b>	
Seed color	Amber
Seed surface	Opaque
Seed shape	Ovate
Seed length (mm)	7.0-7.2
Seed width (mm)	3.2-3.6
Seed thickness (mm)	2.9-3.2
Seed size	Bold
Seed brush	Medium
Seed Germ size	Medium
1000 seed weight	48-51
Seed groove	Intermediate
Seeds/ ear	60-65
Seed hardness	Medium
Protein%	14.2

Chapati quality	Good
Starch%	51.3
Bread quality	Good
Wet Gluten%	27.96
Yield (kg/ acre)	2900-3000
<b>RESISTANCE</b>	
Drought tolerant	Medium
Tolerance to salinity	Tolerant
Tolerance to acid soils	Tolerant
Cold tolerance	Tolerant
Heat tolerance	Tolerant
<b>DISTINGUISHING CHARACTERISTICS</b>	Tall, semi erect broad flag leaf, medium dense tapering spike, broad stem & bold seed with intermediate groove.

*Opposition can be filed up to: 14-07-2025*

## 20. Application No.: PBRR-Rye-2/21

Name of the Applicant: Korean Rural Development Administration, 300 Nongsaengmyeong-ro, Deokjin-gu, Jeonju-si, Jeollabuk-do 54875, Republic of Korea.

Institute: Korean Rural Development Administration, 300 Nongsaengmyeong-ro, Deokjin-gu, Jeonju-si, Jeollabuk-do 54875, Republic of Korea.

Name of Breeder(s):  
i. Hee Chung JI  
ii. Tae Young HWANG  
iii. Ki Won LEE

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: Green Call

Crop: Italian Ryegrass (*Lolium multiflorum* Lam.)

Type of Variety: Hybrid

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Chromosomal polyploidy	Diploid

Plant type: Before wintering	Semi erect
Plant type: spring	Erect
Leaf colour	Green
Terminal leaf at heading stage: length	Slightly long (24.9 cm)
Terminal leaf at heading stage: width	Medium (8 mm)
Characteristics of grain: length	Long (27.1 cm)
Characteristics of grain: number of spikelets	Many (24.9)
Longest length of stem	Slightly short (72.5 cm)
Thickness of stem	Medium (2.61 mm)

*Opposition can be filed up to: 18-07-2025*

## 21. Application No.: PBRR-Chickpea-93/23

Name of the Applicant: Arid Zone Research Institute, Bhakkar

Institute: Arid Zone Research Institute, Bhakkar

Name of Breeder(s):  
i. Mr. Niaz Hussain  
ii. Mr. Abdul Ghaffar  
iii. Dr. Muhammad Aslam  
iv. Mr. Mudassar Khaliq  
v. Dr. Khalid Hussain

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: Star Channa (TG1305)

Crop: Chickpea (*Cicer arietenum* L.)

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Planting Time	October to November
Maturity Duration	Medium
Suitable for Sowing	Medium
<b>SEEDLING CHARACTERISTICS</b>	
Seedling length (cm)	4.7
Seedling Anthocyanin	Absent

<b>PLANT CHARACTERISTICS</b>	
Growth habit	Semi erect
Plant height (cm)	68-70
Anthocyanin	Medium
Canopy spread	Medium
<b>STEM CHARACTERISTICS</b>	
Stem height (cm)	50-55
Stem color	Green
Stem hairiness	Medium
Stem anthocyanin	Present
No. of primary branches	2-3
No. of secondary branches	12-14
No. of tertiary branches	17-19
<b>LEAF CHARACTERISTICS</b> (leaves on pod-bearing nodes)	
Leaf color	Green
Leaf angle	Semi erect
Rachis length (cm)	4.5
No. of Leaflets	13-15
Leaflet length/ width (mm)	13-14/10-12
Leaflet size	Medium
Leaflet tip	Acuminate
Leaf wax	Medium
Leaflet shape	Obovate
Leaf senescence	Medium
<b>FLOWER CHARACTERISTICS</b>	
Days of Flowering	86-88
Flowering Duration	62-64
Flowering Color	Pink
Flower stripes on Standard	Present
Flower size	Medium
Flower number/ Peduncle	1

Peduncle length (mm)	22-24
Pedicle anthocyanin	Absent
<b>POD CHARACTERISTICS</b>	
Length/ width/ thickness(cm)	3/1.4/1.5
Pod Size	Medium
Pod shattering	Absent
Beak/ mucro length (mm)	3-4
Pods/plant	80-85
Seeds/pod	1-2
<b>SEED CHARACTERISTICS</b>	
Seed color	Brown
Seed Shape	Ram head
Length/ width/ thickness (mm)	9.6/8.1/7.9
Seed size	Bold
Seed dots	Absent
Testa texture	Rough
Seed ribbing	Absent
Seed weight (g)	29.5-30
Seed beak size	Medium
Yield (kg/ha)	2150-2200
<b>ENVIROMENTAL ADAPTIBILITY</b>	
Flowering response to seasons	Stable
Drought tolerance (Measured as reduction yield)	Medium
Cold tolerance (Measured as reduction in general vigour and productivity after being continuously exposed to an average temperature of 15°C for at least 15 days)	Medium
Heat tolerance (Measured as yield reduction when continuously exposed to average of 40°C during the flowering period)	Medium

*Opposition can be filed up to: 25-08-2025*

## **22. Application No.: PBRR-Chickpea-138/24**

Name of the Applicant:

Arid Zone Research Institute, Bhakkar

Institute: Arid Zone Research Institute, Bhakkar  
i. Dr. Khalid Hussain  
ii. Mr. Niaz Hussain  
Name of Breeder(s): iii. Mr. Abdul Ghaffar  
iv. Mr. Mudassar Khaliq  
v. Dr. Muhammad Aslam  
vi. Mr. Muneer Abbas  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: TG Striker (TG-1427)  
Crop: Chickpea (*Cicer arietenum* L.)  
Type of Variety: OPV  
Name of Initial Variety (in case of EDV): Not Applicable  
Salient features:

CHARACTERISTICS	DESCRIPTION
Planting Time	October to November
Maturity Duration	Medium
Suitable for Sowing	Medium
<b>SEEDLING CHARACTERISTICS</b>	
Seedling length (cm)	4-6.5
Seedling Anthocyanin	Absent
<b>PLANT CHARACTERISTICS</b>	
Growth habit	Semi erect
Plant height (cm)	65-70
Anthocyanin	Medium
Canopy spread	Medium
<b>STEM CHARACTERISTICS</b>	
Stem height (cm)	60-65
Stem color	Green
Stem hairiness	Medium
Stem anthocyanin	Present
No. of primary branches	2-3
No. of secondary branches	13-16

No. of tertiary branches	16-18
<b>LEAF CHARACTERISTICS (leaves on pod-bearing nodes)</b>	
Leaf color	Green
Leaf angle	Semi erect
Rachis length (cm)	4.4
No. of Leaflets	13-15
Leaflet length/ width (mm)	14-15/10-12
Leaflet size	Medium
Leaflet tip	Acuminate
Leaf wax	Medium
Leaflet shape	Obovate
Leaf senescence	Medium
<b>FLOWER CHARACTERISTICS</b>	
Days of Flowering	89-90
Flowering Duration	62-63
Flowering Color	Pink
Flower stripes on Standard	Present
Flower size	Medium
Flower number/Peduncle	1
Peduncle length (mm)	20-22
Pedicle anthocyanin	Absent
<b>POD CHARACTERISTICS</b>	
Length/ width/ thickness (cm)	2.8/1.5/1.7
Pod Size	Medium
Pod shattering	Absent
Beak/ mucro length (mm)	3-4
Pods/plant	80-85
Seeds/pod	1-2
<b>SEED CHARACTERISTICS</b>	
Seed color	Brown
Seed Shape	Ram head

Length/width/thickness (mm)	9.5/8.3/8.2
Seed size	Bold
Seed dots	Absent
Testa texture	Rough
Seed ribbing	Absent
Seed weight (g)	28.5-29.4
Seed beak size	Medium
Yield (kg/ha)	2350-2450
<b>ENVIROMENTAL ADAPTIBILITY</b>	
Flowering response to seasons	Stable
Drought tolerance (Measured as reduction yield)	Medium
Cold tolerance (Measured as reduction in general vigour and productivity after being continuously exposed to an average temperature of 15°C for at least 15 days)	Medium
Heat tolerance (Measured as yield reduction when continuously exposed to average of 40°C during the flowering period)	Medium
RESISTANCE TO INSECTS/PESTS	Pod borer ( <i>Helicoverpa armigera</i> )
RESISTANCE TO DISEASES	Fusarium wilt, Ascochyta Blight
DISTINGUISHING CHARACTERISTICS	Bold seeded, Early maturing, Resistant to terminal heat stress

*Opposition can be filed up to: 25-08-2025*

### **23. Application No.: PBRR-Rice-147/25**

Name of the Applicant: NIGAB, NARC, Park Road, Islamabad  
Institute: NIGAB, NARC, Park Road, Islamabad  
i. Dr. Ghulam Muhammad Ali  
ii. Dr. Zaheer Abbas  
Name of Breeder(s): iii. Dr. Sabahat Noor  
iv. Dr. Shahzad Amir Naveed  
v. Dr. Ihsan ul Haq  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: GMAlI-10  
Crop: Rice (*Oryza sativa* (Indica))

Type of Variety:

OPV

Name of Initial Variety (in case of EDV):

Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
<b>SEEDLING CHARACTERISTICS</b>	
Seedling colour	Light Green
Seedling height (cm)	24
Coleoptile colour	Green
<b>STEM CHARACTERISTICS</b>	
Mature stem length (cm)	86
Stem height	Semi Dwarf
Shorter than	PK-1121
Stem attitude	Semi Erect
Stem length	Short (91-110 cm)
Stem thickness	Medium (0.40-0.55 cm)
Stem stiffness	Semi Stiff
No. of nodes/ stem	5
Internode colour	Green
Tiller/plant	16-20
Matured straw colour	Straw
<b>LEAF CHARACTERISTICS</b>	
Leaf length (cm)	55
Leaf length of blade	Medium (30-45 cm)
Leaf width (cm)	1.8
Leaf width	Medium (1-2 cm)
Leaf colour	Pale Green
Leaf anthocyanin	Absent
Leaf pubescence	Sparse
Leaf sheath colour	Green
Ligule colour	Papery
Ligule length (mm)	17-20

Ligule shape	Truncate
Leaf auricle	Present
Auricle colour	Green
Collar colour	Green
Flag leaf attitude	Semi Erect
Flag leaf length (cm)	40
Flag leaf width (cm)	1.8
<b>PANICLE CHARACTERISTICS</b>	
Panicle type	Medium Compact
Spikelet density	Semi Dense
Panicle curvature of main axis	Deflexed
Panicle exertion	Partly Exerted
Branches/Panicle	Moderate
Secondary branches	Present
Intensity of secondary branches	Weak
Attitude of branches panicle attitude	Erect to Semi Erect
Awn colour at flowering	Straw
Awn colour at maturity	Straw
Spikelets/panicle	160/200
Sterility	Very Low
Shattering	Very Low
Thershability	Intermediate
<b>SEED CHARACTERISTICS</b>	
Seed awning	Awned
Stigma colour	Green
Husk colour	Straw
Husk pubescence	Sparse
Pubescence length	Medium
Seed shape	Semi Crescent
Seed length (mm)	9.6
Seed width (mm)	2.0

Seed thickness (mm)	1.6
Seed size	Medium
1000, seed weight (g)	23-27
Seed dormancy	Low
Sterile lemma colour	Straw
Sterile lemma length (cm)	0.10-0.2
<b>KERNAL CHARACTERISTICS</b>	
Kernal size	Medium Long
Kernal length/thickness (mm)	6/1.7
Kernal colour	White
Kernal appearance	Tanslucent
Kernal chalkiness	Present
Chalki position	Abdominal
Kernal quality	Medium Fine
Kernal aroma	Weak

*Opposition can be filed up to: 25-08-2025*

#### **24. Application No.: PBRR-Rice-148/25**

Name of the Applicant: NIGAB, NARC, Park Road, Islamabad  
Institute: NIGAB, NARC, Park Road, Islamabad  
i. Dr. Ghulam Muhammad Ali  
ii. Dr. Zaheer Abbas  
Name of Breeder(s): iii. Dr. Madiha Habib  
iv. Dr. Izhar Muhammad  
v. Ameer Mumtaz  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: GMAlI-57  
Crop: Rice (*Oryza sativa* (Indica))  
Type of Variety: OPV  
Name of Initial Variety (in case of EDV): Not Applicable  
Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
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<b>SEEDLING CHARACTERISTICS</b>	
Seedling colour	L. Green
Seedling height (Length) (cm)	24
Coleoptile colour	Green
<b>STEM CHARACTERISTICS</b>	
Mature stem length (cm)	86
Shorter than	PK-1121
Stem attitude	Semi Erect
Stem length	Short (91-110 cm)
Stem thickness	Medium (0.40-0.55 cm)
Stem stiffness	Semi Stiff
No. of nodes/ stem	5
Internode colour	Green
Tiller/plant	16-20
Matured straw colour	Straw
<b>LEAF CHARACTERISTICS</b>	
Leaf length (cm)	55
Leaf length of blade	Medium (30-45 cm)
Leaf width (cm)	1.8
Leaf width	Medium (1-2 cm)
Leaf colour	Pale Green
Leaf anthocyanin	Absent
Leaf pubescence	Sparse
Leaf sheath colour	Green
Ligule colour	Papery
Ligule length (mm)	17-20
Ligule shape	Truncate
Leaf auricle	Present
Auricle colour	Green
Collar colour	Green
Flag leaf attitude	Semi Erect

Flag leaf length (cm)	40
Flag leaf width (cm)	1.8
<b>PANICLE CHARACTERISTICS</b>	
Spikelet density	Semi Dense
Panicle curvature of main axis	Deflexed
Panicle exertion	Partly Exerted
Branches/Panicle	Moderate
Secondary branches	Present
Intensity of secondary branches	Weak
Attitude of branches panicle attitude	Erect to Semi Erect
Awn colour at flowering	Straw
Awn colour at maturity	Straw
Spikelets/panicle	160-200
Sterility	Very Low
Shattering	Very Low
Thershability	Intermediate
<b>SEED CHARACTERISTICS</b>	
Seed awning	Awned
Stigma colour	Green
Husk colour	Straw
Husk pubescence	Sparse
Pubescence length	Medium
Seed shape	Semi Crescent
Seed length (mm)	9.6
Seed width (mm)	2
Seed thickness (mm)	1.6
Seed size	Medium
000, seed weight (g)	23-27
Seed dormancy	Low
Sterile lemma colour	Straw
Sterile lemma length (cm)	0.10-0.2

<b>KERNAL CHARACTERISTICS</b>	
Kernal size	Medium Long
Kernal length/ thickness (mm)	6/1.7
Kernal colour	White
Kernal appearance	Translucent
Kernal chalkiness	Present
Chalki position	Abdominal
Kernal quality	Medium Fine
Kernal aroma	Weak

*Opposition can be filed up to: 25-08-2025*

## 25. Application No.: PBRR-Rice-149/25

Name of the Applicant: NIGAB, NARC, Park Road, Islamabad

Institute: NIGAB, NARC, Park Road, Islamabad

i. Dr. Ghulam Muhammad Ali

ii. Dr. Zaheer Abbas

Name of Breeder(s): iii. Dr. Shaukat Ali

iv. Dr. Anila Latif

v. Dr. Shahzad Amir Naveed

vi. Dr. Muhammad Zakria

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: GMAlI-58

Crop: Rice (*Oryza sativa* (Indica))

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Planting time	15-Jun
<b>SEEDLING CHARACTERISTICS</b>	
Seedling colour	Green
Seedling height (Length) (cm)	29
Coleoptile colour	Green

<b>STEM CHARACTERISTICS</b>	
Mature stem length (cm)	80
Stem height	Tall
Shorter than	PK-1121
Stem attitude	Semi Erect
Stem length	Medium (111-130 cm)
Stem thickness	Medium (0.40-0.55 cm)
Stem stiffness	Semi Stiff
No. of nodes/ stem	3
Internode colour	Green
Tiller/ plant	16
Matured straw colour	Deep Straw
<b>LEAF CHARACTERISTICS</b>	
Leaf length (cm)	51
Leaf length of blade	Medium (30-45 cm)
Leaf width (cm)	0.8
Leaf width	Narrow (<1 cm)
Leaf colour	Green
Leaf anthocyanin	Absent
Leaf pubescence	Sparse
Leaf sheath colour	Green
Leaf senescence	Intermediate
Ligule colour	Papery
Ligule length (mm)	16-18
Ligule shape	Truncate
Leaf auricle	Present
Auricle colour	Pale Green
Collar colour	Pale Green
Flag leaf attitude	Semi Erect
Flag leaf length (cm)	48
Flag leaf width (cm)	1.4

