



# PHILIPPINE CORDILLERA HEIRLOOM RICE



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# FOREWORD

Heirloom Rice refers to the rice seeds that have been passed from generation to generation in the Cordilleras. They are part of the culture and heritage of its peoples, gaining value over time. They are the heart and essence of its terraces and a testament to the hardiness and resilience of the rice grain. The Heirloom Rice Project (HRP) was motivated by the desire to conserve these precious seeds, cognizant of their inherent traits and qualities. Selected heirloom rice varieties are now known to be more nutrient-dense than the more prevalent varieties that are available. Recent interest in nutrition has elevated heirloom rice's status as a specialty rice, commanding higher prices in local and global markets. This contributes to the sustenance and productivity of the heirloom rice farmers, providing a way for them (majority of whom are now female) to survive and thrive despite the harsh farming conditions in the Cordillera mountains.

Funded by the Department of Agriculture-Bureau of Agricultural Research, Phase II of the HRP entitled, "Conserving and Increasing Productivity and Value of Heirloom Rice in the Cordillera" follows from Phase I's "Raising Productivity and Enriching the Legacy of Heirloom Rice through Empowering Communities in Unfavorable Rice-Based Ecosystems". The HRP primarily aimed to improve the livelihood of the indigenous peoples in the Cordilleras by significantly increasing the productivity of desired rice varieties. This vision is shared among the partner institutions, namely the International Rice Research Institute (IRRI), the Department of Agriculture - Regional Field Office (DA-RFO) of the Cordillera Administrative Region, and the Philippine Rice Research Institute.

The strategies implemented to fulfill this vision are two-fold: 1) to increase farmers' income and food security 2) to conserve and sustain the heritage of the Cordillera rice terraces. The project's objectives are a) to ensure preservation and community registry of the characterized heirloom rices; b) to establish the inherent characteristics of at least 150 heirloom rices in the expansion sites; c) to increase volume of quality milled heirloom rice by at least 10% through improved production and postharvest production management; d) to capacitate implementers and producers for improved productivity and product quality; and e) to increase the value of heirloom rice and ensure market competitiveness.

For HRP Phase II, IRRI was directly responsible for 1) the in-situ and ex-situ morpho-agronomic characterization and yield evaluation, genotyping, grain quality, and nutrient analyses; 2) field trials on pest management strategies; and 3) piloting of postharvest production technologies. In addition, the expanded heirloom rice value chain analysis is IRRI's contribution to maximize the full potential of heirloom rice as a prime commodity either by selling it as grain or as other rice by-products.

This catalogue forms part of a set of HRP Phase II's research reports on the environmental, economic, social, and health aspects of heirloom rice cultivation in the Cordillera region. We hope that it will provide not just information but also inspiration for research managers, scientists, researchers, farmers, and all stakeholders to build on the lessons learned from the HRP, and contribute to the sustainability and productivity of heirloom rice.

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# ACKNOWLEDGEMENTS

The Heirloom Rice Project Phase II (HRP-II) is a multi-level and multi-disciplinary research collaboration among government, the academe, entrepreneurs, and the indigenous peoples of the Cordillera Administrative Region (CAR), together with scientists and researchers from national and international institutions. We would like to thank all the men and women who contributed to the project's fulfillment.

The biotic screening (disease assessment) was successfully conducted by Mr. Jonas Padilla, Ms. Marian Hanna Nguyen, and Ms. Pauline Capistrano of the Host-Plant Resistance (HPR) Cluster, Rice Breeding Platform of the International Rice Research Institute (IRRI), Los Baños, Laguna. Helping hands were provided by Mr. Florencio Villegas, Mr. Hipolito Elec, Mr. Gregorio Mercado, Mr. Randy Bauyon, and Mr. Felix Llanes for the field maintenance and characterization, as well as Mr. Ismael Mamiit and Ms. Pamela Rata for the biotic screening in the greenhouse. The team conducted the analysis of the experiments and prepared the information for the catalogue. Ms. Anjilyn Santelices patiently inputted and edited the information, curated the layout, and formatted the whole catalogue. Special thanks goes to Ms. Joyce Luis for the technical support, providing references and useful insights, and to Mr. Grant Leceta for the final touches to the catalogue and ensuring its consistency with IRRI's product branding.

Our deepest appreciation goes to the local field team headed by Dr. Glenn Ilar, Project Lead of the Philippine Rice Research Institute, who gathered the samples from the mountain ranges of Ifugao, Kalinga, and Mountain Province. We are extremely grateful for the unceasing support of Dr. Magdalena Wanawan, Dr. Virginia Tapat, and the staff of the Department of Agriculture - Regional Field Office (DA-RFO) CAR, as well as for their steadfast leadership, guidance, and coordination of project activities.

We wish to extend our thanks to Drs. Ruaraidh Sackville and Venuprasad Ramaiah, former and current head of the IRRI Genebank, Dr. Ricardo Oliva (IRRI-HPR Cluster), Engr. Martin Gummert (IRRI-Mechanization and Postharvest Cluster), and Dr. Matty Demont (IRRI-Agri-Policy Cluster) for their unstinting support and encouragement.

This report was initiated and prepared by a research team led by Drs. Ana E. Cope and Cecilia S. Acuin who both gave invaluable guidance and feedback throughout the preparation of this catalogue. Mr. Renato Reaño provided the backbone for the catalogue, with his historical memory of the various rice varieties he had come across with in the IRRI Genebank. His generosity in providing pictures of all the varieties and sharing his technical expertise in morpho-agronomical characterization is also well-appreciated.

We wish to express our gratitude to the DA Bureau of Agricultural Research (DA-BAR) for the three-year grant, from 2017 to 2020, that made it possible for HRP-II to achieve its accomplishments.

This acknowledgement would not be complete without mentioning Dr. Casiana M. Vera Cruz who instigated the launching of the HRP project at IRRI in 2014 and led both HRP-1 and 2 until her retirement in 2017. She paved the way for reaching out to the heirloom rice farmers and local partners. Though retired from IRRI, she maintains her solicitude for the Cordillera farmers and the people she talked to or worked with during the project. We wish to thank her for her enthusiasm, passion, and profound understanding.

We remember as well Dr. Gelia Castillo for her love for heirloom rice and deep concern for heirloom rice farmers. She once asked the HRP team "*I want to meet them (farmers) and ask, did you make money from heirloom rice? If they say yes, I'll be very happy. But if no, I'll go after you*".

We dedicate this catalogue, one of HRP-II's products to the men and women farmers who live for and because of heirloom rice. May the lessons learned and gained from the HRP be passed on, like heirloom rice grains, to the generations of farmers to come.

# INTRODUCTION

This Varietal Catalogue is the 3rd of its series. Its current version, entitled "Philippine Cordillera Heirloom Rice," for HRP Phase II (2017-2020) highlights the traits of the 62 unique varieties identified among the 152 heirloom rice entries from the provinces of Ifugao, Kalinga, and Mountain Province, collected and submitted by the staff of the HRP team of the Philippine Rice Research Institute (PhilRice) and the Department of Agriculture-Regional Field Office (DA-RFO) of the Cordillera Administrative Region (CAR) for ex-situ characterization at the International Rice Research Institute (IRRI). This new catalogue has an additional feature: the results of the biotic screening of the two most economically important rice diseases – rice blast and bacterial blight. This information is valuable in terms of understanding the resistance of heirloom rice entries against various isolates and strains of the causal pathogens responsible for rice blast and bacterial blight diseases, respectively. The disease assessment was conducted at the IRRI greenhouse handled successively by Ms. Pauline Capistrano, Ms. Marian Hanna Nguyen, and Mr. Jonas Padilla of the Host-Plant Resistance Cluster, Rice Breeding Platform.

The catalogue's first version (Philippine Traditional Rice Varieties) was published in 2017 under the project of the DA-Bureau of Plant Industry (DA-BPI) as a collaboration between Dr. Vivencio R. Mamaril and Mr. Renato A. Reaño, staff of IRRI's TTC-Genetic Resources Center and the HRP funded by the DA-Bureau of Agricultural Research (DA-BAR). Mr. Reaño and his team led the varietal morpho-agronomical characterization of the Cordillera heirloom rice and other traditional varieties. This pioneering catalogue for the traditional varieties of the Philippines features the passport data characterized at IRRI fields (ex-situ) of 25 heirloom rice varieties from Benguet and Mountain Province (DA-BAR's HRP) and 202 other traditional entries (DA-BPI Project) collected from various areas of the country.

The second varietal catalogue (Traditional Rice Landraces in Cordillera Administrative Region Volume 1) published in 2019 by the DA-RFO CAR features the ex-situ traits of Cordillera heirloom rice varieties from Kalinga and Ifugao as well as additional varieties not included in the first catalogue due to pending community validation during HRP Phase I (2014-2016).

The current catalogue provides information that will be useful not just to farmers but also to consumers of heirloom rice. Heirloom rice farmers can get information on the important inter-generational characteristics of their treasured seeds - from vegetative up to postharvest stage, including information on disease resistance. Chefs, traders, and general consumers of heirloom rice will appreciate the information on the appearance (i.e. grain color), grain consistency (i.e. glutinous or not), eating quality (i.e. soft or hard), shape and other traits of culinary and gustatory value of the heirloom rice varieties.

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# CORDILLERA HEIRLOOM RICE VARIETIES



# BOTNOL



## COLLECTION SITES

Julongan, Kiangan, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Whitish

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Tip only
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Moderately well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

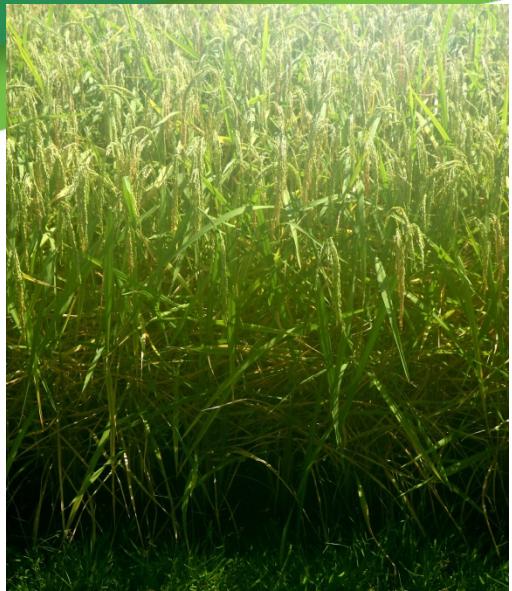
QUANTITATIVE	
Days to 80% Flowering	98
Culm Length (cm)	144.60
Panicle Number	6.45
Sterile Lemma Length (mm)	2.63
Sterile Lemma Length (code)	Long
Panicle Length (cm)	35.64
100 Grain Weight (g)	3.45
Grain Length (mm)	8.70
Grain Width (mm)	4.10
Caryopsis Length	6.27
Caryopsis Width (mm)	2.97
Grain Shape (Length and width)	2.12
Amylose Content (%)	20.95
Gelatinization Temperature	Intermediate
Gel Consistency	78.50

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV057-BOTNOL	R	ne	S	ne
HRV132-BOTNOL	ne	S	ne	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV057-BOTNOL	S	S	MR	MR	S	S	S	MR	ne	ne	S	S	MR	S
HRV132-BOTNOL	MR	S	MR	S	S	S	S	S	S	1 R	ne	ne	MR	S

# DULKITAN



## COLLECTION SITES

Poblacion, Hungduan, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Whitish

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Drooping
Panicle Type	Open
Secondary Branching	Sparse/Light

## QUANTITATIVE

Days to 80% Flowering	111
Culm Length (cm)	157
Panicle Number	8.4
Sterile Lemma Length (mm)	2.59
Sterile Lemma Length (code)	
Panicle Length (cm)	31.3
100 Grain Weight (g)	2.3
Grain Length (mm)	7.97
Grain Width (mm)	3
Caryopsis Length	5.95
Caryopsis Width (mm)	2.5
Grain Shape (Length and width)	2.38
Amylose Content (%)	2.8
Gelatinization Temperature	Low
Gel Consistency	82

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV130-DULKITAN	S	S	ne	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV130-DULKITAN	MR	MR	MR	MR	S	S	S	MR	S	R	S	S	MR	MR

# KABLOY/ CABLUY



## COLLECTION SITES

Viewpoint, Banaue, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Tip-awned
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# KABLOY/ CABLUY

## QUANTITATIVE

Days to 80% Flowering	107
Culm Length (cm)	154.8
Panicle Number	10.9
Sterile Lemma Length (mm)	3
Sterile Lemma Length (code)	Long
Panicle Length (cm)	35.3
100 Grain Weight (g)	2.65
Grain Length (mm)	9.81
Grain Width (mm)	3.81
Caryopsis Length	7.60
Caryopsis Width (mm)	2.87
Grain Shape (Length and width)	2.64
Amylose Content (%)	2.05
Gelatinization Temperature	Low
Gel Consistency	91

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Variegated purple
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV <sub>058</sub> -CABLUY	S	S	ne	S
HRV <sub>131</sub> -KABLOY	S	S	ne	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV <sub>058</sub> -CABLUY	R	MR	R	MR	S	MR	S	MR	S	R	S	MR	R	R
HRV <sub>131</sub> -KABLOY	MR	R	R	MR	S	S	S	S	S	R	S	S	R	MR

