

PRE-SEMESTER BULLETIN

June 2020

REGION I - ILOCOS REGION

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.

Region I			20	19		
	JUL	AUG	SEP	ост	NOV	DEC
A. FOLIAR DISEASES						
Bacterial leaf blight	0.8	0.9	1.1	0.7	1.9	2.8
Bacterial leaf streak	0.3	1.1	2.2	0.8	0.3	0.5
Brown spot	0.4	0.8	1.1	2.2	1.0	0.7
Leaf blast	0.0	0.5	0.4	0.5	0.4	0.2
Red stripe	0.0	0.2	0.1	0.0	0.0	0.0
B. DISEASE OR PEST INJUR	Y ON TILLERS					
Deadheart	0.2	0.4	0.3	0.2	0.4	0.7
Sheath Blight	0.0	0.2	0.6	2.0	0.1	0.0
C. DISEASE OR PEST INJUR	Y ON PANICLES					
Neck Blast	0.2	1.1	0.2	0.2	0.4	0.2
Whitehead	3.4	2.4	1.1	1.4	1.4	3.7
D. SYSTEMIC DISEASE OR P	EST INJURY					
Bugburn	0.0	0.0	0.0	0.0	0.0	0.3
Hopperburn	0.0	0.2	0.1	0.0	0.1	0.0
Tungro	0.2	0.0	0.0	0.2	0.0	0.0
E. INSECT COUNT						
Brown Planthopper	0.0	0.2	0.8	0.2	0.1	0.0
Green Leafhopper	0.0	0.2	0.5	0.3	0.2	0.1
Rice Black Bug	0.0	0.0	0.0	0.0	0.0	0.0
Rice Bug	0.1	0.2	0.4	2.1	1.4	0.6
Rice Grain Bug	0.0	0.0	0.0	0.2	0.1	0.0
F. RODENT INJURY	0.0	0.0	0.0	0.1	0.0	0.0
G. WEED COVER	1.7	2.4	3.1	2.3	0.7	0.8

Mean of all monitoring fields.

LEGEND

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.

Region I			20	18		
	JUL	AUG	SEP	ост	NOV	DEC
A. FOLIAR DISEASES						
Bacterial leaf blight	0.5	2.2	1.8	9.1	1.0	0.4
Bacterial leaf streak	0.3	0.8	1.6	1.7	4.2	0.1
Brown spot	1.4	1.3	0.7	1.2	1.3	1.5
Leaf blast	0.4	0.3	0.2	0.4	0.2	0.8
Red stripe	0.1	0.1	0.1	0.1	0.0	0.2
B. DISEASE OR PEST INJURY	ON TILLERS					
Deadheart	0.2	0.2	0.6	0.3	0.5	0.1
Sheath Blight	0.7	1.1	1.6	2.8	0.3	0.2
C. DISEASE OR PEST INJURY	ON PANICLES					
Neck Blast	0.0	0.8	0.7	0.2	1.1	0.2
Whitehead	0.5	1.1	0.8	1.6	2.4	0.8
D. SYSTEMIC DISEASE OR PE	EST INJURY					
Bugburn	0.1	0.0	0.0	0.0	0.0	0.0
Hopperburn	0.0	0.5	0.0	0.0	0.0	0.0
Tungro	0.0	0.0	0.2	0.0	0.0	0.1
E. INSECT COUNT						
Brown Planthopper	0.0	0.8	0.9	0.1	0.1	0.1
Green Leafhopper	0.0	0.3	1.1	0.5	0.2	0.1
Rice Black Bug	0.2	0.0	0.0	0.1	0.0	0.0
Rice Bug	0.1	0.1	0.3	0.8	0.6	0.2
Rice Grain Bug	0.0	0.0	0.0	0.0	0.0	0.0
F. RODENT INJURY	0.1	0.0	0.0	0.1	0.0	0.0
G. WEED COVER	1.2	3.1	1.5	0.5	4.2	0.7

Mean of all monitoring fields.

LEGEND

1-5 % or 1-5 insects

>5 % or 5 insects

Table 3. Important pest observed in the region for the last 2^{nd} semester 2018 and 2^{nd} semester 2019.

Pest	Month with peak	injury/population
resi	2 nd semester 2018	2 nd semester 2019
FOLIAR DISEASES		
Bacterial leaf blight	October	December
Bacterial leaf streak	November	September
Brown spot	November	October
DISEASE OR PEST INJURY ON TILLERS		
Sheath blight	October	October
DISEASE OR PEST INJURY ON PANICLES		
Whitehead	November	July, December
Neck blast	November	August
INSECT COUNT		
Rice bug	October	October

The peak of bacterial leaf blight, bacterial leaf streak and brown spot were observed in October (9.1%), November (4.2%) and December (1.5%) of 2018, respectively and in December (2.8%), September (2.2%) and October (2.2%) of 2019, respectively.

The peak of sheath blight incidence was commonly observed in the month of October in both 2018 (2.8%) and 2019 (2.0%).

Neck blast incidence peaks (1.1%) were observed in November of 2018 and August of 2019. Increase in white head injury were observed months before and after peak of harvesting. Highest was recorded in November (2.4%) of the year 2018, July (3.4%) of 2019 and December (3.7%) of 2019

The population of rice bug was observed to reach their highest mean of 2.1/sqm in October 2019 or during the harvesting month.

The peak of weed cover was commonly observed when most of the crops were at the reproductive growth stages.

Pest injury incidence, population and weed cover at provincial level is presented in Annex tables for area prioritization.

Monitored fields and data collectors

Municipalities	llocos Norte: Bacarra, Dingras, and Vintar
surveyed:	llocos Sur: Bantay, Cabugao, Santa Lucia, and Sinait
	La Union: Agoo, Aringay, Bangar, Bauang, Luna, and Naguilian
	Pangasinan: Mangatarem, Rosales, and Santa Barbara
Monitoring date:	July 2019 - December 2019
Number of	216 monitoring fields

Number of 216 monitoring fields monitoring fields:

Data collectors: Alvin Lawrence Natividad, Andrelord Medina, Cesar Vidad, Chris Quinto, Clemente Viernes, Comelia Opinaldo, Cornelio Balbesino, Elizabeth Carreon, Florie Mae Chung, Franz Aslor, Frederick Gomez, Freida Aquino, Gilbert Abella, Grace Gotgotao, Jayson Anthony Domingo, Joey Gapuzan, Jordan Briones, Juan de Guzman, Juvy Aromin, Katrine Joy Tapuro, Kristel Mae Yadao, Leander de la Rosa, Marvin Estoesta, Obas Baclig, Perlira Corpuz, Raquel Lopez, Raymond Tunac, Raymund Sarmiento, Regina Labiano, Ricardo Jr Navarro, Romel Pio, Romeo Yapit, Rosemarie Vilog, Samuel Villanueva, and Sheila Blair Torio

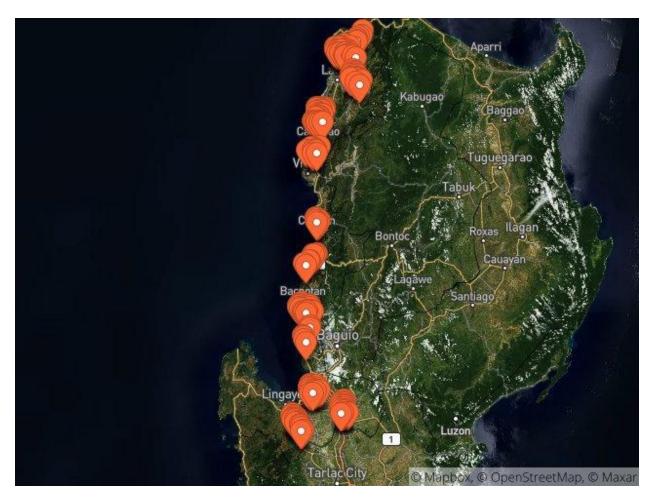


Figure 1. Monitored barangays in Region I from July 2019 to December 2019. Each barangay is represented by 1 marker.