<b>PANICLE CHARACTERISTICS</b>	
Panicle length of main axis (cm)	Medium (21-25 cm)
Panicle type	Medium Compact
Spikelet density	Semi Dense
Panicle curvature of main axis	Semi Straight
Panicle exertion	Partly Exerted
Branches/Panicle	Moderate
Secondary branches	Present
Intensity of secondary branches	Weak
Attitude of branches panicle attitude	Erect to Semi Erect
Awning at flowering	Short & partly
Awn colour at maturity	Straw
Spikelets/panicle	165-200
Sterility	Low
Shattering	Low
Thershability	Intermediate
<b>SEED CHARACTERISTICS</b>	
Seed awning	Absent
Stigma colour	Green
Apiculus colour (anthesis)	White
Apiculus colour (maturity)	White
Husk colour	Straw
Husk pigmentation	Absent
Husk pubescence	Sparse
Pubescence length	Short
Seed shape	Semi Crescent
Seed length (mm)	8.74
Seed width (mm)	1.9
Seed thickness (mm)	1.9
Seed size	Medium
Seed dormancy	Medium

Sterile lemma colour	Gold
Sterile lemma length (cm)	0.13-0.1
<b>KERNAL CHARACTERISTICS</b>	
Kernal size	Medium Long
Kernal length/ thickness (mm)	6.8/1.6
Kernal colour	Off White
Kernal appearance	Translucent
Kernal chalkiness	Absent
Chalki position	Abdominal
Kernal quality	Medium Fine
Kernal aroma	Weak

*Opposition can be filed up to: 25-08-2025*

## 26. Application No.: PBRR-Rice-150/25

Name of the Applicant: NIGAB, NARC, Park Road, Islamabad  
Institute: NIGAB, NARC, Park Road, Islamabad  
Name of Breeder(s): i. Dr. Ghulam Muhammad Ali  
ii. Dr. Zaheer Abbas  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: GMAlI-77  
Crop: Rice (*Oryza sativa* (Indica))  
Type of Variety: OPV  
Name of Initial Variety (in case of EDV): Not Applicable  
Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Maturity duration	Medium
Suitable for Sowing	Medium
Suitable for Nursery transplanting	04 Weeks
Type of variety	Medium Fine
<b>SEEDLING CHARACTERISTICS</b>	
Seedling colour	L. Green

Seedling height (Length) (cm)	26
Coleoptile colour	Green
<b>STEM CHARACTERISTICS</b>	
Mature stem length (cm)	92
Stem height	Semi Dwarf
Shorter than	PK-1121
Stem attitude	Semi Erect
Stem length	Medium (111-130 cm)
Stem thickness	Medium (0.40-0.55 cm)
Stem stiffness	Semi Stiff
No. of nodes/ stem	04
Internode colour	Green
Tiller/ plant	15-20
Matured straw colour	Straw
<b>LEAF CHARACTERISTICS</b>	
Leaf length (cm)	56-62
Leaf length of blade	Long (>45 cm)
Leaf width (cm)	1.6
Leaf width	Medium (1-2 cm)
Leaf colour	Green
Leaf anthocyanin	Absent
Leaf pubescence	Sparse
Leaf sheath colour	Green
Leaf senescence	Intermediate
Ligule colour	Papery
Ligule length (mm)	23-27
Ligule shape	Acute
Leaf auricle	Present
Auricle colour	Green
Collar colour	Green
Flag leaf attitude	Semi Erect

Flag leaf length (cm)	43-50
Flag leaf width (cm)	1.6-2
<b>PANICLE CHARACTERISTICS</b>	
Days to 50 % heading	Very Short -Short (16-20 m)
Panicle type	Medium Compact
Spikelet density	Semi Dense
Panicle curvature of main axis	Semi Straight
Panicle exertion	Partly Exerted
Branches/Panicle	Moderate
Secondary branches	Present
Intensity of secondary branches	Weak
Attitude of branches panicle attitude	Erect to Semi Erect
Awn colour at maturity	Straw
Spikelets/panicle	160-240
Sterility	Very Low
Shattering	Very Low
Thershability	Easy
<b>SEED CHARACTERISTICS</b>	
Seed awning	Absent
Stigma colour	Green
Apiculus colour (anthesis)	Straw
Apiculus colour (maturity)	Straw
Husk colour	Straw
Husk pigmentation	Absent
Husk pubescence	Sparse
Pubescence length	Short
Seed shape	Spear
Seed length (mm)	10
Seed width (mm)	1.9
Seed thickness (mm)	1.3
Seed size	Medium

000, seed weight (g)	25-30
Seed dormancy	Medium
Sterile lemma colour	Straw
Sterile lemma length (cm)	0.2-0.4
<b>KERNAL CHARACTERISTICS</b>	
Kernal size	Medium Long
Kernal length/ thickness (mm)	7.8/2
Kernal colour	Off White
Kernal appearance	Translucent
Kernal chalkiness	Absent
Kernal quality	Medium Fine
Kernal aroma	Weak

*Opposition can be filed up to: 25-08-2025*

## **27. Application No.: PBRR-Cotton-159/25**

Name of the Applicant: Central Cotton Research Institute, Multan  
Institute: Central Cotton Research Institute, Multan  
i. Dr. Farzana Ashraf  
ii. Dr. Zahid Mahmood  
Name of Breeder(s): iii. Dr. Khezir Hayat  
iv. Hafiz Muhammad Imran  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: BT. Cyto-547  
Crop: Cotton (*Gossypium hirsutum* L.)  
Type of Variety: OPV  
Name of Initial Variety (in case of EDV): Not Applicable  
Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Maturity duration	Medium
Days to opening 50%	101
<b>SEEDLING CHARACTERISTICS</b>	

Seedling length (cm)	6.1-10.5
Seedling colour	Light green
Foliage spot	Absent
<b>PLANT CHARACTERISTICS</b>	
Growth habit	Compact
Plant height (cm)	180-190
Plant shape	Cylindrical
Fruiting branch type	Short
Monopodia attitude	Semi erect
Sympodia attitude	Semi erect
Nodes to 1 <sup>st</sup> monopodia	4-5
Monopodia/ plant	0-3
Sympodia/ plant	43-48
Stem pigmentation	Strong
Stem tip hairiness	Profuse
Bud gossypol	Low
<b>LEAF CHARACTERISTICS</b>	
Foliage density	Intermediate
Leaf colour	Green
Leaf length (cm)	10.6-14.1
Leaf width (cm)	12.4-18.2
Petiole length (cm)	10.6-14.4
Petiole anthocyanin	Present
Leaf attitude	Horizontal
Leaf type	Semi okra
Leaf appearance	Cup
Leaf Nectarie's	Present
Leaf hairiness	Profuse
<b>FLOWER CHARACTERISTICS</b>	
Days to flowering 50%	64
Flowering duration	Medium

Flower size	Medium
Sepal pigmentation	Absent
Petal spot	Absent
Nectarie's	Present
Petal colour	Creamy
Anther colour	Creamy
Stamen density	Lax
Position of stigma	Exserted
Stigma exertion (mm)	1-35
Stigma height (mm)	17.6-19.3
Calyx size	Intermediate
<b>BOLL CHARACTERISTICS</b>	
Boll bearing habit	Solitary
Boll shape	Round
Boll colour	Green
Boll size (boll width at maximum size)	Medium
Beak size	Very Long
Boll length (cm)	2.6-3.3
Boll breadth (cm)	1-3
Boll broad at	Middle
Peduncle length (cm)	2.1
Boll surface	Smooth
Gossypol	Low
Bracteole length	Medium
Bracteole width	Wide
Bolls/ plant	67-76
Boll opening	Open
Boll weight (g)	0.87-2.49

*Opposition can be filed up to: 25-08-2025*

**28. Application No.: PBRR-Maize-160/25**

Name of the Applicant: Fodder Research Sub-Station, AARI,  
Faisalabad

Institute: Fodder Research Sub-Station, AARI,  
Faisalabad

Name of Breeder(s): i. Dr. Qamar Shakeel  
ii. Dr. Zulfiqar Ali  
iii. Dr. Asif Ali Khan  
iv. Dr. Shahid Munir Chohan  
v. Mr. Zohab Asif  
vi. Ms. Amna Kanwal

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: Rachna Maize-2023

Crop: Maize (*Zea mays* L.)

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Origin	Local
type of variety	Synthetic
Area of Adaptation	All Punjab
Maturity Duration	Medium
<b>SEEDLING CHARACTERISTICS</b>	
Seedling length (cm)	5.2-5.6
Coleoptile's anthocyanin	Medium
First leaf colour	Light Green
First leaf tip	Pointed
First leaf length (cm)	3.5-4.1
First leaf width (cm)	1.0-1.2
<b>STEM CHARACTERISTICS</b>	
Stem length (cm)	220-240
Internodal length (cm)	17-18
Internodal diameter (cm)	2.1-2.3
Mid node anthocyanin	Absent
Stem tillering	Absent

Stem anthocyanin coloration of brace roots	Present
<b>LEAF CHARACTERISTICS</b>	
Leaf Angle between blade and stem (on leaf just above upper ear)	Small (45 <sup>0</sup> )
Leaf attitude of blade (on leaf just above upper ear)	Straight
Leaf width of blade (leaf of upper ear)	Broad (9cm)
<b>TASSEL CHARACTERISTICS</b>	
50% Tassel emergence days	50-55 (medium)
Anthocyanin coloration of glume excluding base of main axis	Absent
Angle between main axis and lateral branches (lower third)	Narrow
Attitude of lateral branches (in lower third of tassel)	Straight
Anthocyanin coloration of anthers (fresh anthers)	Absent
Tassel length (cm)	34-42
Tassel stalk length (cm)	17-19
Exsertion above flag leaf (cm)	5.5-7.5
No. of lateral branches	9-13
Lateral branches density	Semi dense
<b>FLOWER CHARACTERISTICS</b>	
Anther fertility	Normal
Pollen shedding	Medium
Anther color	Light Yellow
Pollen color	Light Yellow
Glume color	Light Green
<b>EAR CHARACTERISTICS</b>	
50% silk emergence(days)	50-60
Silk color	Light green
Insertion height (cm)	65-78
Peduncle length (cm)	4.5-5.0
Ear leafy extensions	Short
Ear husk length	Medium
No. of husk blades	7-10

Ear shape	Conical cylindrical
Ear length (cm)	22-23
Ear diameter (cm)	3.8-4.3
Seed rows/ ear	11-12
Seeds/ row	39-44
Seed row arrangement	Straight
No. of ears/ plant	1
Cob color	White
<b>SEED CHARACTERISTICS</b>	
Seed color	White
Seed tip color	Off white
Color of sides	White
Seed length (mm)	10-12.5
Seed width (mm)	7.8-8.1
Seed thickness (mm)	3.7-4.1
Seed type	Flint
Seed wax	Absent
Seed size	Medium
1000 Seed weight (g)	282-290
Seed sweetness	Absent
Seed waxiness	Absent
Seed opaqueness	Present

*Opposition can be filed up to: 22-09-2025*

## **29. Application No.: PBRR-Alfalfa-161/25**

Name of the Applicant: Fodder Research Sub-Station, AARI,  
Faisalabad

Institute: Fodder Research Sub-Station, AARI,  
Faisalabad

Name of Breeder(s): i. Dr. Qamar Shakeel  
ii. Dr. Zulfiqar Ali  
iii. Dr. Asif Ali Khan  
iv. Mr. Zohab Asif  
v. Ms. Amna Kanwal

Name of Co-breeder(s):

Application for:

New Plant Variety

Denomination of Variety:

Chenab Alfalfa-2025

Crop:

Alfalfa (*Medicago sativa* L.)

Type of Variety:

OPV

Name of Initial Variety (in case of EDV):

Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Sowing time	October
Maturity duration	Long
<b>SEEDLING CHARACTERISTICS</b>	
Seedling color	Green
Seedling anthocyanin	Weak-Medium
Seedling height (cm)	1.2-1.3
Auxiliary Pubescence	Very Weak
<b>PLANT CHARACTERISTICS</b>	
Growth habit	Semi Erect
Growth type	Intermediate
Plant height (cm)	63.4-68.0
<b>STEM CHARACTERISTICS</b>	
Stem color	Light Green
Stem thickness (cm)	0.25-0.42
No. of nodes/ stem	7-8
<b>LEAF CHARACTERISTICS</b>	
Leaf attitude	Semi Erect
Leaf color	Dark Green
Leaf length (cm)	3.7-4.0
Leaf width (cm)	1.4-1.6
Leaf anthocyanin	Absent
Leaflet margins	Fairly Serrate
Leaflet apex margin	Acute

Leaflet pubescence	Glabrous
<b>FLOWER CHARACTERISTICS</b>	
Flowering days (50%)	165-180
Flower color	Purplish
Peduncle hairiness	Glabrous
<b>SEED CHARACTERISTICS</b>	
Seed shape	Ovoid
Seed color	Light Brown
Seed surface	Shiny
Seed length (mm)	0.3-0.4
Seed width (mm)	0.2

*Opposition can be filed up to: 25-08-2025*

### 30. Application No.: PBRR-Alfalfa-162/25

Name of the Applicant: Fodder Research Sub-Station, AARI, Faisalabad

Institute: Fodder Research Sub-Station, AARI, Faisalabad  
i. Dr. Qamar Shakeel  
ii. Dr. Zulfiqar Ali

Name of Breeder(s): iii. Dr. Asif Ali Khan  
iv. Mr. Zohab Asif  
v. Ms. Amna Kanwal

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: Cholistani Alfalfa-2025

Crop: Alfalfa (*Medicago sativa* L.)

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Sowing time	October
Maturity duration	Long
<b>SEEDLING CHARACTERISTICS</b>	

Seedling color	Green
Seedling anthocyanin	Weak-Medium
Seedling height (cm)	1.2-1.3
Auxiliary Pubescence	Weak
<b>PLANT CHARACTERISTICS</b>	
Growth habit	Semi Erect
Growth type	Intermediate
Plant height (cm)	66.7-75.3
<b>STEM CHARACTERISTICS</b>	
Stem color	Light Green
Stem thickness (cm)	0.25-0.47
No. of nodes/ stem	6-7
<b>LEAF CHARACTERISTICS</b>	
Leaf attitude	Semi Erect
Leaf color	Dark Green
Leaf length (cm)	3.9-4.1
Leaf width (cm)	1.6-1.7
Leaf anthocyanin	Absent
Leaflet margins	Fairly Serrate
Leaflet apex margin	Acute
Leaflet pubescence	Glabrous
<b>FLOWER CHARACTERISTICS</b>	
Flowering days (50%)	175-195
Flower color	Purplish
Peduncle hairiness	Glabrous
<b>SEED CHARACTERISTICS</b>	
Seed shape	Ovoid
Seed color	Light Brown
Seed surface	Light Shiny
Seed length (mm)	0.3-0.4
Seed width (mm)	0.2

Opposition can be filed up to: 25-08-2025

### 31. Application No.: PBRR-Alfalfa-163/25

Name of the Applicant: Fodder Research Sub-Station, AARI, Faisalabad  
 Institute: Fodder Research Sub-Station, AARI, Faisalabad  
 Name of Breeder(s): i. Dr. Qamar Shakeel  
 ii. Dr. Zulfiqar Ali  
 iii. Dr. Asif Ali Khan  
 iv. Mr. Zohab Asif  
 v. Ms. Amna Kanwal  
 Name of Co-breeder(s):  
 Application for: New Plant Variety  
 Denomination of Variety: QS Alfalfa-2025  
 Crop: Alfalfa (*Medicago sativa* L.)  
 Type of Variety: OPV  
 Name of Initial Variety (in case of EDV): Not Applicable  
 Salient features:

CHARACTERISTICS	DESCRIPTION
Sowing time	October
Maturity duration	Long
<b>SEEDLING CHARACTERISTICS</b>	
Seedling color	Green
Seedling anthocyanin	Weak-Medium
Seedling height (cm)	1.1-1.4
Auxiliary Pubescence	Weak
<b>PLANT CHARACTERISTICS</b>	
Growth habit	Semi Erect
Growth type	Intermediate
Plant height (cm)	64.8-75.0
<b>STEM CHARACTERISTICS</b>	
Stem color	Light Green
Stem thickness (cm)	0.30-0.41

No. of nodes/ stem	5-7
<b>LEAF CHARACTERISTICS</b>	
Leaf attitude	Semi Erect
Leaf color	Dark Green
Leaf length (cm)	3.5-3.9
Leaf width (cm)	1.6-1.7
Leaf anthocyanin	Absent
Leaflet margins	Fairly Serrate
Leaflet apex margin	Acute
Leaflet pubescence	Glabrous
<b>FLOWER CHARACTERISTICS</b>	
Flowering days (50%)	170-190
Flower color	White
Peduncle hairiness	Glabrous
<b>SEED CHARACTERISTICS</b>	
Seed shape	Ovoid
Seed color	Light Brown
Seed surface	Light Shiny
Seed length (mm)	0.3
Seed width (mm)	0.2

*Opposition can be filed up to: 25-08-2025*

### **32. Application No.: PBRR-Oats-164/25**

Name of the Applicant: Fodder Research Sub-Station, AARI,  
Faisalabad

Institute: Fodder Research Sub-Station, AARI,  
Faisalabad

Name of Breeder(s): i. Dr. Qamar Shakeel  
ii. Dr. Zulfiqar Ali  
iii. Dr. Asif Ali Khan  
iv. Mr. Zohab Asif  
v. Ms. Amna Kanwal

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: QS Oats-2024  
 Crop: Oats (*Avena sativa* L.)  
 Type of Variety: OPV  
 Name of Initial Variety (in case of EDV): Not Applicable  
 Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Planting time	Oct-Nov
Maturity duration	Medium
Suitable for sowing	All Sowing
<b>SEEDLING CHARACTERISTICS</b>	
Seedling height (cm)	6.3-6.6
Seedling color	Light Greenish
Seedling leaf hairiness	Weak
<b>PLANT CHARACTERISTICS</b>	
Growth habit (at tillering)	Erect
Plant height (cm)	138-146
Color at booting	Dark Green
No. of tillers/ m	114-120
Stem diameter (mm)	7.6-9.0
Hairiness of uppermost node	Weak
Stem waxy bloom	Weak-Medium
Straw color at maturity	White
<b>LEAF CHARACTERISTICS</b>	
Leaf color	Dark Greenish
Flag leaf length (cm)	28.5-32.6
Flag leaf width (cm)	1.6-1.8
Leaf margin hairiness (below flag leaf)	Weak
Sheath hairiness of lower leaves	Absent
Leaf anthocyanin	Absent
Ligule color	Light Greenish
Ligule length (cm)	4.7-5.8

<b>PANICLE CHARACTERISTICS</b>	
Panicle length (cm)	29.5-32.3
Panicle orientation of branches	Equilateral
Panicle attitude of branches	Semi Erect
Spikelet attitude	Pendulous
Glume shininess	Medium
Glume length (cm)	2.7-2.8
<b>SEED CHARACTERISTICS</b>	
Seed shape	Spindle
Seed color	Amber
Seed thickness (mm)	1.6-1.7
Seed length (mm)	12-14
Seed width (mm)	2.2-2.6
Seed awning	Absent
Seed hairiness at base	Weak-Medium

*Opposition can be filed up to: 25-08-2025*

### **33. Application No.: PBRR-Berseem-165/25**

Name of the Applicant: Fodder Research Sub-Station, AARI,  
Faisalabad

Institute: Fodder Research Sub-Station, AARI,  
Faisalabad

Name of Breeder(s): i. Dr. Qamar Shakeel  
ii. Dr. Zulfiqar Ali  
iii. Dr. Asif Ali Khan  
iv. Mr. Zohab Asif  
v. Ms. Amna Kanwal

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: FRSS Star Berseem-2024

Crop: Berseem (*Trifolium alexandrinum* L.)