# GUMALLINGON/GUMARRENGON VAR 1



## COLLECTION SITES

Poitan, Banaue, Ifugao

Amganad, Banaue, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Upper three quarter
Stigma Color	White
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Moderately well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse



# GUMALLINGON/GUMARRENGON VAR 1

QUANTITATIVE	
Days to 80% Flowering	99
Culm Length (cm)	127.8
Panicle Number	9.3
Sterile Lemma Length (mm)	2.8
Sterile Lemma Length (code)	Long
Panicle Length (cm)	35.48
100 Grain Weight (g)	3.7
Grain Length (mm)	9.07
Grain Width (mm)	4.05
Caryopsis Length	6.4
Caryopsis Width (mm)	3.33
Grain Shape (Length and width)	1.92
Amylose Content (%)	3.05
Gelatinization Temperature	Intermediate
Gel Consistency	89

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Brown spot
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE					
HRV ENTRY		DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
		B90002	Ca8g	IK81-25	M64-1-3-9-1
HRV059-GUMALLINGON/GUMARRENGON		S	S	e	S
HRV060-GUMALLINGON/GUMARRENGON		S	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV059-GUMALLINGON/GUMARRENGON	S	S	MR	MR	S	S	S	S	S	R	S	S	S	S
HRV060-GUMALLINGON/GUMARRENGON	S	S	MR	S	ne	ne	S	MR	S	R	S	S	MR	S

# GUMALLINGON/GUMARRENGON VAR 2



## COLLECTION SITES

Poitan, Banaue, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# GUMALLINGON/GUMARRENGON VAR 2

QUANTITATIVE	
Days to 80% Flowering	113
Culm Length (cm)	136
Panicle Number	11
Sterile Lemma Length (mm)	3
Sterile Lemma Length (code)	Long
Panicle Length (cm)	31.98
100 Grain Weight (g)	2.6
Grain Length (mm)	7.6
Grain Width (mm)	4.1
Caryopsis Length	5.4
Caryopsis Width (mm)	3.1
Grain Shape (Length and width)	1.74
Amylose Content (%)	1.1
Gelatinization Temperature	Low
Gel Consistency	100

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Brown spot
Apiculus Color (Late)	Purple
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV061- GUMALLINGON/GUMARRENGON	S	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV061- GUMALLINGON/ GUMARRENGON	MR	MR	R	MR	S	MR	S	MR	S	R	S	MR	MR	MR

# ICHAMPULO/IJAMBULO



## COLLECTION SITES

Poblacion, Mayoyao, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# ICHAMPULO/IJAMBULO

## QUANTITATIVE

Days to 80% Flowering	106
Culm Length (cm)	152.1
Panicle Number	11.25
Sterile Lemma Length (mm)	2.46
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	34.15
100 Grain Weight (g)	2.85
Grain Length (mm)	7.90
Grain Width (mm)	3.34
Caryopsis Length	5.70
Caryopsis Width (mm)	2.84
Grain Shape (Length and width)	2.01
Amylose Content (%)	19.55
Gelatinization Temperature	Intermediate
Gel Consistency	73.50

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV062- ICHAMPULO/IJAMBULO	S	S	R	S
HRV135-IJAMBULO	S	S	ne	ne

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV062- ICHAMPULO/IJAMBULO	MR	MR	R	R	S	MR	S	MR	S	R	MR	MR	R	MR
HRV135-IJAMBULO	MR	MR	R	MR	S	S	S	MR	ne	ne	S	MR	MR	S

# IMBANGUL/IMBUUKAN VAR 1



## COLLECTION SITES

Mompolia, Hingyon, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Fully awn
Stigma Color	White
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# IMBANGUL/IMBUUKAN VAR 1

## QUANTITATIVE

Days to 80% Flowering	89
Culm Length (cm)	132
Panicle Number	8
Sterile Lemma Length (mm)	2.6
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	42.4
100 Grain Weight (g)	3.9
Grain Length (mm)	8.5
Grain Width (mm)	4.1
Caryopsis Length	6.6
Caryopsis Width (mm)	3.4
Grain Shape (Length and width)	1.96
Amylose Content (%)	21.6
Gelatinization Temperature	Intermediate
Gel Consistency	62

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Red
Seed Coat Color	Red
Awn Color (Late)	Red
Sterile Lemma Color (Late)	Straw

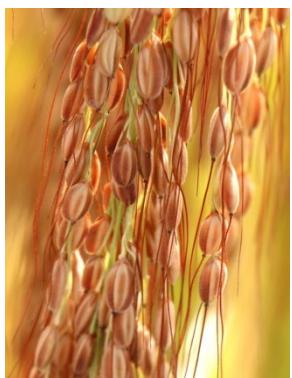
## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV063- IMBANGUL/IMBUUKAN	S	S	R	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV063- IMBANGUL/IMBUUKAN	S	MR	MR	S	MR	S	MR	S	R	S	S	MR	MR	S

# IMBUUKAN VAR 2



## COLLECTION SITES

Mompolia, Hingyon, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Whitish

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Descending
Awn Distribution	Long and fully awned
Stigma Color	White
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Descending
Node Color	
Internode Color	
Panicle Exertion	Well-exerted
Panicle Attitude	Drooping
Panicle Type	Intermediate
Secondary Branching	Sparse/Light

# IMBUUKAN VAR 2

QUANTITATIVE	
Days to 80% Flowering	97
Culm Length (cm)	153.3
Panicle Number	7.7
Sterile Lemma Length (mm)	2.48
Sterile Lemma Length (code)	
Panicle Length (cm)	32.98
100 Grain Weight (g)	3.6
Grain Length (mm)	8.65
Grain Width (mm)	3.7
Caryopsis Length	5.9
Caryopsis Width (mm)	3.46
Grain Shape (Length and width)	1.71
Amylose Content (%)	24.0
Gelatinization Temperature	Intermediate
Gel Consistency	100

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Purple spots
Apiculus Color (Late)	Red
Seed Coat Color	Red
Awn Color (Late)	Red
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV134-IMBUUKAN	S	S	ne	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV134-IMBUUKAN	MR	S	MR	MR	S	S	S	MR	S	R	S	MR	MR	S

# MADDULI



## COLLECTION SITES

Julongan, Kiangan, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	White
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Light gold
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# MADDULI

## QUANTITATIVE

Days to 80% Flowering	98
Culm Length (cm)	160.80
Panicle Number	6.25
Sterile Lemma Length (mm)	2.96
Sterile Lemma Length (code)	
Panicle Length (cm)	39.39
100 Grain Weight (g)	3.60
Grain Length (mm)	8.44
Grain Width (mm)	22.87
Caryopsis Length	6.16
Caryopsis Width (mm)	3.33
Grain Shape (Length and width)	1.85
Amylose Content (%)	22.35
Gelatinization Temperature	Intermediate
Gel Consistency	79.50

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV <sub>064</sub> -MADDULI	S	S	R	S
HRV <sub>133</sub> -MADDULI	S	S	ne	S

## RESISTANCE TO BACTERIAL BLAST DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV <sub>064</sub> -MADDULI	MR	S	MR	MR	S	MR	S	S	S	R	S	S	MR	S
HRV <sub>133</sub> -MADDULI	MR	MR	MR	MR	S	S	S	MR	S	R	S	S	MR	S

# MALYOK VAR 1



## COLLECTION SITES

Pantikian, Balbalan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Fully awn
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Horizontal
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# MALYOK VAR 1

## QUANTITATIVE

Days to 80% Flowering	89
Culm Length (cm)	122.4
Panicle Number	12.1
Sterile Lemma Length (mm)	2.5
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	29.15
100 Grain Weight (g)	2.85
Grain Length (mm)	7.82
Grain Width (mm)	3.50
Caryopsis Length	5.85
Caryopsis Width (mm)	2.94
Grain Shape (Length and width)	1.99
Amylose Content (%)	19.55
Gelatinization Temperature	Intermediate
Gel Consistency	60

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV <sub>110</sub> -MALYOK	S	S	R	S
HRV <sub>111</sub> -MALYOK	S	S	R	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV <sub>110</sub> -MALYOK	MR	MR	MR	MR	S	MR	S	MR	S	R	S	S	MR	MR
HRV <sub>111</sub> -MALYOK	MR	MR	MR	S	S	S	S	S	S	MR	S	S	MR	S

# MALYOK VAR 2



## COLLECTION SITES

Pantikian, Balbalan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Fully awn
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Horizontal
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# MALYOK VAR 2

QUANTITATIVE	
Days to 80% Flowering	87
Culm Length (cm)	125.1
Panicle Number	10.4
Sterile Lemma Length (mm)	2.5
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	38.29
100 Grain Weight (g)	3.85
Grain Length (mm)	8.6
Grain Width (mm)	3.99
Caryopsis Length	6.75
Caryopsis Width (mm)	3.35
Grain Shape (Length and width)	2.02
Amylose Content (%)	21.2
Gelatinization Temperature	Intermediate
Gel Consistency	70.5

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV <sub>112</sub> -MALYOK	S	S	R	S
HRV <sub>113</sub> -MALYOK	S	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV <sub>112</sub> -MALYOK	MR	MR	R	MR	S	S	S	MR	S	R	S	S	MR	S
HRV <sub>113</sub> -MALYOK	S	MR	R	MR	S	S	S	MR	S	R	S	S	S	S

# NGOPPUR



## COLLECTION SITES

Poblacion, Hungduan, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Whitish

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Short and fully awned
Stigma Color	Light Purple
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Horizontal
Node Color	Green
Internode Color	Light gold
Panicle Exertion	Well-exerted
Panicle Attitude	Drooping
Panicle Type	Intermediate
Secondary Branching	Sparse/Light

QUANTITATIVE	
Days to 80% Flowering	111
Culm Length (cm)	162.2
Panicle Number	9.8
Sterile Lemma Length (mm)	2.51
Sterile Lemma Length (code)	
Panicle Length (cm)	30.63
100 Grain Weight (g)	2.7
Grain Length (mm)	7.98
Grain Width (mm)	3.94
Caryopsis Length	6
Caryopsis Width (mm)	2.56
Grain Shape (Length and width)	2.34
Amylose Content (%)	2.2
Gelatinization Temperature	Low
Gel Consistency	89

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Long hairs/Velvety
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Purple
Awn Color (Late)	Light red
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV129-NGOPPUR	S	R	ne	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV129-NGOPPUR	S	MR	R	S	S	S	S	MR	S	R	S	MR	S	S

# PHA'LAR



## COLLECTION SITES

Mayoyao, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Fully awn
Stigma Color	White
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

QUANTITATIVE	
Days to 80% Flowering	99
Culm Length (cm)	135
Panicle Number	10
Sterile Lemma Length (mm)	2.5
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	42.2
100 Grain Weight (g)	3.9
Grain Length (mm)	9.1
Grain Width (mm)	3.9
Caryopsis Length	7.2
Caryopsis Width (mm)	3.2
Grain Shape (Length and width)	2.22
Amylose Content (%)	23.2
Gelatinization Temperature	Intermediate
Gel Consistency	67

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	Red
Awn Color (Late)	Purple
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRVo65-PHA'LAR (with AWN)	S	S	ne	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO28o	PXO339	PXO349	PXO347	PXO363	PXO341
HRVo65-PHA'LAR (with AWN)	S	S	MR	S	S	S	S	S	S	MR	S	MR	MR	S

# UGNAH VAR 1



## COLLECTION SITES

Poitan, Banaue, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Tip only
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# UGNAH VAR 1

QUANTITATIVE	
Days to 80% Flowering	110
Culm Length (cm)	133.90
Panicle Number	9.8
Sterile Lemma Length (mm)	2.50
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	33.05
100 Grain Weight (g)	3.55
Grain Length (mm)	8.82
Grain Width (mm)	4.02
Caryopsis Length	6.65
Caryopsis Width (mm)	3.24
Grain Shape (Length and width)	2.06
Amylose Content (%)	20.80
Gelatinization Temperature	Intermediate
Gel Consistency	50.50

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca8g	IK81-25	M64-1-3-9-1
HRVo66-UGNAH	S	S	R	S
HRVo67-UGNAH	S	S	R	S

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRVo66-UGNAH	S	MR	R	S	S	S	S	MR	S	R	S	S	MR	S
HRVo67-UGNAH	S	MR	MR	MR	S	S	S	MR	ne	ne	ne	ne	S	S

# UGNAH VAR 2



## COLLECTION SITES

Viewpoint, Banaue, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	White
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# UGNAH VAR 2

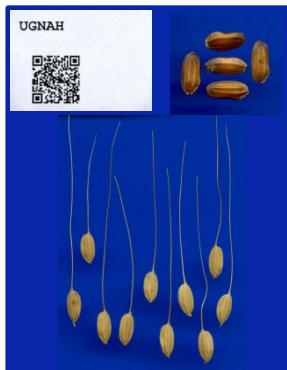
QUANTITATIVE	
Days to 80% Flowering	110
Culm Length (cm)	88
Panicle Number	8
Sterile Lemma Length (mm)	2.5
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	29.86
100 Grain Weight (g)	3.3
Grain Length (mm)	8.6
Grain Width (mm)	3.8
Caryopsis Length	6.6
Caryopsis Width (mm)	3.2
Grain Shape (Length and width)	2.03
Amylose Content (%)	21.1
Gelatinization Temperature	Intermediate
Gel Consistency	44

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRVo68-UGNAH	S	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRVo68-UGNAH	S	MR	MR	MR	S	S	S	S	S	MR	ne	ne	MR	S

