PRE-SEMESTER BULLETIN

June 2020

CAR – Cordillera Administrative 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.

CAR	2019					
	JUL	AUG	SEP	OCT	NOV	DEC
A. FOLIAR DISEASES						
Bacterial leaf blight	1.5	4.6	3.8	1.3	3.7	1.0
Bacterial leaf streak	5.7	1.5	1.6	0.6	1.2	2.0
Brown spot	1.1	0.5	0.5	1.7	2.2	3.3
Leaf blast	1.2	1.1	0.7	1.5	1.7	0.4
Red stripe	3.0	4.4	5.1	2.1	3.3	3.7
B. DISEASE OR PEST INJURY ON TILLERS						
Deadheart	0.2	0.0	0.1	0.4	0.9	0.0
Sheath Blight	0.0	0.8	2.0	1.2	1.6	0.6
C. DISEASE OR PEST INJURY ON PANICLES						
Neck Blast	0.0	0.3	0.3	0.0	0.1	0.0
Whitehead	0.0	0.0	2.5	1.2	1.7	0.3
D. SYSTEMIC DISEASE OR 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	0.6	0.6	0.3	0.0	0.0
Green Leafhopper	0.0	0.2	0.2	1.3	0.2	0.1
Rice Black Bug	0.0	0.0	0.0	0.0	0.0	0.0
Rice Bug	0.0	0.3	1.1	2.3	2.0	0.5
Rice Grain Bug	0.0	0.1	0.1	0.0	0.0	0.0
F. RODENT INJURY	0.0	0.0	0.0	0.0	0.0	0.0
G. WEED COVER	6.8	7.6	4.7	6.2	5.7	8.0

Mean of all monitoring fields.

Disclaimer: All the data presented in this report are based on the monthly monitoring of farmers' fields by regional data collectors of PRIME.

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

CAR	2018					
	JUL	AUG	SEP	OCT	NOV	DEC
A. FOLIAR DISEASES						
Bacterial leaf blight	0.0	0.1	2.4	5.2	7.1	0.0
Bacterial leaf streak	0.0	0.0	5.3	8.7	7.3	0.0
Brown spot	0.0	1.6	0.6	1.7	1.7	0.0
Leaf blast	0.0	0.8	1.4	1.1	0.0	0.0
Red stripe	0.0	0.5	0.6	3.5	12.1	0.0
B. DISEASE OR PEST INJURY ON TILLERS						
Deadheart	0.0	0.3	0.1	0.0	0.0	0.0
Sheath Blight	0.0	0.3	0.4	0.7	14.5	0.0
C. DISEASE OR PEST INJURY ON PANICLES						
Neck Blast	0.0	7.9	0.0	2.3	2.8	0.0
Whitehead	0.0	0.5	0.0	1.3	0.5	0.0
D. SYSTEMIC DISEASE OR PEST INJURY						
Bugburn	0.0	0.0	0.0	0.2	0.0	0.0
Hopperburn	0.0	0.0	0.0	2.8	0.0	0.0
Tungro	0.0	0.0	0.8	0.0	0.0	0.0
E. INSECT COUNT						
Brown Planthopper	0.0	0.3	1.1	1.5	0.4	0.0
Green Leafhopper	0.0	0.1	0.3	1.5	0.2	0.0
Rice Black Bug	0.0	0.0	0.0	0.0	0.0	0.0
Rice Bug	0.0	0.3	0.6	1.5	1.6	0.0
Rice Grain Bug	0.0	0.0	0.0	0.0	0.0	0.0
F. RODENT INJURY	0.0	0.2	0.0	0.0	0.0	0.0
G. WEED COVER	0.0	1.4	1.6	5.3	10.6	0.0

Mean of all monitoring fields.

Disclaimer: All the data presented in this report are based on the monthly monitoring of farmers' fields by regional data collectors of PRIME.