Type of Variety: OPV

Name of Initial Variety (in case of EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Sowing time	October
Maturity duration	Long
Main use	Fodder
<b>SEEDLING CHARACTERISTICS</b>	
Seedling color	Light Green
Seedling anthocyanin	Absent
Seedling height (cm)	0.4-0.6
Auxiliary Pubescence	Absent
<b>PLANT CHARACTERISTICS</b>	
Growth habit	Semi Erect
Growth type	Intermediate
Plant height (cm)	73.7-83.2
<b>STEM CHARACTERISTICS</b>	
Stem color	Light Green
Stem thickness (cm)	0.4-0.5
No. of nodes/ stem	8-11
<b>LEAF CHARACTERISTICS</b>	
Leaf attitude	Semi Erect
Leaf color	Green
Leaf length (cm)	5.0-5.6
Leaf width (cm)	2.3-2.5
Leaf anthocyanin	Absent
Leaflet margins	Entire
Leaflet apex shape	Emarginate
Leaflet pubescence	Slight Hairiness
<b>FLOWER CHARACTERISTICS</b>	
Flowering days (50%)	185-200
Flower color	White
<b>SEED CHARACTERISTICS</b>	
Seed shape	Ovoid

Seed color	Yellow
Seed surface	Shiny
Seed length (mm)	0.3
Seed width (mm)	0.2

*Opposition can be filed up to: 25-08-2025*

## **ISSUANCE OF CERTIFICATES TO PBR PROTECTED PLANT VARIETIES**

The Plant Breeders' Rights Registry has issued the following Twenty-Four (24) certificates of Plant Breeders' Rights in favor of the varieties listed below:

<b>S. No.</b>	<b>Crop</b>	<b>Variety</b>	<b>Company/ Organization</b>
1	Mungbean	NIAB-PRI Mung	Nuclear Institute for Agriculture and Biology, Faisalabad
2	Chickpea	Thal-2020	Arid Zone Research Institute, Bhakkar
3	Maize	SB-9635	Shafique Ur Rehman, Kissan Seed Corporation, Sahiwal
4	Maize	SB-6214	Shafique Ur Rehman, Kissan Seed Corporation, Sahiwal
5	Maize	SB-2363	Shafique Ur Rehman, Kissan Seed Corporation, Sahiwal
6	Bitter gourd	YK-10-403	Yuksel Seeds Asia Private Limited, Faisalabad
7	Bitter gourd	YK-100-401	Yuksel Seeds Asia Private Limited, Faisalabad
8	Bitter gourd	YK-100-402	Yuksel Seeds Asia Private Limited, Faisalabad
9	Bitter gourd	YK-100-404	Yuksel Seeds Asia Private Limited, Faisalabad
10	Cucumber	YK-27	Yuksel Seeds Asia Private Limited, Faisalabad
11	Cucumber	YK-35	Yuksel Seeds Asia Private Limited, Faisalabad
12	Cucumber	YK-59	Yuksel Seeds Asia Private Limited, Faisalabad
13	Cucumber	YK-61	Yuksel Seeds Asia Private Limited, Faisalabad
14	Cucumber	YK-65	Yuksel Seeds Asia Private Limited, Faisalabad
15	Cucumber	YK-75	Yuksel Seeds Asia Private Limited, Faisalabad
16	Cucumber	YK-76	Yuksel Seeds Asia Private Limited, Faisalabad

17	Potato	FL-2215	Frito Lay North America Inc., Rhineland, USA
18	Potato	FL-2108 (Brooke)	Frito Lay North America Inc., Rhineland, USA
19	Potato	FL-1867	Frito Lay North America Inc., Rhineland, USA
20	Potato	FL-2027	Frito Lay North America Inc., Rhineland, USA
21	Cotton	Badar-1	Four Brothers Group Pakistan, Multan
22	Cotton	Hatf-3	Four Brothers Group Pakistan, Multan
23	Maize	YH-5482	Maize and Millets Research Institute, Yusafwala, Sahiwal
24	Cotton	Eagle-2	Four Brothers Group Pakistan, Multan

Any action in violation of the provision of subsection (1) of section 22 shall be deemed to be an infringement including;

- a) Using a protected variety under this act without legal authorization to produce an essentially derived variety or F<sub>1</sub> hybrid for commercial utilization
- b) Offering for sale or selling or marketing of the reproductive or vegetative propagating material of the protected variety in Pakistan
- c) Importing the reproductive or vegetative propagating material of the protected variety into Pakistan or exporting it from Pakistan
- d) Conditioning or multiplying the reproductive or vegetative propagating material of the protected
- e) Carrying out any of the acts identified in clauses (b), (c) and (d) in relation to an essentially derived variety provided the protected variety is not itself an essentially derived variety
- f) Instigating or promoting any of the acts identified in clause (b), (c), (d) and (e)
- g) Authorizing any person to produce, sell, market or otherwise deal with a protected variety and
- h) Stocking for any of the purposes mentioned in clauses (a) to (g)

In case of proved violation of rights, the court may order compensation to the owner of rights, fine not exceeding the quantum of loss caused or benefit derived from such violation.

## DETAILS OF PBR PROTECTED PLANT VARIETIES

### 1. Application No.: PBRR-Mungbean-146/25

Name of the Applicant: Director, Nuclear Institute for Agriculture & Biology (NIAB)

Institute: Nuclear Institute for Agriculture & Biology (NIAB)

Name of Breeder(s):

- i. Dr. M. Jawad Asghar
- ii. Dr. Tariq Mahmud Shah
- iii. Muhammad Shahid
- iv. Ch. Muhammad Rafiq
- v. Dr. Aziz ur Rehman
- vi. M. Sajjad Saeed
- vii. Khalid Pervaiz

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of variety: NIAB-PRI Mung

Crop: Mungbean (*Vigna radiata* L.) Wilczek

Type of the variety: OPV

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Seedling Length (cm) 20 days	17.13
Hypocotyl (cm)	8.7
Hypocotyl color	Greenish Purple
Seedling Bud Pubescence	Spare
<b>PLANT CHARACTERISTICS</b>	
Growth Habit	Erect
Main Stem Length (cm)	40-50
Taller than	Nil
Shorter than	NM2021
Plant Color	Light Green
Canopy spread	Medium
Canopy Width (cm)	17

Stem Hairiness	Spare
Stem Nodes	8-10
Stem Color	Green
Twing Tendency	Slight
No. of Primary Branches	1-2
<b>LEAF CHARACTERISTICS</b>	
Leaf color	Green
Petiole Length (cm)	12-14
Leaflet Size	Medium
Number of Leaflets	3
Leaflet Tip	Acute
Terminal Leaf Length (cm)	10
Terminal Leaf Width (cm)	8
Leaf Pubescence	Absent
Terminal Leaflet Shape	Ovate
Leaf Angle	Semi Erect
Leaf Petiole Anthocyanin	Light Purple
Leaf Senescence	Medium
<b>FLOWER CHARACTERISTICS</b>	
Days to 50% Flowering	35-40
Flowering Duration	Medium
Calyx Color	Yellowish Green
Corolla Color	Greyish Yellow
Flower Size	Medium
Pedicle Anthocyanin	Weak
<b>POD CHARACTERISTICS</b>	
Raceme Position	Intermediate
Pod Length (cm)	8-9
Pod Width (cm)	0.4-0.5
Pod Size	Medium
Larger than	NM2016

Smaller than	NM2011
Pod Shape	Semi Flat
Pod Curvature	Slight
Pod Beak Shape	Hook
Pod Beak (mm)	2-3
Seeds/Pod	10-11
Pod Pubescence	Medium
Huadong Length (cm)	6.73
Pod Constriction	Slight
Clusters/ Plant	8-9
Pod Attachment	Pendant
Pod/ Cluster	4-6
Pod Shattering	Absent
Pods/ Plant	40-50
Mature Pod Color	Blackish Brown
<b>SEED CHARACTERISTICS</b>	
Seed color	Light Green
Seed Shape	Drum
Seed Dots	Absent
Seed testa Texture	Smooth
Seed surface	Shiny
Seed Size	Bold
Larger than	NM98
Smaller than	NM2021
Seed Length (mm)	4-5
Seed Width (mm)	3-4
000 Seed Weight (g)	61-62
Cotyledon color	Yellow
Seed Protein (%)	24.70
Hilum Shape	Non-Concave
Average Yield (kg/ha)	1342-2703

<b>RESISTANCE</b>	
Lodging	3R
Mosaic	3R
ULCD	3R
Others	3R



Form PB-10  
[See Rule 13(1)]

Serial No. 000062

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 62-MB/146-2025	Dated: 17-02-2025
Crop: Mungbean	Denomination of Variety: NIAB-PRI Mung
Type: Registered	Conventional/GMC: Conventional
OP/Hybrid: OP	Local/Exotic: Local

As declared

- That Dr. Muhammad Jawad Asghar, Dr. Tariq Mahmud Shah, Muhammad Shahid, Ch. Muhammad Rafiq, Dr. Aziz ur Rehman, Muhammad Sajjad Saeed & Khalid Pervaiz Akhtar has/have developed New plant variety and also that they are the true breeder(s).
- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **NUCLEAR INSTITUTE FOR AGRICULTURE & BIOLOGY, FAISALABAD**

نیوکلیر انسٹی ٹیوٹ فار ایگریکلچرل سائنس، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of February 2025 and expiring on the 16<sup>th</sup> day of February 2045



Registrar \_\_\_\_\_  
Date of Grant 07-08-2025

## 2. Application No.: PBRR-Chickpea-91/23

Name of the applicant: Arid Zone Research Institute, Bhakkar

Institute: Arid Zone Research Institute, Bhakkar

Name of Breeder(s):

i. Mr. Niaz Hussain, Assistant Research Officer, AZRI, Bhakkar

ii. Mr. Abdul Ghaffar, Assistant Research Officer, AZRI, Bhakkar

iii. Dr. Muhammad Aslam, Economic Botanist, AZRI, Bhakkar

iv. Mr. Mudassar Khaliq, Assistant Research Officer, AZRI, Bhakkar

v. Dr. Khalid Hussain, Director, AZRI, Bhakkar

vi. Mr. Muhammad Ramzan, Entomologist, AZRI, Bhakkar

vii. Mr. Muneer Abbas, Assistant Research Officer, AZRI, Bhakkar

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of variety: Thal-2020

Crop: Chickpea (*Cicer arietinum* L.)

Type of the variety: OPV

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Maturity duration	Medium
Suitable for sowing	Medium
<b>Seedling characteristics</b>	
Seedling length	4.8 cm
Seedling anthocyanin	Absent
<b>Plant characteristics</b>	
Growth habit	Semi erect
Plant height	52-55 cm
Anthocyanin	Medium
Canopy spread	Medium
<b>Stem characteristics</b>	
Stem height	48-50

Stem color	Light green
Stem hairiness	Medium
Stem anthocyanin	Present
No. Of primary branches	3-4
No. Of secondary branches	8-10
No. Of tertiary branches	15-20
<b>Leaf characteristics</b>	
Leaf color	Green
Leaf angle	Semi erect
Rachis length	4.4 cm
No. Of leaflets	14-15
Leaflet length/width	14-15/12-13
Leaflet size	Medium
Leaflet tip	Acuminate
Leaf wax	Medium
Leaflet shape	Obovate
Leaf senescence	Medium
<b>Flower characteristics</b>	
Days to Flowering	88-91
Flowering duration	60-62
Flower color	Pink
Flower stripes on standard	Present
Flower size	Medium
Flower number/peduncle	One
Peduncle length	23-25
Pedicel anthocyanin	Medium
<b>Pod CHARACTERISITCS</b>	
Length with thickness	3/1.5/1.4
Pod size	Medium
Pod shattering	Absent
Beak length	3-4

Pods plant	68-70
Seeds pod	1-2
<b>Seed characteristics</b>	
Seed color	D. Brown
Seed shape	Ram head
Length, width, think	9.6/7.8/7.4 mm
Seed size	Medium
Seed dots	Absent
Testa texture	Rough
Seed weight	26-28 g
Seed beak size	Medium
Yield (kg/ha)	3300-3500
<b>Environmental adaptability</b>	
Flowering response to seasons	Stable
Drought tolerance	Medium
Cold tolerance	Medium
Heat tolerance	Medium
<b>Resistant to insects/pests</b>	
Relative tolerant against chickpea pod bores.	
<b>Resistant to disease</b>	
Wilt resistant, Blight tolerant	
<b>Distinctness:</b> Early maturing, Bold seeded, Disease resistant.	



