

### PRE-SEMESTER BULLETIN

June 2020

**CALABARZON** 

## AT A GLANCE

Table 1. Mean incidence of pest injuries, count of insect pests, and percentage of weed cover by month from July to December 2019.

CALABARZON			201	.9		
	JUL	AUG	SEP	ост	NOV	DEC
A. FOLIAR DISEASES						
Bacterial leaf blight	0.0	0.0	0.1	0.1	0.0	0.0
Bacterial leaf streak	0.0	0.0	0.0	0.0	0.0	0.0
Brown spot	1.0	0.1	0.4	0.5	1.4	0.0
Leaf blast	0.0	0.5	0.1	0.0	0.0	2.1
Red stripe	0.0	0.0	0.0	0.0	0.0	0.0
B. DISEASE OR PEST INJUR	Y ON TILLERS					
Deadheart	0.0	1.0	0.6	0.6	0.0	0.0
Sheath Blight	3.0	0.1	0.4	0.7	5.0	3.2
C. DISEASE OR PEST INJUR	Y ON PANICLES					
Neck Blast	0.0	0.0	0.0	0.0	0.0	0.0
Whitehead	1.2	0.0	2.4	1.9	4.0	3.1
D. SYSTEMIC DISEASE OR P	PEST INJURY					
Bugburn	0.0	0.0	0.0	0.0	0.0	0.0
Hopperburn	0.0	0.0	0.0	0.0	0.0	0.0
Tungro	0.0	0.0	0.0	0.0	0.0	0.0
E. INSECT COUNT						
Brown Planthopper	0.0	0.0	0.0	0.0	0.0	0.0
Green Leafhopper	0.0	0.0	0.1	0.1	0.1	0.0
Rice Black Bug	0.0	0.0	0.0	0.0	0.0	0.9
Rice Bug	0.3	0.5	0.3	1.2	1.2	0.1
Rice Grain Bug	0.0	0.0	0.0	0.0	0.0	0.0
F. RODENT INJURY	0.0	0.0	0.0	0.4	0.0	0.0
G. WEED COVER	1.0	3.9	7.4	11.2	4.1	1.7

1-5 % or 1-5 insects >5 % or 5 insects

Table 2. Mean incidence of pest injuries, count of insect pests, and percentage of weed cover by month from July to December 2018.

			20	018		
	JUL	AUG	SEP	ост	NOV	DEC
A. FOLIAR DISEASES						
Bacterial leaf blight	0.0	0.1	0.1	1.5	0.2	0.
Bacterial leaf streak	0.0	0.0	0.1	0.2	0.0	0.
Brown spot	0.0	0.2	1.0	0.6	1.0	0.
Leaf blast	0.0	0.0	0.6	0.9	0.1	0.
Red stripe	0.0	0.0	0.0	0.1	0.0	0.
B. DISEASE OR PEST INJURY	ON TILLERS					
Deadheart	0.0	0.2	0.5	0.3	0.2	0.
Sheath Blight	0.0	0.6	0.3	12.8	8.3	0.
C. DISEASE OR PEST INJURY	ON PANICLES					
Neck Blast	0.0	0.0	0.0	0.0	0.0	0.
Whitehead	0.0	0.0	0.0	4.8	1.9	0.
D. SYSTEMIC DISEASE OR PE	ST INJURY					
Bugburn	0.0	0.0	0.0	0.0	0.0	0.
Hopperburn	0.0	0.0	0.0	0.0	0.0	0.
Tungro	0.0	0.0	0.0	0.0	0.0	0.
E. INSECT COUNT						
Brown Planthopper	0.0	0.0	0.0	0.1	0.0	0.
Green Leafhopper	0.0	0.0	0.0	0.3	0.0	0.
Rice Black Bug	0.0	0.0	0.0	0.0	0.0	0.
Rice Bug	0.0	0.3	0.4	1.4	1.0	0.
Rice Grain Bug	0.0	0.0	0.0	0.0	0.0	0.
F. RODENT INJURY	0.0	0.0	0.1	0.4	0.1	0.
	0.0	2.7	9.8	17.6	13.3	1.

>5 % or 5 insects

1-5 % or 1-5 insects

## Growth stage

Municipalities surveyed:

Batangas: San Juan

Laguna: Santa Maria, and Santa Cruz

Quezon: Sariaya, and Infanta

Monitoring date: July 2019 - December 2019

Number of monitoring fields:

37 monitoring fields

Data collectors: Aries Labonera, Marianito Jr. Mendoza, and Rojohn Velasco

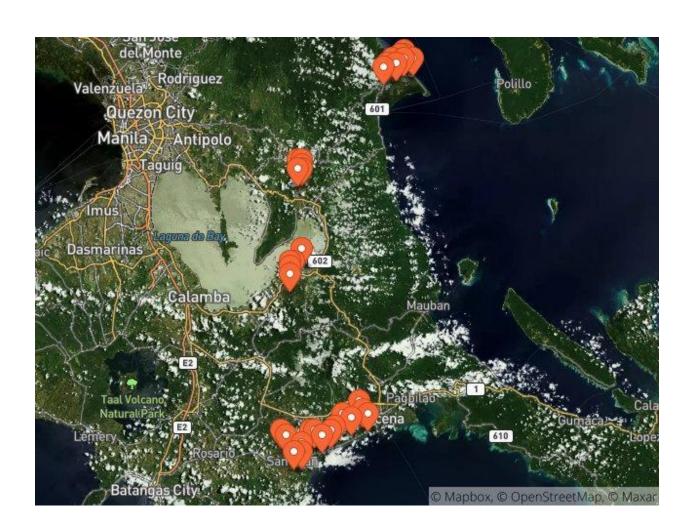


Figure 1. Monitored barangays in CALABARZON from July 2019 to December 2019. Each barangay is represented by 1 marker.

Municipalities surveyed:

Quezon: Sariaya, Lopez, and Infanta

Monitoring date:

July 2018 - December 2018

Number of

28 monitoring fields

monitoring fields:

**Data collectors:** Aries Labonera, Eugene Calabia, Krizzia Ivy Sumilang, Marianito Jr.

Mendoza, and Rojohn Velasco



Figure 2. Monitored barangays in CALABARZON from July 2018 to December 2018. Each barangay is represented by 1 marker.