Monitored fields and data collectors

Municipalities surveyed: Kalinga: Tabuk City, Rizal, and Pinukpuk

Monitoring date: July 2019 - December 2019

Number of monitoring fields: 53 monitoring fields

Data collectors: Alain Boclongan, Benjamin Encartado, Bonifacio Tayab, Delbert Wayet, and Joshua Andres

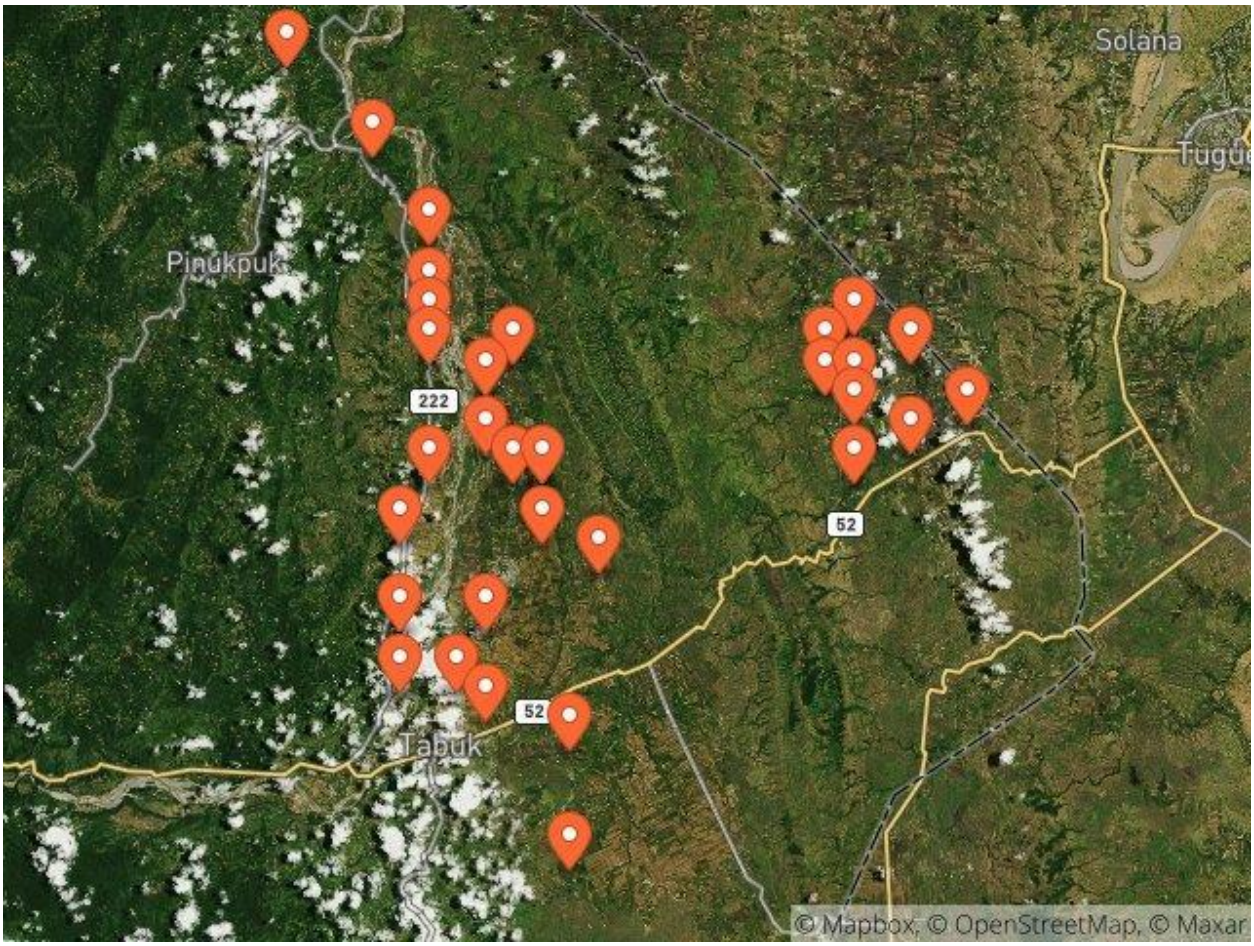

Figure 1. Monitored barangays in CAR from July 2019 to December 2019. Each barangay is represented by 1 marker.

Disclaimer: All the data presented in this report are based on the monthly monitoring of farmers' fields by regional data collectors of PRIME.