# UGNAH VAR 3



## COLLECTION SITES

Poitan, Banaue, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Fully awn
Stigma Color	White
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# UGNAH VAR 3

QUANTITATIVE	
Days to 80% Flowering	89
Culm Length (cm)	132
Panicle Number	7
Sterile Lemma Length (mm)	2.5
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	37.46
100 Grain Weight (g)	2.7
Grain Length (mm)	9.2
Grain Width (mm)	4.1
Caryopsis Length	7.2
Caryopsis Width (mm)	3.3
Grain Shape (Length and width)	2.22
Amylose Content (%)	21.3
Gelatinization Temperature	Intermediate
Gel Consistency	51

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRVo69-UGNAH	ne	S	S	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRVo69-UGNAH	S	S	MR	MR	S	S	S	S	S	R	S	S	ne	ne

# UGNAH VAR 4



## COLLECTION SITES

Poitan, Banaue, Ifugao

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	White
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# UGNAH VAR 4

QUANTITATIVE	
Days to 80% Flowering	110
Culm Length (cm)	119
Panicle Number	7
Sterile Lemma Length (mm)	2.6
Sterile Lemma Length (code)	Long
Panicle Length (cm)	35.12
100 Grain Weight (g)	3.1
Grain Length (mm)	8.7
Grain Width (mm)	4.2
Caryopsis Length	6.4
Caryopsis Width (mm)	3.2
Grain Shape (Length and width)	1.99
Amylose Content (%)	17.2
Gelatinization Temperature	Intermediate
Gel Consistency	33

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	Red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV070-UGNAH	ne	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV070-UGNAH	S	MR	MR	S	S	S	S	MR	S	R	S	S	MR	S

# BUTAYONG



## COLLECTION SITES

Pantikian, Balbalan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Erect
Awn Distribution	Fully awn
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# BUTAYONG

## QUANTITATIVE

Days to 80% Flowering	87
Culm Length (cm)	126
Panicle Number	14
Sterile Lemma Length (mm)	2.5
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	32.82
100 Grain Weight (g)	2.9
Grain Length (mm)	8.0
Grain Width (mm)	3.5
Caryopsis Length	6.0
Caryopsis Width (mm)	3.0
Grain Shape (Length and width)	2.02
Amylose Content (%)	19.8
Gelatinization Temperature	Intermediate
Gel Consistency	52

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV071-BUTAYONG	S	S	R	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV071-BUTAYONG	S	S	MR	MR	S	MR	S	S	S	R	S	S	MR	S

# CHAMMILOG



## COLLECTION SITES

Cagaluan, Pasil, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-Erect
Awn Distribution	Awn less
Stigma Color	White
Apiculus Color (Early)	Purple apex
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# CHAMMILOG

QUANTITATIVE	
Days to 80% Flowering	87
Culm Length (cm)	131.5
Panicle Number	9.23
Sterile Lemma Length (mm)	2.43
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	33.97
100 Grain Weight (g)	2.88
Grain Length (mm)	7.99
Grain Width (mm)	4.04
Caryopsis Length	5.77
Caryopsis Width (mm)	3.33
Grain Shape (Length and width)	1.73
Amylose Content (%)	18.90
Gelatinization Temperature	Intermediate
Gel Consistency	57.33

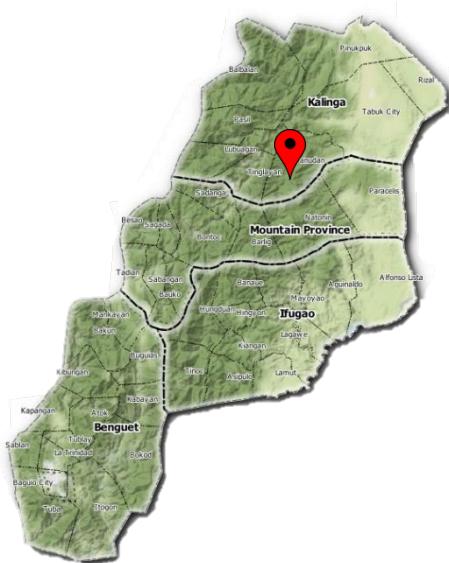
POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Purple furrows
Apiculus Color (Late)	Purple apex
Seed Coat Color	Red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Purple

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV072-CHAMMILOG	S	S	R	S
HRV073-CHAMMILOG	S	S	R	S
HRV074-CHAMMILOG	S	S	R	S
HRV075-CHAMMILOG	S	S	R	S
HRV076-CHAMMILOG	S	S	R	S
HRV077-CHAMMILOG	S	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV072-CHAMMILOG	MR	MR	MR	MR	S	S	S	S	R	S	S	MR	S	S
HRV073-CHAMMILOG	S	MR	R	MR	S	S	S	MR	S	MR	S	MR	MR	S
HRV074-CHAMMILOG	MR	S	ne	ne	S	S	ne	ne	S	R	S	S	ne	ne
HRV075-CHAMMILOG	MR	MR	MR	S	S	S	S	S	S	R	S	MR	MR	MR
HRV076-CHAMMILOG	S	S	R	MR	S	S	S	MR	S	R	S	MR	MR	S
HRV077-CHAMMILOG	MR	MR	MR	MR	S	S	S	MR	S	R	S	MR	MR	S

R – Resistant; MR – Moderate Resistant; S – Susceptible; ne – not evaluated

# GINANNAY VAR 1



## COLLECTION SITES

Ga-Ang, Tanudan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Fully awn
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# GINANNAY VAR 1

QUANTITATIVE	
Days to 80% Flowering	113
Culm Length (cm)	134.47
Panicle Number	10.93
Sterile Lemma Length (mm)	2.73
Sterile Lemma Length (code)	Long
Panicle Length (cm)	30.93
100 Grain Weight (g)	3.30
Grain Length (mm)	8.42
Grain Width (mm)	3.71
Caryopsis Length	6.33
Caryopsis Width (mm)	3.09
Grain Shape (Length and width)	2.05
Amylose Content (%)	19.70
Gelatinization Temperature	Intermediate
Gel Consistency	68.33

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV078-GINANNAY	S	S	R	S
HRV079-GINANNAY	S	S	R	S
HRV082-GINANNAY	S	S	R	S

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV078-GINANNAY	MR	MR	R	MR	S	S	S	S	R	S	MR	MR	MR	MR
HRV079-GINANNAY	S	MR	R	S	S	S	S	S	R	S	MR	MR	MR	S
HRV082-GINANNAY	MR	MR	MR	MR	S	S	MR	S	R	S	S	MR	MR	S

R – Resistant; MR – Moderate Resistant; S – Susceptible; ne – not evaluated

# GINANNAY VAR 2



## COLLECTION SITES

Ga-Ang, Tanudan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Fully awn
Stigma Color	White
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# GINANNAY VAR 2

QUANTITATIVE	
Days to 80% Flowering	113
Culm Length (cm)	13.48
Panicle Number	10.8
Sterile Lemma Length (mm)	2.80
Sterile Lemma Length (code)	Long
Panicle Length (cm)	30.80
100 Grain Weight (g)	3.25
Grain Length (mm)	8.32
Grain Width (mm)	3.82
Caryopsis Length	6.04
Caryopsis Width (mm)	3.08
Grain Shape (Length and width)	1.96
Amylose Content (%)	14.65
Gelatinization Temperature	Intermediate
Gel Consistency	100

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRVo80-GINANNAY	S	S	R	S
HRVo81-GINANNAY	S	S	R	S

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRVo80-GINANNAY	S	MR	R	MR	S	S	S	S	S	R	S	MR	MR	S
HRVo81-GINANNAY	MR	MR	R	MR	MR	S	S	MR	S	R	S	S	R	S



## COLLECTION SITES

Cagaluan, Pasil, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Fully awn
Stigma Color	White
Apiculus Color (Early)	Purple apex
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

QUANTITATIVE	
Days to 80% Flowering	87
Culm Length (cm)	125.60
Panicle Number	10.85
Sterile Lemma Length (mm)	2.90
Sterile Lemma Length (code)	Long
Panicle Length (cm)	38.86
100 Grain Weight (g)	3.95
Grain Length (mm)	9.64
Grain Width (mm)	4.25
Caryopsis Length	7.26
Caryopsis Width (mm)	3.21
Grain Shape (Length and width)	2.27
Amylose Content (%)	1.98
Gelatinization Temperature	Intermediate
Gel Consistency	100

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Purple furrows
Apiculus Color (Late)	Purple apex
Seed Coat Color	Red
Awn Color (Late)	Purple
Sterile Lemma Color (Late)	Purple

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV083-INAPAW	S	S	R	S
HRV084-INAPAW	S	S	R	S
HRV085-INAPAW	S	S	S	S
HRV086-INAPAW	S	S	S	S

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV083-INAPAW	MR	MR	MR	MR	S	S	S	MR	S	R	S	MR	MR	MR
HRV084-INAPAW	MR	MR	R	MR	S	S	S	MR	S	R	S	MR	MR	S
HRV085-INAPAW	MR	MR	R	MR	S	S	S	MR	S	R	S	MR	MR	MR
HRV086-INAPAW	MR	MR	MR	S	S	S	S	S	S	R	S	MR	MR	S

# INTAN VAR 1



## COLLECTION SITES

Lower Lubo, Tanudan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Purple lines

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# INTAN VAR 1

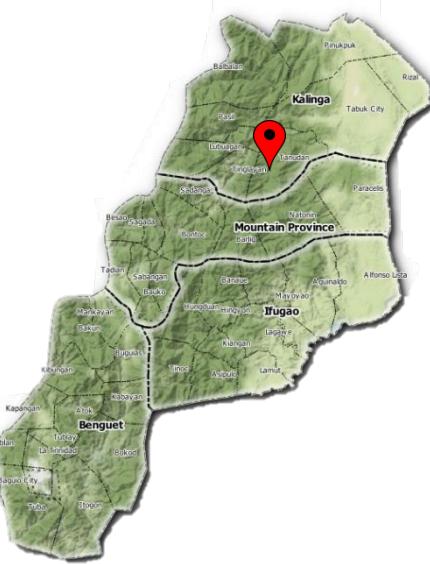
QUANTITATIVE	
Days to 80% Flowering	110
Culm Length (cm)	140
Panicle Number	19
Sterile Lemma Length (mm)	2.1
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	31.7
100 Grain Weight (g)	2.5
Grain Length (mm)	8.9
Grain Width (mm)	2.8
Caryopsis Length	6.8
Caryopsis Width (mm)	2.3
Grain Shape (Length and width)	2.92
Amylose Content (%)	19.2
Gelatinization Temperature	Intermediate
Gel Consistency	68

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRVo87-INTAN	R	S	S	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRVo87-INTAN	R	S	S	S	S	S	S	S	S	S	S	S	S	S

# INTAN VAR 2



## COLLECTION SITES

Lower Lubo, Tanudan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Purple lines

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# INTAN VAR 2

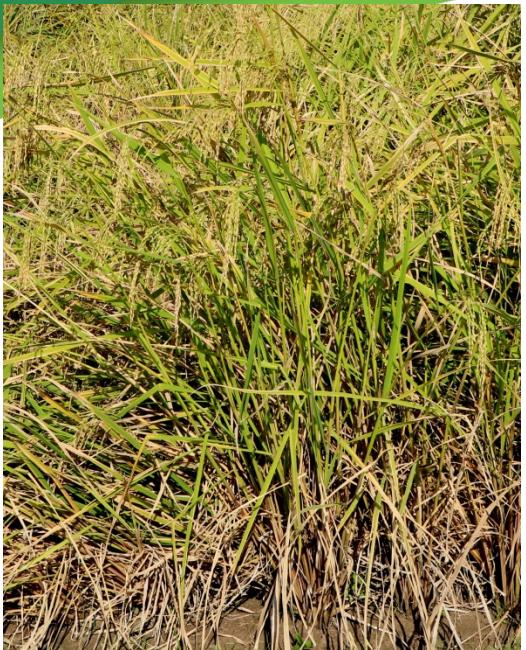
QUANTITATIVE	
Days to 80% Flowering	110
Culm Length (cm)	126
Panicle Number	10
Sterile Lemma Length (mm)	2
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	29.8
100 Grain Weight (g)	2.6
Grain Length (mm)	9.0
Grain Width (mm)	2.8
Caryopsis Length	6.9
Caryopsis Width (mm)	2.4
Grain Shape (Length and width)	2.92
Amylose Content (%)	18.9
Gelatinization Temperature	Intermediate
Gel Consistency	74

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRVo88-INTAN	R	S	ne	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO28o	PXO339	PXO349	PXO347	PXO363	PXO341
HRVo88-INTAN	R	S	MR	S	S	S	S	S	S	S	S	S	S	S

# INTAN VAR 3



## COLLECTION SITES

Lower Lubo, Tanudan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Light purple
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Purple lines

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Erect
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Horizontal
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# INTAN VAR 3

QUANTITATIVE	
Days to 80% Flowering	110.00
Culm Length (cm)	141.53
Panicle Number	12.00
Sterile Lemma Length (mm)	2.20
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	28.33
100 Grain Weight (g)	2.90
Grain Length (mm)	9.16
Grain Width (mm)	3.11
Caryopsis Length	6.89
Caryopsis Width (mm)	2.57
Grain Shape (Length and width)	2.69
Amylose Content (%)	22.30
Gelatinization Temperature	Intermediate
Gel Consistency	71.00