Municipalities surveyed:	Ilocos Norte: Bacarra, Dingras, and Vintar Ilocos Sur: Bantay, Cabugao, Santa Lucia, and Sinait La Union: Agoo, Aringay, Bangar, Bauang, Luna, and
	Naguilian
	Pangasinan: Mangatarem, Rosales, and Santa Barbara
Monitoring date:	July 2018 - December 2018
Number of monitoring fields:	139 monitoring fields
Data collectors:	Andrelord Medina, Arnel Felipe, Cesar Vidad, Chris Quinto, Clemente Viernes, Comelia Opinaldo, Cornelio Balbesino, Danilo Bajit, Elizabeth Carreon, Florie Mae Chung, Grace Gotgotao, Jayson Anthony Domingo, Jessie Sacopla, Joey Gapuzan, Jordan Briones, Juvy Aromin, Katrine Joy Tapuro, Leander de la Rosa, Marvin Estoesta, Noemi Inong, Obas Baclig, Oliver Jasmin, Perlira Corpuz, Raquel Lopez, Raymond Tunac, Raymund Sarmiento, Regina Labiano, Ricardo Jr Navarro, Romel Pio, Romeo Yapit, Rosemarie Vilog, Sheila

Blair Torio, and Victoria Cavinta

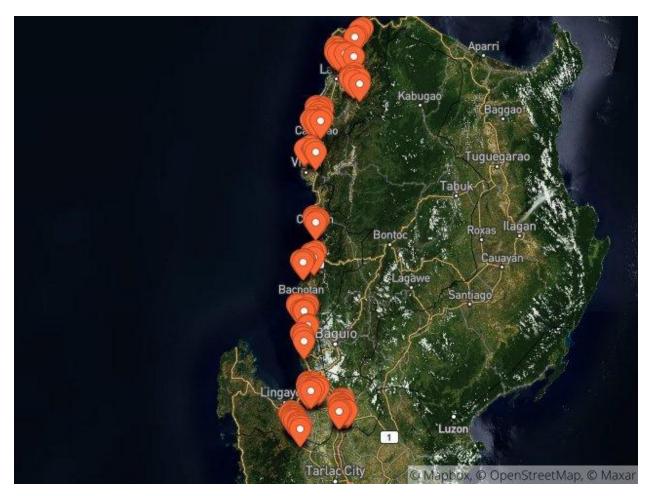


Figure 2. Monitored barangays in Region I from July 2018 to December 2018. Each barangay is represented by 1 marker.

Growth stage

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

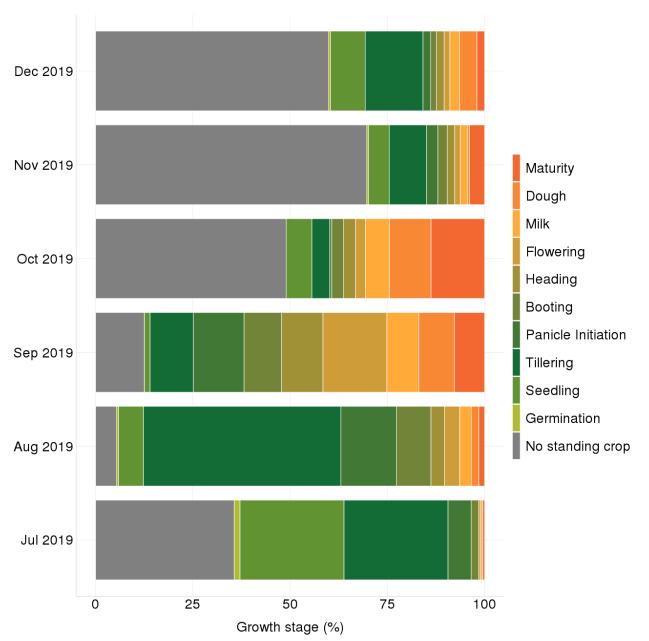


Figure 3. Proportion of crop growth stages of fields by month.

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

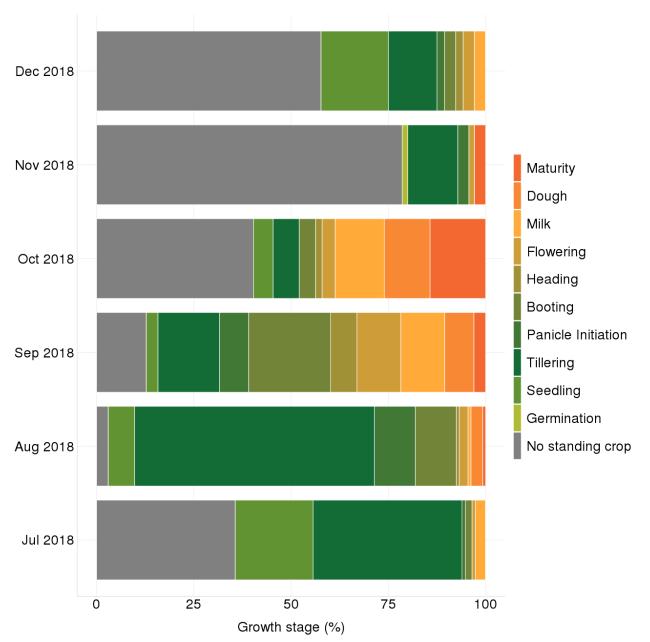


Figure 4. Proportion of crop growth stages of fields by month.

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 most foliar diseases during the second semesters of 2018 and 2019 were generally negligible. However, peak of bacterial leaf blight incidence of with a mean of 9.1% was observed in October 2018 but it was not observed in 2019(Figure 5 and 6). The median incidence of foliar diseases was 0 in almost all months.

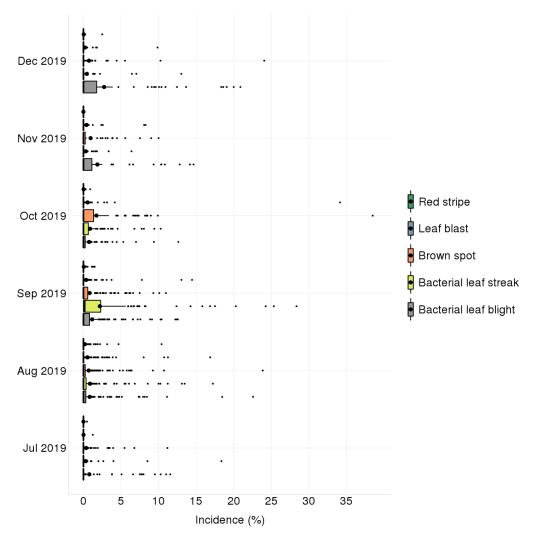


Figure 5. Incidence of foliar diseases in Region I, July 2019 to December 2019.

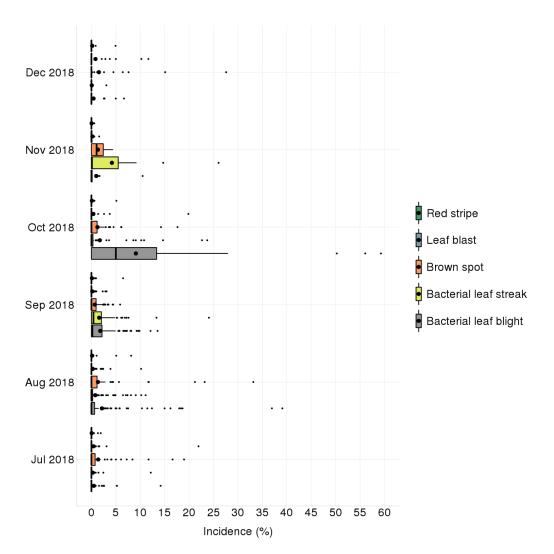
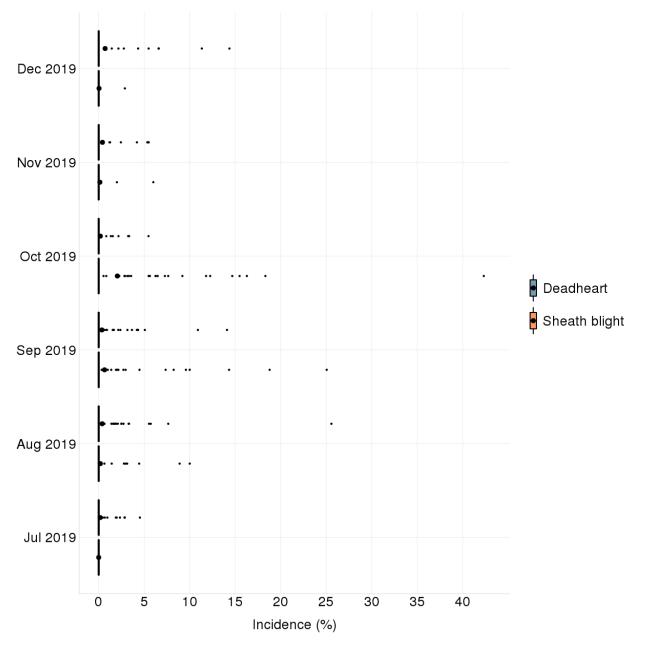
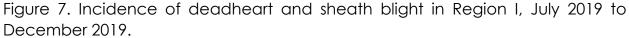


Figure 6. Incidence of foliar diseases in Region I, July 2018 to December 2018.

B. Insect pest injuries and diseases on tillers

The incidence of dead heart and sheath blight during the second semesters of 2018 and 2019 were generally negligible (Figure 7 and 8).