Form PB-10  
[See Rule 13(1)]

Serial No. 000063

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 63-CP/91-2023	Dated:	13-09-2023
Crop: Chickpea	Denomination of Variety: Thal-2020	
Type: Registered	Conventional/GMC: Conventional	
OP/Hybrid: OP	Local/Exotic: Local	

As declared

- That Niaz Hussain, Abdul Ghaffar, Dr. Muhammad Aslam, Mudassar Khaliq, Dr. Khalid Hussain, Muhammad Ramzan & Muneer Abbas

has/have developed New plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **ARID ZONE RESEARCH INSTITUTE, BHAKKAR**

ایرڈزون ریسرچ انسٹی ٹیوٹ، بھکر

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 13<sup>th</sup> day of September 2023 and expiring on the 12<sup>th</sup> day of September 2043



Registrar

Date of Grant 08-08-2025

### 3. Application No.: PBRR-Maize-131/24

Name of the Applicant: Shafique Ur Rehman  
 Institute: Kissan Seed Corporation  
 Name of Breeder(s): Shafique Ur Rehman  
 Name of Co-breeder(s):  
 Application for: New Plant Variety  
 Denomination of Variety: SB-9635  
 Crop: Maize (*Zea mays* L.)  
 Type of Variety: Hybrid  
 Name of initial variety  
 (in case EDV): Not Applicable  
 Salient features:

CHARACTERISTICS	DESCRIPTION
Seedling Length (cm)	3.1-3.3
Coleoptile' Anthocyanin	Absent
First Leaf Colour	Green
First Leaf Tip	Round
First Leaf Length (mm)	42-45
First Leaf Width (mm)	17-18
<b>PLANT CHARACTERISTICS FOR HYBRIDS AND OPEN POLLINATED VARIETIES ONLY</b>	
Plant length up to flag leaf	Long
<b>STEM CHARACTERISTICS</b>	
Stem Length cm	208-214
Taller than	YH-5427
Internodal length (cm)	13.5-14.5
Internodal diameter (cm)	2.0-2.2
Mid node anthocyanin	Absent
Stem tillering	Absent
Stem Anthocyanin coloration of brace roots	Absent
<b>LEAF CHARACTERISTICS</b>	

Leaf angle between blade and stem (on leaf just above upper ear)	Narrow
Leaf attitude of blade (on leaf just above upper ear)	Curved
Leaf width of blade (leaf of upper ear)	Broad
<b>TASSEL CHARACTERISTICS</b>	
50% Tassel emergence (days)	66-68
50% Tassel emergence (days)	Late
Anthocyanin coloration at base of glume (in middle third of main axis)	Absent
Anthocyanin coloration of glume excluding base (in middle third of main axis)	Absent
Angle between main axis and lateral branches (in lower third of tassel)	Narrow
Attitude of lateral branches (in lower third of tassel)	Curved
Anthocyanin coloration of anthers (in middle third of main axis on fresh anthers)	Absent
Density of spikelets (in middle third of tassel)	Dense
Tassel angle between main axis and lateral branches (in lower third of tassel)	Narrow
Tassel Length (cm) (Top leaf node to basal branches)	39-41
Tassel stalk Length (cm)	41-44
Exsertion above flag leaf (cm)	02-03
No. of lateral branches	11-12
Lateral branches density	Dense
<b>FLOWER CHARACTERISTICS</b>	
Anther fertility	Normal
Pollen shedding	Heavy
Anther color	Yellow
Pollen color	Yellow
Glume color	Green
<b>EAR CHARACTERISTICS</b>	
50% Silk emergence (days)	69-71
Silk color	Green
Insertion height (cm)	82-86

Peduncle length (cm)	9.5-10
Ear leafy extension	Absent
Ear husk length	Medium
No. of husk blades	09-10
Ear shape	Conico Cylindrical
Ear length (cm)	18-20
Ear diameter (cm)	4.8-5.2
Seed rows/ear	18-20
Seeds/row	38-40
Seed row arrangement	Straight
No. of ears/ plant	1-2
Ear weight (g)	178-182
Cob color	Pink
<b>SEED CHARACTERISTICS</b>	
Seed Color	Yellow
Seed tip color	White
Color of sides	Yellow
Seed Shape	Round
Seed Length (mm)	11.7-11.9
Seed width (mm)	6.1-6.3
Seed thickness (mm)	4.1-4.3
Seed type	Flint
Seed wax	Absent
Seed size	Medium
Seed weight/car (g)	175-180
1000 Seed Weight (g)	320-324
Yield/ha. (mt)	11.7-12
Seed Sweetness	Absent
Seed waxiness	Absent
Seed opaqueness	Absent



Form PB-10  
[See Rule 13(1)]

Serial No. 000064

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 64-MZ/131-2024      Dated: 12-11-2024  
Crop: Maize      Denomination of Variety: SB-9635  
Type: Enlisted      Conventional/GMC: Conventional  
OP/Hybrid: Hybrid      Local/Exotic: Local

As declared

- That Shafiq Ur Rehman

has/have developed new plant variety and also that he is the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

**SHAFIQ UR REHMAN, KISSAN SEED CORPORATION, SAHIWAL**

شفیق الرحمن، کسان سید کارپوریشن، ساہیوال

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 12<sup>th</sup> day of November 2024 and expiring on the 11<sup>th</sup> day of November 2044



Registrar

Date of Grant 12-08-2025

#### 4. Application No.: PBRR-Maize-132/24

Name of the Applicant: Shafique Ur Rehman  
Institute: Kissan Seed Corporation  
Name of Breeder(s): Shafique Ur Rehman  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: SB-6214  
Crop: Maize (*Zea mays* L.)  
Type of Variety: Hybrid  
Name of initial variety  
(in case EDV): Not Applicable  
Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Seedling length (cm)	3.3-3.5
Coleoptile's anthocyanin	Absent
First leaf colour	Dark Green
First leaf tip	Round
First leaf length (mm)	45-49
First leaf width (mm)	18-22
<b>PLANT CHARACTERISTICS FOR HYBRIDS AND OPEN POLLINATED VARIETIES ONLY</b>	
Plant length up to flag leaf	Long
<b>STEM CHARACTERISTICS</b>	
Stem length (cm)	225-230
Taller than	YH-5427
Internodal length (cm)	14-15
Internodal diameter (cm)	1.8-2.0
Mid node anthocyanin	Absent
Stem tillering	Absent
Stem anthocyanin coloration of brace roots	Present
<b>LEAF CHARACTERISTICS</b>	
Leaf angle between blade and stem (on leaf just above upper ear)	Wide

Leaf attitude of blade (on leaf just above upper ear)	Straight
Leaf width of blade (leaf of upper ear)	Broad
<b>TASSEL CHARACTERISTICS</b>	
50% Tassel emergence (days)	69-73
50% Tassel emergence (days)	Late
Anthocyanin coloration at base of glume (in middle third of main axis)	Absent
Anthocyanin coloration of glume excluding base (in middle third of main axis)	Absent
Angle between main axis and lateral branches (in lower third of tassel)	Wide
Attitude of lateral branches (in lower third of tassel)	Straight
Anthocyanin coloration of anthers (in middle third of main axis on fresh anthers)	Absent
Density of spikelets (in middle third of tassel)	Dense
Tassel angle between main axis and lateral branches (in lower third of tassel)	Wide
Tassel length (cm) (Top leaf node to basal branches)	31-34
Tassel stalk length (cm)	41-45
Exsertion above flag leaf (cm)	10-11
No. of lateral branches	08-10
Lateral branches density	Dense
<b>FLOWER CHARACTERISTICS</b>	
Anther fertility	Normal
Pollen shedding	Heavy
Anther color	Yellow
Pollen color	Yellow
Glume color	Green
<b>EAR CHARACTERISTICS</b>	
50% Silk emergence (days)	74-77
Silk color	Light Pink
Insertion height (cm)	100-105

Peduncle length (cm)	6.5-8.0
Ear leafy extension	Absent
Ear husk length	Medium
No. of husk blades	09-10
Ear shape	Cylindrical
Ear length (cm)	18-19
Ear diameter (cm)	4.5-4.8
Seed rows/ear	18 to 20
Seeds/row	40-41
Seed row arrangement	Straight
No. of ears/ plant	1-2
Ear weight (g)	235-245
Cob color	Pink
<b>SEED CHARACTERISTICS</b>	
Seed color	Yellow
Seed tip color	White
Color of sides	White
Seed shape	Indented
Seed length (mm)	12.0-12.2
Seed width (mm)	7.9-8.1
Seed thickness (mm)	4.1-4.3
Seed type	Semi dent
Seed wax	Absent
Seed size	Bold
Seed weight/ear (g)	185-190
1000 Seed weight (g)	310-315
Grain: Cob ratio	86%
Yield/ ha. (mt)	12.5-13.0
Seed sweetness	Absent
Seed waxiness	Absent
Seed opaqueness	Absent



Form PB-10  
[See Rule 13(1)]

Serial No. 000065

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 65-MZ/132-2024      Dated: 12-11-2024  
Crop: Maize      Denomination of Variety: SB-6214  
Type: Enlisted      Conventional/GMC: Conventional  
OP/Hybrid: Hybrid      Local/Exotic: Local

As declared

- That Shafiq Ur Rehman

has/have developed new plant variety and also that he is the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

**SHAFIQ UR REHMAN, KISSAN SEED CORPORATION, SAHIWAL**

شفیق الرحمن، کسان سید کارپوریشن، ساہیوال

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 12<sup>th</sup> day of November 2024 and expiring on the 11<sup>th</sup> day of November 2044



Registrar

Date of Grant 12-08-2025

**5. Application No.: PBRR-Maize-133/24**

Name of the Applicant: Shafique Ur Rehman

Institute: Kissan Seed Corporation

Name of Breeder(s): Shafique Ur Rehman

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: SB-2363

Crop: Maize (*Zea mays* L.)

Type of Variety: Hybrid

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Seedling length (cm)	3.3-3.5
Coleoptile's anthocyanin	Weak
First leaf colour	Dark Green
First leaf length (mm)	36 to 39
First leaf width (mm)	16 to 18
<b>PLANT CHARACTERISTICS FOR HYBRIDS AND OPEN POLLINATED VARIETIES ONLY</b>	
Plant length up to flag leaf	Medium
<b>STEM CHARACTERISTICS</b>	
Stem length (cm)	250-255
Taller than	YH-5427
Internodal length (cm)	14.5-14.8
Internodal diameter (cm)	1.5-1.6
Mid node anthocyanin	Absent
Stem tillering	Absent
Stem anthocyanin coloration of brace roots	Present
<b>LEAF CHARACTERISTICS</b>	

Leaf angle between blade and stem (on leaf just above upper ear)	Wide
Leaf attitude of blade (on leaf just above upper ear)	Straight
Leaf width of blade (leaf of upper ear)	Medium
<b>TASSEL CHARACTERISTICS</b>	
50% Tassel emergence (days)	53-56
50% Tassel emergence (days)	Medium
Anthocyanin coloration at base of glume (in middle third of main axis)	Absent
Anthocyanin coloration of glume excluding base (in middle third of main axis)	Absent
Angle between main axis and lateral branches (in lower third of tassel)	Wide
Attitude of lateral branches (in lower third of tassel)	Curved
Anthocyanin coloration of anthers (in middle third of main axis on fresh anthers)	Absent
Density of spikelets (in middle third of tassel)	Dense
Tassel angle between main axis and lateral branches (in lower third of tassel)	Narrow
Later than	YH-5427
Tassel length (cm) (Top leaf node to basal branches)	45-49
Tassel stalk length (cm)	50-56
Exsertion above flag leaf (cm)	05 to 07
No. of lateral branches	09 to 10
Lateral branches density	Dense
<b>FLOWER CHARACTERISTICS</b>	
Anther fertility	Normal
Pollen shedding	Heavy
Anther color	Pink
Pollen color	Yellow
Glume color	Green
<b>EAR CHARACTERISTICS</b>	

50% Silk emergence (days)	57-61
Later than	YH-5427
Silk color	Pink
Insertion height (cm)	120-123
Peduncle length (cm)	7.5-8.5
Ear leafy extension	Absent
Ear husk length	Medium
No. of husk blades	08-09
Ear shape	Cylindrical
Ear length (cm)	16.5-17.0
Ear diameter (cm)	4.7-4.9
Seed rows/ ear	16-18
Seeds/ row	35-37
Seed row arrangement	Straight
No. of ears/ plant	1 to 2
Ear weight (g)	223-227
Cob color	White
<b>SEED CHARACTERISTICS</b>	
Seed color	Orange
Seed tip color	White
Color of sides	Orange
Seed shape	Indented
Seed length (mm)	12.5-12.6
Seed width (mm)	8.0-8.2
Seed thickness (mm)	4.0-4.2
Seed type	Semi dent
Seed wax	Absent
Seed size	Medium
Seed weight/ear (g)	185-190
1000 Seed weight (g)	285-295
Grain: Cob ratio	86%

Yield/ ha. (mt)	10.5-11.0
Seed sweetness	Absent
Seed waxiness	Absent
Seed opaqueness	Absent



Form PB-10  
[See Rule 13(1)]

Serial No. 000066

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 66-MZ/133-2024      Dated: 12-11-2024  
Crop: Maize      Denomination of Variety: SB-2363  
Type: Enlisted      Conventional/GMC: Conventional  
OP/Hybrid: Hybrid      Local/Exotic: Local

As declared

- That Shafiq Ur Rehman

has/have developed new plant variety and also that he is the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

**SHAFIQ UR REHMAN, KISSAN SEED CORPORATION, SAHIWAL**

شفیق الرحمن، کسان سید کارپوریشن، ساہیوال

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 12<sup>th</sup> day of November 2024 and expiring on the 11<sup>th</sup> day of November 2044



Registrar

Date of Grant 12-08-2025

## 6. Application No.: PBRR-Bitter Gourd-114/24

Name of the Applicant: Yuksel Seeds Asia (Private) Limited  
Institute: Yuksel Tohum Antalya, Turkey  
Name of Breeder(s): Yuksel Seeds Asia (Private) Limited  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: YK-10-403  
Crop: Bitter Gourd (*Momordica charantia* L.)  
Type of Variety: Inbred Line  
Name of Initial Variety  
(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Cotyledon: intensity of green color	Green
Maturity duration (marketable)	45
Maturity duration (Physical maturity for Seed)	72
<b>SEEDLING CHARACTERISTICS</b>	
Seedling height	17.00
Seedling colour	Green
Seedling hairiness	Present (weak)
<b>STEM CHARACTERISTICS</b>	
Growth habit	Vine
Stem colour	Dark green
Stem: length of internode of main stem (between 15 <sup>th</sup> and 20 <sup>th</sup> node; cm)	42.05
Stem: thickness of main stem (mm)	6.21
Stem: number of side shoots	Many
Stem shape	Angular
Stem branching	Present
Tendrils length (cm)	23.05

Stem hairiness	Medium
<b>LEAF CHARACTERISTICS</b>	
Leaf colour	Green
Leaf size	Medium
Leaf incision	Strong
Leaf blade: size (cm <sup>2</sup> )	390.84
Leaf blade: intensity of green color	Medium
Leaf blade: ratio length/width lobe	1.4
Leaf blade: number of lobes	7
Leaf blade: depth of lobing	Deep
Palmate leaf intersection	Palmatifid
Petiole length (cm)	17.44
Petiole thickness (mm)	4.93
Petiole shape	Round
<b>FEMALE FLOWER CHARACTERISTICS</b>	
Ring on the inner side of corolla	Absent
Colour of ring	NA
Sepal length (cm)	0.35
Pistil colour (before opening)	Yellow
Stigma: intensity of green color	Light
<b>MALE FLOWER CHARACTERISTICS</b>	
Ring on the inner side of corolla	Absent
Colour of ring	NA
<b>FRUIT CHARACTERISTICS</b>	
Fruit: colour of skin	Dark green
Fruit: shape in longitudinal section	Spindle-shaped
Fruit: shape of base	Obtuse
Fruit: shape of apex	Around
Fruit flesh colour	Yellowish white
Flesh width (thickness; cm)	4.38
Fruit: length (cm)	23.67

Fruit: diameter (cm)	7.33
Fruit size	Medium
Fruit glossiness	Medium
Fruit warty swellings	Medium
Fruit: number of warts	Many
Wart: size	Medium
Wart: shape of top	Obtuse
Wart: presence of spines	Absent
No. of fruiting ribs	10
Fruit: length of ridge	Long continuous
Fruit: color of skin at ripe stage	Orange
Flesh firmness	Hard
Fruit: bitterness	Present
Fruit: intensity of bitterness	Medium
<b>SEED CHARACTERISTICS</b>	
Seed colour	Brown
Seed size	Bold
Seed shape	Elliptic
Beak emergence	Strong
Seed testa reticulation	Strong
1000, seed weight (g)	193.08
Seed: intensity of brown color of tester	Dark
Seed: indentation of edge	Small
<b>DISTINGUISHING CHARACTERISTICS</b>	
	1. 100 % gynoeious flowers 2. Dark black and smooth (without spines) fruit



Form PB-10  
[See Rule 13(1)]

Serial No. 000067

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 67-BG/114-2024	Dated:	17-10-2024
Crop: Bitter gourd	Denomination of Variety:	YK-10-403
Type: New	Conventional/GMC:	Conventional
OP/Hybrid: Inbred line	Local/Exotic:	Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

يڪسل سيڈز ايشيا پرائيوٹ لميٹڈ، فيصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044



Registrar

Date of Grant 12-08-2025

## 7. Application No.: PBRR-Bitter Gourd-115/24

Name of the Applicant: Yuksel Seeds Asia (Private) Limited  
Institute: Yuksel Tohum Antalya, Turkey  
Name of Breeder(s): Yuksel Seeds Asia (Private) Limited  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: 100-401  
Crop: Bitter Gourd (*Momordica charantia* L.)  
Type of Variety: Inbred Line  
Name of Initial Variety  
(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
<b>SEEDLING CHARACTERISTICS</b>	
Seedling height	21
Seedling colour	Green
Seedling hairiness	Present
<b>STEM CHARACTERISTICS</b>	
Growth habit	Vine
Stem colour	Dark green
Stem: number of side shoots	Many
Stem shape	Angular
Stem branching	Present
Stem hairiness	Medium
<b>LEAF CHARACTERISTICS</b>	
Leaf colour	Green
Leaf incision	Present
Leaf blade: intensity of green color	Medium
Leaf blade: number of lobes	7
Leaf blade: depth of lobing	Medium

Petiole shape	Angular
<b>FEMALE FLOWER CHARACTERISTICS</b>	
Ring on the inner side of corolla	Absent
Pistil colour (before opening)	Yellow
Stigma: intensity of green color	Light
<b>MALE FLOWER CHARACTERISTICS</b>	
Ring on the inner side of corolla	Absent
Colour of pedicel	Green
Pedicel hairiness	Weak
<b>FRUIT CHARACTERISTICS</b>	
Fruit: colour of skin	Dark green
Fruit: shape in longitudinal section	Spindle-shaped
Fruit: shape of base	Acute
Fruit: shape of apex	Acute
Fruit flesh colour	Off white
Fruit base	Pointed
Fruit size	Large
Fruit glossiness	Weak
Fruit warty swellings	Weak
Fruit: number of warts	Few
Wart: size	Small
Wart: shape of top	Round
Wart: presence of spines	Absent
No. of fruiting ribs	10
Fruit: length of ridge	Long
Fruit: color of skin at ripe stage	Orange
Fruit: bitterness	Present
Fruit: intensity of bitterness	Medium
<b>SEED CHARACTERISTICS</b>	
Seed colour	Light brown
Seed size	Bold