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRVo89-INTAN	R	S	S	S
HRVo91-INTAN	R	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRVo89-INTAN	S	MR	MR	S	S	S	S	S	S	S	S	S	S	S
HRVo91-INTAN	S	MR	MR	S	S	S	S	S	S	S	S	S	S	S

# INTAN VAR 4



## COLLECTION SITES

Lower Lubo, Tanudan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Purple lines

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# INTAN VAR 4

## QUANTITATIVE

Days to 80% Flowering	110
Culm Length (cm)	155
Panicle Number	12
Sterile Lemma Length (mm)	2.3
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	28.86
100 Grain Weight (g)	2.5
Grain Length (mm)	7.8
Grain Width (mm)	3.0
Caryopsis Length	6.0
Caryopsis Width (mm)	2.5
Grain Shape (Length and width)	2.45
Amylose Content (%)	18.5
Gelatinization Temperature	Intermediate
Gel Consistency	81

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRVogo-INTAN	R	S	S	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRVogo-INTAN	S	S	S	S	S	S	S	S	S	S	S	S	S	S

# INTAN VAR 5



## COLLECTION SITES

Lower Lubo, Tanudan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Purple lines

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# INTAN VAR 5

QUANTITATIVE	
Days to 80% Flowering	110
Culm Length (cm)	156
Panicle Number	18
Sterile Lemma Length (mm)	2.2
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	30.02
100 Grain Weight (g)	2.7
Grain Length (mm)	9.2
Grain Width (mm)	2.8
Caryopsis Length	6.9
Caryopsis Width (mm)	2.4
Grain Shape (Length and width)	2.84
Amylose Content (%)	20.3
Gelatinization Temperature	Intermediate
Gel Consistency	70

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV092-INTAN	R	S	S	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE		BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
HRV ENTRY		PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV092-INTAN		R	S	MR	S	S	MR	S	MR	S	S	S	S	S	S

# INTAN VAR 6



## COLLECTION SITES

Lower Lubo, Tanudan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# INTAN VAR 6

QUANTITATIVE	
Days to 80% Flowering	110
Culm Length (cm)	130
Panicle Number	10
Sterile Lemma Length (mm)	2.2
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	38.56
100 Grain Weight (g)	2.3
Grain Length (mm)	8.6
Grain Width (mm)	2.7
Caryopsis Length	6.8
Caryopsis Width (mm)	2.3
Grain Shape (Length and width)	2.90
Amylose Content (%)	20.6
Gelatinization Temperature	Intermediate
Gel Consistency	71

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV093-INTAN	R	S	S	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV093-INTAN	R	S	MR	S	S	MR	S	S	S	S	S	S	S	S

# KINTAN VAR 1



## COLLECTION SITES

Dangoy, Lubuagan, Kalinga

Mabilong, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Purple lines

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Tip awned
Stigma Color	Purple
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# KINTAN VAR 1

QUANTITATIVE	
Days to 80% Flowering	103
Culm Length (cm)	151.60
Panicle Number	13.60
Sterile Lemma Length (mm)	2.44
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	28.60
100 Grain Weight (g)	2.54
Grain Length (mm)	9.43
Grain Width (mm)	2.73
Caryopsis Length	6.97
Caryopsis Width (mm)	2.26
Grain Shape (Length and width)	3.09
Amylose Content (%)	18.76
Gelatinization Temperature	Intermediate
Gel Consistency	73.80

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Red
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV094-KINTAN	R	S	R	R
HRV095-KINTAN	R	S	ne	S
HRV096-KINTAN	R	S	R	S
HRV097-KINTAN	R	S	S	S
HRV098-KINTAN	R	S	S	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV094-KINTAN	MR	S	MR	S	S	MR	S	MR	S	R	S	S	S	S
HRV095-KINTAN	S	MR	MR	S	S	MR	S	S	S	R	S	S	S	S
HRV096-KINTAN	S	MR	S	S	S	S	S	S	S	S	S	S	S	S
HRV097-KINTAN	S	MR	MR	S	S	MR	S	S	S	S	S	S	S	S
HRV098-KINTAN	MR	S	MR	S	S	S	S	S	S	S	S	S	S	S

R – Resistant; MR – Moderate Resistant; S – Susceptible; ne – not evaluated

# KINTAN VAR 2



## COLLECTION SITES

Dangoy, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Tip only
Stigma Color	Purple
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Horizontal
Secondary Branching	Sparse

# KINTAN VAR 2

## QUANTITATIVE

Days to 80% Flowering	103
Culm Length (cm)	152
Panicle Number	16
Sterile Lemma Length (mm)	2.2
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	32.64
100 Grain Weight (g)	2.5
Grain Length (mm)	9.4
Grain Width (mm)	2.8
Caryopsis Length	7.3
Caryopsis Width (mm)	2.2
Grain Shape (Length and width)	3.26
Amylose Content (%)	16.7
Gelatinization Temperature	Intermediate
Gel Consistency	67

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Brown furrows
Apiculus Color (Late)	Red
Seed Coat Color	Red
Awn Color (Late)	Red
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV099-KINTAN	R	S	R	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV099-KINTAN	S	S	R	MR	S	MR	S	S	S	R	S	MR	MR	S

# KINTAN VAR 3



## COLLECTION SITES

Dangoy, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Awnless
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# KINTAN VAR 3

QUANTITATIVE	
Days to 80% Flowering	99
Culm Length (cm)	148
Panicle Number	11
Sterile Lemma Length (mm)	2.4
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	28.74
100 Grain Weight (g)	2.8
Grain Length (mm)	8.3
Grain Width (mm)	3.3
Caryopsis Length	6.2
Caryopsis Width (mm)	2.7
Grain Shape (Length and width)	2.29
Amylose Content (%)	23.5
Gelatinization Temperature	Intermediate
Gel Consistency	70

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV100-KINTAN	R	S	ne	R

RESISTANCE TO BACTERIAL BLIGHT DISEASE		BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
HRV ENTRY		PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV100-KINTAN		S	MR	S	S	S	S	S	S	S	R	S	S	S	S

# KINTAN VAR 4



## COLLECTION SITES

Dangoy, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Purple

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Slightly drooping
Panicle Type	Open
Secondary Branching	Sparse

# KINTAN VAR 4

QUANTITATIVE	
Days to 80% Flowering	99
Culm Length (cm)	159
Panicle Number	10
Sterile Lemma Length (mm)	2.5
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	28.88
100 Grain Weight (g)	2.6
Grain Length (mm)	8.6
Grain Width (mm)	3.1
Caryopsis Length	6.2
Caryopsis Width (mm)	2.5
Grain Shape (Length and width)	2.49
Amylose Content (%)	23.3
Gelatinization Temperature	Intermediate
Gel Consistency	70

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Red
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV <sub>101</sub> -KINTAN	R	R	R	R

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV <sub>101</sub> -KINTAN	S	MR	MR	S	S	S	S	S	S	R	S	S	S	S

# KINTAN VAR 5



## COLLECTION SITES

Mabilong, Lubuagan, Kalinga

Dangoy, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Purple lines

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Tip only
Stigma Color	Purple
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# KINTAN VAR 5

QUANTITATIVE	
Days to 80% Flowering	103
Culm Length (cm)	151.45
Panicle Number	13.5
Sterile Lemma Length (mm)	2.48
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	29.71
100 Grain Weight (g)	2.40
Grain Length (mm)	9.51
Grain Width (mm)	2.71
Caryopsis Length	6.91
Caryopsis Width (mm)	2.24
Grain Shape (Length and width)	3.08
Amylose Content (%)	20.58
Gelatinization Temperature	Intermediate
Gel Consistency	61.75

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Red
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV102-KINTAN	R	S	S	S
HRV103-KINTAN	R	S	S	S
HRV105-KINTAN	R	S	ne	S
HRV106-KINTAN	R	R	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV102-KINTAN	R	S	MR	S	S	S	S	S	S	S	S	S	MR	S
HRV103-KINTAN	R	MR	MR	S	S	MR	S	MR	S	S	S	S	MR	S
HRV105-KINTAN	MR	MR	MR	S	S	S	S	MR	S	S	S	S	S	S
HRV106-KINTAN	MR	MR	MR	S	S	S	S	S	S	S	S	S	S	S

R – Resistant; MR – Moderate Resistant; S – Susceptible; ne – not evaluated

# KINTAN VAR 6



## COLLECTION SITES

Dangoy, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Purple lines

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Tip only
Stigma Color	Purple
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# KINTAN VAR 6

QUANTITATIVE	
Days to 80% Flowering	103
Culm Length (cm)	150
Panicle Number	15
Sterile Lemma Length (mm)	2.5
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	23.82
100 Grain Weight (g)	2.2
Grain Length (mm)	9.3
Grain Width (mm)	2.7
Caryopsis Length	6.9
Caryopsis Width (mm)	2.2
Grain Shape (Length and width)	3.07
Amylose Content (%)	18.5
Gelatinization Temperature	Intermediate
Gel Consistency	56

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Red
Seed Coat Color	White
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV104-KINTAN	S	S	R	R

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV104-KINTAN	MR	S	MR	S	S	S	S	S	S	S	S	S	MR	S

# KINTAN VAR 7



## COLLECTION SITES

Mabilong, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Purple lines

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Erect
Awn Distribution	Tip only
Stigma Color	Purple
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Horizontal
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# KINTAN VAR 7

QUANTITATIVE	
Days to 80% Flowering	103
Culm Length (cm)	143
Panicle Number	13
Sterile Lemma Length (mm)	2.5
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	31.44
100 Grain Weight (g)	2.3
Grain Length (mm)	9.5
Grain Width (mm)	2.8
Caryopsis Length	6.8
Caryopsis Width (mm)	2.3
Grain Shape (Length and width)	3.00
Amylose Content (%)	16.9
Gelatinization Temperature	Intermediate
Gel Consistency	48

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Red
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV107-KINTAN	ne	ne	ne	ne

BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES														
HRV ENTRY	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV107-KINTAN	S	MR	MR	S	S	S	S	S	ne	ne	ne	ne	ne	ne

# KINTAN VAR 8



## COLLECTION SITES

Mabilong, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Purple lines

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Upper half
Stigma Color	Purple
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Slightly drooping
Panicle Type	Horizontal
Secondary Branching	Sparse

# KINTAN VAR 8

QUANTITATIVE	
Days to 80% Flowering	106
Culm Length (cm)	130.5
Panicle Number	14.2
Sterile Lemma Length (mm)	2.65
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	32.73
100 Grain Weight (g)	2.4
Grain Length (mm)	9.04
Grain Width (mm)	2.69
Caryopsis Length	6.81
Caryopsis Width (mm)	2.26
Grain Shape (Length and width)	3.02
Amylose Content (%)	23
Gelatinization Temperature	Intermediate
Gel Consistency	35

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Red
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV108-KINTAN	R	R	R	R
HRV109-KINTAN	R	R	R	R

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV108-KINTAN	MR	MR	R	MR	S	MR	S	S	S	S	S	MR	MR	S
HRV109-KINTAN	MR	MR	R	S	S	S	S	MR	S	S	S	S	MR	S

# MUGGO VAR 1



## COLLECTION SITES

Balbalasang, Balbalan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Tip only
Stigma Color	Light purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# MUGGO VAR 1

QUANTITATIVE	
Days to 80% Flowering	89
Culm Length (cm)	150
Panicle Number	8
Sterile Lemma Length (mm)	2.2
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	32.68
100 Grain Weight (g)	3.1
Grain Length (mm)	8.1
Grain Width (mm)	4.1
Caryopsis Length	5.7
Caryopsis Width (mm)	3.4
Grain Shape (Length and width)	1.69
Amylose Content (%)	18.9
Gelatinization Temperature	Intermediate
Gel Consistency	81

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Purple
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV114-MUGGO	S	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV114-MUGGO	MR	MR	R	MR	S	MR	S	S	S	R	S	S	MR	S

# MUGGO VAR 2



## COLLECTION SITES

Balbalasang, Balbalan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# MUGGO VAR 2

QUANTITATIVE	
Days to 80% Flowering	99
Culm Length (cm)	122
Panicle Number	11
Sterile Lemma Length (mm)	2.8
Sterile Lemma Length (code)	Long
Panicle Length (cm)	34.72
100 Grain Weight (g)	3
Grain Length (mm)	8.3
Grain Width (mm)	3.5
Caryopsis Length	6.3
Caryopsis Width (mm)	3.0
Grain Shape (Length and width)	2.13
Amylose Content (%)	19.6
Gelatinization Temperature	Intermediate
Gel Consistency	68

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV115-MUGGO	S	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV115-MUGGO	S	MR	R	MR	S	MR	S	S	S	R	S	S	MR	S

# MUGGO VAR 3



## COLLECTION SITES

Balbalasang, Balbalan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# MUGGO VAR 3

QUANTITATIVE	
Days to 80% Flowering	99
Culm Length (cm)	149.60
Panicle Number	8.73
Sterile Lemma Length (mm)	2.93
Sterile Lemma Length (code)	Long
Panicle Length (cm)	34.82
100 Grain Weight (g)	3.03
Grain Length (mm)	8.29
Grain Width (mm)	3.44
Caryopsis Length	6.24
Caryopsis Width (mm)	2.96
Grain Shape (Length and width)	2.11
Amylose Content (%)	19.77
Gelatinization Temperature	Intermediate
Gel Consistency	68.00