Municipalities surveyed: Kalinga: Tabuk City, Rizal, and Pinukpuk

Monitoring date: July 2018 - December 2018

Number of monitoring fields: 74 monitoring fields

Data collectors: Delbert Wayet, Joshua Andres, and Ronan Soriano

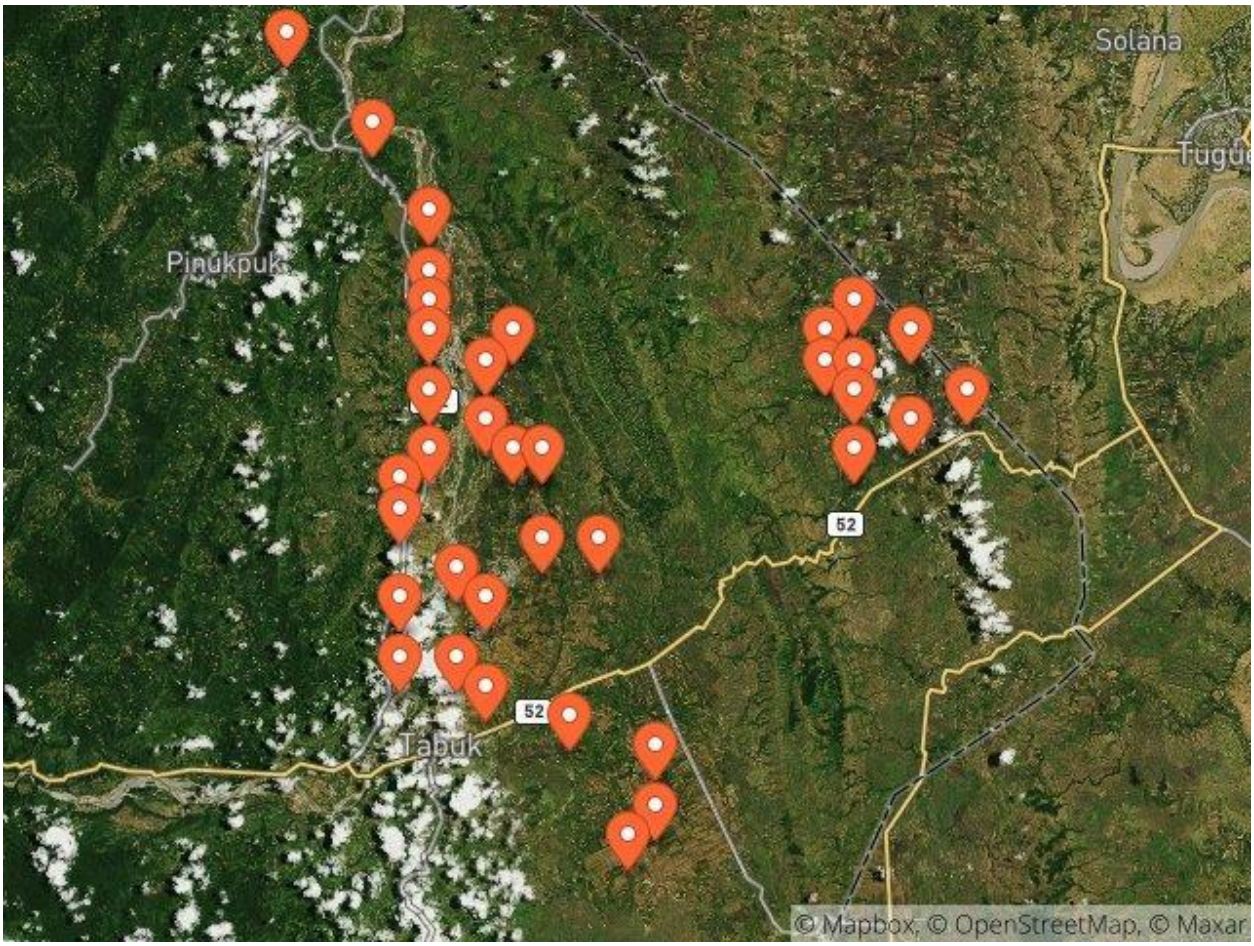

Figure 2. Monitored barangays in CAR from July 2018 to December 2018. Each barangay is represented by 1 marker.