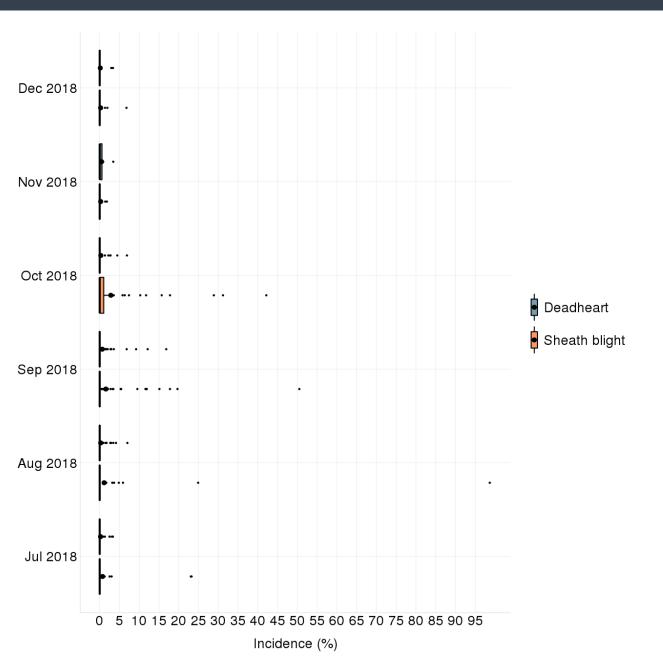


Figure 8. Incidence of deadheart and sheath blight in Region I, July 2018 to December 2018.

C. Insect pest injuries and diseases on panicles

The incidence of Neck blast and white head during the second semesters of 2018 and 2019 were generally negligible (Figure 9 and 10). The peak of neck blast was observed in the month of October of both 2018 and 2019 with a mean of 1.1% injury. White head incidences were noted mostly before and after peak of harvesting month in the region. Highest was recorded on November (2.4%) of 2018, July (3.4%) of 2019 and December (3.7%) of 2019

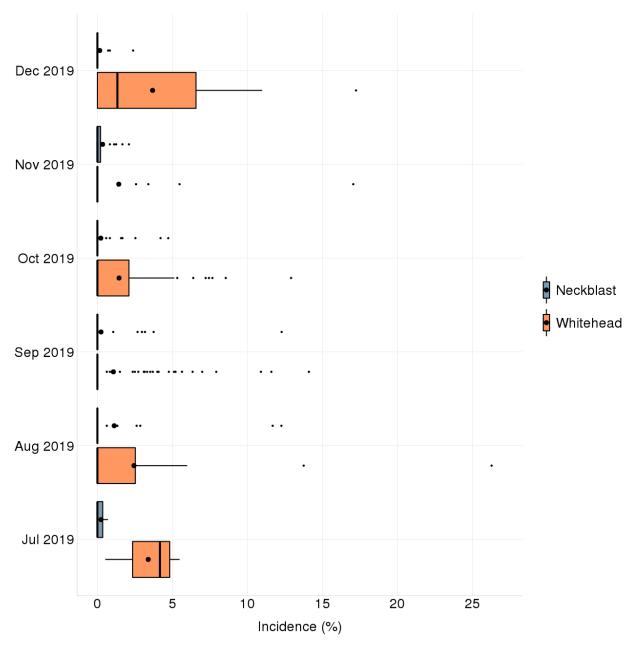


Figure 9. Incidence of neck blast and whitehead in Region I, July 2019 to December 2019.

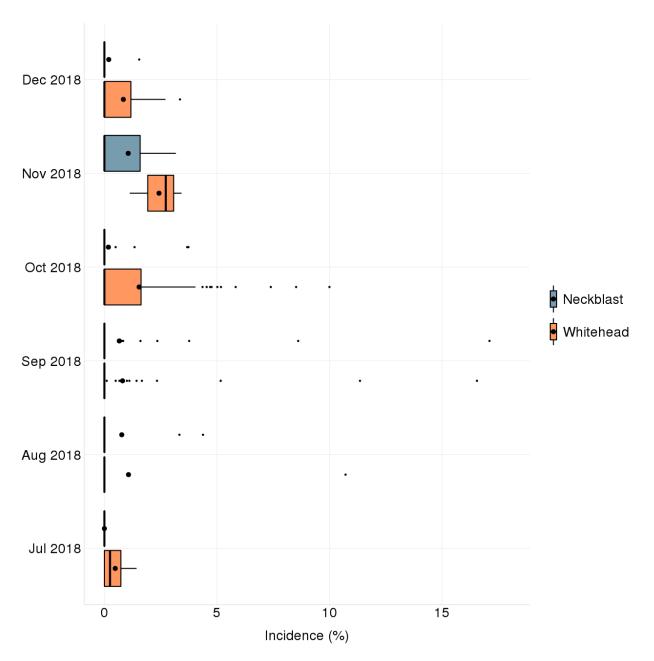


Figure 10. Incidence of neck blast and whitehead in Region I, July 2018 to December 2018.

D. Systemic diseases and insect pest injuries

The incidence of bugburn, hopperburn and tungro during the second semesters of 2018 and 2019 were generally negligible (Figure 11 and 12).

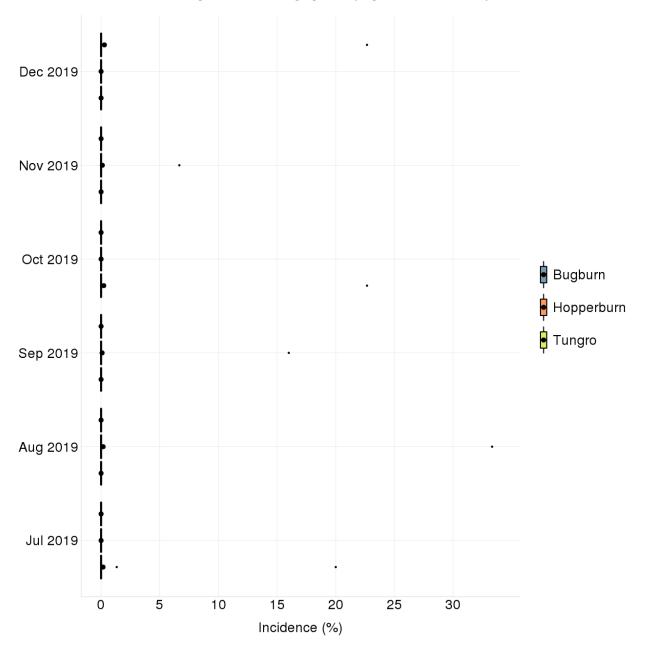


Figure 11. Incidence of bugburn, hopperburn and tungro in Region I, July 2019 to December 2019.

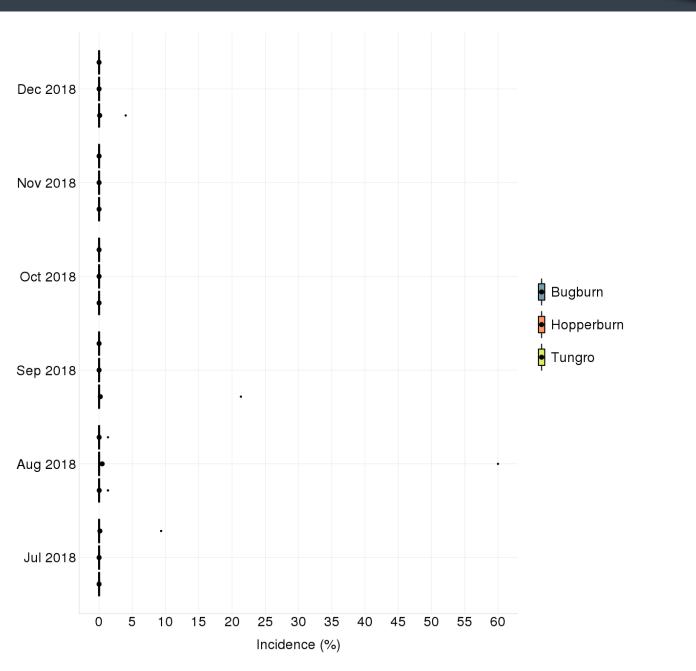


Figure 12. Incidence of bugburn, hopperburn and tungro in Region I, July 2018 to December 2018.

E. Insect count

The mean and median number of insect pests during the year was mostly negligible (Figure 13 and 14). Rice bug has the most noted population with a peak of 2.1/sqm in October of 2019 or during the harvesting month.