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV <sub>116</sub> -MUGGO	S	S	R	S
HRV <sub>117</sub> -MUGGO	S	S	R	S
HRV <sub>118</sub> -MUGGO	S	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV <sub>116</sub> -MUGGO	MR	MR	MR	MR	S	S	S	S	S	R	S	S	MR	MR
HRV <sub>117</sub> -MUGGO	MR	MR	R	MR	S	S	S	MR	S	R	S	S	MR	S
HRV <sub>118</sub> -MUGGO	MR	MR	R	MR	S	MR	S	S	S	R	S	S	MR	S

# OYAK VAR 1



## COLLECTION SITES

Dangoy, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Upper quarter only
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# OYAK VAR 1

QUANTITATIVE	
Days to 80% Flowering	94
Culm Length (cm)	141
Panicle Number	11
Sterile Lemma Length (mm)	3
Sterile Lemma Length (code)	Long
Panicle Length (cm)	29.04
100 Grain Weight (g)	2.9
Grain Length (mm)	8.4
Grain Width (mm)	3.5
Caryopsis Length	6.4
Caryopsis Width (mm)	2.9
Grain Shape (Length and width)	2.21
Amylose Content (%)	23.0
Gelatinization Temperature	Intermediate
Gel Consistency	53

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV119-OYAK	R	R	ne	R

RESISTANCE TO BACTERIAL BLIGHT DISEASE		BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
HRV ENTRY		PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV119-OYAK		S	S	MR	S	S	MR	S	S	S	R	S	S	S	S

# OYAK VAR 2



## COLLECTION SITES

Dangoy, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# OYAK VAR 2

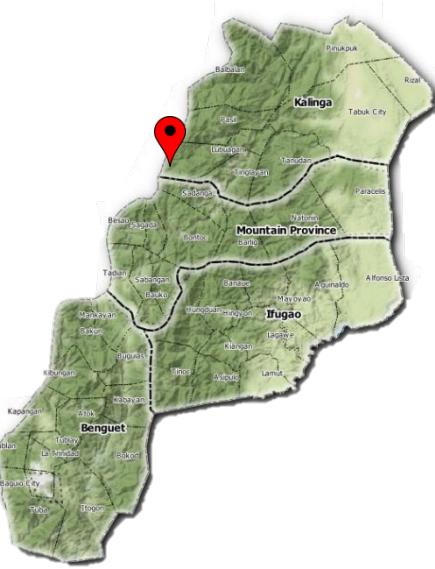
QUANTITATIVE	
Days to 80% Flowering	94
Culm Length (cm)	144.67
Panicle Number	11.33
Sterile Lemma Length (mm)	2.50
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	27.83
100 Grain Weight (g)	2.77
Grain Length (mm)	8.32
Grain Width (mm)	3.43
Caryopsis Length	6.30
Caryopsis Width (mm)	2.82
Grain Shape (Length and width)	2.24
Amylose Content (%)	23.83
Gelatinization Temperature	Intermediate
Gel Consistency	58.00

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV120-OYAK	R	S	ne	R
HRV121-OYAK	R	S	ne	R
HRV122-OYAK	R	S	R	R

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV120-OYAK	MR	S	MR	S	S	S	S	S	S	R	S	S	S	S
HRV121-OYAK	S	S	MR	S	S	S	S	S	S	R	S	S	S	S
HRV122-OYAK	S	S	MR	MR	S	S	S	S	S	R	S	S	S	S

# OYAK VAR 3



## COLLECTION SITES

Dangoy, Lubuagan, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Purple

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Tip only
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# OYAK VAR 3

QUANTITATIVE	
Days to 80% Flowering	99
Culm Length (cm)	165
Panicle Number	11
Sterile Lemma Length (mm)	2.5
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	27.44
100 Grain Weight (g)	2.8
Grain Length (mm)	8.7
Grain Width (mm)	3.3
Caryopsis Length	6.7
Caryopsis Width (mm)	2.6
Grain Shape (Length and width)	2.55
Amylose Content (%)	24.5
Gelatinization Temperature	Intermediate
Gel Consistency	68

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV123-OYAK	R	R	R	R

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV123-OYAK	S	S	R	S	S	S	S	S	S	R	S	S	S	S

# VINAYUDANG



## COLLECTION SITES

Cagaluan, Pasil, Kalinga

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Fully awn
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Slightly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

# VINAYUDANG

QUANTITATIVE	
Days to 80% Flowering	117
Culm Length (cm)	161.52
Panicle Number	14.08
Sterile Lemma Length (mm)	2.48
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	27.844
100 Grain Weight (g)	2.56
Grain Length (mm)	8.33
Grain Width (mm)	3.15
Caryopsis Length	6.16
Caryopsis Width (mm)	2.67
Grain Shape (Length and width)	2.31
Amylose Content (%)	23.46
Gelatinization Temperature	Intermediate
Gel Consistency	56.4

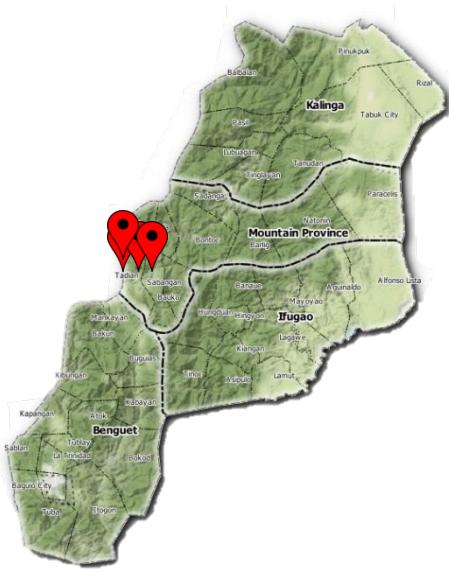
POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV124-VINAYUDANG	R	R	R	S
HRV125-VINAYUDANG	R	R	ne	R
HRV126-VINAYUDANG	R	R	ne	R
HRV127-VINAYUDANG	R	R	ne	
HRV128-VINAYUDANG	R	R	ne	R

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV124-VINAYUDANG	S	S	MR	S	S	S	S	S	S	R	S	S	S	S
HRV125-VINAYUDANG	S	S	MR	S	S	S	S	S	S	R	S	S	S	S
HRV126-VINAYUDANG	S	S	MR	S	S	S	S	S	S	R	S	S	S	S
HRV127-VINAYUDANG	S	S	MR	S	S	MR	S	S	S	R	S	S	S	S
HRV128-VINAYUDANG	S	S	MR	S	S	MR	S	S	S	R	S	S	S	S

R – Resistant; MR – Moderate Resistant; S – Susceptible; ne – not evaluated

# BALATINAW



## COLLECTION SITES

Balaoa, Tadian, Mountain Province

Kayan West, Tadian, Mountain Province

Bantey, Tadian, Mountain Province

Poblacion, Tadian, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color Green

Blade Anthocyanin Absent

Blade Pubescence Pubescent

Auricle Color Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early) Semi-erect

Awn Distribution Fully awn

Stigma Color White

Apiculus Color (Early) White

Flag leaf Angle (Late) Descending

Node Color Green

Internode Color Green

Panicle Exertion Well-exerted

Panicle Attitude Strongly drooping

Panicle Type Semi-compact

Secondary Branching Sparse

# BALATINAW

QUANTITATIVE	
Days to 80% Flowering	99
Culm Length (cm)	148.39
Panicle Number	11.16
Sterile Lemma Length (mm)	2.88
Sterile Lemma Length (code)	Long
Panicle Length (cm)	29.44
100 Grain Weight (g)	2.87
Grain Length (mm)	9.31
Grain Width (mm)	3.58
Caryopsis Length	6.39
Caryopsis Width (mm)	2.85
Grain Shape (Length and width)	2.24
Amylose Content (%)	0.56
Gelatinization Temperature	Low
Gel Consistency	98.57

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Long hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Purple
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
	S	S	S	S
HRV001-BALATINAW	S	R	R	S
HRV003-BALATINAW	S	R	S	S
HRV004-BALATINAW	S	R	R	S
HRV005-BALATINAW	S	S	R	S
HRV006-BALATINAW	S	S	R	S
HRV138-BALATINAW	S	S	ne	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV001-BALATINAW	S	R	MR	MR	S	MR	S	MR	S	R	S	S	MR	S
HRV002-BALATINAW	MR	MR	MR	MR	S	MR	S	S	S	R	S	S	S	S
HRV003-BALATINAW	MR	MR	R	MR	S	S	S	MR	S	R	S	S	S	S
HRV004-BALATINAW	S	MR	R	MR	S	MR	S	S	S	R	S	MR	MR	MR
HRV005-BALATINAW	S	MR	MR	MR	S	S	S	S	S	R	S	S	S	S
HRV006-BALATINAW	S	MR	MR	MR	S	S	S	S	S	R	S	S	MR	S
HRV138-BALATINAW	S	MR	MR	MR	S	S	S	S	S	R	S	S	S	S

R – Resistant; MR – Moderate Resistant; S – Susceptible; ne – not evaluated

# DATIKO



## COLLECTION SITES

## Balaoa, Tadian, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Fully awn
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

QUANTITATIVE	
Days to 80% Flowering	116
Culm Length (cm)	145.6
Panicle Number	12.6
Sterile Lemma Length (mm)	3.04
Sterile Lemma Length (code)	Long
Panicle Length (cm)	32.548
100 Grain Weight (g)	2.82
Grain Length (mm)	8.232
Grain Width (mm)	3.664
Caryopsis Length	5.974
Caryopsis Width (mm)	2.946
Grain Shape (Length and width)	2.03
Amylose Content (%)	0.82
Gelatinization Temperature	Low
Gel Consistency	100

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	Red
Awn Color (Late)	Purple
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV007-DATIKO	S	S	R	S
HRV008-DATIKO	S	S	R	S
HRV009-DATIKO	S	S	R	S
HRV010-DATIKO	S	S	R	S
HRV011-DATIKO	S	S	R	S

#### RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES												
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363
HRV007-DATIKO	MR	MR	MR	MR	S	S	S	S	R	S	S	MR	S
HRV008-DATIKO	MR	MR	MR	MR	S	S	S	S	R	S	S	MR	S
HRV009-DATIKO	MR	MR	R	MR	S	S	S	MR	S	R	S	MR	MR
HRV010-DATIKO	S	MR	MR	MR	S	S	S	MR	S	R	S	MR	MR
HRV011-DATIKO	S	MR	R	MR	S	S	S	S	S	R	S	MR	S

R – Resistant; MR – Moderate Resistant; S – Susceptible; ne – not evaluated

# CHAPOCHAPOR VAR 1



## COLLECTION SITES

Lias, Barlig, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Tip only
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# CHAPOCHAPOR VAR 1

QUANTITATIVE	
Days to 80% Flowering	89
Culm Length (cm)	140.14
Panicle Number	9.06
Sterile Lemma Length (mm)	2.49
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	33.73
100 Grain Weight (g)	3.71
Grain Length (mm)	8.78
Grain Width (mm)	4.29
Caryopsis Length	6.54
Caryopsis Width (mm)	3.38
Grain Shape (Length and width)	1.94
Amylose Content (%)	21.04
Gelatinization Temperature	Intermediate
Gel Consistency	65.57

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
	HRV022-CHAPOCHAPOR	S	S	R
HRV023-CHAPOCHAPOR	S	S	R	S
HRV024-CHAPOCHAPOR	S	S	R	S
HRV025-CHAPOCHAPOR	S	S	ne	S
HRV026-CHAPOCHAPOR	S	S	R	S
HRV027-CHAPOCHAPOR	S	S	R	S
HRV028-CHAPOCHAPOR	S	S	R	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV022-CHAPOCHAPOR	S	MR	MR	MR	S	MR	S	S	S	R	S	MR	MR	S
HRV023-CHAPOCHAPOR	S	ne	MR	MR	S	MR	S	S	S	R	S	MR	MR	MR
HRV024-CHAPOCHAPOR	MR	MR	MR	S	S	S	S	MR	S	R	S	MR	MR	S
HRV025-CHAPOCHAPOR	MR	MR	R	MR	S	S	S	S	S	R	S	MR	MR	S
HRV026-CHAPOCHAPOR	S	MR	MR	MR	S	S	S	S	S	R	S	MR	S	MR
HRV027-CHAPOCHAPOR	S	ne	MR	MR	ne	ne	S	S	ne	ne	ne	ne	ne	ne
HRV028-CHAPOCHAPOR	S	MR	MR	ne	S	S	S	S	S	R	S	S	MR	S

R – Resistant; MR – Moderate Resistant; S – Susceptible; ne – not evaluated

# CHAPOCHAPOR VAR 2



## COLLECTION SITES

Lias, Barlig, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Tip only
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# CHAPOCHAPOR VAR 2

## QUANTITATIVE

Days to 80% Flowering	106
Culm Length (cm)	154.68
Panicle Number	10.08
Sterile Lemma Length (mm)	2.62
Sterile Lemma Length (code)	Long
Panicle Length (cm)	33.77
100 Grain Weight (g)	3.88
Grain Length (mm)	9.20
Grain Width (mm)	3.68
Caryopsis Length	6.95
Caryopsis Width (mm)	3.11
Grain Shape (Length and width)	2.23
Amylose Content (%)	22.04
Gelatinization Temperature	Low
Gel Consistency	56.20