Most of the fields monitored from July 2019 to December 2019 were at the vegetative stage in August to September and the peak of harvest occurred in November (Figure 3). Majority of the fields were fallow in July and December.

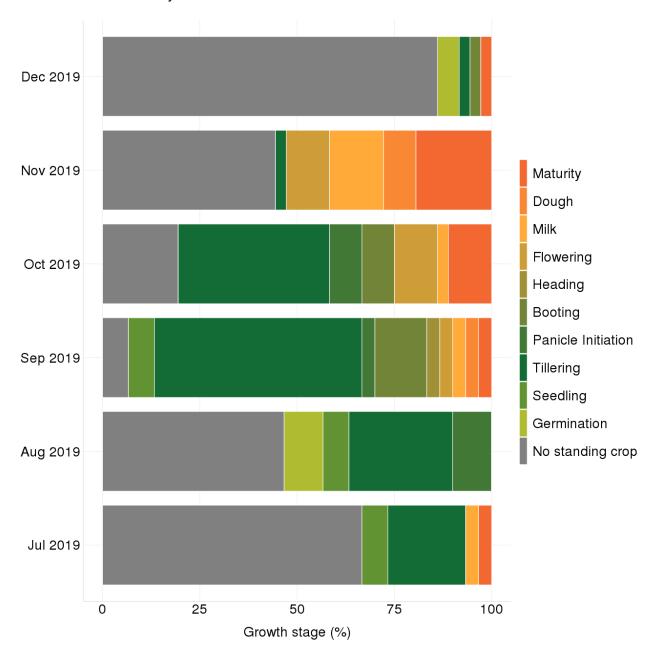


Figure 3. Proportion of crop growth stages of fields by month.

Most of the fields monitored from July 2018 to December 2018 were at the vegetative stage in August and September. The peak of harvest occurred in October (Figure 4). Majority of the fields were fallow in July and November to December.

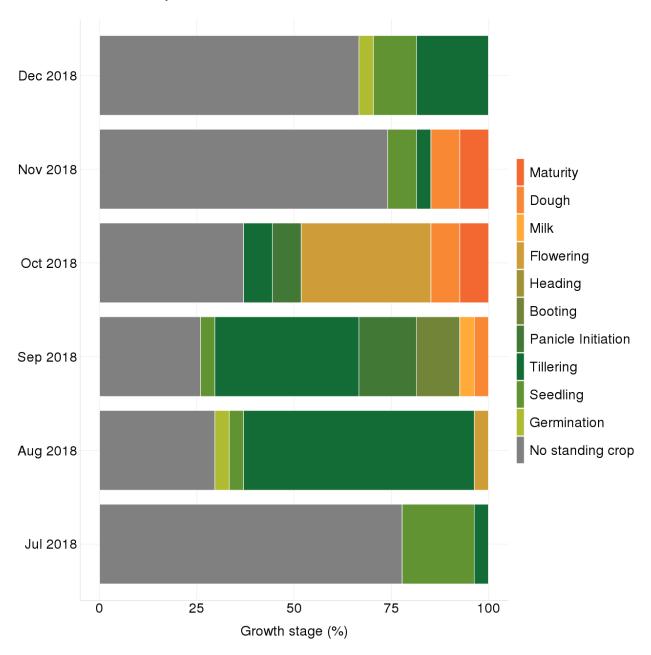


Figure 4. Proportion of crop growth stages of fields by month.

# Incidence of pest injuries, count of insect pests, and weed cover

Box plots, also known box-and-whisker plots, are presented to facilitate the visualization of the distribution or range of collected data (Figures 5 to 18). The black closed circle in or near each bar represents the mean of each pest injury. The black vertical line in each bar represents the median which refers to the midpoint of the range of data. Since it is not affected by extreme values or outliers like the mean, the median represents the most common value of a variable.

#### A. Foliar diseases

The incidence of foliar diseases during the second semester of 2018 and 2019 was generally low. Leaf blast was observed in December 2019, but the incidence was only 2%. Bacterial blight, brown spot, and leaf blast were observed during the same period in 2018, but the mean incidence was lower that 5%. The median of leaf blast incidence was 0 in all months and the median of the other diseases did not exceed 2%. The highest incidence of brown spot in 2018 was observed in Batangas. The highest incidence of leaf blast in 2019 was also observed in this province.

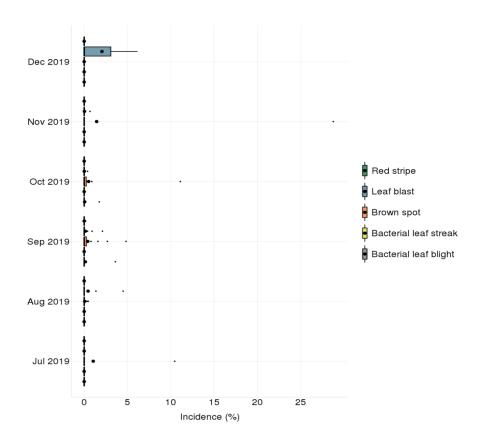


Figure 5. Incidence of foliar diseases in CALABARZON, July 2019 to December 2019.

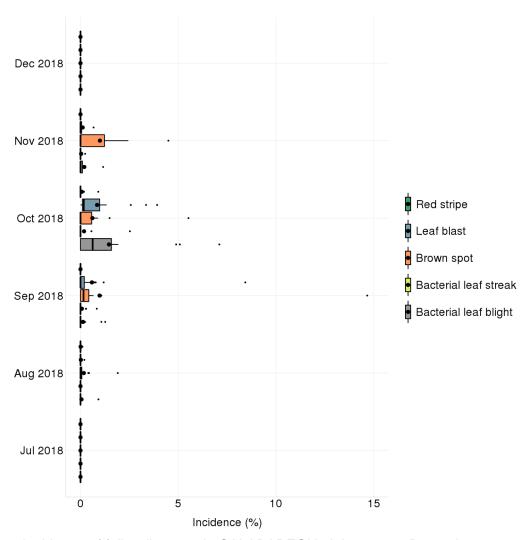


Figure 6. Incidence of foliar diseases in CALABARZON, July 2018 to December 2018.