Seed shape	Elliptic
Beak emergence	Strong
Seed testa reticulation	Strong
000, seed weight (g)	190.2
Seed: intensity of brown color of tester	Medium
Seed: indentation of edge	Small



Form PB-10  
[See Rule 13(1)]

Serial No. 000068

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 68-BG/115-2024	Dated:	17-10-2024
Crop: Bitter gourd	Denomination of Variety:	YK-100-401
Type: New	Conventional/GMC:	Conventional
OP/Hybrid: Inbred line	Local/Exotic:	Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

يوكسل سیدز ایشیا پرائیویٹ لمیٹڈ، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044



Registrar

Date of Grant 12-08-2025

## 8. Application No.: PBRR-Bitter Gourd-116/24

Name of the Applicant: Yuksel Seeds Asia (Private) Limited  
Institute: Yuksel Tohum Antalya, Turkey  
Name of Breeder(s): Yuksel Seeds Asia (Private) Limited  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: 100-402  
Crop: Bitter Gourd (*Momordica charantia* L.)  
Type of Variety: Inbred Line  
Name of initial variety  
(in case EDV): Not Applicable  
Salient features:

CHARACTERISTICS	DESCRIPTION
Cotyledon: intensity of green color	Green
Maturity duration (marketable)	48 days
Maturity duration (Physical maturity for Seed)	76 days
<b>SEEDLING CHARACTERISTICS</b>	
Seedling height	21.10
Seedling colour	Green
Seedling hairiness	Present (weak)
<b>STEM CHARACTERISTICS</b>	
Growth habit	Vine
Stem colour	Green
Stem: length of internode of main stem (between 15 <sup>th</sup> and 20 <sup>th</sup> node; cm)	23.78
Stem: thickness of main stem (mm)	5.05
Stem: number of side shoots	Many
Stem shape	Angular
Stem branching	Present
Tendrils length (cm)	23.10
Stem hairiness	Profused

<b>LEAF CHARACTERISTICS</b>	
Leaf colour	Dark green
Leaf size	Small
Leaf incision	Medium
Leaf blade: size (cm <sup>2</sup> )	279.87
Leaf blade: intensity of green color	Dark
Leaf blade: ratio length/width lobe	0.82
Leaf blade: number of lobes	7
Leaf blade: depth of lobing	Medium
Palmate leaf intersection	Palmatifid
Petiole length (cm)	11.97
Petiole thickness (mm)	4.56
Petiole shape	Angular
<b>FEMALE FLOWER CHARACTERISTICS</b>	
Ring on the inner side of corolla	Absent
Sepal length (cm)	0.48
Pistil colour (before opening)	Yellow
Stigma: intensity of green color	Light
<b>MALE FLOWER CHARACTERISTICS</b>	
Ring on the inner side of corolla	Absent
Sepal length (cm)	1
Pedice l length (cm)	14
Colour of pedicel	Light green
Pedice l hairiness	Weak
<b>FRUIT CHARACTERISTICS</b>	
Fruit: colour of skin	Dark green
Fruit: shape in longitudinal section	Spindle-shaped
Fruit: shape of base	Obtuse
Fruit: shape of apex	Acute
Fruit flesh colour	Yellowish white
Fruit: length (cm)	21.30

Fruit: diameter (cm)	6.92
Fruit base	Pointed
Fruit size	Large
Pedicel length (cm)	6.58
Fruit glossiness	Medium
Fruit warty swellings	Strong
Fruit: number of warts	Many
Wart: size	Medium
Wart: shape of top	Obtuse
Wart: presence of spines	Absent
No. of fruiting ribs	8.67
Fruit: length of ridge	Short
Fruit: color of skin at ripe stage	Orange
Flesh firmness	Tight
Fruit: bitterness	Present
Fruit: intensity of bitterness	Medium
<b>SEED CHARACTERISTICS</b>	
Seed colour	Whitish Yellow
Seed size	Bold
Seed shape	Elliptic
Beak emergence	Strong
Seed testa reticulation	Strong
1000, seed weight (g)	196.4
Seed: intensity of brown color of tester	Light
Seed: indentation of edge	Small
<b>DISTINGUISHING CHARACTERISTICS</b>	<ol style="list-style-type: none"> <li>1. Dark green and dense warty fruit</li> <li>2. Profused stem hairiness</li> </ol>



Form PB-10  
[See Rule 13(1)]

Serial No. **000069**

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 69-BG/116-2024      Dated: 17-10-2024  
Crop: Bitter gourd      Denomination of Variety: YK-100-402  
Type: New      Conventional/GMC: Conventional  
OP/Hybrid: Inbred line      Local/Exotic: Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

يگسل سیدز ایشیا پرائیویٹ لمیٹڈ، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044



Registrar

Date of Grant 12-08-2025

## 9. Application No.: PBRR-Bitter Gourd-117/24

Name of the Applicant: Yuksel Seeds Asia (Private) Limited  
Institute: Yuksel Tohum Antalya, Turkey  
Name of Breeder(s): Yuksel Seeds Asia (Private) Limited  
Name of Co-breeder(s):  
Application for: New Plant Variety  
Denomination of Variety: 100-404  
Crop: Bitter Gourd (*Momordica charantia* L.)  
Type of Variety: Inbred Line  
Name of initial variety  
(in case EDV): Not Applicable  
Salient features:

CHARACTERISTICS	DESCRIPTION
Cotyledon: intensity of green color	Green
Maturity duration (marketable)	47 days
Maturity duration (Physical maturity for Seed)	76 days
<b>SEEDLING CHARACTERISTICS</b>	
Seedling height	18.64
Seedling colour	Green
Seedling hairiness	Present (weak)
<b>STEM CHARACTERISTICS</b>	
Growth habit	Vine
Stem colour	Green
Stem: length of internode of main stem (between 15 <sup>th</sup> and 20 <sup>th</sup> node; cm)	30.95
Stem: thickness of main stem (mm)	6.18
Stem: number of side shoots	Many
Stem shape	Angular
Stem branching	Present
Tendrils length (cm)	20.75
Stem hairiness	Profuse

<b>LEAF CHARACTERISTICS</b>	
Leaf colour	Dark green
Leaf size	Small
Leaf incision	Medium
Leaf blade: intensity of green color	Dark
Leaf blade: number of lobes	7
Leaf blade: depth of lobing	Deep
Palmate leaf intersection	Palmatipartite
Petiole length (cm)	6.47
Petiole thickness (mm)	3.23
Petiole shape	Angular
<b>FEMALE FLOWER CHARACTERISTICS</b>	
Ring on the inner side of corolla	Absent
Sepal length (cm)	0.38
Pistil colour (before opening)	Yellow
Stigma: intensity of green color	Light
<b>MALE FLOWER CHARACTERISTICS</b>	
Ring on the inner side of corolla	Absent
Sepal length (cm)	0.78
Pedicel length (cm)	10.07
Colour of pedicel	Light green
Pedicel hairiness	Weak
<b>FRUIT CHARACTERISTICS</b>	
Fruit: colour of skin	Light green
Fruit: shape in longitudinal section	Spindle-shaped
Fruit: shape of base	Round
Fruit: shape of apex	Acute
Fruit flesh colour	Yellowish white
Flesh width (thickness; cm)	2.75
Fruit: length (cm)	28.75
Fruit: diameter (cm)	5.18

Fruit base	Rounded
Fruit size	Large
Fruit glossiness	Medium
Fruit warty swellings	Weak
Fruit: number of warts	Medium
Wart: size	Small
Wart: shape of top	Round
Wart: presence of spines	Absent
No. of fruiting ribs	10
Fruit: length of ridge	Long and discontinuous
Fruit: color of skin at ripe stage	Orange
Flesh firmness	Hard
Fruit: bitterness	Present
Fruit: intensity of bitterness	Weak
<b>SEED CHARACTERISTICS</b>	
Seed colour	Whitish yellow
Seed size	Bold
Seed shape	Elliptic
Beak emergence	Strong
Seed testa reticulation	Strong
000, seed weight (g)	172.75
Seed: intensity of brown color of tester	Light and whitish (2 shades); white and brown seed
Seed: indentation of edge	Small
<b>DISTINGUISHING CHARACTERISTICS</b>	
	1. Small leaves 2. Stipule leaf at male and female flower



Form PB-10  
[See Rule 13(1)]

Serial No. 000070

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 70-BG/117-2024	Dated: 17-10-2024
Crop: Bitter gourd	Denomination of Variety: YK-100-404
Type: New	Conventional/GMC: Conventional
OP/Hybrid: Inbred line	Local/Exotic: Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

يگسل سیز ایشیا پرائیویٹ لمیٹڈ، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044



Registrar

Date of Grant 12-08-2025

**10. Application No.: PBRR-Cucumber-119/24**

Name of the Applicant: Yuksel Seeds Asia (Private) Limited

Institute: Yuksel Tohum Antalya, Turkey

Name of Breeder(s): Yuksel Seeds Asia (Private) Limited

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: YK-27

Crop: Cucumber (*Cucumis sativus* L.)

Type of Variety: Inbred Line

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Plant vigour	Strong
Plant: growth type	Strong
Total length of first 15 internodes (cm)	90.90
Foliage density	Medium
<b>STEM CHARACTERISTICS</b>	
Stem thickness (mm)	6.67
Stem hairiness	Medium
<b>LEAF CHARACTERISTICS</b>	
Leaf blade: attitude	Drooping
Leaf blade: length (cm)	26.44
Length of terminal lobe (cm)	15.44
Leaf blade: shape of apex of terminal lobe	Right-angled
Leaf blade: intensity of green colour	Green
Leaf color	Green
Leaf blade: blistering	Absent or very weak
Leaf blade: undulation of margin	Moderate
Leaf blade: dentation of margin	Weak

Leaf width (cm)	24.52
Leaf pubescence	Medium
<b>FLOWER CHARACTERISTICS</b>	
Plant: sex expression	Gynoecious
Bisexual flowers	Absent
Parthenocarpy	Present
Sex expression of flowers	Mainly female
Plant: number of female flowers per node	Predominantly two or three
No. of female flowers/node	1-3
Ovary: colour of vestiture	White
Parthenocarpy	Present
Flower color	Yellow
Petal length (cm)	2.60
<b>FRUIT CHARACTERISTICS</b>	
Fruit: length	17.90
Fruit: diameter	3.64
Fruit: shape in transverse section	Round
Fruit: shape of stem end	Obtuse
Fruit: shape of calyx end	Obtuse
Fruit: ground colour of skin at market stage	Dark green
Excluding white varieties: Fruit: intensity of ground colour of skin (as for 25)	Green
Fruit: ribs	Low
Fruit: sutures	Present
Fruit: creasing	Present
Fruit: degree of creasing	Long
Fruit: type of vestiture	Present
Fruit: warts	Absent
Fruit: length of stripes	Long
Fruit: dots	Absent
Fruit: glaucosity	Weak
Fruit: length of peduncle	Long

Predominant shape of stem	Obtuse
Fruit surface	Rough
Fruit mottling	Absent
Fruit bitterness	Absent
Cotyledon bitterness	Absent
<b>SEED CHARACTERISTICS</b>	
Seed colour	Yellow white
Seed size	Medium
Seed length (mm)	8.75
Seed width (mm)	3.71
1000, seed weight (g)	24.62
<b>DISTINGUISHING CHARACTERISTICS</b>	<ol style="list-style-type: none"> <li>1. Tall Plant fast growth.</li> <li>2. Fruit top and base similar shape as Obtuse.</li> <li>3. Leaf margins dented</li> </ol>
<b>ENVIRONMENTAL ADAPTABILITY</b>	
Flowering response to seasons	Variable
Drought tolerance (measured as reduction in yield)	Medium
Tolerance to salinity (measured as reduction in plant height 30 days after sowing)	Medium
Tolerance to acid soils (measured as reduction in plant height 30 days after sowing)	Medium
Cold tolerance	Medium
Heat tolerance	Medium



Form PB-10  
[See Rule 13(1)]

Serial No. **000071**

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 71-CUC/119-2024	Dated:	17-10-2024
Crop: Cucumber	Denomination of Variety:	YK-27
Type: New	Conventional/GMC:	Conventional
OP/Hybrid: Inbred line	Local/Exotic:	Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

يوكسل سیدز ایشیا پرائیویٹ لمیٹڈ، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044



Registrar

Date of Grant 12-08-2025

## 11. Application No.: PBRR-Cucumber-120/24

Name of the Applicant: Yuksel Seeds Asia (Private) Limited

Institute: Yuksel Tohum Antalya, Turkey

Name of Breeder(s): Yuksel Seeds Asia (Private) Limited

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: YK-35

Crop: Cucumber (*Cucumis sativus* L.)

Type of Variety: Inbred Line

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Plant vigour	Strong
Plant: growth type	Indeterminate
Total length of first 15 internodes (cm)	112.45
Foliage density	Weak
<b>STEM CHARACTERISTICS</b>	
Stem thickness (mm)	6.75
Stem hairiness	Sparse
<b>LEAF CHARACTERISTICS</b>	
Leaf blade: attitude	Horizontal
Leaf blade: length (cm)	27.15
Length of terminal lobe (cm)	15.35
Leaf blade: ratio length of terminal lobe/length of blade	0.57
Leaf blade: shape of apex of terminal lobe	Right-angled
Leaf blade: intensity of green colour	Medium
Leaf color	Green
Leaf blade: blistering	Absent or very weak
Leaf blade: undulation of margin	Very weak

Leaf blade: dentation of margin	Medium
Leaf width (cm)	28.8
Leaf pubescence	Sparse
<b>FLOWER CHARACTERISTICS</b>	
Plant: sex expression	Gynoeceious
Bisexual flowers	Absent
Parthenocarpy	Present
Sex expression of flowers	Mainly female
Plant: number of female flowers per node	Predominantly four or five
No. of female flowers/node	More than three
Ovary: colour of vestiture	White
Parthenocarpy	Present
Flower color	Yellow
Petal length (cm)	3.58
<b>FRUIT CHARACTERISTICS</b>	
Fruit: length	19.64
Fruit: diameter	4.72
Fruit: core diameter in relation to diameter of fruit	Round
Fruit: shape in transverse section	Obtuse
Fruit: shape of stem end	Round
Fruit: shape of calyx end	Green
Fruit: ground colour of skin at market stage	Dark
Excluding white varieties: Fruit: intensity of ground colour of skin (as for 25)	Absent
Fruit: ribs	Absent
Fruit: sutures	Present
Fruit: creasing	Weak
Fruit: degree of creasing	Absent
Fruit: type of vestiture	Absent
Fruit: warts	Short
Fruit: length of stripes	Absent
Fruit: dots	Weak

Fruit: glaucosity	Medium
Fruit: length of peduncle	Yellow
Fruit: ground colour of skin at physiological ripeness	Obtuse
Predominant shape of stem	Rough
Fruit surface	Absent
Fruit mottling	Absent
Fruit bitterness	Absent
<b>SEED CHARACTERISTICS</b>	
Seed colour	Yellowish white
Seed shape	Narrow elliptic
Seed size	Bold
Seed length (mm)	10.5
Seed width (mm)	3.64
1000, seed weight (g)	24.25
DISTINGUISHING CHARACTERISTICS	1- Leaf Margins Dented sharp 2- Fruit is Obtuse at Top and base 3- Short Plant Height
<b>ENVIRONMENTAL ADATIBILITY</b>	
Flowering response to seasons	Variable
Drought tolerance (measured as reduction in yield)	Medium
Tolerance to salinity (measured as reduction in plant height 30 days after sowing)	Medium
Tolerance to acid soils (measured as reduction in plant height 30 days after sowing)	Medium
Cold tolerance	least tolerant
Heat tolerance	most tolerant



Form PB-10  
[See Rule 13(1)]

Serial No. 000072

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 72-CUC/120-2024      Dated: 17-10-2024  
Crop: Cucumber      Denomination of Variety: YK-35  
Type: New      Conventional/GMC: Conventional  
OP/Hybrid: Inbred line      Local/Exotic: Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

يوكسل سیدز ایشیا پرائیویٹ لمیٹڈ، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044



Registrar

Date of Grant 12-08-2025

**12. Application No.: PBRR-Cucumber-121/24**

Name of the Applicant: Yuksel Seeds Asia (Private) Limited

Institute: Yuksel Tohum Antalya, Turkey

Name of Breeder(s): Yuksel Seeds Asia (Private) Limited

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: YK-59

Crop: Cucumber (*Cucumis sativus* L.)