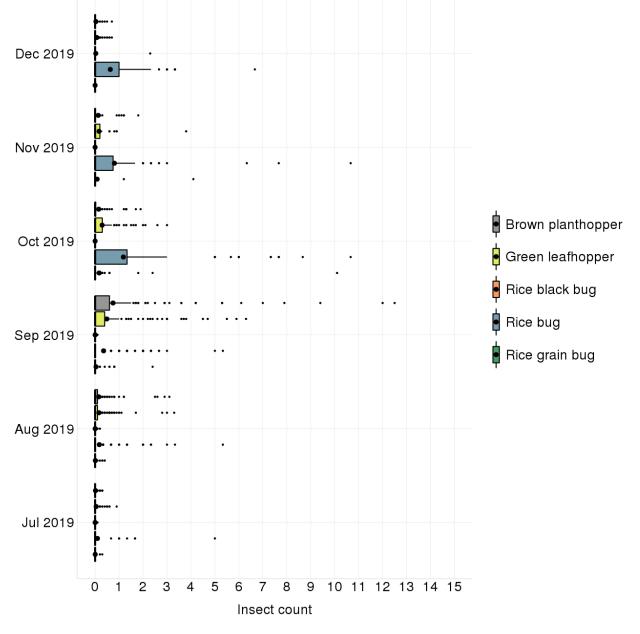


Figure 13. Count of insect pests in Region I, July 2019 to December 2019.

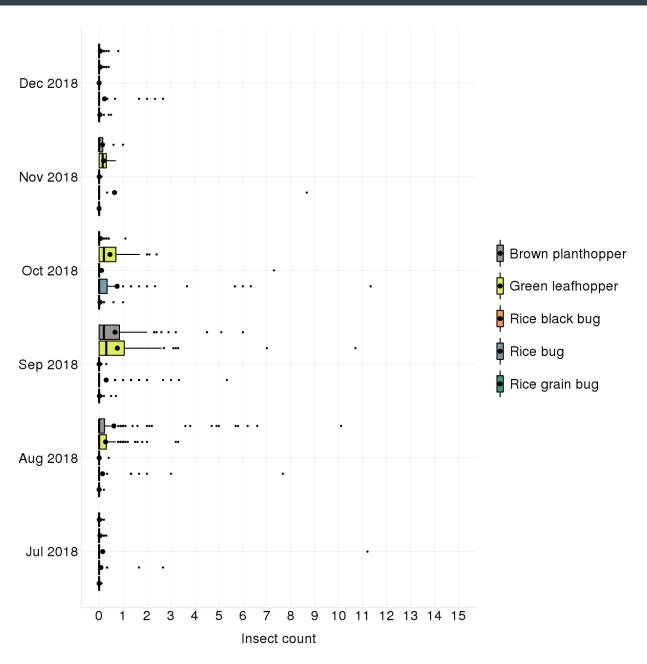


Figure 14. Count of insect pests in Region I, July 2018 to December 2018.

F. Rodent injury

The incidence of rodent injury during the period was negligible (Figure 15).

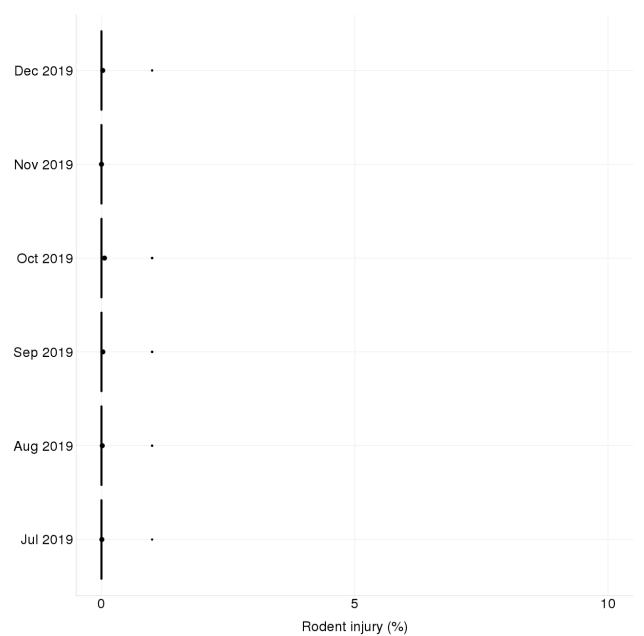
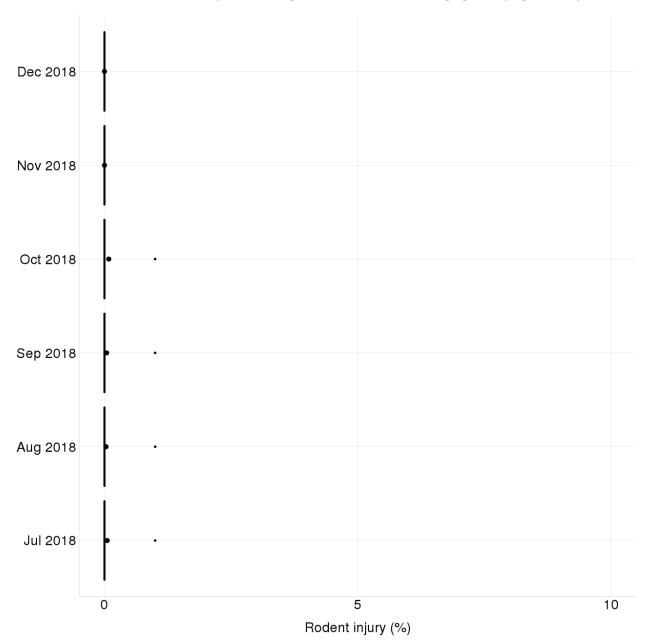


Figure 15. Incidence of rodent injury in Region I, July 2019 to December 2019.



The incidence of rodent injury during the period was negligible (Figure 16).

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

G. Weed cover

The highest mean percentage of weed cover was 4.2% in November 2018. Generally, increase in weed cover was commonly observed when most of the crops were at the reproductive growth stages.

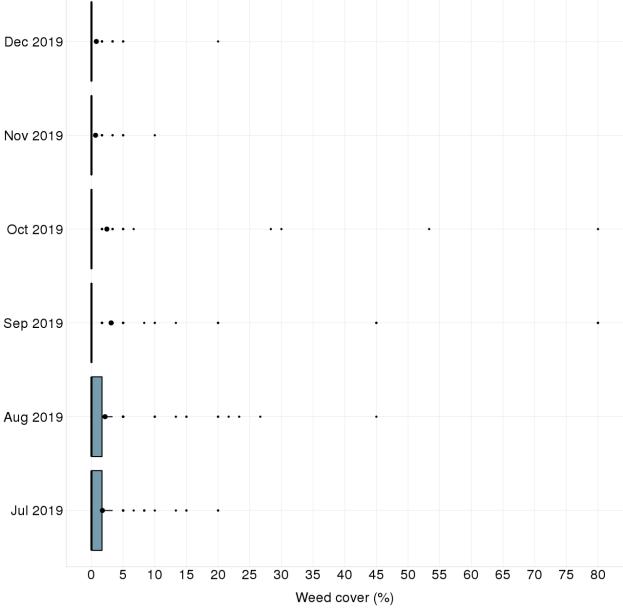
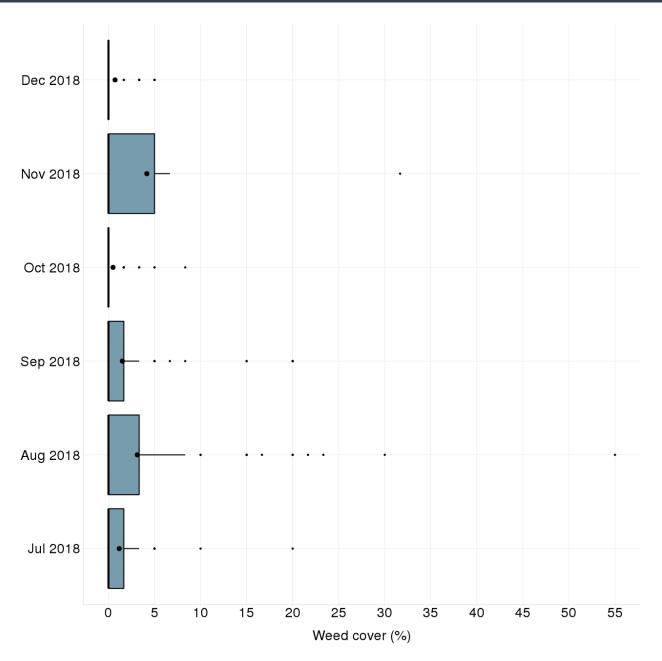
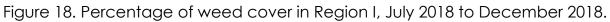


Figure 17. Percentage of weed cover in Region I, July 2019 to December 2019.





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.