#### B. Insect pest injuries and diseases on tillers

The average incidence of sheath blight was 3% in July 2019, 5% in November and 3% in December. However the median was 0 in July and December 2019 which indicates that it was not observed in most of the monitored fields. In November 2019, the average incidence of sheath blight was 5%, but the incidence was lower in majority of the monitored fields.

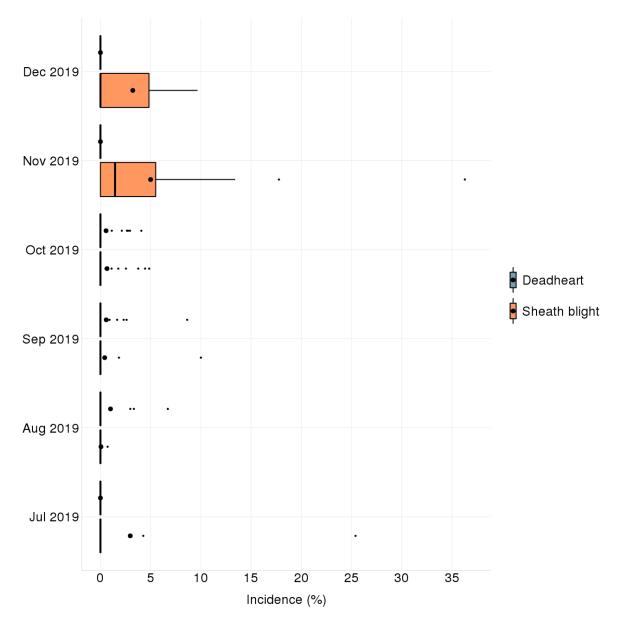


Figure 7. Incidence of deadheart and sheath blight in CALABARZON, July 2019 to December 2019.

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The average incidence of sheath blight was high in October 2019 (13%) and November (8%). The median was higher than 5% in October 2018. The highest incidence of sheath blight in 2018 was observed in Quezon and in Batangas in 2019. The highest incidence of sheath blight in 2018 was observed in Quezon

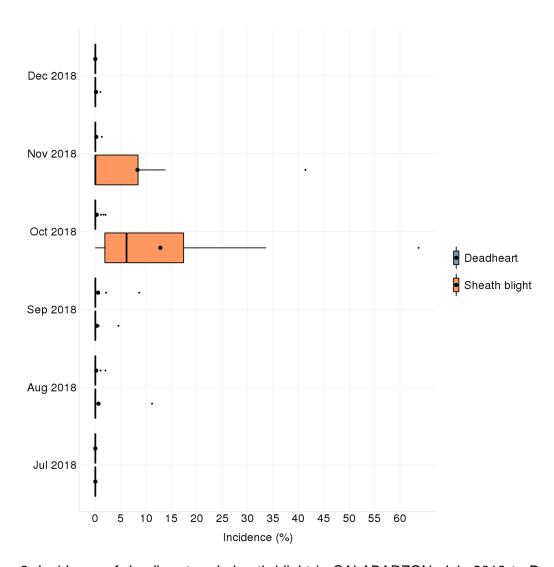


Figure 8. Incidence of deadheart and sheath blight in CALABARZON, July 2018 to December 2018.

#### C. Insect pest injuries and diseases on panicles

Whitehead was observed in all months, except July, during the second semester of 2019. The average incidence was 2% in October, 4% in November and 3% in December. The median of 2% in October was higher than that in the other months. The highest incidence of whitehead in 2019 was observed in Laguna.

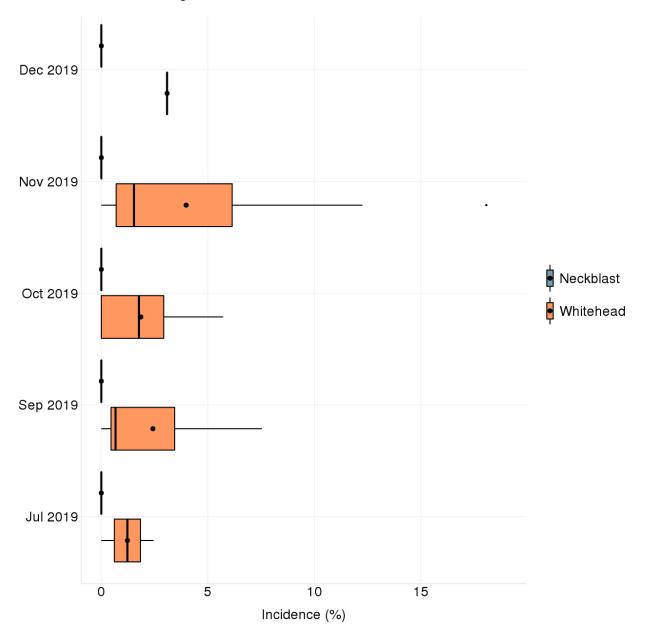


Figure 9. Incidence of neck blast and whitehead in CALABARZON, July 2019 to December 2019.

During the same period in 2018, incidence was 4% in October and 2% in November. However, the median was 0 in October and only 1% in November.

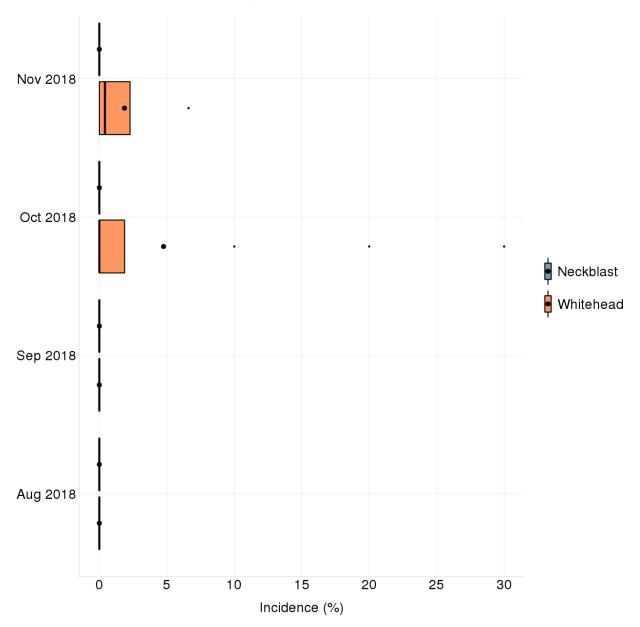


Figure 10. Incidence of neck blast and whitehead in CALABARZON, July 2018 to December 2018.