Type of Variety: Inbred Line

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Plant vigour	Strong
Plant: growth type	Indeterminate
Total length of first 15 internodes (cm)	104.50
Foliage density	Medium
<b>STEM CHARACTERISTICS</b>	
Stem thickness (mm)	7.32
Stem hairiness	Medium
<b>LEAF CHARACTERISTICS</b>	
Leaf blade: attitude	Horizontal
Leaf blade: length (cm)	30.75
Length of terminal lobe (cm)	17.05
Leaf blade: ratio length of terminal lobe/length of blade	0.55
Leaf blade: shape of apex of terminal lobe	Right-angled
Leaf blade: intensity of green colour	Medium
Leaf color	Green
Leaf blade: blistering	Absent or very weak
Leaf blade: undulation of margin	Moderate

Leaf blade: dentation of margin	Weak
Leaf width (cm)	30.10
Leaf pubescence	Profuse
<b>FLOWER CHARACTERISTICS</b>	
Plant: sex expression	Gynoeceious
Bisexual flowers	Absent
Parthenocarpy	Present
Sex expression of flowers	Mainly female
Plant: number of female flowers per node	Predominantly two or three
No. of female flowers/node	1-3
Ovary: colour of vestiture	White
Parthenocarpy	Present
Flower color	Yellow
Petal length (cm)	3.23
<b>FRUIT CHARACTERISTICS</b>	
Fruit: length	18.68
Fruit: diameter	4.31
Fruit: shape in transverse section	Round
Fruit: shape of stem end	Obtuse
Fruit: shape of calyx end	Round
Fruit: ground colour of skin at market stage	Green
Excluding white varieties: Fruit: intensity of ground colour of skin (as for 25)	Medium
Fruit: ribs	Absent
Fruit: sutures	Absent
Fruit: creasing	Present
Fruit: degree of creasing	Weak
Fruit: type of vestiture	Absent
Fruit: warts	Absent
Fruit: length of stripes	Short
Fruit: dots	Absent
Fruit: glaucosity	Weak

Fruit: length of peduncle	Medium
Fruit: ground colour of skin at physiological ripeness	Yellow
Predominant shape of stem	Obtuse
Fruit surface	Rough
Fruit mottling	Absent
Fruit bitterness	Absent
Cotyledon bitterness	Absent
<b>SEED CHARACTERISTICS</b>	
Seed colour	Yellowish white
Seed shape	Narrow elliptic
Seed size	Bold
Seed length (mm)	10.34
Seed width (mm)	4.05
1000, seed weight (g)	28.13
DISTINGUISHING CHARACTERISTICS	Weak leaf margins
<b>ENVIRONMENTAL ADAPTABILITY</b>	
Flowering response to seasons	Variable
Drought tolerance (measured as reduction in yield)	Medium
Tolerance to salinity (measured as reduction in plant height 30 days after sowing)	Medium
Tolerance to acid soils (measured as reduction in plant height 30 days after sowing)	Medium
Cold tolerance	Medium
Heat tolerance	Medium



Form PB-10  
[See Rule 13(1)]

Serial No. **000073**

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 73-CUC/121-2024	Dated:	17-10-2024
Crop: Cucumber	Denomination of Variety:	YK-59
Type: New	Conventional/GMC:	Conventional
OP/Hybrid: Inbred line	Local/Exotic:	Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

يگسل سیدز ایشیا پرائیویٹ لمیٹڈ، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044



Registrar

Date of Grant 12-08-2025

### 13. Application No.: PBRR-Cucumber-122/24

Name of the Applicant: Yuksel Seeds Asia (Private) Limited

Institute: Yuksel Tohum Antalya, Turkey

Name of Breeder(s): Yuksel Seeds Asia (Private) Limited

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: YK-61

Crop: Cucumber (*Cucumis sativus* L.)

Type of Variety: Inbred Line

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Plant vigour	Medium
Plant: growth type	Indeterminate
Total length of first 15 internodes (cm)	75.50
Foliage density	Medium
<b>STEM CHARACTERISTICS</b>	
Stem thickness (mm)	6.57
Stem hairiness	Medium
<b>LEAF CHARACTERISTICS</b>	
Leaf blade: attitude	Horizontal
Leaf blade: length (cm)	26.30
Length of terminal lobe (cm)	16.75
Leaf blade: ratio length of terminal lobe/length of blade	0.64
Leaf blade: shape of apex of terminal lobe	Right-angled
Leaf blade: intensity of green colour	Medium
Leaf color	Green
Leaf blade: blistering	Absent or very weak

Leaf blade: undulation of margin	Very weak
Leaf blade: dentation of margin	Very weak
Leaf width (cm)	26.33
Leaf pubescence	Medium
<b>FLOWER CHARACTERISTICS</b>	
Plant: sex expression	Gynoecious
Bisexual flowers	Absent
Parthenocarpy	Present
Sex expression of flowers	Mainly female
Plant: number of female flowers per node	Predominantly three or four
No. of female flowers/node	More than three
Ovary: colour of vestiture	White
Parthenocarpy	Present
Flower color	Yellow
Petal length (cm)	2.95
<b>FRUIT CHARACTERISTICS</b>	
Fruit: length	22.09
Fruit: diameter	3.66
Fruit: shape in transverse section	Round
Fruit: shape of stem end	Acute
Fruit: shape of calyx end	Acute
Fruit: ground colour of skin at market stage	Green
Excluding white varieties: Fruit: intensity of ground colour of skin (as for 25)	Green
Fruit: ribs	Present
Fruit: sutures	Absent
Fruit: creasing	Present
Fruit: degree of creasing	Weak
Fruit: type of vestiture	Prickles
Fruit: warts	Absent
Fruit: length of stripes	Short
Fruit: dots	Absent

Fruit: glaucosity	Waek
Fruit: length of peduncle	Medium
Predominant shape of stem	Acute
Fruit surface	Rough
Fruit mottling	Absent
Fruit bitterness	Absent
Cotyledon bitterness	Absent
<b>SEED CHARACTERISTICS</b>	
Seed colour	Yellowish white
Seed shape	Broad elliptic
Seed size	Small
Seed length (mm)	8.33
Seed width (mm)	3.94
1000, seed weight (g)	23.46
<b>DISTINGUISHING CHARACTERISTICS</b>	
	1. Leaf midrib veins prominent
<b>ENVIRONMENTAL ADAPTABILITY</b>	
Flowering response to seasons	Variable
Drought tolerance (measured as reduction in yield)	Medium
Tolerance to salinity (measured as reduction in plant height 30 days after sowing)	Medium
Tolerance to acid soils (measured as reduction in plant height 30 days after sowing)	Medium
Cold tolerance	Medium
Heat tolerance	Medium



Form PB-10  
[See Rule 13(1)]

Serial No. 000074

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 74-CUC/122-2024      Dated:      17-10-2024  
Crop:      Cucumber      Denomination of Variety: YK-61  
Type:      New      Conventional/GMC:      Conventional  
OP/Hybrid:      Inbred line      Local/Exotic:      Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

يگسل سیدز ایشیا پرائیویٹ لمیٹڈ، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044



Registrar

Date of Grant 12-08-2025

#### 14. Application No.: PBRR-Cucumber-123/24

Name of the Applicant: Yuksel Seeds Asia (Private) Limited

Institute: Yuksel Tohum Antalya, Turkey

Name of Breeder(s): Yuksel Seeds Asia (Private) Limited

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: YK-65

Crop: Cucumber (*Cucumis sativus* L.)

Type of Variety: Inbred Line

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Plant vigour	Strong
Plant: growth type	Indeterminate
Total length of first 15 internodes (cm)	89.60
Foliage density	Medium
<b>STEM CHARACTERISTICS</b>	
Stem thickness (mm)	5.79
Stem hairiness	Medium
<b>LEAF CHARACTERISTICS</b>	
Leaf blade: attitude	Drooping
Leaf blade: length (cm)	21.20
Length of terminal lobe (cm)	12.80
Leaf blade: ratio length of terminal lobe/length of blade	0.60
Leaf blade: shape of apex of terminal lobe	Right-angled
Leaf blade: intensity of green colour	Medium
Leaf color	Green
Leaf blade: blistering	Absent or very weak
Leaf blade: undulation of margin	Very weak

Leaf blade: dentation of margin	Very weak
Leaf width (cm)	21.10
Leaf pubescence	Profuse
<b>FLOWER CHARACTERISTICS</b>	
Plant: sex expression	Gynoecious
Bisexual flowers	Absent
Parthenocarpy	Present
Sex expression of flowers	Mainly female
Plant: number of female flowers per node	Predominantly two or three
No. of female flowers/node	1-3
Ovary: colour of vestiture	White
Parthenocarpy	Present
Flower color	Yellow
Petal length (cm)	2.90
<b>FRUIT CHARACTERISTICS</b>	
Fruit: length	18.78
Fruit: diameter	3.64
Fruit: shape in transverse section	Round
Fruit: shape of stem end	Obtuse
Fruit: shape of calyx end	Round
Fruit: ground colour of skin at market stage	Green
Excluding white varieties: Fruit: intensity of ground colour of skin (as for 25)	Green
Fruit: ribs	Absent
Fruit: sutures	Absent
Fruit: creasing	Absent
Fruit: degree of creasing	Weak
Fruit: type of vestiture	Absent
Fruit: warts	Absent
Fruit: length of stripes	Short
Fruit: dots	Absent
Fruit: glaucosity	Weak

Fruit: length of peduncle	Medium
Predominant shape of stem	Obtuse
Fruit surface	Rough
Fruit mottling	Absent
Fruit bitterness	Absent
Cotyledon bitterness	Absent
<b>SEED CHARACTERISTICS</b>	
Seed colour	Yellowish white
Seed shape	Elliptic
Seed size	Medium
Seed length (mm)	9.19
Seed width (mm)	3.87
1000, seed weight (g)	25.93
DISTINGUISHING CHARACTERISTICS	1. Plain leaf blade margin 2. No lobe 3. Small leaves
<b>ENVIRONMENTAL ADAPTABILITY</b>	
Flowering response to seasons	Variable
Drought tolerance (measured as reduction in yield)	Medium
Tolerance to salinity (measured as reduction in plant height 30 days after sowing)	Medium
Tolerance to acid soils (measured as reduction in plant height 30 days after sowing)	Medium
Cold tolerance	Medium
Heat tolerance	Medium



Form PB-10  
[See Rule 13(1)]

Serial No. 000075

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 75-CUC/123-2024      Dated: 17-10-2024  
Crop: Cucumber      Denomination of Variety: YK-65  
Type: New      Conventional/GMC: Conventional  
OP/Hybrid: Inbred line      Local/Exotic: Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

**YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

يوكسل سیدز ایشیا پرائیویٹ لمیٹڈ، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044



Registrar

Date of Grant 12-08-2025

**15. Application No.: PBRR-Cucumber-124/24**

Name of the Applicant: Yuksel Seeds Asia (Private) Limited

Institute: Yuksel Tohum Antalya, Turkey

Name of Breeder(s): Yuksel Seeds Asia (Private) Limited

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: YK-75

Crop: Cucumber (*Cucumis sativus* L.)

Type of Variety: Inbred Line

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Plant vigour	Strong
Plant: growth type	Indeterminate
Total length of first 15 internodes (cm)	107.75
Foliage density	Strong
<b>STEM CHARACTERISTICS</b>	
Stem thickness (mm)	8.05
Stem hairiness	Sparse
<b>LEAF CHARACTERISTICS</b>	
Leaf blade: attitude	Horizontal
Leaf blade: length (cm)	26.40
Length of terminal lobe (cm)	15.25
Leaf blade: ratio length of terminal lobe/length of blade	0.58
Leaf blade: shape of apex of terminal lobe	Right-angled
Leaf blade: intensity of green colour	Medium
Leaf color	Green
Leaf blade: blistering	Absent or very weak
Leaf blade: undulation of margin	Very weak

Leaf blade: dentation of margin	Very weak
Leaf width (cm)	27.50
Leaf pubescence	Medium
<b>FLOWER CHARACTERISTICS</b>	
Plant: sex expression	Gynoecious
Bisexual flowers	Absent
Parthenocarpy	Present
Sex expression of flowers	Mainly female
Plant: number of female flowers per node	Predominantly two or three
No. of female flowers/node	1-3
Ovary: colour of vestiture	White
Parthenocarpy	Present
Flower color	Yellow
Petal length (cm)	3.08
<b>FRUIT CHARACTERISTICS</b>	
Fruit: length	18.84
Fruit: diameter	4.32
Fruit: shape in transverse section	Round
Fruit: shape of stem end	Acute
Fruit: shape of calyx end	Round
Fruit: ground colour of skin at market stage	Green
Excluding white varieties: Fruit: intensity of ground colour of skin (as for 25)	Green
Fruit: ribs	Present
Fruit: sutures	Absent
Fruit: creasing	Present
Fruit: degree of creasing	Weak
Fruit: type of vestiture	Present
Fruit: warts	Absent
Fruit: length of stripes	Short
Fruit: dots	Absent
Fruit: glaucosity	Weak

Fruit: length of peduncle	Short
Predominant shape of stem	Acute
Fruit surface	Rough
Fruit mottling	Absent
Fruit bitterness	Absent
Cotyledon bitterness	Absent
<b>SEED CHARACTERISTICS</b>	
Seed colour	Yellowish white
Seed shape	Elliptic
Seed size	Medium
Seed length (mm)	9.01
Seed width (mm)	3.60
1000, seed weight (g)	25.41
DISTINGUISHING CHARACTERISTICS	1. Five leaf lobes 2. Waxy leaf margin and without spines
<b>ENVIRONMENTAL ADAPTABILITY</b>	
Flowering response to seasons	Variable
Drought tolerance (measured as reduction in yield)	Medium
Tolerance to salinity (measured as reduction in plant height 30 days after sowing)	Medium
Tolerance to acid soils (measured as reduction in plant height 30 days after sowing)	Medium
Cold tolerance	Medium
Heat tolerance	Medium



Form PB-10  
[See Rule 13(1)]

Serial No. 000076

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 76-CUC/124-2024      Dated:      17-10-2024  
Crop:      Cucumber      Denomination of Variety: YK-75  
Type:      New      Conventional/GMC:      Conventional  
OP/Hybrid:      Inbred line      Local/Exotic:      Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

یکسل سیڈز ایشیا پرائیویٹ لمیٹڈ، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044



Registrar

Date of Grant 12-08-2025

**16. Application No.: PBRR-Cucumber-125/24**

Name of the Applicant: Yuksel Seeds Asia (Private) Limited

Institute: Yuksel Tohum Antalya, Turkey

Name of Breeder(s): Yuksel Seeds Asia (Private) Limited

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: YK-76

Crop: Cucumber (*Cucumis sativus* L.)

Type of Variety: Inbred Line

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Plant vigour	Medium
Plant: growth type	Indeterminate
Total length of first 15 internodes (cm)	100.6
Foliage density	Medium
<b>STEM CHARACTERISTICS</b>	
Stem thickness (mm)	6.11
Stem hairiness	Sparse
<b>LEAF CHARACTERISTICS</b>	
Leaf blade: attitude	Drooping
Leaf blade: length (cm)	25.45
Length of terminal lobe (cm)	16.15
Leaf blade: ratio length of terminal lobe/length of blade	0.63
Leaf blade: shape of apex of terminal lobe	Acute
Leaf blade: intensity of green colour	Dark
Leaf color	Green
Leaf blade: blistering	Absent or very weak
Leaf blade: undulation of margin	Very weak

Leaf blade: dentation of margin	Very weak
Leaf width (cm)	23.50
Leaf pubescence	Medium
<b>FLOWER CHARACTERISTICS</b>	
Plant: sex expression	Gynoecious
Bisexual flowers	Absent
Parthenocarpy	Present
Sex expression of flowers	Mainly female
Plant: number of female flowers per node	Predominantly three or four
No. of female flowers/node	More than three
Ovary: colour of vestiture	White
Parthenocarpy	Present
Flower color	Yellow
Petal length (cm)	2.90
<b>FRUIT CHARACTERISTICS</b>	
Fruit: length	26.74
Fruit: diameter	4.10
Fruit: ratio length/diameter	
Fruit: core diameter in relation to diameter of fruit	
Fruit: shape in transverse section	Round
Fruit: shape of stem end	Acute
Fruit: shape of calyx end	Acute
Fruit: ground colour of skin at market stage	Dark Green
Excluding white varieties: Fruit: intensity of ground colour of skin (as for 25)	Dark
Fruit: ribs	Absent
Fruit: sutures	Absent
Fruit: creasing	Prsent
Fruit: degree of creasing	Short
Fruit: type of vestiture	Absent
Fruit: warts	Absent
Fruit: length of stripes	Short

Fruit: dots	Absent
Fruit: glaucosity	Weak
Fruit: length of peduncle	Long
Predominant shape of stem	Acute
Fruit surface	Rough
Fruit mottling	Absent
Fruit bitterness	Absent
Cotyledon bitterness	Absent
<b>SEED CHARACTERISTICS</b>	
Seed colour	Yellowish white
Seed shape	Elliptic
Seed size	Small
Seed length (mm)	8.11
Seed width (mm)	3.62
1000, seed weight (g)	22.13
DISTINGUISHING CHARACTERISTICS	1. Acute apex of terminal lobe 2. Long pedicel 3. Short internode
<b>ENVIRONMENTAL ADAPTABILITY</b>	
Flowering response to seasons	Variable
Drought tolerance (measured as reduction in yield)	Medium
Tolerance to salinity (measured as reduction in plant height 30 days after sowing)	Medium
Tolerance to acid soils (measured as reduction in plant height 30 days after sowing)	Medium
Cold tolerance	Least tolerant
Heat tolerance	Mostly tolerant



Form PB-10  
[See Rule 13(1)]

Serial No. 000077

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 77-CUC/125-2024      Dated: 17-10-2024  
Crop: Cucumber      Denomination of Variety: YK-76  
Type: New      Conventional/GMC: Conventional  
OP/Hybrid: Inbred line      Local/Exotic: Exotic

As declared

- That Yuksel Seeds Asia Private Limited

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **YUKSEL SEEDS ASIA PRIVATE LIMITED, FAISALABAD**

يگسل سیدز ایشیا پرائیویٹ لمیٹڈ، فیصل آباد

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of October 2024 and expiring on the 16<sup>th</sup> day of October 2044.