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV029-CHAPOCHAPOR	S	S	ne	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO28o	PXO339	PXO349	PXO347	PXO363	PXO341
HRV029-CHAPOCHAPOR	MR	MR	MR	MR	S	S	S	S	S	R	S	S	ne	MR

# FINUGA



## COLLECTION SITES

Poblacion, Sadanga, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Whitish

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Awnless
Stigma Color	White
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Light gold
Panicle Exertion	Well-exerted
Panicle Attitude	Drooping
Panicle Type	Intermediate
Secondary Branching	Sparse/Light

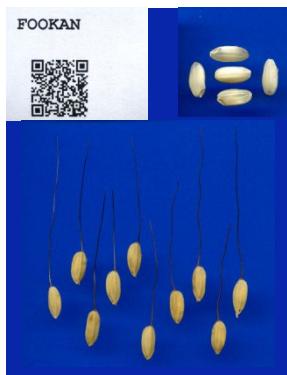
QUANTITATIVE	
Days to 80% Flowering	97
Culm Length (cm)	158.9
Panicle Number	10
Sterile Lemma Length (mm)	2.26
Sterile Lemma Length (code)	
Panicle Length (cm)	28.91
100 Grain Weight (g)	2.6
Grain Length (mm)	7.58
Grain Width (mm)	3.57
Caryopsis Length	5.8
Caryopsis Width (mm)	3
Grain Shape (Length and width)	1.93
Amylose Content (%)	23.0
Gelatinization Temperature	Intermediate
Gel Consistency	96

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV146-FINUGA	S	S	ne	ne

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO28o	PXO339	PXO349	PXO347	PXO363	PXO341
HRV146-FINUGA	S	MR	MR	S	S	S	S	S	S	R	S	S	ne	ne

# FOOKAN



## COLLECTION SITES:

Lias, Barlig, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Fully awn
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Semi-compact
Secondary Branching	Sparse

## QUANTITATIVE

Days to 80% Flowering	106
Culm Length (cm)	154.68
Panicle Number	10.08
Sterile Lemma Length (mm)	2.62
Sterile Lemma Length (code)	Long
Panicle Length (cm)	33.77
100 Grain Weight (g)	3.88
Grain Length (mm)	9.20
Grain Width (mm)	3.68
Caryopsis Length	6.95
Caryopsis Width (mm)	3.11
Grain Shape (Length and width)	2.23
Amylose Content (%)	22.04
Gelatinization Temperature	Low
Gel Consistency	56.20

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	White
Awn Color (Late)	Purple
Sterile Lemma Color (Late)	Straw

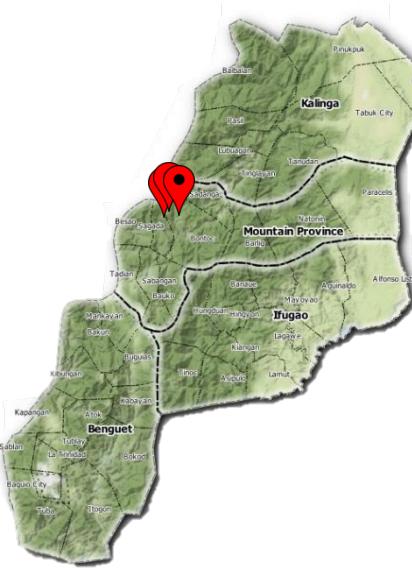
## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV017-FOOKAN	S	S	R	S
HRV018-FOOKAN	S	S	R	S
HRV019-FOOKAN	S	S	R	S
HRV020-FOOKAN	S	S	R	S
HRV021-FOOKAN	S	S	R	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV017-FOOKAN	S	MR	R	MR	S	MR	S	MR	S	R	S	MR	MR	S
HRV018-FOOKAN	S	MR	MR	MR	S	MR	S	S	S	R	S	S	MR	S
HRV019-FOOKAN	S	MR	MR	MR	S	MR	S	S	S	R	S	MR	S	MR
HRV020-FOOKAN	S	MR	R	MR	S	S	S	S	R	S	S	MR	S	S
HRV021-FOOKAN	S	MR	R	MR	S	MR	S	S	S	R	S	S	S	S

# GOMIKI



## COLLECTION SITES

Demang, Sadanga, Mountain Province

Sacasacan, Sadanga, Mountain Province

Poblacion, Sadanga, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awn Less
Stigma Color	White
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

## QUANTITATIVE

Days to 80% Flowering	89
Culm Length (cm)	125.22
Panicle Number	9.86
Sterile Lemma Length (mm)	2.58
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	37.18
100 Grain Weight (g)	2.86
Grain Length (mm)	8.03
Grain Width (mm)	3.59
Caryopsis Length	6.06
Caryopsis Width (mm)	3.05
Grain Shape (Length and width)	1.99
Amylose Content (%)	20.96
Gelatinization Temperature	Intermediate
Gel Consistency	62.40

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Red
Seed Coat Color	Red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

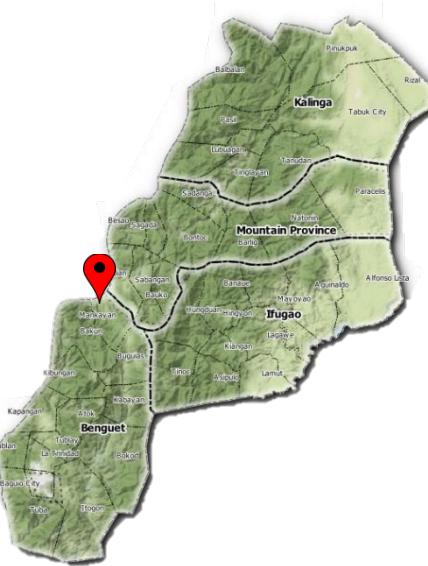
## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV <sub>030</sub> -GOMIKI	S	S	R	S
HRV <sub>031</sub> -GOMIKI	ne	ne	ne	S
HRV <sub>032</sub> -GOMIKI	S	S	ne	S
HRV <sub>033</sub> -GOMIKI	ne	ne	ne	ne
HRV <sub>141</sub> -GOMIKI	S	S	ne	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV <sub>030</sub> -GOMIKI	S	MR	R	MR	ne	ne	S	S	S	R	S	S	ne	ne
HRV <sub>031</sub> -GOMIKI	S	MR	MR	S	S	S	S	MR	S	R	ne	ne	ne	ne
HRV <sub>032</sub> -GOMIKI	S	MR	MR	MR	ne	ne	ne	ne	S	MR	S	S	ne	ne
HRV <sub>033</sub> -GOMIKI	S	MR	R	MR	S	S	S	S	ne	ne	ne	ne	ne	ne
HRV <sub>141</sub> -GOMIKI	S	MR	MR	MR	S	S	S	S	S	R	S	MR	S	S

# INTAN RED



## COLLECTION SITES

Poblacion, Tadian, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Light purple
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Purple

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Red
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Light gold
Panicle Exertion	Well-exerted
Panicle Attitude	Drooping
Panicle Type	Open
Secondary Branching	Sparse/Light

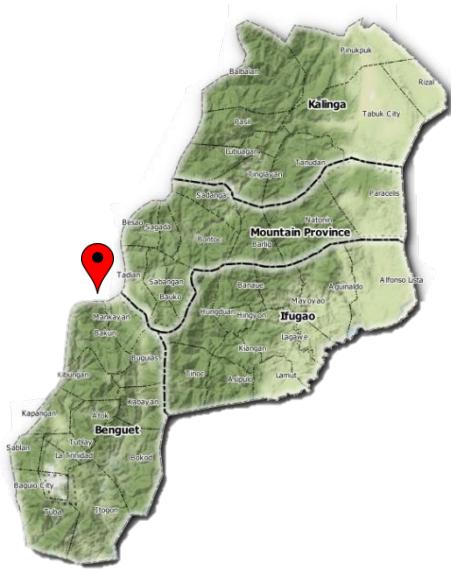
QUANTITATIVE	
Days to 80% Flowering	111
Culm Length (cm)	166.2
Panicle Number	10.4
Sterile Lemma Length (mm)	2.13
Sterile Lemma Length (code)	
Panicle Length (cm)	27.76
100 Grain Weight (g)	1.8
Grain Length (mm)	8.74
Grain Width (mm)	2.43
Caryopsis Length	6.2
Caryopsis Width (mm)	1.92
Grain Shape (Length and width)	3.23
Amylose Content (%)	20.3
Gelatinization Temperature	Intermediate
Gel Consistency	85

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Red
Seed Coat Color	Light red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV139-INTAN RED	R	S	ne	R

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV139-INTAN RED	S	ne	MR	S	S	S	S	MR	S	R	S	S	S	S

# KENYAS



## COLLECTION SITES

Bantey, Tadian, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Whitish

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	White
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Horizontal
Node Color	Green
Internode Color	Light gold
Panicle Exertion	Well-exerted
Panicle Attitude	Drooping
Panicle Type	Open
Secondary Branching	Sparse/Light

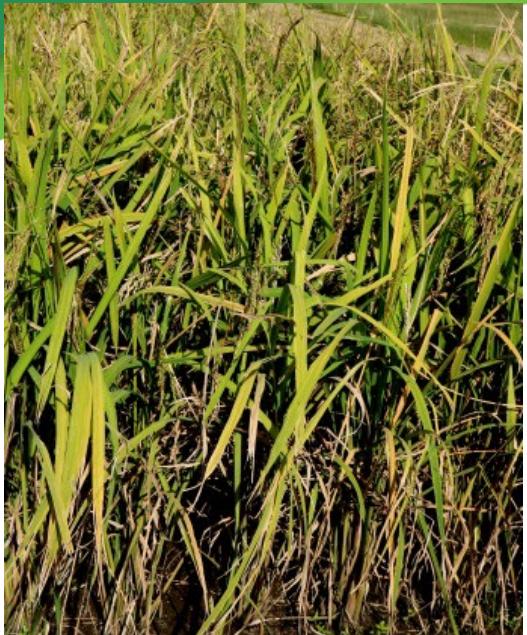
QUANTITATIVE	
Days to 80% Flowering	91
Culm Length (cm)	163.4
Panicle Number	14.3
Sterile Lemma Length (mm)	2.49
Sterile Lemma Length (code)	
Panicle Length (cm)	27.48
100 Grain Weight (g)	2.4
Grain Length (mm)	8.81
Grain Width (mm)	3.03
Caryopsis Length	7.8
Caryopsis Width (mm)	2
Grain Shape (Length and width)	3.90
Amylose Content (%)	21.2
Gelatinization Temperature	Intermediate
Gel Consistency	100

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV137-KENYAS	R	R	R	R

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV137-KENYAS	S	S	MR	S	S	S	S	S	S	R	S	MR	S	S

# KOTINAW



## COLLECTION SITES

Demang, Sadanga, Mountain Province

Sacasacan, Sadanga, Mountain Province

Bikigan, Sadanga, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color Green

Blade Anthocyanin Absent

Blade Pubescence Pubescent

Auricle Color Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early) Horizontal

Awn Distribution Tip only

Stigma Color White

Apiculus Color (Early) Straw

Flag leaf Angle (Late) Descending

Node Color Green

Internode Color Green

Panicle Exertion Well-exerted

Panicle Attitude Strongly drooping

Panicle Type Semi-compact

Secondary Branching Sparse

## QUANTITATIVE

Days to 80% Flowering	104
Culm Length (cm)	133.82
Panicle Number	8.60
Sterile Lemma Length (mm)	2.49
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	33.20
100 Grain Weight (g)	2.85
Grain Length (mm)	8.36
Grain Width (mm)	4.00
Caryopsis Length	6.12
Caryopsis Width (mm)	2.98
Grain Shape (Length and width)	2.06
Amylose Content (%)	2.62
Gelatinization Temperature	Intermediate
Gel Consistency	90.00

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Variegated purple
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV034-KOTINAW	ne	S	ne	S
HRV035-KOTINAW	ne	S	ne	S
HRV036-KOTINAW	ne	S	ne	S
HRV037-KOTINAW	S	S	ne	S
HRV038-KOTINAW	S	S	R	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV034-KOTINAW	MR	S	MR	S	S	MR	S	S	S	R	S	S	ne	ne
HRV035-KOTINAW	S	ne	MR	MR	S	MR	S	S	S	R	S	S	MR	S
HRV036-KOTINAW	S	MR	MR	MR	S	S	S	S	S	MR	S	S	S	S
HRV037-KOTINAW	MR	MR	MR	S	S	S	S	S	S	R	S	MR	MR	ne
HRV038-KOTINAW	MR	MR	MR	MR	S	S	S	S	ne	ne	S	S	MR	S

# LACATAN



## COLLECTION SITES

Lias, Barlig, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Fully awn
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# LACATAN

QUANTITATIVE	
Days to 80% Flowering	81
Culm Length (cm)	140.64
Panicle Number	8.68
Sterile Lemma Length (mm)	2.62
Sterile Lemma Length (code)	Long
Panicle Length (cm)	37.86
100 Grain Weight (g)	3.78
Grain Length (mm)	8.90
Grain Width (mm)	4.18
Caryopsis Length	6.54
Caryopsis Width (mm)	3.36
Grain Shape (Length and width)	1.95
Amylose Content (%)	2.48
Gelatinization Temperature	Intermediate
Gel Consistency	99.4