#### D. Systemic diseases and insect pest injuries

The incidence of bugburn and hopperburn caused by stem borers and tungro during the year was negligible (Figure 11).

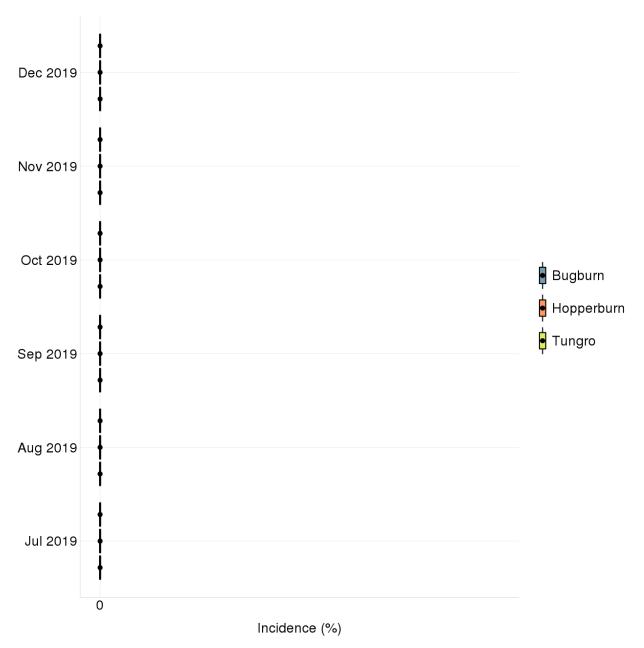


Figure 11. Incidence of bugburn, hopperburn and tungro in CALABARZON, July 2019 to December 2019.

The incidence of bugburn and hopperburn caused by stem borers and tungro during the year was negligible (Figure 12).

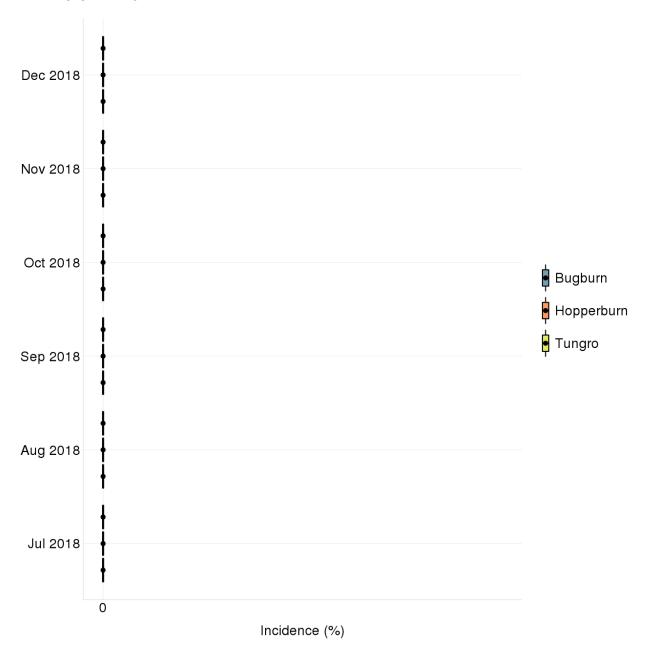


Figure 12. Incidence of bugburn, hopperburn and tungro in CALABARZON, July 2018 to December 2018.

#### E. Insect count

The number of monitored insect pests was negligible in 2018 and 2019.

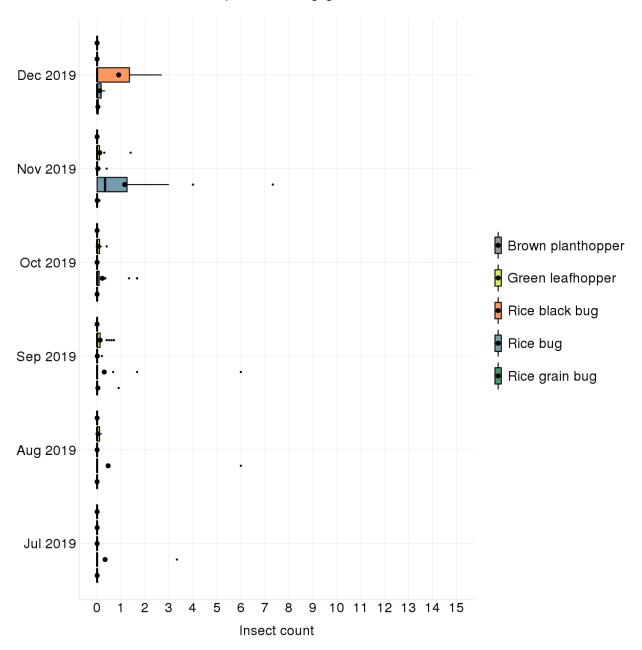


Figure 13. Count of insect pests in CALABARZON, July 2019 to December 2019.