Registrar

Date of Grant 12-08-2025

**17. Application No.: PBRR-Potato-134/24**

Name of the Applicant: Frito Lay North America Inc.

Institute: Frito Lay Agricultural Research 4295 Tenderfoot Rd.,  
Rhineland WI 54501 USA

Name of Breeder(s): Frito Lay North America Inc.

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: FL-2215

Crop: Potato (*Solanum Tuberosum* L.)

Type of Variety: Hybrid

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Light sprout: Predominant colour	Purple
Light sprout: Shape	Conical
Light sprout: Intensity of anthocyanin coloration at base of sprout	Dark
Light sprout: Intensity of anthocyanin coloration at sprout tip	Dark
Light sprout: Pubescence base	Strong
Light sprout: Length of apical sprout	Medium
Plant: Foliage structure	Semi-compact
Plant: Height of main stem	Medium
Stem: Predominant colour	Green
Stem: Secondary coloration	Purple
Stem: Distribution of secondary colour	Throughout lightly scattered
Plant: Wing	Poorly developed
Plant: Wing type	Straight
Leaf: Structure	Intermediate
Leaf: Anthocyanin coloration of rachis	Absent
Leaf: Anthocyanin coloration of midrib	Absent

Leaf: Length	Medium
Leaf: Width	Medium
Leaf: Leaflet (lateral) shape	Ovate Lanceolate
Leaflet: Glossiness of upper side	Weak
Leaflet: Pubescence of blade at apical rosette	Absent
Flower: Anthocyanin coloration of bud	Present
Flower: Anthocyanin coloration of floral stalk	Absent
Flower: Anthocyanin coloration of pedicel articulation	Present
Flower: Pedicel articulation position	Below the middle
Flower: Corolla colour	Blue violet
Flower: Corolla size	Medium
Flower: Anthocyanin coloration of outer side in white flowers	Absent
Flower: Intensity of anthocyanin coloration of corolla on inner side	Strong
Flower: Stylar length (in comparison to stamen column)	Longer
Flower: Stigma lobe	Unilobed
Flower: Frequency of flowers	Medium
Flower: Premature bud dropping	Absent
Flower: Intensity of flowering	Medium
Plant: Time of maturity	Late
Tuber: Predominant skin colour	Brown
Tuber: Secondary skin colour	Whitish cream
Tuber: Distribution of secondary skin colour	Absent
Tuber: Skin type	Smooth
Tuber: Shape	Ovoid
Tuber: Depth of eye	Medium deep
Tuber: Colour of eye	Whitish cream
Tuber: Predominant colour of flesh	White
Tuber: Secondary colour of flesh	Absent





Form PB-10  
[See Rule 13(1)]

Serial No. 000078

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No.	78-POT/134-2024	Dated:	19-11-2024
Crop:	Potato	Denomination of Variety:	FL-2215
Type:	Registered	Conventional/GMC:	Conventional
OP/Hybrid:	Clone	Local/Exotic:	Exotic

As declared

- That Frito Lay North America Inc.

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

**FRITO LAY NORTH AMERICA INC., RHINELANDER, USA**

فسریتو لے نارٹھ امریکہ انڈیا پوریشن، رائنلینڈر، امریکہ

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 19<sup>th</sup> day of November 2024 and expiring on the 18<sup>th</sup> day of November 2044.



Registrar

Date of Grant 12-08-2025

## 18. Application No.: PBRR-Potato-135/24

Name of the Applicant: Frito Lay North America Inc.

Institute: Frito Lay Agricultural Research 4295 Tenderfoot Rd.,  
Rhineland WI 54501 USA

Name of Breeder(s): Frito Lay North America Inc.

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: FL-2108 (Brooke)

Crop: Potato (*Solanum Tuberosum* L.)

Type of Variety: Hybrid

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Lightsprout: size	Medium
Lightsprout: shape	Conical
Lightsprout: intensity of anthocyanin coloration of base	Weak
Lightsprout: proportion of blue in anthocyanin coloration of base	Absent or Low
Lightsprout: pubescence of base	Weak
Lightsprout: size of tip in relation to base	Medium
Lightsprout: habit of tip	Open
Lightsprout: anthocyanin coloration of tip	Light or very weak
Lightsprout: pubescence of tip	Weak
Lightsprout: number of root tips	medium
Lightsprout: length of lateral shoots	Short to medium
Plant: foliage structure	Intermediate type
Plant: growth habit	Semi upright
Stem: anthocyanin coloration	Absent or very weak
Leaf: outline size	Medium to Large
Leaf: openness	Intermediate

Leaf: presence of secondary leaflets	Strong
Leaf: green color	Medium
Leaf: anthocyanin coloration on midrib of upper side	Absent to Weak
Second pair of lateral leaflets: width in relation to length	Narrow to Medium
Terminal and lateral leaflets: frequency of coalescence	Absent or very low
Plant: height	Medium
Plant: frequency of flowers	Absent or very low
Plant: time of maturity	Medium
Tuber: shape	Round
Tuber: depth of eyes	Shallow
Tuber: color of skin	Yellow
Tuber: color of base of eye	Yellow
Tuber: color of flesh	Medium yellow
Light beige and yellow skinned varieties only: Tuber: anthocyanin coloration of skin in reaction to light	Absent or very low



Form PB-10  
[See Rule 13(1)]

Serial No. 000079

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 79-POT/135-2024	Dated:	19-11-2024
Crop: Potato	Denomination of Variety: FL-2108 (Brooke)	
Type: Registered	Conventional/GMC: Conventional	
OP/Hybrid: Clone	Local/Exotic: Exotic	

As declared

- That Frito Lay North America Inc.

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

**FRITO LAY NORTH AMERICA INC., RHINELANDER, USA**

فسریتو لے نارٹھ امریکہ انکاپوریشن، رائنلینڈر، امریکہ

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 19<sup>th</sup> day of November 2024 and expiring on the 18<sup>th</sup> day of November 2044.



Registrar

Date of Grant 12-08-2025

**19. Application No.: PBRR-Potato-136/24**

Name of the Applicant: Frito Lay North America Inc.

Institute: Frito Lay Agricultural Research 4295 Tenderfoot Rd.,  
Rhineland WI 54501 USA

Name of Breeder(s): Frito Lay North America Inc.

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: FL-1867

Crop: Potato (*Solanum Tuberosum* L.)

Type of Variety: Hybrid

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

<b>CHARACTERISTICS</b>	<b>DESCRIPTION</b>
Light sprout: Predominant colour	White
Light sprout: Shape	Cylindrical
Light sprout: Intensity of anthocyanin coloration at base of sprout	Medium
Light sprout: Intensity of anthocyanin coloration at sprout tip	Light
Light sprout: Pubescence base	Weak
Light sprout: Length of apical sprout	Small
Plant: Foliage structure	Semi -compact
Stem: Cross section	
Plant: Height of main stem	Medium
Stem: Predominant colour	Green
Stem: Secondary coloration	Absent
Stem: Distribution of secondary colour	Absent
Plant: Wing	Poorly developed
Plant: Wing type	Straight
Leaf: Structure	Open

Leaf: Anthocyanin coloration of rachis	Absent
Leaf: Anthocyanin coloration of midrib	Absent
Leaf: Length	Medium
Leaf: Width	Medium
Leaf: Leaflet (lateral) shape	Lanceolate
Leaflet: Glossiness of upper side	Weak
Leaflet: Pubescence of blade at apical rosette	Absent
Flower: Anthocyanin coloration of bud	Absent
Flower: Anthocyanin coloration of floral stalk	Absent
Flower: Anthocyanin coloration of pedicel articulation	Absent
Flower: Pedicel articulation position	Below the midrib
Flower: Corolla colour	White
Flower: Corolla size	Medium
Flower: Anthocyanin coloration of outer side in white flowers	Absent
Flower: Intensity of anthocyanin coloration of corolla on inner side	Weak
Flower: Styler length (in comparison to stamen column)	Equal
Flower: Stigma lobe	Unilobed
Flower: frequency of flowers	Medium
Flower: Premature bud dropping	Absent
Flower: Intensity of flowering	Profuse
Plant: Time of maturity	Medium
Tuber: Predominant skin Color	Brown
Tuber: Secondary Skin color	Russeted
Tuber: Skin type	Rough
Tuber: Shape	Round
Tuber: Depth of eye	Shallow
Tuber: Color of eye	Whitish Cream
Tuber: Predominant color of flesh	White
Tuber: Secondary color of flesh	Cream



Form PB-10  
[See Rule 13(1)]

Serial No. 000080

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 80-POT/136-2024	Dated: 19-11-2024
Crop: Potato	Denomination of Variety: FL-1867
Type: New	Conventional/GMC: Conventional
OP/Hybrid: Clone	Local/Exotic: Exotic

As declared

- That Frito Lay North America Inc.

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

**FRITO LAY NORTH AMERICA INC., RHINELANDER, USA**

فٹو لے نارتھ امریکہ انکاپوریشن، رائنلینڈر، امریکہ

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 19<sup>th</sup> day of November 2024 and expiring on the 18<sup>th</sup> day of November 2044.



Registrar

Date of Grant 12-08-2025

## 20. Application No.: PBRR-Potato-137/24

Name of the Applicant: Frito Lay North America Inc.

Institute: Frito Lay Agricultural Research 4295 Tenderfoot Rd.,  
Rhineland WI 54501 USA

Name of Breeder(s): Frito Lay North America Inc.

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: FL-2027

Crop: Potato (*Solanum Tuberosum* L.)

Type of Variety: Hybrid

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Light sprout: Predominant colour	Blue
Light sprout: Shape	Spherical
Light sprout: Intensity of anthocyanin coloration at base of sprout	Medium
Light sprout: Intensity of anthocyanin coloration at sprout tip	Light
Light sprout: Pubescence base	Weak
Light sprout: Length of apical sprout	Small
Plant: Foliage structure	Open
Stem: Cross section	Round
Plant: Height of main stem	Short
Stem: Predominant colour	Green
Stem: Secondary coloration	Absent
Stem: Distribution of secondary colour	Absent
Plant: Wing	Poorly Developed
Plant: Wing type	Straight
Leaf: Structure	Open
Leaf: Anthocyanin coloration of rachis	Absent

Leaf: Anthocyanin coloration of midrib	Absent
Leaf: Length	Small
Leaf: Width	Narrow
Leaf: Leaflet (lateral) shape	Narrow Lanceolate
Leaflet: Glossiness of upper side	Weak
Leaflet: Pubescence of blade at apical rosette	Absent
Flower: Anthocyanin coloration of bud	Absent
Flower: Anthocyanin coloration of floral stalk	Weak
Flower: Anthocyanin coloration of pedicel articulation	Absent
Flower: Pedicel articulation position	Below the middle
Flower: Corolla colour	White
Flower: Corolla size	Medium
Flower: Anthocyanin coloration of outer side in white flowers	Absent
Flower: Intensity of anthocyanin coloration of corolla on inner side	Weak
Flower: Stylar length (in comparison to stamen column)	Equal
Flower: Stigma lobe	Unilobed



Form PB-10  
[See Rule 13(1)]

Serial No. 000081

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 81-POT/137-2024 Dated: 19-11-2024  
Crop: Potato Denomination of Variety: FL-2027  
Type: Registered Conventional/GMC: Conventional  
OP/Hybrid: Clone Local/Exotic: Exotic

As declared

- That Frito Lay North America Inc.

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

**FRITO LAY NORTH AMERICA INC., RHINELANDER, USA**

فٹو لے نارتھ امریکہ انکاپوریشن، رائنلینڈر، امریکہ

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 19<sup>th</sup> day of November 2024 and expiring on the 18<sup>th</sup> day of November 2044.



Registrar

Date of Grant 12-08-2025

**21. Application No.: PBRR-Cotton-06/21**

Name of the Applicant: Four Brothers Group Pakistan

Institute: Four Brothers Group Pakistan

Name of Breeder(s):

i. Ch. Muhammad Hanif

ii. Shujaat Ullah Malik

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: Badar-1

Crop: Cotton (*Gossypium hirsutum* L.)

Type of Variety: OPV

Name of Initial Variety

(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Comparable variety	MNH-886 & FH-142 and Tarzan-1
Maturity	Medium
Days to opening	110
Earlier than	MNH-886
<b>SEEDLINGS CHARACTERISTICS</b>	
Seedling length (cm)	11.0
Seedling colour	Dark green
Foliage spot	Present
<b>PLANT CHARACTERISTICS</b>	
Growth habit	Erect
Plant height (inch)	98
Plant shape	Compact
Fruit branch type	Normal
Nodes to 1 <sup>st</sup> monopodial branch	6 Average
Monopodia attitude	Erect
Monopodia/ plant	0-3

Sympodia/ plant	30-35
Sympodia attitude	Erect
Stem pigmentation	Reddish
Stem tip hair	Medium
Bud gossypol	Normal
Fruit branches	Normal
<b>LEAF CHARACTERISTICS</b>	
Foliage density	Intermediate
Leaf colour	Dark green
Leaf type	Normal
Lobes/leaf	3-4
Leaf attitude	Flat
Leaf nectaries	Present
Leaf length (cm)	9.2
Leaf width (cm)	8.9
Petiole length (cm)	9.3
Leaf hairiness	Medium
<b>FLOWER CHARACTERISTICS</b>	
Days to flowering (50%)	45-50 days
Flower duration	Medium
Flower size	Medium
Sepal pigmentation	Present
Petal spot	Absent
Nectaries	Present
Petal colour	Creamy
Anther colour	Medium
Stigma exertion (mm)	3.0
Stigma height (mm)	10.3
Calyx size	Intermediate
Bracteole type	Normal
<b>BOLL CHARACTERISTICS</b>	

Boll bearing habit	Close to stem
Boll shape	Roundish
Boll colour	Medium Green
Boll size	Big
Beak size	Medium
Boll length (cm)	4.5
Boll breadth (cm)	2.9
Boll broad at	Mid
Peduncle length (cm)	2.7
Locules/ boll	4-5
Locules/ boll	4-5
Boll/ plant	75-85
Boll surface	Medium Pitted
Gossypol	Normal
Boll opening	Fluffy
Boll weight	4.48gm
<b>SEED CHARACTERISTICS</b>	
Seed size	Medium
Seed shape	Semi Conical
Seed length (mm)	11
Seed width (mm)	3.7
Seed coat colour	Dark Brown
Seed index (g)	8.9
Seed fuzz	Almost Fuzzy
Fuzz colour	White with greenish tinge
<b>FIBRE CHARACTERISTIS</b>	
Fiber colour	Shiny White
G.o.t lint (%)	42.10%
Staple length (mm)	28.74
Fiber group	Long
Fiber fineness (ug/inch)	4.25

Fib. Strength (g/tax)	31.2 G/Tex
<b>RESISTANCE</b>	
Lodging	Tolerant
Sucking pests	Medium
CLCV	Highly Tolerant
Rhizoctonia	Yes
Variants	Plant shape changes with management and Agronomic practices
Distinguishing characteristics	Compact Plant, highly tolerant to lodging, CLCV and heat



Form PB-10  
[See Rule 13(1)]

Serial No. 000082

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No.	82-COT/06-2021	Dated:	17-02-2021
Crop:	Cotton	Denomination of Variety:	Badar-1
Type:	Registered	Conventional/GMC:	GMO
OP/Hybrid:	OP	Local/Exotic:	Local

As declared

- That Ch. Muhammad Hanif and Shujaat Ullah Malik

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **FOUR BROTHERS GROUP PAKISTAN, MULTAN**

فور برادرز گروپ پاکستان، ملتان

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of February 2021 and expiring on the 16<sup>th</sup> day of February 2041.



Registrar \_\_\_\_\_  
Date of Grant 06-08-2025

**22. Application No.: PBRR-Cot-05/21**

Name of the applicant: Four Brother Group, Pakistan

Institute: Four Brother Group, Pakistan

Name of Breeder(s):

i. Ch. Muhammad Hanif

ii. Shujaat Ullah Malik

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of variety: Hatf-3

Crop: Cotton (*Gossypium hirsutum* L.)