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Purple furrows
Apiculus Color (Late)	Purple
Seed Coat Color	Red
Awn Color (Late)	Purple
Sterile Lemma Color (Late)	Purple

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca8g	IK81-25	M64-1-3-9-1
HRVo45-LACATAN	S	ne	R	S
HRVo46-LACATAN	S	S	R	S
HRVo47-LACATAN	S	S	S	S
HRVo48-LACATAN	S	S	S	S
HRVo49-LACATAN	S	S	R	S

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO28o	PXO339	PXO349	PXO347	PXO363	PXO341
HRVo45-LACATAN	S	MR	MR	MR	S	S	S	S	S	R	S	MR	S	S
HRVo46-LACATAN	S	MR	MR	S	S	S	S	S	S	R	S	S	S	S
HRVo47-LACATAN	ne	ne	MR	S	S	S	S	S	S	S	S	S	S	S
HRVo48-LACATAN	S	MR	R	MR	S	S	S	MR	ne	ne	ne	ne	MR	S
HRVo49-LACATAN	S	S	MR	MR	S	S	S	S	ne	ne	ne	ne	ne	ne

R – Resistant; MR – Moderate Resistant; S – Susceptible; ne – not evaluated

# LANTIKO



## COLLECTION SITES

Balaoa, Tadian, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Whitish

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Long and fully awned
Stigma Color	Light purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Drooping
Panicle Type	Intermediate
Secondary Branching	Sparse/Light

QUANTITATIVE	
Days to 80% Flowering	112
Culm Length (cm)	170
Panicle Number	9.8
Sterile Lemma Length (mm)	2.71
Sterile Lemma Length (code)	
Panicle Length (cm)	33.2
100 Grain Weight (g)	2.4
Grain Length (mm)	7.5
Grain Width (mm)	3.35
Caryopsis Length	5.75
Caryopsis Width (mm)	2.82
Grain Shape (Length and width)	2.04
Amylose Content (%)	3.1
Gelatinization Temperature	Low
Gel Consistency	82

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	Red
Awn Color (Late)	Purple
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV136-LANTIKO	S	S	ne	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV136-LANTIKO	S	MR	R	S	S	MR	S	S	S	R	S	MR	MR	S

# PODAWAN



## COLLECTION SITES

Sacasacan, Sadanga, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Whitish

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Horizontal
Awn Distribution	Long and partly awned
Stigma Color	White
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Light gold
Panicle Exertion	Well-exerted
Panicle Attitude	Drooping
Panicle Type	Intermediate
Secondary Branching	Sparse/Light

# PODAWAN

QUANTITATIVE	
Days to 80% Flowering	97
Culm Length (cm)	179.6
Panicle Number	10
Sterile Lemma Length (mm)	2.7
Sterile Lemma Length (code)	
Panicle Length (cm)	36.11
100 Grain Weight (g)	2.9
Grain Length (mm)	9.4
Grain Width (mm)	3.76
Caryopsis Length	7.06
Caryopsis Width (mm)	3.47
Grain Shape (Length and width)	2.03
Amylose Content (%)	23.7
Gelatinization Temperature	Intermediate
Gel Consistency	100

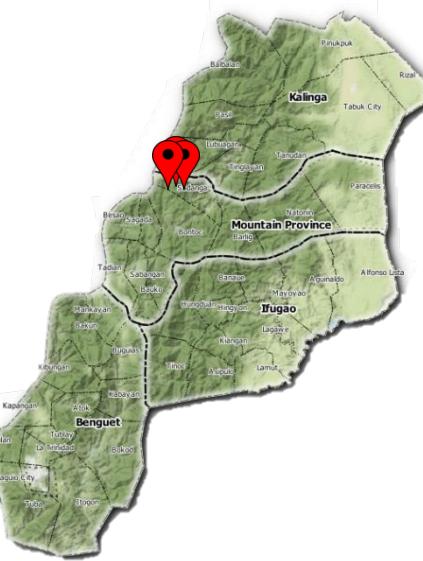
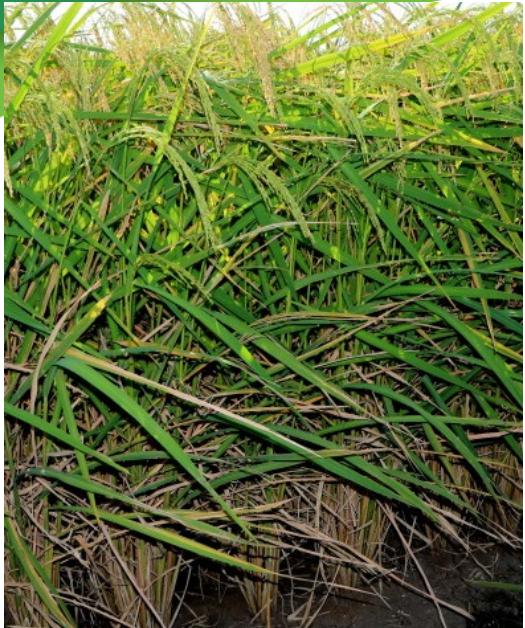
POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Straw
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV145-PODAWAN	S	S	ne	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV145-PODAWAN	MR	MR	MR	S	S	S	S	S	S	R	S	MR	ne	ne

# SALIKET



## COLLECTION SITES

Poblacion, Sadanga, Mountain Province

Sacasacan, Sadanga, Mountain Province

Demang, Sadanga, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color Purple lines

Blade Anthocyanin Absent

Blade Pubescence Pubescent

Auricle Color Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early) Semi-erect

Awn Distribution Awnless

Stigma Color Purple

Apiculus Color (Early) Straw

Flag leaf Angle (Late) Descending

Node Color Purple lines

Internode Color Purple lines

Panicle Exertion Well-exerted

Panicle Attitude Strongly drooping

Panicle Type Open

Secondary Branching Sparse

QUANTITATIVE	
Days to 80% Flowering	112.60
Culm Length (cm)	143.12
Panicle Number	11.10
Sterile Lemma Length (mm)	2.30
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	32.66
100 Grain Weight (g)	2.68
Grain Length (mm)	8.31
Grain Width (mm)	3.56
Caryopsis Length	5.90
Caryopsis Width (mm)	2.86
Grain Shape (Length and width)	2.07
Amylose Content (%)	0.54
Gelatinization Temperature	Low
Gel Consistency	92.80

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV039-SALIKET	S	S	R	S
HRV040-SALIKET	S	S	R	S
HRV041-SALIKET	S	S	R	S
HRV042-SALIKET	S	S	R	S
HRV043-SALIKET	S	S	R	S
HRV144-SALIKET	S	S	ne	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV039-SALIKET	MR	MR	MR	MR	S	S	S	MR	S	R	S	S	MR	S
HRV040-SALIKET	S	MR	R	MR	ne	ne	S	MR	S	R	S	S	MR	S
HRV041-SALIKET	MR	MR	MR	MR	S	MR	S	MR	S	R	S	S	MR	S
HRV042-SALIKET	MR	MR	R	S	S	MR	S	MR	S	R	S	S	MR	MR
HRV043-SALIKET	MR	MR	MR	MR	S	MR	S	MR	S	R	S	MR	MR	S

# TEPA A



## COLLECTION SITES

Demang, Sadanga, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Present
Blade Pubescence	Pubescent
Auricle Color	Purple

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Drooping
Panicle Type	Intermediate
Secondary Branching	Sparse/Light

QUANTITATIVE	
Days to 80% Flowering	111
Culm Length (cm)	149.6
Panicle Number	8.1
Sterile Lemma Length (mm)	2.91
Sterile Lemma Length (code)	
Panicle Length (cm)	30.25
100 Grain Weight (g)	2.5
Grain Length (mm)	8.89
Grain Width (mm)	3.8
Caryopsis Length	5.8
Caryopsis Width (mm)	3.1
Grain Shape (Length and width)	1.87
Amylose Content (%)	1.9
Gelatinization Temperature	Low
Gel Consistency	81

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV142-TEPA-A	S	S	ne	S

RESISTANCE TO BACTERIAL BLIGHT DISEASE														
HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO28o	PXO339	PXO349	PXO347	PXO363	PXO341
HRV142-TEPA-A	MR	MR	R	MR	S	S	S	S	S	R	S	S	ne	ne

# TIPA VAR 1



## COLLECTION SITES

Sacasacan, Sadanga, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Purple lines
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# TIPA VAR 1

## QUANTITATIVE

Days to 80% Flowering	112
Culm Length (cm)	149.7
Panicle Number	10.15
Sterile Lemma Length (mm)	2.58
Sterile Lemma Length (code)	Long
Panicle Length (cm)	30.88
100 Grain Weight (g)	2.60
Grain Length (mm)	7.92
Grain Width (mm)	3.62
Caryopsis Length	6.00
Caryopsis Width (mm)	2.90
Grain Shape (Length and width)	2.11
Amylose Content (%)	15.25
Gelatinization Temperature	Low
Gel Consistency	84.00

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

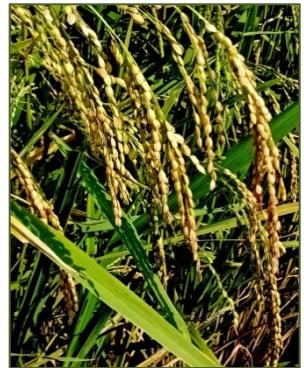
## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRVo44-TIPA	S	S	R	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRVo44-TIPA	S	MR	R	MR	S	S	S	MR	S	R	S	S	MR	S

# TOLING



## COLLECTION SITES

Lias, Barlig, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	White
Apiculus Color (Early)	White
Flag leaf Angle (Late)	Descending
Node Color	Green
Internode Color	Green
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

QUANTITATIVE	
Days to 80% Flowering	87
Culm Length (cm)	146.68
Panicle Number	10.32
Sterile Lemma Length (mm)	2.08
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	46.42
100 Grain Weight (g)	3.22
Grain Length (mm)	8.012
Grain Width (mm)	4.1724
Caryopsis Length	5.95
Caryopsis Width (mm)	3.37
Grain Shape (Length and width)	1.77
Amylose Content (%)	20.5
Gelatinization Temperature	Intermediate
Gel Consistency	71.2

POSTHARVEST	
Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	Red
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

RESISTANCE TO RICE BLAST DISEASE				
HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV012-TOLING	S	S	R	S
HRV013-TOLING	S	S	ne	S
HRV014-TOLING	S	S	R	S
HRV015-TOLING	S	S	R	S
HRV016-TOLING	S	S	R	S

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV012-TOLING	S	MR	MR	MR	S	S	S	S	S	R	S	S	S	MR
HRV013-TOLING	S	MR	R	S	S	S	S	S	S	R	S	MR	MR	S
HRV014-TOLING	S	MR	MR	MR	S	S	S	MR	S	R	S	MR	MR	S
HRV015-TOLING	S	MR	MR	S	S	S	S	S	S	R	S	MR	MR	S
HRV016-TOLING	S	MR	R	MR	S	MR	S	S	MR	R	S	MR	MR	S

# WARAY VAR 1



## COLLECTION SITES

Batayan, Tadian, Mountain Province

Sumadel, Tadian, Mountain Province

Balaoa, Tadian, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Purple
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# WARAY VAR 1

## QUANTITATIVE

Days to 80% Flowering	113
Culm Length (cm)	141.08
Panicle Number	10.92
Sterile Lemma Length (mm)	2.26
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	32.276
100 Grain Weight (g)	2.66
Grain Length (mm)	8.23
Grain Width (mm)	3.55
Caryopsis Length	5.85
Caryopsis Width (mm)	2.94
Grain Shape (Length and width)	1.99
Amylose Content (%)	0.94
Gelatinization Temperature	Low
Gel Consistency	97.4

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Purple
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV050-WARAY	S	S	R	S
HRV051-WARAY	S	S	R	S
HRV052-WARAY	S	S	R	S
HRV053-WARAY	S	S	R	S
HRV054-WARAY	S	S	R	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV050-WARAY	MR	MR	R	MR	S	MR	S	MR	S	R	S	S	R	MR
HRV051-WARAY	S	MR	R	MR	S	S	S	S	S	R	S	S	MR	S
HRV052-WARAY	S	MR	R	MR	S	S	S	MR	S	R	S	S	MR	S
HRV053-WARAY	S	MR	MR	R	S	MR	S	MR	S	R	S	S	MR	S
HRV054-WARAY	MR	MR	R	MR	S	MR	S	MR	S	R	S	S	MR	MR

R – Resistant; MR – Moderate Resistant; S – Susceptible; ne – not evaluated

# WARAY VAR 2



## COLLECTION SITES

Balaoa, Tadian, Mountain Province

## VEGETATIVE

Basal Leaf Sheath: Color	Green
Blade Anthocyanin	Absent
Blade Pubescence	Pubescent
Auricle Color	Yellowish green

## REPRODUCTIVE STAGE EARLY OBSERVATION

Flag Leaf Angle (Early)	Semi-erect
Awn Distribution	Awnless
Stigma Color	Purple
Apiculus Color (Early)	Straw
Flag leaf Angle (Late)	Descending
Node Color	Purple lines
Internode Color	Purple lines
Panicle Exertion	Well-exerted
Panicle Attitude	Strongly drooping
Panicle Type	Open
Secondary Branching	Sparse