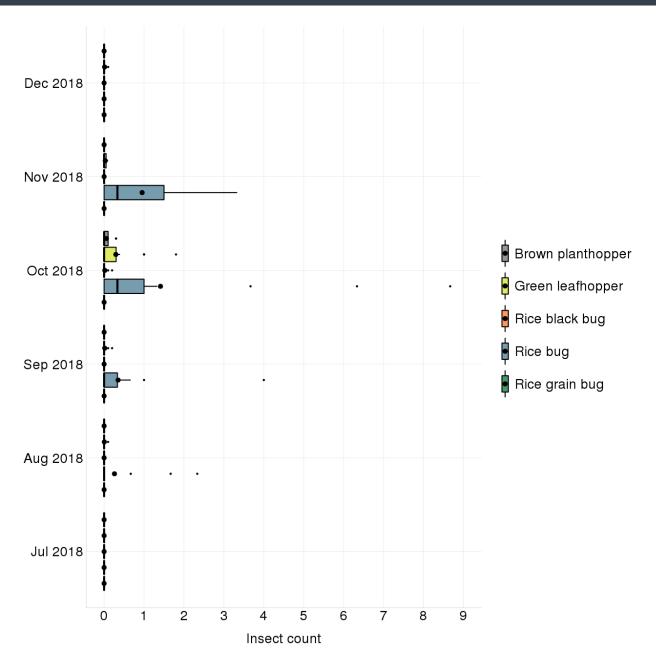


Figure 14. Count of insect pests in CALABARZON, July 2018 to December 2018.

#### F. Rodent injury

The incidence of rodent injury during the period was negligible during both years (Figures 15 and 16).

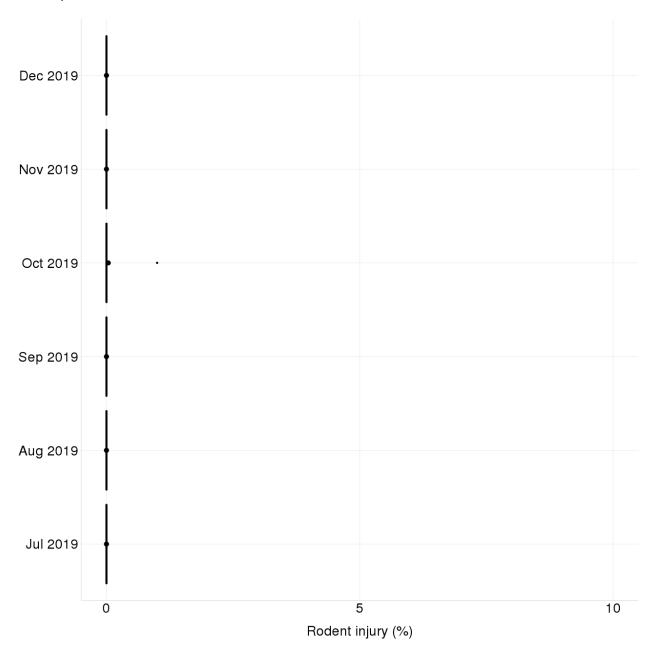


Figure 15. Incidence of rodent injury in CALABARZON, July 2019 to December 2019.

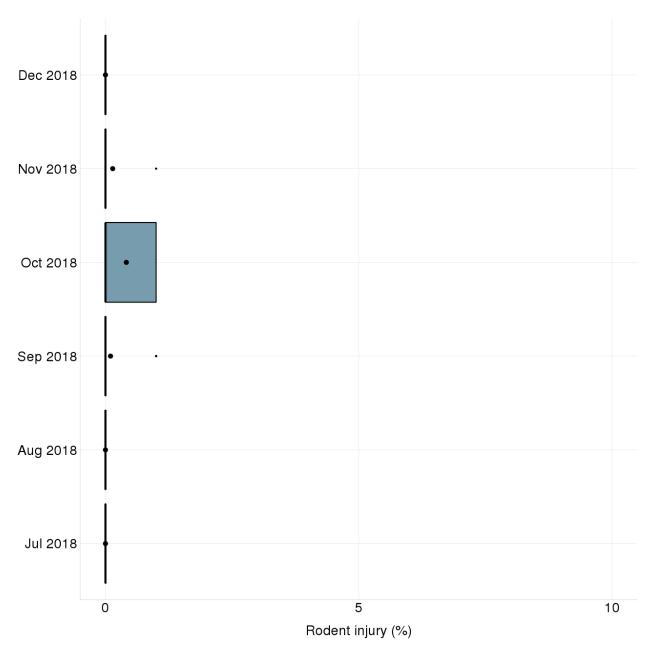


Figure 16. Incidence of rodent injury in CALABARZON, July 2018 to December 2018.

#### G. Weed cover

Weed cover was high in 2018 and 2019. In 2019, weed cover was 8% and 11% in September and October, respectively. In 2018, weed cover was 10% in August, 18% in September and 13% in October. However, most of the fields were fallow in October 2018. Weed cover was generally higher in Batangas and Quezon than in Laguna.

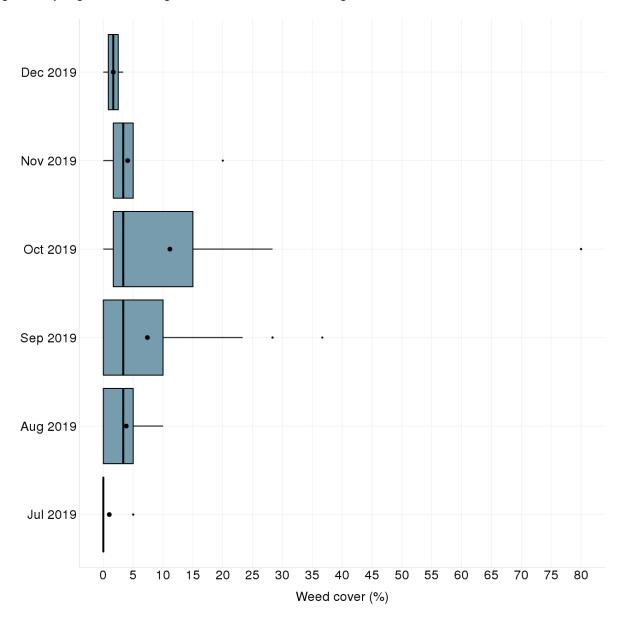


Figure 17. Percentage of weed cover in CALABARZON, July 2019 to December 2019.