Type of the variety: OPV

Name of initial variety

(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Maturity	Medium early
Days to open 50% boll	1-10 days
<b>Seedling characters</b>	
Seedling color	Green
Foliage spot	Present
<b>Plant characters</b>	
Growth habit	Semi erect
Plant height	155-160 cm
Fruiting branch	Medium long
Monopodial attitude	Semi erect
Sympodial attitude	Semi erect
Nodes to 1st. Monopodia	7.7 (6-10)
Monopodia/plant	0-3
Nodes to 1st. Sympodia	8.7 (7-11)
Sympodial length	Short
Sympodia/plant	27.5 (24-32)
Stigma pigmentation	Normal
Stem tip hair	Profuse

Bud gossypol	Normal
<b>Leaf characters</b>	
Foliage density	Medium
Leaf color	Green
Leaf length	12.8 cm
Leaf width	20.3 cm
Petiole length	12.7 cm
Leaf attitude	Semi erect
Leaf type	Normal
Leaf nectaries	Present
Leaf hairiness	Profuse
<b>Flowers characters</b>	
Days to First flowering	40- 45 days
Flowering duration	Medium
Flower size	Medium
Petal spot	Absent
Nectaries	Present
Petal color	Creamy
Pollen color	Yellow
Stigma exertion	Protruded (3.2 mm)
Stigma height	2.3 1cm (2.1-2.9 cm)
Calyx size	Medium
<b>Boll characteristics</b>	
Boll shape	Oblong
Boll size	Big
Beak size	Medium
Boll broad at	Middle
Boll surface	Pitted
Gossypol	Normal
Boll opening	Good
Boll weight (maximum)	4.5 g

Exploited Yield kg/hac	4945
<b>Seed characteristics</b>	
Seed size	Medium
Seed index	8.1 g
Seed coat color	Brownish black
Seed fuzz	Fuzzy
Fuzz color	Dusky white
Oil contents	20%
<b>Fiber characters</b>	
Fiber color	Shiny white
Got%	41.80%
Staple length	29.7 mm
Mircronaire value	4.55 ug/inch
Fiber strength	99.6-100 tpsi
Lint index	5.78
Uniformity ratio	49.80%
Fiber Length group	Long
<b>Resistance</b>	
Glyphosate	Resistant and easy to control all weeds
Lodging	No lodging
Sucking pests	Highly tolerant
Boll worms	Resistant
Virus	Tolerant
Variant	A few plants with medium sympodial length
<b>Distinguishing characteristics:</b> Stout Stem, Bushy, sympodial plant	



Government of Pakistan  
Plant Breeders' Rights Registry

Form PB-10  
[See Rule 13(1)]

Serial No. 000083



**CERTIFICATE OF PLANT VARIETY PROTECTION**

Registration No. 83-COT/05-2021	Dated:	17-02-2021
Crop: Cotton	Denomination of Variety: Hatf-3	
Type: Registered	Conventional/GMC: GMO	
OP/Hybrid: OP	Local/Exotic: Local	

As declared

- That Ch. Muhammad Hanif and Shujaat Ullah Malik

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

**FOUR BROTHERS GROUP PAKISTAN, MULTAN**

فور برادرز گروپ پاکستان، ملتان

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of February 2021 and expiring on the 16<sup>th</sup> day of February 2041.



Registrar

Date of Grant 12-08-2025

### 23. Application No.: PBRR-Maize-19/21

Name of the Applicant: Chief Scientist, Maize and Millets Research Institute,  
Yusafwala, Sahiwal

Institute: Maize and Millets Research Institute, Yusafwala, Sahiwal

Name of Breeder(s):

- i. Dr. Muhammad Arshad
- ii. Khadim Hussain
- iii. Shahid Hussain
- iv. Aamir Ghani
- v. Muhammad Irfan Yousaf

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of Variety: YH-5482

Crop: Maize (*Zea mays* L.)

Type of Variety: Hybrid

Name of initial variety  
(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Seedling Length (cm)	14.67
Coleoptile Anthocyanin	Present
First Leaf Color	Green + Purple Lines
First Leaf Tip	Round
First Leaf Length (cm)	4.4
First Leaf Width (cm)	1.43
<b>STEM CHARACTERISTICS</b>	
Stem Length (cm)	195-205
Internode Length (cm)	9.5
Internode Diameter (cm)	3.9
Mid Node Anthocyanin	Present
Stem Tillering	Absent
Stem Anthocyanin Coloration of Brace Roots	Present
Lodging	Tolerant

<b>LFAF CHARACTERISTICS</b>	
Leaf attitude of Blade (on leaf just above upper ear)	Erect
Leaf color	Dark Green
Ear leaf Length (cm)	90-95
Ear leaf Width (cm)	10.66
Leaves/ Plant	12-14
Leaf Sheath Anthocyanin	Present
Leaf angle between Blade and Stem (on leaf just above upper ear)	35
<b>TASSEL CHARACTERISTICS</b>	
50% Tassel Emergence (Days)	69-73 (Spring)
50% Tassel Emergence (Days)	70
Anthocyanin coloration at base of Glume (in middle third of main axis)	Present
Anthocyanin coloration of Glume excluding base (in middle third of main axis)	Present
Angle between main axis and Lateral Branches (in lower third of Tassel)	45
Attitude of lateral branches (in lower third of Tassel)	Erect
Density of Spikelets (in middle third of Tassel)	
Tassel Length (cm)	46
Tassel Stalk Length (cm)	16
Exertion above Flag Leaf (cm)	3-4
No. of Lateral Branches	14
Lateral Branch Density	Heavy
<b>EAR CHARACTERISTICS (UPPER EAR)</b>	
50% Silk Emergence (Days)	73-77 (Spring)
Silk Color	Purple
Peduncle Length (cm)	9
Ear Leafy Extension	No
Ear Husk Length	28
No. Husk Blades	8
Ear shape	Conical
Ear Length (cm)	17.6

Ear Height (cm)	85-90
Ear Diameter (mm)	45.6
Seeds Rows/ Ear	16-18
Seeds/ Row	37-43
Seed Arrangement	Linear
No. of ear/ Plant	1
Pith Color	Red
<b>SEED CHARACTERISTICS</b>	
Seed color	Yellow
Seed Tip color	White
Seed Length (mm)	12.7
Seed Width (mm)	9.25
Seed Thickness (mm)	4.78
Seed Type	Dent
1000 Seed Weight (g)	310-330
Shelling %age	87
Yield/ hac (kg)	13600
Moisture %	17.7
Protein %	14
Oil %	4.4
Fine Starch %	50.4
<b>RESISTANCE</b>	
Fusarium	MR
Streak Virus	R
Insects	MR
Helminthosporium	MR



Form PB-10  
[See Rule 13(1)]

Serial No. 000084

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 84-MZ/19-2021	Dated:	02-07-2021
Crop: Maize	Denomination of Variety: YH-5482	
Type: Registered	Conventional/GMC: Conventional	
OP/Hybrid: Hybrid	Local/Exotic: Local	

As declared

- That Dr. Muhammad Arshad, Khadim Hussain, Shahid Hussain, Aamir Ghani and Muhammad Irfan Yousaf

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **MAIZE & MILLETS RESEARCH INSTITUTE, YUSAFWALA, SAHIWAL**

میزا اینڈ میلٹس ریسرچ انسٹی ٹیوٹ، یوسف والا، ساہیوال

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 02<sup>nd</sup> day of July 2021 and expiring on the 01<sup>st</sup> day of July 2041.



Registrar \_\_\_\_\_  
Date of Grant 22-08-2025

**24. Application No.: PBRR-Cot-03/21**

Name of the applicant: Four Brother Group, Pakistan

Institute: Four Brother Group, Pakistan

Name of Breeder(s):

- i. Ch. Muhammad Hanif
- ii. Shujaat Ullah Malik

Name of Co-breeder(s):

Application for: New Plant Variety

Denomination of variety: Eagle-2

Crop: Cotton (*Gossypium hirsutum* L.)

Type of the variety: OPV

Name of initial variety

(in case EDV): Not Applicable

Salient features:

CHARACTERISTICS	DESCRIPTION
Variety compared	Tarzan-I. FH-142 & MNH-886
Area adaptation	Whole Cotton growing area of Pakistan
Variety origin	Local cross
Maturity	Medium early
Days to open 50% boll	1-10 days
<b>Seedling characters</b>	
Seedling color	Green
Foliage spot	Present
<b>Plant characters</b>	
Growth habit	Semi erect
Plant height	155-160 cm
Fruiting branch type	Short sympodia branches length
Nodes to 1st. Monopodia	7.4 (6-10)
Monopodia/ plant	0-4
Nodes to 1st. Sympodia	7.7 (6-10)
Sympodial length	Short
Stem tip hair	Profuse
<b>Leaf characters</b>	

Foliage density	Medium
Leaf color	Dark Green
Leaf length	12.8 cm
Leaf width	20.3 cm
Petiole length	12.07 cm
Leaf nectaries	Present
Leaf hairiness	Profuse
<b>Flowers characters</b>	
Days to first flowering	40-45 days
Flowering duration	Medium
Stamen density	Medium
Stigma exertion	Protruded (3.5 mm)
Stigma height	2.31 cm (2.1 -2.9 cm)
Calyx size	Medium
Flower size	Medium
Petal spot	Absent
Nectaries	Present
Pollen color	Yellow
<b>Boll characteristics</b>	
Boll shape	Oblong
Boll size	Big
Beak size	Big
Boll broad at	Middle
Boll opening	Good
Boll weight (maximum)	4.77gm
Exploited Yield kg/ha	5239 Kg
<b>Seed characteristics</b>	
Seed size	Bold
Seed index	9.12 g
Seed coat color	Brownish black
Seed fuzz	Fuzzy

Fuzz color	Dusky white
<b>Fiber characters</b>	
Fiber color	Shiny white
G.o.t %	41.40%
Staple length	28.20 – 29 mm
Mircronaire value	4.44ug/inch
Strength	31.9G/Tax (97.7-100 tpsi)
Lint index	5.78
Uniformity ratio	47.8
<b>Resistance</b>	
Lodging	No lodging
Sucking pests	Highly tolerant
Boll worms	Resistant
Virus	Tolerant
Variant	A few plants with medium sympodial length
<b>Distinguishing characteristics:</b> Big boll, compact plant	



Form PB-10  
[See Rule 13(1)]

Serial No. 000085

## Government of Pakistan Plant Breeders' Rights Registry



### CERTIFICATE OF PLANT VARIETY PROTECTION

Registration No. 85-COT/03-2021      Dated: 17-02-2021  
Crop: Cotton      Denomination of Variety: Eagle-2  
Type: Registered      Conventional/GMC: GMO  
OP/Hybrid: OP      Local/Exotic: Local

As declared

- That Ch. Muhammad Hanif and Shujaat Ullah Malik

has/have developed new plant variety and also that they are the true breeder(s).

- By virtue of an application that has been made to grant plant variety protection rights and that plant variety has particularly been described with respect to its distinctive features and a suitable denomination.
- There is no objection to grant plant variety protection rights of the said variety under the Plant Breeders' Rights Act, 2016 in favour of:

#### **FOUR BROTHERS GROUP PAKISTAN, MULTAN**

فوربرادرز گروپ پاکستان، ملتان

By virtue of this certificate, the above mentioned owner(s) of the rights have under the Plant Breeders' Rights Act, 2016, the exclusive right to produce, sell, market, distribute, import or export the variety (seed) or propagating material for a term of twenty years starting from the 17<sup>th</sup> day of February 2021 and expiring on the 16<sup>th</sup> day of February 2041.



Registrar

Date of Grant 08-09-2025

## **NEWS AND EVENTS**

### **PLANT BREEDERS' RIGHTS REGISTRY HAS LAUNCHED ONLINE APPLICATION SYSTEM FOR PLANT VARIETY PROTECTION**

The Plant Breeders' Rights (PBR) Registry has launched its new online application system. This platform has been developed in accordance with the Prime Minister's directive to promote ease of doing business in Pakistan. PBR Registry goal is to facilitate a seamless and transparent process for all applicants seeking to protect their new plant varieties. The online system allows us to submit applications digitally, upload required documents, track the status of application and receive communications directly from the Registry. To apply online for Plant Variety Protection, visit: <https://mis.pbrr.gov.pk/login>.

### **IMPACT OF FLOOD ON AGRICULTURE AND FOOD SECURITY**

Heavy monsoon rains, cloudbursts and water released from dams overflowing has resulted in record flooding across eastern Pakistan, resulting in widespread displacement, and destruction of infrastructure, farmland, crops, livestock and food stocks. Damage occurred to vegetables, maize, sugarcane, cotton, orchards and other crops in the field. In Punjab, rice crop was severely affected due to submerged conditions during critical growth stage. In addition, due to flood related losses, damaged irrigation infrastructure and unavailability of agricultural supplies sowing of upcoming Rabi wheat season is also commencing late.

### **SUSTAINABLE USAGE OF BANANA WASTE**

The founder of Pakistan's Natural Fiber Company established the country's first banana fibre extraction and processing plant with circularity at its core. His team not only processes vast amounts of banana stem waste that they turn into natural-fibres-based products for the global market; they also offer a biodegradable alternative to the plastics found in everyday household products while generating employment in the rural areas of Sindh province.

### **AGRICULTURE EMERGENCY DECLARED**

Intense monsoon flooding has severely damaged millions of acres of agricultural land across Punjab and Sindh, leading the government to announce both a climate and agricultural emergency (Arab News). Nationwide, over 220,000 hectares of rice crops were flooded between August and mid-September, with farming organizations indicating that losses could reach 60%

for rice, 35-60% for cotton, and 50% for maize. In the Narowal district alone, flooding damaged rice on 84,000 acres and resulted in losses exceeding Rs10 billion (USD 35 million), with farmers expressing that they cannot replant wheat without financial support (Dawn). Analysts warn that these losses, occurring right before the wheat-planting season, may increase the need for imports and elevate food prices.

## **PROMOTION OF CASTER CULTIVATION**

Ministry of National Food Security is advocating for extensive castor cultivation as part of its strategy to diversify agricultural outputs, enhance farmers' incomes, and increase exports. During a meeting on August 6 with the International Multi Group of Companies, Minister Rana Tanveer Hussain stated that castor is a low-input crop suitable for arid climates and currently fetches Rs7,000 (~USD 25) per 40 kg in the local market. A Chinese non-profit organization has volunteered to provide high-yield hybrid seeds, which could potentially double the yields, and has pledged to buy the harvests through contract farming agreements. Provincial agriculture departments will assist with pilot projects and seed distribution to create a castor value chain focused on exports.

## **INCLUSION OF COTTON SEED IN TRUTH-IN-LABELLING SCHEME**

The National Seed Development and Regulatory Authority (NSDRA) is making significant reforms within the seed industry, including the initial rollout of a 'Truth-in-Labeling System' for cotton, designed to safeguard farmers against inferior seeds. This initiative will be based on well-defined eligibility standards and climate-friendly protocols, guaranteeing seed quality and traceability. This action signifies the reinstatement of the Seeds (Truth-in-Labeling) Rules 1991, which were issued by the Ministry of Food and Agriculture, stipulating that every seed available for sale or export must display a label indicating its quality and comply with minimum purity requirements. Previously, cotton seed was included in strategic crops in Seed Business Rules 2016, and its sale was regulated by certification scheme.

## **AEROPONIC POTATO SEED PRODUCTION**

Pakistan, in collaboration with the Korea Partnership for Innovation of Agriculture (KOPIA), is enhancing aeroponic technology to reduce reliance on potato seed imports. This initiative, which commenced in 2023, aims to produce 160,000 tons of virus-free certified seeds annually by 2027, fulfilling approximately 20% of the national demand. Up to this point, 110

tons have been distributed, along with newly established screenhouses and cold storage facilities. Aeroponic techniques have the potential to yield as many as 50 tuber seeds per plant, which is tenfold the production of traditional methods, resulting in increased yields, conservation of resources, and improved food security.

## **DEVELOPMENT OF HEAT-TOLERANT SOYBEAN VARIETIES**

Researchers at the Wheat Research Institute, Ayub Agricultural Research Institute (AARI) Faisalabad, have developed local soybean varieties that can tolerate temperatures reaching 45°C. This significant advancement is anticipated to reduce Pakistan's dependence on 2 million tons of yearly imports valued at nearly USD 1 billion. The newly developed, high-yield, climate-resilient varieties can yield between 35 and 40 maunds per acre during two growing seasons, ensuring feed security for the poultry and livestock industries. The scientists indicated that this project could achieve self-sufficiency within the next 2 to 3 years, with the possibility of exporting to South Asia and the Middle East.

## EVENTS



**MEETING OF REGISTRAR PBR REGISTRY WITH DG AGRI. RESEARCH AT PESHAWAR ON PBR RELATED ASPECTS**



**CONSULTATIVE SESSION ON MORPHOLOGICAL DESCRIPTION AND DUS GUIDELINES OF COTTON AT DUS SITE, KHANEWAL**



**ORIENTATION OF PBR REGISTRY AND DISCUSSION ON CONSERVATION OF LOCAL GERMPASM WITH AGHA KHAN RURAL SUPPORT PROGRAM IN GILGIT**