Bacterial leaf blight

- 1. The most practical and economical approach to manage bacterial leaf blight 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.
- Use optimum seeding rate (80 kg per hectare) for direct-seeded rice and optimum plant spacing of 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).
- 3. Apply only the recommended amount of nitrogen and split into 3 applications. Excessive amount of nitrogen favors the development of most rice diseases.
- 4. Apply potassium and other required nutrients in addition to nitrogen. Potassium reduces the amount of most rice diseases.
- 5. Apply calcium silicate fertilizer or silicon fertilizer when feasible.
- 6. Remove weeds from the field that serve as alternate host of the pathogen.
- 7. Use copper fungicides as last resort and with cautions to control the disease. Copper fungicides accumulates in the soil surface (does not leach easily) and in the roots. Copper toxicity deforms roots and may eventually reduce yield.
- 8. If the previous crop had severe disease, cut the stubbles close to the ground and remove them from the field. Plow the field after harvest to incorporate infected stubbles and crop residues in the soil.
- 9. Avoid ratooning because the pathogen can survive on ratoon.
- 10. Keep the field dry during the fallow period to control the pathogens in infected stubbles.

Bacterial leaf streak

- 1. Plant clean resistant rice varieties.
- 2. Avoid leaf and root injuries during transplanting to prevent entry of bacteria in a wounded tissue.
- 3. Avoid excessive N application. Split application of N fertilizer.
- 4. Practice field sanitation by removing the weeds that serve as alternate hosts of the bacteria.
- 5. When severe infection occurs, drain the fields to reduce humidity. Prevent irrigation water from flowing from one field to another.
- 6. Plow dry infected stubbles. Dry field after harvest.

Brown spot

- 1. The most practical and economical approach to manage brown spot is to grow a resistant variety
- 2. Brown spot is a seed borne disease and growing an infected seed will result to diseased plants during the cropping season. Use certified seeds or clean seeds to prevent infected seeds. Seeds can be disinfect by following these steps:
 - 1. Dissolve 1.5 kg salt in 40 liters of water.
 - 2. Soak seeds in the salt solution.
 - 3. Remove floating seeds.
 - 4. Rinse seeds 3 to 4 times with clean water.
- 3. Use optimum seeding rate (80 kg per hectare) for direct-seeded rice and optimum plant spacing of 20 cm x 20 cm for transplanted rice. A dense plant canopy reduces sunlight penetration, increases leaf wetness duration
- 4. When feasible, improve soil fertility by regularly monitoring nutrients in the soil and the application of required fertilizers.
- 5. If possible, investigate the occurrence of Akiochi, a nutritional disorder which is caused by excessive concentration of hydrogen sulfide in the soil and results in reduced nutrient uptake in some surveyed fields. It occurs in irrigated fields with poor drainage, have excessive organic matter, low rate of stubbles decomposition and with short fallow period.

- 6. Apply potassium and other required nutrients in addition to nitrogen. Potassium reduces the amount of most rice diseases.
- 7. Apply calcium silicate fertilizer or silicon fertilizer if this is available in the area.
- 8. Use fungicides as a last resort in controlling the disease. Apply fungicides, containing iprodione, propiconazole, azoxystrobin, trifloxystrobin, and carbendazim active ingredients. Seeds may also be treated with fungicides. Avoid repetitive use of a single active ingredient. Mix or alternate an active ingredient with an appropriate partner. Wherever feasible, several strategies should be used together. Integrate the use of chemical pesticides with cultural practices.
- 9. If possible, irrigate the field continuously until one week before harvest. Do not drain the field for long periods because drought stress favors brown spot
- 10. Immediately plow the field after harvest to incorporate infected stubbles and crop residues in the soil.
- 11. Dry grains immediately after harvest to moisture content of at least 14%.
- 12. Store grains in sealed containers with moisture content of at least 14%.

Leaf blast and neck blast

- 1. The most practical and economical approach to manage blast 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.
- 2. Practice planting synchrony with defined 2 months fallow period in your area.
- 3. Use optimum seeding rate (80 kg per hectare) for direct-seeded rice and 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).
- 4. Apply only the recommended amount of nitrogen and split into 3 applications. Nitrogen makes the plant tissues softer and creates a dense canopy that results in favorable microclimate for disease development.
- 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. Irrigate the field continuously until one week before harvest. Do not drain the field for long periods because drought stress favors blast.
- 8. Use fungicides as last resort in controlling the disease. To control neck blast, apply fungicide containing copper hydroxide, mancozeb, and benomyl active ingredients at late booting and heading stages and if it is always raining. Pathogens become resistant to chemical pesticides if these are not used properly. 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.
- 9. If plants had severe disease, cut the stubbles close to the ground and remove them from the field. Immediately plow the field after harvest to incorporate infected stubbles in the soil.
- 10. Avoid ratooning because the pathogen can survive on ratoon. Keep the field dry during the fallow period to control the pathogens in infected stubbles.

Dead heart and whitehead caused by stemborer

- 1. 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.
- 2. Practice synchronous planting. If possible, establish crops in July to harvest crop before the peak of white head incidence. Also practice at least 2 months fallow period.
- 3. Raise level of irrigation water periodically to submerge the stem borer eggs masses on the lower parts of the plant.
- 4. Manage the application of nutrient fertilizers. Apply the required amount of nitrogen and splits into 3 application. Nitrogen makes the plant tissues softer and facilitates penetration of stemborer larvae.
- 5. Remove alternate hosts during the cropping season and fallow period.
- 6. If high infestation occurred, cut stubbles close to the ground and dry or remove stubbles from the field. Practice dry land preparation.

7. Observed presence of moths in the field and count stem borer egg masses. Two egg mass per m² is critical. Collect egg masses and store in a dry, clean bottle covered with cloth or net. Eggs usually hatch after 4-9 days. Hatching of collected WSB egg mass samples will determine if insecticides application is needed and its proper application timing. Stem borer larva and parasitoid wasp may hatch from the collected egg masses. Apply insecticide only when more larva hatch than adult wasp from the collected egg masses. Apply proper insecticide two to three days after larva hatched from collected egg masses. For more accurate monitoring, collect batches egg masses every 2 to 3 days after moths were observes.

Rice bug

- 1. Rice bug feeds only in developing panicles of rice and grasses. Avoid early and late planting that prolong availability of rice bug food supply. If possible, farmers should target October crop harvest. Discourage out of season cropping.
- 2. Removed grassy weeds from rice fields, levees, and surrounding areas that served as alternate host of rice bug.
- 3. Practice two months fallow period to further limit rice bug food supply
- 4. Use contact insecticide as last resort in controlling rice bug. Use foul odor attractants like dead snails, frog or rats to aggregate rice bug population to facilitate easy insecticide application. Do not use insecticide to manage rice bug in rice younger than heading stage.

Weeds

- 1. Plow and harrow the field several times before crop establishment. If feasible, start land preparation 3-4 weeks before planting.
- 2. Level the field to ensure a constant water level that controls weeds. Avoid high spots where weeds can grow.
- 3. 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.
- 4. 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.
- 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. 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.
- 8. If feasible, plow the field during fallow to kill weeds and prevent the buildup of weed seeds in the soil.

Annexes

Region I				20	18					201	19		
Ilocos Nort	te	JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
A. FOLIAR	DISEASES												
Bacterial	mean	0.5	0.4	1.4	2.1	0.7	0.3	0.5	0.9	1.4	0.9	0.8	3.4
leaf blight	median	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	5.2	2.7	13.5	8.8	1.7	5.0	6.6	7.4	12.6	5.3	10.8	20.9
	count	23	27	23	11	5	16	38	47	43	28	19	30
Bacterial	mean	0.6	1.1	1.8	0.9	6.2	0.0	1.0	1.7	1.5	0.6	0.2	0.5
leaf streak	median	0.0	0.1	0.4	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	12.2	7.4	7.2	7.2	14.7	0.0	18.4	13.5	24.3	3.9	1.3	6.5
	count	23	27	23	11	5	16	38	47	43	28	19	30
Brown	mean	0.4	0.6	0.5	0.2	2.6	3.0	0.5	1.0	0.9	0.9	0.3	0.8
spot	median	0.0	0.1	0.2	0.0	2.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	maximum	4.1	2.9	2.7	1.5	4.4	27.6	4.0	10.7	9.3	9.0	2.5	5.5
	count	23	27	23	11	5	16	38	47	43	28	19	30
Leaf blast	mean	0.1	0.4	0.0	0.0	0.1	0.4	0.0	0.2	0.1	0.2	0.1	0.2
	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	0.9	3.9	0.8	0.0	0.1	5.0	0.0	2.5	0.9	4.2	0.6	1.7
	count	23	27	23	11	5	16	38	47	43	28	19	30
Red stripe	mean	0.1	0.6	0.0	0.0	0.1	0.1	0.0	0.2	0.1	0.1	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	1.9	8.1	0.5	0.4	0.6	0.9	0.5	3.2	1.5	0.9	0.0	0.2
	count	23	27	23	11	5	16	38	47	43	28	19	30
B. DISEASE	OR PEST I	NJURYC		ERS									
Deadheart	mean	0.3	0.3	1.4	0.5	1.1	0.4	0.2	0.4	0.8	0.2	1.3	1.4
	median	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	3.1	3.4	16.8	2.7	3.4	3.4	2.9	5.5	14.1	3.3	5.5	14.4
	count	23	27	23	11	5	16	38	47	43	28	19	30
Sheath	mean	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.2	0.1	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	2.5	0.8	5.4	0.0	0.0	0.0	0.0	0.6	3.0	2.9	0.0	0.0
	count	23	27	23	11	5	16	38	47	43	28	19	30
						LEGEN	D						
Blue	font	> 5 to 1	0 % inc	idence c	of disea	ses, inse		njuries o	r weed o	over or	5 to 10	insects.	
	font					insect pe		•					