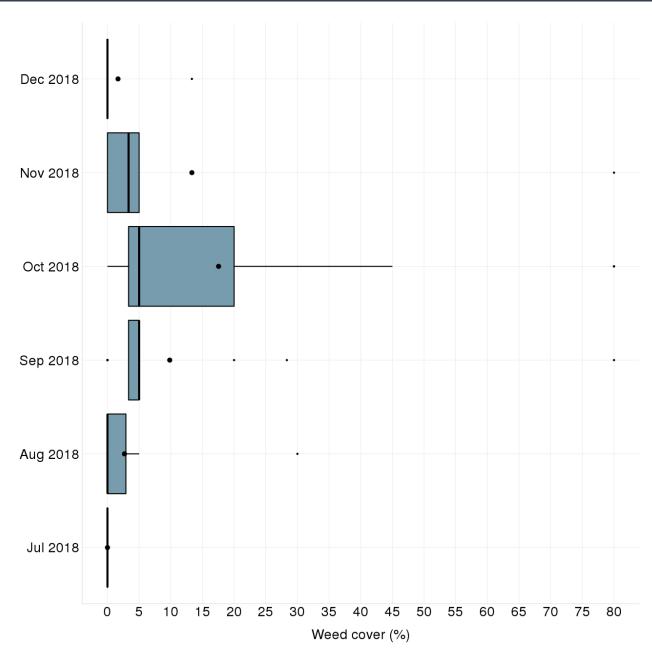


Figure 18. Percentage of weed cover in CALABARZON, July 2018 to December 2018.

## Management of major pests

This section describes the management of the most important pests during the reporting period. A pest is operationally considered important if the mean incidence in at least one month was 5% or higher.

#### Weeds

- 1. Plow and harrow the field several times before crop establishment. If feasible, start land preparation 3-4 weeks before planting.
- 2. If weedy rice is a problem, apply glyphosate before land preparation or seeding. The application of pretilachlor with fenchlorim during final land preparation or levelling has also been reported to reduce weedy rice.
- 3. Practice stale seedbed technique. According to the IRRI Knowledge Bank (http://www.knowledgebank.irri.org/step-by-step-production/growth/weed-management/stale-seedbed-technique), this technique is done as follows:
  - a. Perform tillage operations. Plow, harrow, and level the field.
  - b. Stimulate weed emergence by light irrigation.
  - c. Irrigate the field at least two weeks before sowing.
  - d. Maintain enough soil moisture to allow weeds to germinate.
  - e. Kill the emerged seedlings using non-selective herbicides (e.g., glyphosate) or light cultivation.
  - f. If the soil condition is suitable for sowing, broadcast seeds without further tillage operations. Tillage could bring more weed seeds near the soil surface, thus promoting weed germination.
- 4. Level the field to ensure a constant water level that controls weeds. Avoid high spots where weeds can grow.
- 5. Apply pre-emergence herbicide (e.g., pretilachlor + fenclorim 2-3 days after sowing). Follow recommended amount and timing of product and water condition in the field as indicated in the label. Do not use the same herbicide over long periods to prevent herbicide resistance.
- 6. If grass weeds are the main weed problem, apply early post-emergence herbicide.
- 7. Maintain a 2-5 cm water level in the field to minimize weed emergence. If water is sufficient, flood the fields until closure of the plant canopy.
- 8. Apply nitrogen fertilizer just after weeding to minimize rice-weed competition for nitrogen.

- 9. If feasible, consider the use of biological control agents to suppress growth or reduce population of weeds.
- 10. If feasible, plow the field during fallow to kill weeds and prevent the build-up of weed seeds in the soil.

#### **Sheath blight**

- 1. There is currently no variety with reliable resistance to sheath blight. Varieties are either moderately or highly susceptible.
- 2. Use optimum plant spacing (e.g., 20 cm x 20 cm) for transplanted rice. A dense plant canopy creates a favorable microclimate for disease development (reduced sunlight penetration, longer leaf wetness duration and cooler temperature).
- Manage the application of nutrient fertilizer. Apply only the recommended amount of nitrogen. Excessive amount of nitrogen favors the development of sheath blight. Nitrogen makes the plant tissues softer and creates a dense canopy that results in favorable microclimate for disease development.
- 4. Apply the required amount of nitrogen in splits instead of applying all the required amount at the start of the cropping season.
- 5. Apply potassium and other required nutrients in addition to nitrogen. Potassium reduces the amount of most rice diseases.
- 6. Apply calcium silicate fertilizer or silicon fertilizer when feasible.
- 7. Apply Trichoderma spp. to control sheath blight. The application of Trichoderma may also increase plant vigor. Purchase a product that has been formulated and maintained according to strict quality control measures. Follow the directions on how to use and store the product as recommended by the manufacturer to maintain its viability.
- 8. Keep the field free from weeds because the pathogen can infect most of the weed species in rice fields.
- 9. Use fungicides as last resort in controlling the disease. If necessary, apply fungicides, such as azoxystrobin or ready mixture of differentiation and propiconazole at 7 days after panicle differentiation to heading.
- 10. Avoid repetitive use of a single active ingredient and mix or alternate an active ingredient with an appropriate partner. Integrate the use of chemical pesticides with cultural practices or non-chemical methods. Wherever feasible, several strategies should be used together.
- 11. If plants had severe disease, cut the stubbles close to the ground and remove them from the field. A less laborious option is to immediately plow or rotavate the field after harvest to incorporate infected stubbles and crop residues in the soil.

- 12. Avoid ratooning because the pathogen can survive on ratoon.
- 13. Keep the field dry during fallow period. Drying may reduce the survival of the pathogen but may not completely control the disease because it can survive on dead plant tissues.