# WARAY VAR 2

## QUANTITATIVE

Days to 80% Flowering	113
Culm Length (cm)	145.3
Panicle Number	11.5
Sterile Lemma Length (mm)	2.3
Sterile Lemma Length (code)	Medium
Panicle Length (cm)	33.42
100 Grain Weight (g)	2.75
Grain Length (mm)	8.23
Grain Width (mm)	3.46
Caryopsis Length	5.88
Caryopsis Width (mm)	2.82
Grain Shape (Length and width)	2.08
Amylose Content (%)	0.8
Gelatinization Temperature	Low
Gel Consistency	97.5

## POSTHARVEST

Leaf Senescence	Late
Lemma Palea Pubescence	Short hairs
Lemma and Palea Color (Late)	Straw
Apiculus Color (Late)	Straw
Seed Coat Color	White
Awn Color (Late)	Awnless
Sterile Lemma Color (Late)	Straw

## RESISTANCE TO RICE BLAST DISEASE

HRV ENTRY	DIFFERENTIAL <i>Magnaporthe oryzae</i> ISOLATES			
	B90002	Ca89	IK81-25	M64-1-3-9-1
HRV055-WARAY	S	S	R	S
HRV056-WARAY	S	S	R	S

## RESISTANCE TO BACTERIAL BLIGHT DISEASE

HRV ENTRY	BACTERIAL STRAINS REPRESENTING THE PHILIPPINE <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> RACES													
	PXO61	PXO86	PXO79	PXO340	PXO71	PXO112	PXO99	PXO145	PXO280	PXO339	PXO349	PXO347	PXO363	PXO341
HRV055-WARAY	S	MR	R	MR	S	MR	S	S	S	R	S	MR	ne	ne
HRV056-WARAY	S	MR	R	MR	S	S	S	MR	S	R	S	S	MR	S

# DEFINITION AND DESCRIPTION OF TRAITS

Several characteristics or traits were used to evaluate the heirloom rice varieties. The definitions, descriptions, methods of measurement, and meaning of the numerical values of these traits were lifted from the Descriptors for Wild and Cultivated Rice (*Oryza* spp.) published by Bioversity International and from the IRRI Standard Evaluation System.

VEGETATIVE	
<b>Basal leaf sheath: color</b> Color of the outer surface of the leaf sheath; Stage: late vegetative  Scale / Description 1 - 060 Green 2 - 084 Green with purple lines 3 - 081 Light purple 4 - 080 Purple	<b>Blade pubescence</b> Assessed both visually and by touch, rubbing fingers over the leaf surface from the tip downwards. Stage: late vegetative  Scale / Description 1 - Glabrous (smooth—including ciliated margins) 2 - Intermediate 3 - Pubescent
<b>Blade anthocyanin</b> Stage: Late vegetative  Scale / Description 0 - Absent 1 - Present	<b>Auricle color</b>  Scale / Description 0 - 0 Absent (no auricles) 1 - 011 Whitish 2 - 062 Yellowish green 3 - 080 Purple 4 - 081 Light purple 5 - 084 Purple lines

# DEFINITION AND DESCRIPTION OF TRAITS

## REPRODUCTIVE STAGE EARLY OBSERVATION

<p><b>Flag leaf angle (early)</b>            Measured near the collar. Angle of attachment between the flag leaf blade and the main panicle axis. Average of five samples must be recorded. Cultivated species: scored at anthesis.            Wild species: scored 7 days after anthesis.</p> <p>Scale / Description            1 - Erect            3 - Semi-erect (intermediate)            5 - Horizontal            7 - Descending</p>	<p><b>Stigma color</b>            Observed at anthesis using a hand lens</p> <p>Scale / Description            1 - 010 White            2 - 061 Light green            3 - 030 Yellow            4 - 081 Light purple            5 - 080 Purple</p>
<p><b>Awn distribution</b>            The presence and distribution of awns along the panicle. Stage: flowering to maturity</p> <p>Scale / Description            0 - None (awnless)            1 - Tip only            2 - Upper quarter only            3 - Upper half only            4 - Upper three-quarters only            5 - Whole length</p>	<p><b>Apiculus color (early)</b>            Stage: cultivated species after anthesis to hard dough stage (pre-ripening stage)</p> <p>Scale / Description            1 - 010 White            2 - 020 Straw            3 - 052 Brown (tawny)            4 - 060 Green            5 - 070 Red            6 - 071 Red apex            7 - 080 Purple            8 - 087 Purple apex            9 - 100 Black</p>

# DEFINITION AND DESCRIPTION OF TRAITS

## REPRODUCTIVE STAGE EARLY OBSERVATION

### Flag leaf angle (late)

Observed near the collar. Angle of attachment between the flag leaf blade and the main panicle axis. Average of five samples should be recorded. Stage: maturity

#### Scale / Description

- 1 - Erect
- 3 - Semi-erect
- 5 - Horizontal
- 7 - Descending

### Internode color

The outer surface of the internodes on the culm is recorded. Stage: near coloration maturity

#### Scale / Description

- 1 - Green
- 2 - Light Gold
- 3 - Purple lines
- 4 - Purple

### Node color

Stage: late vegetative

#### Scale / Description

- 0 - o Absent (collarless)
- 1 - o6o Green
- 2 - o61 Light green
- 3 - o8o Purple
- 4 - o84 Purple lines

### Panicle exsertion

Extent to which the panicle is exserted above the flag leaf sheath. Stage: near maturity

#### Scale / Description

- 1 - Enclosed (panicle is partly or entirely enclosed within the leaf sheath of the flag leaf blade)
- 3 - Partly exserted (panicle base is slightly beneath the collar of the flag leaf blade)
- 5 - Just exserted (panicle base coincides with the collar of the flag leaf blade)
- 7 - Moderately well exserted (panicle base is above the collar of the flag leaf blade)
- 9 - Well exserted (panicle base appears well above the collar of the flag leaf blade)

# DEFINITION AND DESCRIPTION OF TRAITS

## REPRODUCTIVE STAGE EARLY OBSERVATION

### Panicle attitude

Stage: near maturity

### Scale / Description

- 1 - Upright
- 2 - Semi-erect
- 3 - Slightly drooping
- 4 - Strongly drooping

### Panicle type

Panicles are classified according to their mode of branching, angle of primary branches, and spikelet density.

### Scale / Description

- 1 - Compact
- 2 - Intermediate
- 3 - Open

### Secondary branching

The abundance and distribution of spikelets borne on secondary branches of the panicle.

Stage: near maturity.

### Scale / Description

0 - Absent

1 - Sparse (~1 secondary branch per primary branch; most spikelets borne directly on primary branches)

2 - Dense (~2-3 secondary branches per primary branch; ~50% of spikelets borne directly on primary branches)

3 - Clustered (~3-4 secondary branches per primary branch; all spikelets on secondary branches, giving a clustered appearance)

# DEFINITION AND DESCRIPTION OF TRAITS

## QUANTITATIVE

### Days to 80% flowering

Maturity is the date on which 80% of the grains on the panicles are fully ripened

### Culm length

Measured from ground level to the base of the panicle. Average of five actual measurements, to the nearest cm, is recorded. Stage: cultivated species after flowering to maturity

Alternatively, cultivated species can be coded as follows:

#### Scale / Description

- 1 - Very short (<50 cm)
- 2 - Very short to short (51–70 cm)
- 3 - Short (71–90 cm)
- 4 - Short to intermediate (91–105 cm)
- 5 - Intermediate (106–120 cm)
- 6 - Intermediate to long (121–140 cm)
- 7 - Long (141–155 cm)
- 8 - Long to very long (156–180 cm)
- 9 - Very long (>180 cm)

### Panicle number

Number of panicles produced per plant

### Sterile lemma length (mm)

Measurement is made on each of the two sterile lemmas; the classification is based on a 5-grain sample.

#### Scale / Description

- 0 - Absent
- 1 - < 1.5 mm
- 4 - 1.6-2.5 mm
- 5 - > 2.5 mm but shorter than the lemma
- 7 - equal to or longer than the lemma

### Sterile lemma length (code)

#### Scale / Description

- 0 - Absent
- 1 - Short
- 5 - Medium
- 5 - Long
- 7 - Extra long
- 9 - Asymmetrical

# DEFINITION AND DESCRIPTION OF TRAITS

## QUANTITATIVE

### Panicle length (cm)

Length of main axis of panicle measured from base to the tip. Average of five representative plants is recorded. Alternatively, lengths can be coded as follows:

#### Scale / Description

- 1 - Very short (<11 cm)
- 3 - Short (~15 cm)
- 5 - Medium (~25 cm)
- 7 - Long (~35 cm)
- 9 - Very long (>40 cm)

### 100-grain weight (g)

Random sample of 100 well-developed, whole grains, dried to 13% moisture content; weighed on a precision balance.

### Grain length (mm)

Measured as the distance from the base of the lowermost glume to the tip (apiculus) of the fertile lemma or palea, whichever is longer. On awned cultivars, measured to a point comparable to the tip of the apiculus (exclude the awn). Preferably measured with a calliper or photo-enlarger. Average of 10 representative grains is recorded.

### Grain width (mm)

Measured as the distance across the fertile lemma and palea at the widest point. Preferably measured with a calliper or photo-enlarger. Average of 10 representative grains is recorded.

### Caryopsis length (mm)

Grain length

### Caryopsis width (mm)

Grain width

### Grain shape (length and width)

Relative proportion between grain length and width

### Amylose content (%)

Determines waxiness of the grain

#### Scale / Description

- 0 - Waxy-glutinous (<3)
- 1 - Very low (~9)
- 3 - Low (~17)
- 5 - Intermediate (~20)
- 7 - High (~23)
- 9 - Very high (>25)

# DEFINITION AND DESCRIPTION OF TRAITS

## QUANTITATIVE

### Gelatinization temperature

Energy required to melt starch crystals

### Gel consistency

Determines the softness and hardness of cooked grain.  
The higher the gel consistency, the softer the cooked rice.

Scale	Gel length	Gel consistency type
1	81–100 mm	Soft
2	61–80 mm	Soft
3	41–60 mm	Intermediate
4	36–40 mm	Hard
5	<36 mm	Hard

# DEFINITION AND DESCRIPTION OF TRAITS

## POSTHARVEST

### Leaf senescence

The final stage of plant development and involves diverse molecular and cellular processes such as degradation of chlorophylls and macromolecules and remobilization of nutrients into newly developing or storage organs through the expression of senescence-associated genes (Kim et al 2019). It is commonly thought that rapid senescence of leaves can be detrimental to yield if the rice grains have not completely filled:

#### Scale / Description

- 1 - Late and slow (leaves have natural green color)
- 5 - Intermediate (upper leaves yellowing)
- 9 - Early and fast (all leaves yellow and dead)

### Lemma and palea color (late)

#### Scale / Description

- 1 - 010 White
- 2 - 020 Straw
- 3 - 042 Gold and gold furrows
- 4 - 052 Brown (tawny)
- 5 - 053 Brown spots
- 6 - 054 Brown furrows
- 7 - 080 Purple
- 8 - 082 Reddish to light purple
- 9 - 090 Purple spots
- 10 - 091 Purple furrows
- 11 - 100 Black

### Lemma and palea pubescence

Visual assessment of the presence and distribution of mature grains using a hand lens:

#### Scale / Description

- 1 - Glabrous
- 2 - Hairs on lemma keel
- 3 - Hairs on upper portion
- 4 - Short hairs
- 5 - Long hairs (velvety)

### Apiculus color (late)

#### Scale / Description

- 1 - 010 White
- 2 - 020 Straw
- 3 - 052 Brown (tawny)
- 4 - 060 Green
- 5 - 070 Red
- 6 - 071 Red apex
- 7 - 080 Purple
- 8 - 087 Purple apex
- 9 - 100 Black

# DEFINITION AND DESCRIPTION OF TRAITS

## POSTHARVEST

### Seed coat color

Caryopsis: pericarp color; or color of the dehulled unpolished rice

#### Scale / Description

- 1 - 010 White
- 2 - 051 Light brown
- 3 - 055 Speckled brown
- 4 - 050 Brown
- 5 - 070 Red
- 6 - 088 Variable purple
- 7 - 080 Purple

### Sterile lemma color (late)

#### Scale / Description

- 1 - 020 Straw
- 2 - 040 Gold
- 3 - 070 Red
- 4 - 080 Purple

### Awn color (late)

#### Scale / Description

- 0 - 0 Absent (awnless)
- 1 - 020 Straw
- 2 - 040 Gold
- 3 - 052 Brown (tawny)
- 6 - 070 Red
- 5 - 080 Purple
- 6 - 100 Black

### Resistance to diseases

- 1. Rice blast disease – caused by *Magnaporthe oryzae*
- 2. Bacterial blight disease – caused by *Xanthomonas oryzae* pv. *oryzae*
- R - resistant
- MR - moderate resistant
- S - susceptible
- ne - not evaluated

*Note: Disease screening was done in batch at IIRR greenhouse*

# REFERENCES

- Bioversity International, IRRI and WARDA. 2007. Descriptors for wild and cultivated rice (*Oryza* spp.).  
Bioversity International, Rome, Italy; International Rice Research Institute, Los Baños, Philippines; WARDA,  
Africa Rice Center, Cotonou, Benin
- Bureau of Plant Industry. 2017. Philippine Traditional Rice Varieties. BPI, Manila, Philippines
- International Rice Research Institute. 2002. IRRI Standard Evaluation System for Rice (SES)

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