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

Region I				201	.8					2019)		
Ilocos Norte		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
C. DISEASE C	OR PEST IN.	JURY O	N PANIO	CLES							·		
Neck Blast	mean	0.0	1.7	0.5	0.8	0.0	0.4	0.0	0.7	0.3	0.3	1.1	0.7
	median	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.4
	maximum	0.0	3.3	3.8	3.7	0.0	1.6	0.0	2.9	3.8	4.2	2.1	2.4
	count	0	2	17	5	1	4	0	10	27	16	2	6
Whitehead	mean	0.0	0.0	1.9	0.6	3.4	1.7	0.0	1.3	1.7	1.9	2.7	3.2
	median	0.0	0.0	0.0	0.0	3.4	1.7	0.0	0.3	0.0	0.0	2.7	3.4
	maximum	0.0	0.0	16.6	2.2	3.4	3.4	0.0	4.1	14.1	7.2	5.5	6.6
	count	0	2	17	5	1	4	0	10	27	16	2	6
D. SYSTEMIC	DISEASE C	R PEST	INJUR	Y									
Bugburn	mean	0.0	0.1	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	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	23	27	23	11	5	16	38	47	43	28	19	30
Hopperburn	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	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	33.3	0.0	0.0	0.0	0.0
	count	23	27	23	11	5	16	38	47	43	28	19	30
Tungro	mean	0.0	0.1	0.0	0.0	0.0	0.0	0.6	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	1.3	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
	count	23	27	23	11	5	16	38	47	43	28	19	30
					I	LEGENI)						
Bluef	font	> 5 to 1	10 % inc	idence o	of disea	ses, ins	ect pest	injuries	or weed	cover or	5 to 10	insects.	
Red f	ont								eed cove				

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

Region I				201	8					2019)		
Ilocos Norte		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
E. INSECT CO	DUNT												
Ilocos Norte E. INSECT COU Brown Planthopper Green Leafhopper Rice Black Rice Black Rice Bug Rice Grain Bug Rice Grain Bug Rice Grain COUER Rice Grain Ric	mean	0.0	0.2	0.2	0.1	0.4	0.1	0.0	0.1	0.1	0.0	0.1	0.1
Planthopper	median	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.2	1.0	2.3	0.4	1.0	0.4	0.3	0.4	1.4	0.5	0.3	0.7
	count	23	27	23	11	5	16	38	47	43	28	19	30
Green	mean	0.0	0.2	0.9	0.5	0.3	0.1	0.1	0.2	0.3	0.2	0.1	0.1
Leafhopper	median	0.0	0.0	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.2	1.2	7.0	2.1	0.7	0.4	0.6	2.8	3.7	3.0	0.6	0.7
	count	23	27	23	11	5	16	38	47	43	28	19	30
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	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	count	23	27	23	11	5	16	38	47	43	28	19	30
Rice Bug	mean	0.0	0.2	0.4	0.9	1.8	0.3	0.1	0.3	0.4	1.0	0.3	0.6
	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	3.0	3.0	5.7	8.7	2.7	1.7	3.3	5.3	7.3	2.7	6.7
	count	23	27	23	11	5	16	38	47	43	28	19	30
Rice Grain	mean	0.0	0.0	0.1	0.0	0.0	0.1	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	0.2	0.7	0.0	0.0	0.5	0.3	0.2	0.8	0.0	0.0	0.0
	count	23	27	23	11	5	16	38	47	43	28	19	30
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	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
	count	23	27	23	11	5	16	38	47	43	28	19	30
G. WEED	mean	0.7	7.1	2.8	0.0	7.7	0.3	1.1	1.3	0.8	0.3	0.3	0.1
COVER	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	10.0	55.0	20.0	0.0	31.7	3.3	10.0	15.0	10.0	5.0	1.7	1.7
	count	23	27	23	11	5	16	38	47	43	28	19	30
					LE	GEND							
Blue	font	> 5 to 10	% incid	ence of	disease	es, insec	t pest ir	njuries or	weed co	over or 5	i to 10 i	nsects.	
Red f	ont	> 10 % ii	ncidence	e of dise	ases. ir	sect per	t iniuri	es or wee	ed cover	or > 10 i	nsects		

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

Region I				2(018					20)19		
Ilocos Sur		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
A. FOLIAR	DISEASES												
Bacterial	mean	0.1	0.0	0.6	7.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.4
leaf blight	median	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.6	0.2	3.4	50.2	0.0	0.0	0.0	1.5	8.9	1.8	0.7	6.7
	count	12	28	22	8	7	14	25	49	51	29	13	16
Bacterial	mean	0.0	0.0	3.0	0.7	0.2	0.0	0.1	0.5	3.5	1.0	0.1	0.9
leaf streak	median	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
	maximum	0.0	0.5	24.1	3.6	0.8	0.0	2.0	17.2	28.4	8.1	1.7	13.0
	count	12	28	22	8	7	14	25	49	51	29	13	16
Brown	mean	0.4	0.5	1.5	3.5	0.6	0.9	0.0	1.2	0.5	1.3	1.0	1.5
spot	median	0.0	0.0	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	1.7	1.9	4.5	17.6	1.8	7.6	0.0	23.9	6.3	9.9	7.5	24.1
	count	12	28	22	8	7	14	25	49	51	29	13	16
Leaf blast	mean	0.0	0.1	0.3	2.7	0.4	1.5	0.0	0.1	0.3	0.1	0.1	0.1
	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	0.9	2.9	19.9	1.6	11.7	0.0	1.5	13.0	2.8	1.3	1.8
	count	12	28	22	8	7	14	25	49	51	29	13	16
Red stripe	mean	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.2
	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	1.3	0.0	6.5	0.0	0.0	0.3	0.0	4.7	0.6	0.0	0.0	2.5
	count	12	28	22	8	7	14	25	49	51	29	13	16
B. DISEASE	OR PEST I	NJURY		LERS									
Deadheart	mean	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9
	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	1.6	0.4	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.3	11.3
	count	12	28	22	8	7	14	25	49	51	29	13	16
Sheath	mean	0.0	0.0	1.2	4.0	0.0	0.1	0.0	0.1	0.3	4.4	0.6	0.0
Blight	median	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.0	17.8	17.8	0.3	1.3	0.0	3.0	9.6	18.3	6.0	0.0
	count	12	28	22	8	7	14	25	49	51	29	13	16
						LEGEN	ID						
Blue	font	> 5 to	10 % in	cidence	of disea:			injuries	or weed	cover or	r 5 to 10 i	nsects.	
	font							-	veed cov				

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

Region I				201	.8					201	L9		
Ilocos Sur		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
C. DISEASE C	OR PEST IN.	JURY OI		LES									
Neck Blast	mean	0.0	0.0	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.0
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
	maximum	0.0	0.0	17.1	1.3	0.0	0.0	0.0	0.0	0.0	1.7	1.3	0.0
	count	0	0	15	8	0	2	0	1	24	25	5	4
Whitehead	mean	0.0	0.0	0.2	0.3	0.0	0.0	0.0	1.3	1.0	1.8	0.5	2.9
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	1.3
	maximum	0.0	0.0	1.4	1.4	0.0	0.0	0.0	1.3	5.2	8.6	2.6	9.0
	count	0	0	15	8	0	2	0	1	24	25	5	4
D. SYSTEMIC	DISEASE	R PEST	INJUR	(
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	12	28	22	8	7	14	25	49	51	29	13	16
Hopperburn	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.5	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	16.0	0.0	6.7	0.0
	count	12	28	22	8	7	14	25	49	51	29	13	16
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	12	28	22	8	7	14	25	49	51	29	13	16
					L	EGEND							
Blue	font	> 5 to 1	.0 % inc	idence o			ct pest i	niuries	or weed	d cover o	r 5 to 10	insects.	
Red f				ce of dis			•	•					