#### Deadheart and whitehead caused by stemborer

- 1. Know the peak of yellow stem borer population in the area. This can be done using light traps. Do not transplant or sow seeds when insect population is high.
- 2. Consider the use of pheromones to control stemborers.
- 3. The most practical and economical approach to manage whitehead is to grow a resistant variety. Rotate varieties with different levels of resistance because a resistant variety may later become susceptible if grown continuously across several cropping seasons.
- 4. Practice planting synchrony with defined fallow period in your area. Asynchronous planting results in overlapping generations of stemborer throughout the year. If this is not possible, a farmer who intends to grow a susceptible variety should not establish his crop later than most farmers' fields.
- 5. Raise level of irrigation water periodically to submerge the eggs on the lower parts of the plant.
- 6. Manage the application of nutrient fertilizers. Apply the required amount of nitrogen in splits instead of applying all the required amount at the start of the cropping season. Nitrogen makes the plant tissues softer and facilitates penetration of stemborer larvae.
- 7. Remove alternate hosts during the cropping season and fallow period.
- 8. If high infestation occurred, cut stubbles close to the ground and dry or remove stubbles from the field. A less laborious option is to plow the field during fallow to bury stubbles.
- 9. Do not apply insecticides during the early vegetative stage. Systemic insecticides may be applied after the vegetative stage. Systemic insecticides were found to be more effective than contact insecticides because the larvae and pupae are inside the stem. Insecticides should be used with extreme caution. Monitor the population of stemborers and intensity of deadheart or whitehead prior to the application of insecticides because its efficacy is low when generations of stemborer overlap and when damage is already severe. Insecticides should be used as the last resort and should be integrated with other methods to conserve natural enemies.

## **Annexes**

CALABARZON				20	18					20	019		
Batangas		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
A. FOLIAR DIS	EASES												
Bacterial leaf	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
blight	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
Bacterial leaf	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
streak	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
Brown spot	mean	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.2	1.1	3.1	7.2	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.2	0.1	0.6	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	10.4	0.5	4.8	11.1	28.8	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
Leaf blast	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2
	count	0	0	0	0	0	0	2	2	5	4	4	1
Red stripe	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
B. DISEASE OF	R PEST INJU	RY ON	TILLER	S									
Deadheart	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
Sheath Blight	mean	0.0	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0	0.6	0.2	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	25.4	0.0	0.0	2.5	0.8	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
						EGENI	)						
Blue fo	ont	> 5 to 3	10 % in	cidence				est injuri	es or we	eed cove	er or 5 to	10 insect	S.
Red fo	ont							-			> 10 inse		

Annex Table 1. Incidence of diseases or pest injuries during the previous 2nd semesters.

CALABARZON	I			20	18					2	019		
Batangas		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
C. DISEASE O	R PEST INJU	IRY ON	PANICL	.ES									
Neck Blast	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	1	0	1	1	3	0
Whitehead	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.9	6.4	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.9	1.1	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.9	18.1	0.0
	count	0	0	0	0	0	0	1	0	1	1	3	0
D. SYSTEMIC	DISEASE OR	PEST I	NJURY										
Bugburn	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	gburn mean median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
Hopperburn	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
Tungro	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
					L	EGEND							
Blue 1	font	> 5 to 1	L0 % inc	idence	of dise	ases, ins	ect pes	t injurie	es or we	ed cove	er or 5 to	10 insect	ts.
Red f	ont							-			> 10 ins		

Annex Table 2. Incidence of diseases or pest injuries during the previous 2nd semesters.

CALABARZON				20	18					20	19		
Batangas		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
E. INSECT CO	UNT												
Brown	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Planthopper	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
Green	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Leafhopper	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
Rice Black	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bug	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
Rice Bug	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.1	1.3	0.3
r	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.3
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.3	3.0	0.3
	count	0	0	0	0	0	0	2	2	5	4	4	1
Rice Grain	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bug	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
F. RODENT	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INJURY	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	2	2	5	4	4	1
G. WEED	mean	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	8.7	29.6	6.7	3.3
COVER	median	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	3.3	15.0	3.3	3.3
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	28.3	80.0	20.0	3.3
	count	0	0	0	0	0	0	2	2	5	4	4	1
					ı	EGEND	)						
Blue f	ont	> 5 to 1	10 % ind	cidence				est inju	ries or w	eed cove	er or 5 to	10 insect	s.
Red f	ont							-		cover or			

Annex Table 3. Incidence of pest injuries, count of insect pests, and percentage of weed cover during the previous 2nd semesters.

CALABARZON				20	18					20:	19		
Laguna		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
A. FOLIAR DIS	EASES												
Bacterial leaf	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.2	0.0	0.0
blight	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	1.8	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
Bacterial leaf	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
streak	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
Brown spot	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.4	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
Leaf blast	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.1	0.0	0.1	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.4	0.0	0.7	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	C
Red stripe	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
B. DISEASE OF	R PEST INJU	RY ON	TILLER	s									
Deadheart	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.3	0.4	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.7	2.6	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	C
Sheath Blight	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.7	1.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	4.9	2.7	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
					L	EGEND							
Blue fo	ont	> 5 to 1	.0 % inc	idence			ect pes	t injuri	es or we	ed cover	or 5 to :	10 insect	ïs.
Red fo								-		over or >			

Annex Table 4. Incidence of diseases or pest injuries during the previous 2nd semesters.

CALABARZON				20	18					20	019		
Laguna		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
C. DISEASE O	R PEST INJU	IRY ON	PANICL	ES									
Neck Blast	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	0	0	2	5	5	0
Whitehead	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	1.5	3.4	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	4.6	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	5.7	6.6	0.0
	count	0	0	0	0	0	0	0	0	2	5	5	0
D. SYSTEMIC	DISEASE OR	PEST II	NJURY										
Bugburn	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
Hopperburn	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
Tungro	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
					LI	EGEND							
Blue 1	ont	> 5 to 1	.0 % inc	idence	of disea	ases, ins	ect pest	t injurie	s or wee	ed cove	r or 5 to	10 insec	ts.
Red f	ont							-			≥ 10 inse		

Annex Table 5. Incidence of diseases or pest injuries during the previous 2nd semesters.

CALABARZON				20	18					201	9		
Laguna		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
E. INSECT CO	UNT												
Brown	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Planthopper	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
Green	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0
Leafhopper	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.1	0.1	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
Rice Black	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bug	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
Rice Bug	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.7	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.3	2.7	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
Rice Grain	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bug	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
F. RODENT	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INJURY	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
G. WEED	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	4.3	1.9	4.0	0.0
COVER	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	1.7	1.7	5.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	15.0	6.7	5.0	0.0
	count	0	0	0	0	0	0	4	4	5	9	5	0
					L	EGEND							
Blue f	ont	> 5 to 1	L0 % inc	idence	of dise	ases, in	sect pe	st injuri	es or wee	d cover	or 5 to 1	.0 insect	s.
Red f	ont	> 10 %	incider	nce of d	liseases	, insect	pest in	juries o	r weed co	ver or > :	10 insec	ts.	

Annex Table 6. Incidence of pest injuries, count of insect pests, and percentage of weed cover during the previous 2nd semesters.

CALABARZON				20	18					2	019		
Quezon		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
A. FOLIAR DIS	EASES												
Bacterial leaf	mean	0.0	0.1	0.1	1.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
blight	median	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.9	1.3	7.1	1.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0
	count	6	18	20	17	7	8	4	7	18	16	11	:
Bacterial leaf	mean	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
streak	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.8	2.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	6	18	20	17	7	8	4	7	18	16	11	:
Brown spot	mean	0.0	0.2	1.0	0.6	1.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0
	median	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	1.9	14.7	5.5	4.5	0.0	0.0	0.3	2.7	0.6	0.0	0.0
	count	6	18	20	17	7	8	4	7	18	16	11	:
Leaf blast	mean	0.0	0.0	0.6	0.9	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.
	median	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
ma	maximum	0.0	0.2	8.4	3.9	0.7	0.0	0.0	0.0	2.1	0.4	0.0	0.
	count	6	18	20	17	7	8	4	7	18	16	11	
Red stripe	mean	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
	maximum	0.0	0.1	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
	count	6	18	20	17	7	8	4	7	18	16	11	:
B. DISEASE OF	R PEST INJU	RY ON	TILLERS	,									
Deadheart	mean	0.0	0.2	0.5	0.3	0.2	0.0	0.0	1.4	0.8	0.8	0.0	0.
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
	maximum	0.0	2.0	8.7	2.0	1.3	0.0	0.0	6.7	8.6	4.1	0.0	0.
	count	6	18	20	17	7	8	4	7	18	16	11	
Sheath Blight	mean	0.0	0.6	0.3	12.8	8.3	0.1	1.1	0.1	0.1	0.6	8.6	4.
	median	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	5.0	4.
	maximum	0.0	11.2	4.6	63.7	41.4	1.0	4.3	0.7	1.9	4.4	36.3	9.
	count	6	18	20	17	7	8	4	7	18	16	11	;
					LEG	END							
Blue fo	ont	> 5 to 3	L0 % inci	dence o	f disease		pest ir	njuries	or weed	d cover	or 5 to	10 insect	s.
Red fo					eases, in			-					

Annex Table 7. Incidence of diseases or pest injuries during the previous 2nd semesters.

CALABARZON	I			20	18					2	019		
Quezon		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
C. DISEASE O	R PEST INJU	JRY ON	PANIC	.ES									
Neck Blast	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	1	2	13	4	0	1	0	2	3	11	1
Whitehead	mean	0.0	0.0	0.0	4.8	1.9	0.0	2.5	0.0	0.2	2.1	3.6	3.1
	median	0.0	0.0	0.0	0.0	0.4	0.0	2.5	0.0	0.2	2.2	1.5	3.1
	maximum	0.0	0.0	0.0	30.0	6.6	0.0	2.5	0.0	0.5	4.1	12.3	3.1
	count	0	1	2	13	4	0	1	0	2	3	11	1
D. SYSTEMIC	DISEASE OR	PEST I	NJURY										
Bugburn	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	6	18	20	17	7	8	4	7	18	16	11	2
Hopperburn	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	6	18	20	17	7	8	4	7	18	16	11	2
Tungro	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	6	18	20	17	7	8	4	7	18	16	11	2
					LE	GEND							
Blue	font	> 5 to 3	10 % inc	cidence	of diseas	ses, inse	ct pest	injurie	s or we	ed cove	r or 5 to	10 insect	s.
Red f	ont	> 10 %	incide	nce of di	iseases,	insect n	est iniu	ries or	weed co	over or :	> 10 inse	ects.	

Annex Table 8. Incidence of diseases or pest injuries during the previous 2nd semesters.

CALABARZON				20	)18					20	19		
Quezon		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
E. INSECT CO	UNT												
Brown	mean	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Planthopper	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	6	18	20	17	7	8	4	7	18	16	11	2
Green	mean	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0
Leafhopper	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.1	0.2	1.8	0.1	0.1	0.0	0.0	0.7	0.4	1.4	0.0
	count	6	18	20	17	7	8	4	7	18	16	11	2
Rice Black	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.4
Bug	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
	maximum	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.4	2.7
	count	6	18	20	17	7	8	4	7	18	16	11	2
Rice Bug	mean	0.0	0.3	0.4	1.4	1.0	0.0	0.8	0.9	0.0	2.0	1.3	0.0
	median	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.7	0.0
	maximum	0.0	2.3	4.0	8.7	3.3	0.0	3.3	6.0	0.0	27.7	7.3	0.0
	count	6	18	20	17	7	8	4	7	18	16	11	2
Rice Grain	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Bug	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.1
	count	6	18	20	17	7	8	4	7	18	16	11	2
F. RODENT	mean	0.0	0.0	0.1	0.4	0.1	0.0	0.0	0.0	0.0	0.7	0.0	0.0
INJURY	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	10.2	0.0	0.0
	count	6	18	20	17	7	8	4	7	18	16	11	2
G. WEED	mean	0.0	2.7	9.8	17.6	13.3	1.7	1.3	3.1	7.9	11.8	3.2	0.8
COVER	median	0.0	0.0	5.0	5.0	3.3	0.0	0.0	3.3	3.3	5.0	3.3	0.8
	maximum	0.0	30.0	80.0	80.0	80.0	13.3	5.0	8.3	36.7	80.0	5.0	1.7
	count	6	18	20	17	7	8	4	7	18	16	11	2
					LEG	SEND							
Blue f	ont	> 5 to 3	10 % inc	idence c	of diseas	es, insec	t pest ir	ijuries	or wee	d cover o	or 5 to 10	) insects	S.
Red f	ont	> 10 %	inciden	ce of dis	eases. ii	nsect pe	st iniurie	es or w	eed cov	er or > 1	L0 insect	S.	

Annex Table 9. Incidence of pest injuries, count of insect pests, and percentage of weed cover during the previous 2nd semesters.