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

Region I				20	18					2	019		
Ilocos Sur		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
E. INSECT CO	DUNT												
Brown	mean	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.2	0.8	0.3	0.2	0.0
Planthopper	median	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	1.4	0.7	0.3	0.0	0.0	0.0	2.6	18.0	1.7	1.8	0.3
	count	12	28	22	8	7	14	25	49	51	29	13	16
Green	mean	0.0	0.1	0.1	0.7	0.1	0.0	0.0	0.0	0.3	0.4	0.4	0.0
Leafhopper	median	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	0.7	0.7	2.0	0.3	0.3	0.0	0.3	5.5	2.1	3.8	0.0
	count	12	28	22	8	7	14	25	49	51	29	13	16
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	12	28	22	8	7	14	25	49	51	29	13	16
Rice Bug	mean	0.0	0.0	0.2	0.1	0.0	0.3	0.0	0.0	0.1	0.5	0.1	0.6
	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	1.3	1.0	0.0	2.3	0.0	0.0	2.0	3.0	1.3	3.3
	count	12	28	22	8	7	14	25	49	51	29	13	16
Rice Grain	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	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	0.2	0.1	0.0	0.0	0.0	0.0	0.8	10.1	4.1	0.0
	count	12	28	22	8	7	14	25	49	51	29	13	16
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	1.0	0.0	0.0	0.0
	count	12	28	22	8	7	14	25	49	51	29	13	16
G. WEED	mean	1.1	2.3	0.4	0.0	1.4	1.1	0.5	2.2	5.9	3.7	1.4	2.2
COVER	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	5.0	23.3	6.7	0.0	5.0	5.0	5.0	45.0	80.0	53.3	10.0	20.0
	count	12	28	22	8	7	14	25	49	51	29	13	16
						LEGEN	D						
Blue	ont	> 5 to 3	10 % inc	idence				est inju	ries or we	eed cove	r or 5 to 1	0 insects	
Red f											> 10 insec		

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

Region I					2018					201	19	NOV NOV 1.4 0.0 1 0.0 0.0 1 1.2.6 0.0 1 1.6 5 1 0.0 0.0 1 1.6 5 1 1.6 5 1 1.6 5 1 1.6 5 1 1.6 5 1 1.6 5 1 0.0 0.0 1 1.6 5 1 0.0 0.0 1 0.0 0.0 1 0.0 0.0 1 0.0 0.0 1 0.0 0.0 1			
La Union		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC		
A. FOLIAR	DISEASES														
Bacterial	mean	0.3	0.4	1.1	15.5	5.2	0.0	0.0	0.2	0.3	1.4	0.0	0.0		
leaf blight	median	0.0	0.0	0.1	5.8	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	maximum	1.6	2.9	6.8	59.3	10.5	0.0	0.0	4.8	2.4	12.6	0.0	0.0		
	count	5	18	22	14	2	2	25	46	43	16	5	13		
Bacterial	mean	0.0	0.2	1.3	5.1	13.0	0.0	0.0	0.7	2.3	0.1	0.0	0.0		
leaf streak	median	0.0	0.0	0.6	1.0	13.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0		
	maximum	0.0	2.4	4.9	23.7	26.0	0.0	0.0	10.0	25.3	1.7	0.0	0.0		
	count	5	18	22	14	2	2	25	46	43	16	5	13		
Brown	mean	0.0	0.4	0.2	0.5	0.8	3.2	0.0	0.2	0.1	4.0	0.0	0.0		
spot	median	0.0	0.0	0.0	0.0	0.8	3.2	0.0	0.0	0.0	0.0	0.0	0.0		
	maximum	0.0	1.8	2.3	3.8	1.6	6.4	0.0	6.4	1.0	59.7	0.0	0.0		
	count	5	18	22	14	2	2	25	46	43	16	5	13		
Leaf blast	mean	0.0	0.2	0.2	0.5	0.0	5.1	0.0	1.0	0.5	0.1	0.0	0.0		
	median	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0		
	maximum	0.0	1.1	2.3	3.8	0.0	10.2	0.0	16.9	14.5	1.9	0.0	0.0		
	count	5	18	22	14	2	2	25	46	43	16	5	13		
Red stripe	mean	0.0	0.0	0.1	0.4	0.0	2.6	0.0	0.2	0.0	0.0	0.0	0.0		
	median	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0		
	maximum	0.0	0.0	1.0	5.1	0.0	4.9	0.0	10.4	1.3	0.3	0.0	0.0		
	count	5	18	22	14	2	2	25	46	43	16	5	13		
B. DISEASE	OR PEST I	NJURY	ON TIL	LERS											
Deadheart	mean	0.5	0.7	0.8	0.5	0.6	0.0	0.0	0.0	0.3	0.0	0.0	0.0		
	median	0.0	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	maximum	2.5	7.0	3.6	4.4	1.1	0.0	0.0	1.4	3.7	0.0	0.0	0.0		
	count	5	18	22	14	2	2	25	46	43	16	5	13		
Sheath	mean	0.3	0.0	0.6	3.4	1.6	0.0	0.0	0.3	2.0	4.1	0.0	0.0		
Blight	median	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	maximum	1.3	0.0	3.5	28.9	1.8	0.0	0.0	10.0	25.1	42.3	0.0	0.0		
	count	5	18	22	14	2	2	25	46	43	16	5	13		
						LEGEN	D								
Blue	font	> 5 to	10 % in	cidence	e of disea	ises, inse		njuries	or weed	cover or !	5 to 10 in	sects.			
	font					insect pe		-							

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

Region I				20	18			2019							
La Union		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC		
C. DISEASE C	OR PEST IN.	JURY OF		LES											
Neck Blast	mean	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.2	0.0	0.0	0.0		
	median	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	maximum	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	3.0	0.0	0.0	0.0		
	count	0	0	5	11	2	0	0	1	32	15	0	1		
Whitehead	mean	0.0	0.0	1.0	3.0	1.9	0.0	0.0	0.0	0.4	1.6	0.0	0.0		
	median	0.0	0.0	0.0	3.7	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	maximum	0.0	0.0	5.2	8.5	2.7	0.0	0.0	0.0	7.0	12.9	0.0	0.0		
	count	0	0	5	11	2	0	0	1	32	15	0	1		
D. SYSTEMIC	DISEASE O	R PEST	INJUR	Y											
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	5	18	22	14	2	2	25	46	43	16	5	13		
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 0.0 0.0 0.0 0.0 0.0 0.0 5 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		
	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	5	18	22	14	2	2	25	46	43	16	5	13		
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	5	18	22	14	2	2	25	46	43	16	5	13		
						LEGEND)								
Blue	font	> 5 to 1	.0 % inc	idence	of disea	ises, ins	ect pest	injurie	s or wee	ed cover	or 5 to 10) insects.			
Red f	ont							•			10 insect				

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

Region I				20	18			2019						
La Union		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC	
E. INSECT CO	DUNT													
Brown	mean	0.0	1.2	0.5	0.1	0.0	0.0	0.0	0.2	1.5	0.1	0.0	0.0	
Planthopper	median	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	maximum	0.0	5.0	2.4	0.4	0.0	0.0	0.0	2.9	12.5	0.4	0.0	0.0	
	count	5	18	22	14	2	2	25	46	43	16	5	13	
Green	mean	0.0	0.1	0.4	0.5	0.2	0.0	0.0	0.1	0.4	0.2	0.0	0.0	
Leafhopper	median	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	maximum	0.0	0.5	1.7	1.7	0.3	0.0	0.0	1.7	4.5	1.2	0.0	0.0	
	count	5	18	22	14	2	2	25	46	43	16	0.0 0.0 5 0.0 0.0 5 0.0 0.0 0.0 0.0 0.0	13	
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	0.1	0.0	0.0	0.0	
Rice Bug	count	5	18	22	14	2	2	25	46	43	16	5	13	
Rice Bug	mean	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.1	0.5	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	0.3	11.3	0.0	0.0	0.0	0.3	1.7	5.0	0.0	0.0	
	count	5	18	22	14	2	2	25	46	43	16	5	13	
Rice Grain	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	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	0.1	0.2	0.0	0.0	0.0	0.1	2.4	2.4	0.0	0.0	
	count	5	18	22	14	2	2	25	46	43	16	5	13	
F. RODENT	mean	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.3	0.0 0.0 5 0.0 0.0 5 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	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	
	count	5	18	22	14	2	2	25	46	43	16	5	13	
G. WEED	mean	0.3	2.4	1.0	0.5	5.0	2.5	0.0	0.9	0.4	0.1	0.0	0.0	
COVER	median	0.0	0.0	0.0	0.0	5.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	
	maximum	1.7	15.0	5.0	3.3	5.0	3.3	0.0	5.0	10.0	1.7	0.0	0.0	
	count	5	18	22	14	2	2	25	46	43	16	5	13	
					LE	GEND								
Blue	ont	> 5 to 1	0 % inci	dence o			t pest i	njuries	or weed	cover o	r 5 to 10	insects.		
Red f							•			er or > 10				

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

Region I				201	B		2019						
Pangasinan		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC
A. FOLIAR	DISEASES									·			
Bacterial leaf blight	mean	0.7	4.6	2.8	9.2	0.0	1.2	2.1	2.2	2.8	0.8	3.9	4.7
leaf blight	median	0.0	0.1	1.0	8.1	0.0	0.0	0.0	0.2	0.9	0.0	1.3	0.4
	maximum	14.2	39.1	12.1	28.0	0.0	6.7	11.6	22.6	12.5	9.4	14.7	19.1
	count	34	56	49	38	0	12	38	49	46	32	25	20
Bacterial	mean	0.2	1.2	1.0	0.9	0.0	0.3	0.0	1.3	1.2	1.2	0.6	0.4
leaf streak	median	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	2.4	11.1	7.6	22.6	0.0	3.1	0.3	36.3	7.2	10.3	6.4	7.0
	count	34	56	49	38	0	12	38	49	46	32	25	20
Brown	mean	2.6	2.4	0.7	1.3	0.0	0.0	0.7	0.6	2.8	3.3	1.6	0.6
spot	median	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
	maximum	19.0	33.2	5.9	14.2	0.0	0.0	11.2	11.5	43.7	38.5	10.0	10.3
	count	34	56	49	38	0	12	38	49	46	32	25	20
Leaf blast	mean	0.9	0.3	0.2	0.0	0.0	0.1	0.0	0.8	0.5	1.4	0.9	0.5
	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	21.9	10.2	3.1	0.0	0.0	0.7	1.3	10.7	7.8	34.2	8.3	9.9
	count	34	56	49	38	0	12	38	49	46	32	25	20
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	0.5	1.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	34	56	49	38	0	12	38	49	46	32	25	20
B. DISEASE	OR PEST I	NJURY		RS									
Deadheart	mean	0.2	0.2	0.4	0.2	0.0	0.0	0.4	0.5	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	3.3	4.1	9.2	6.9	0.0	0.0	4.5	7.6	5.1	5.5	0.0	0.7
	count	34	56	49	38	0	12	38	49	46	32	25	20
Sheath	mean	1.5	2.6	2.7	3.2	0.0	0.7	0.0	0.1	0.2	0.3	0.0	0.1
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	23.2	98.7	50.5	42.2	0.0	6.8	0.0	3.1	7.4	5.6	0.0	2.9
	count	34	56	49	38	0	12	38	49	46	32	25	20
					I	EGENI	D						
Blue	font	> 5 to 1	0 % incid	dence of				injuries	or weed	cover or	5 to 10	insects.	
	font							-	eed cove				

Annex 10. Incidence of diseases or pest injuries during the previous 2nd semesters.

Region I				201	.8				2019 AUG SEP OCT NOV DI 0.8 0.5 0.5 0.1 1 0.0 0.0 0.0 0.0 0							
Pangasinan		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC			
C. DISEASE (OR PEST IN	JURY O	N PANIC	LES												
Neck Blast	mean	0.0	0.6	0.6	0.1	0.0	0.0	0.2	0.8	0.5	0.5	0.1	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	4.4	8.6	3.7	0.0	0.0	0.7	11.7	12.3	4.7	1.7	0.0			
	count	4	8	16	26	0	2	3	15	25	15	13	14			
Whitehead	mean	0.5	1.3	0.2	1.6	0.0	0.0	3.4	1.8	1.3	0.2	0.1 0.0 1.7 13 1.6 0.0 17.1 13 0.0 0.0 0.0 0.0 25 0.0 0.0 25 0.0 0.0 25 0.0 0.0 25 0.0 0.0 25	4.4			
	median	0.3	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.7			
	maximum	1.4	10.7	1.1	10.0	0.0	0.0	5.5	13.8	11.6	1.3	17.1	17.2			
	count	4	8	16	26	0	2	3	15	25	15	13	14			
D. SYSTEMIC	DISEASE	R PEST		Y												
Bugburn	mean	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1			
	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	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.7			
	count	34	56	49	38	0	12	38	49	46	32	25	20			
Hopperburn	mean	0.0	1.1	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	5 0.1 0 0.0 7 1.7 5 13 2 1.6 0 0.0 3 17.1 5 13 0 0.0 0 0.0 0 0.0 0 0.0 0 0.0 0 0.0 0 0.0 0 0.0 10 0.0 10 0.0 10 0.0	0.0			
	maximum	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	count	34	56	49	38	0	12	38	49	46	32	25	20			
Tungro	mean	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.0	0.7	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	1.3	21.3	0.0	0.0	4.0	0.0	0.0	0.0	22.7	0.0	0.0			
	count	34	56	49	38	0	12	38	49	46	32	25	20			
					L	EGEND										
Blue	font	> 5 to	10 % inc	idence c	of diseas	es, inse	ect pest	t injurie	es or wee	ed cover	or 5 to 1	0 insects				
Red f	ont								weed co							

Annex 11. Incidence of diseases or pest injuries during the previous 2nd semesters.

Region I				2018				2019						
Pangasinan		JUL	AUG	SEP	ост	NOV	DEC	JUL	AUG	SEP	ост	NOV	DEC	
E. INSECT CO	DUNT													
Brown	mean	0.0	1.3	1.8	0.0	0.0	0.1	0.0	0.1	1.0	0.1	0.2	0.0	
Planthopper	median	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	
	maximum	0.1	20.0	31.5	1.1	0.0	0.8	0.3	3.1	7.0	1.9	1.2	0.3	
	count	34	56	49	38	0	12	38	49	46	32	25	20	
Green	mean	0.1	0.5	1.9	0.4	0.0	0.0	0.1	0.3	0.9	0.3	0.1	0.1	
Leafhopper	median	0.0	0.2	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	maximum	0.3	3.3	37.5	2.4	0.0	0.0	0.9	3.3	6.3	2.6	0.9	0.6	
	count	34	56	49	38	0	12	38	49	46	32	25	20	
Rice Black	mean	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
Bug Rice 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	11.2	0.4	0.1	7.3	0.0	0.0	0.0	0.2	0.0	0.0	0.0	2.3	
	count	34	56	49	38	0	12	38	49	46	32	25	20	
Rice Bug	mean	0.2	0.2	0.4	0.7	0.0	0.1	0.1	0.4	0.9	5.1	3.2	1.1	
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	
	maximum	2.7	7.7	5.3	6.3	0.0	0.7	1.7	5.7	5.0	43.7	21.3	3.0	
	count	34	56	49	38	0	12	38	49	46	32	25	20	
Rice Grain	mean	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	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	0.1	0.0	0.1	1.0	0.0	0.0	0.2	0.4	0.0	1.8	1.2	0.0	
	count	34	56	49	38	0	12	38	49	46	32	0.2 0.0 1.2 25 0.1 0.0 25 0.0 25 3.2 1.0 21.3 25 0.1 21.3 25 0.1 21.3 25 0.1 0.0 25 0.1 25 0.0 0.0 0.0 25 0.0 0.0 0.0 0.0 5.0 25	20	
F. RODENT	mean	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2 0.0 1.2 25 0.1 0.0 0.9 25 0.0 0.0 25 3.2 1.0 21.3 25 0.1 21.3 25 0.1 0.0 21.3 25 0.1 0.0 21.3 0.0 0.0 25 0.0 0.0 0.0 0.0 0.0 25 0.0 0.0 0.0 0.0 0.0 25 0.0 0.0 0.0 0.0 0.0 25 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.1	
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	1.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	
	count	34	56	49	38	0	12	38	49	46	32	25	20	
G. WEED	mean	1.6	1.9	1.6	0.8	0.0	0.6	4.3	5.0	4.6	4.0	0.7	1.2	
COVER	median	0.0	1.7	0.0	0.0	0.0	0.0	3.3	1.7	0.0	0.0	0.0	0.0	
	maximum	20.0	15.0	20.0	8.3	0.0	3.3	20.0	45.0	80.0	80.0	5.0	5.0	
	count	34	56	49	38	0	12	38	49	46	32	25	20	
					L	EGEND								
Blue	font	> 5 to 10	% incid	lence of	diseas	es, ins	ect pest	injuries	or weed	l cover o	r 5 to 10	insects.		
Red f	ont	> 10 % ii	ncidenc	e of dise	ases. i	nsect n	est iniu	ries or w	veed cov	er or > 1	0 insects	5.		

Annex 12. Incidence of pest injuries, count of insect pests, and percentage of weed cover during the previous 2nd semesters.