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Growth stage

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

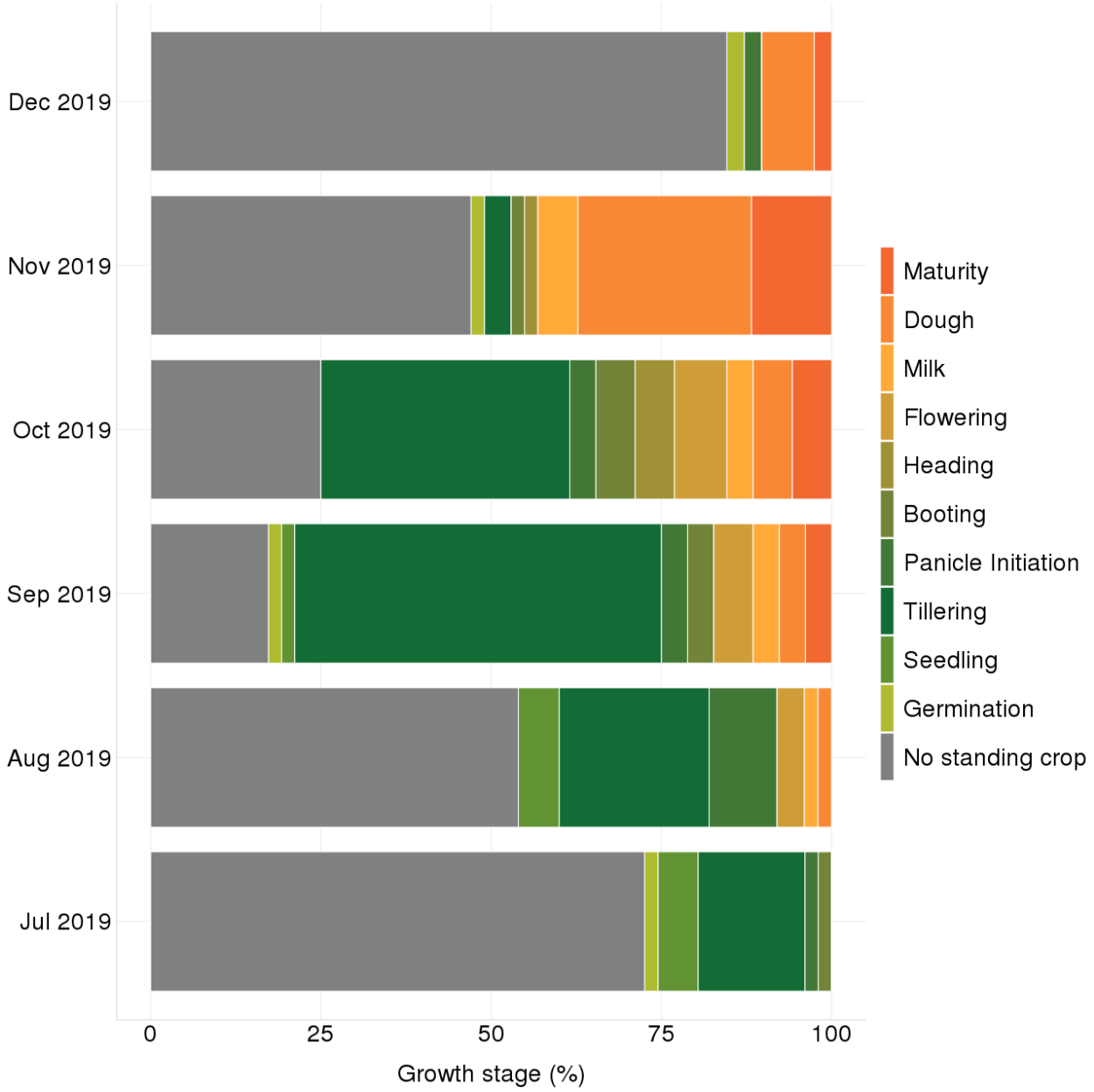

Figure 3. Proportion of crop growth stages of fields by month.

Disclaimer: All the data presented in this report are based on the monthly monitoring of farmers' fields by regional data collectors of PRIME.

Most of the fields monitored from July 2018 to December 2018 were at the vegetative stage in August to September and the peak of harvest occurred in November (Figure 4). Majority of the fields were fallow in November. No data submitted in July and December.

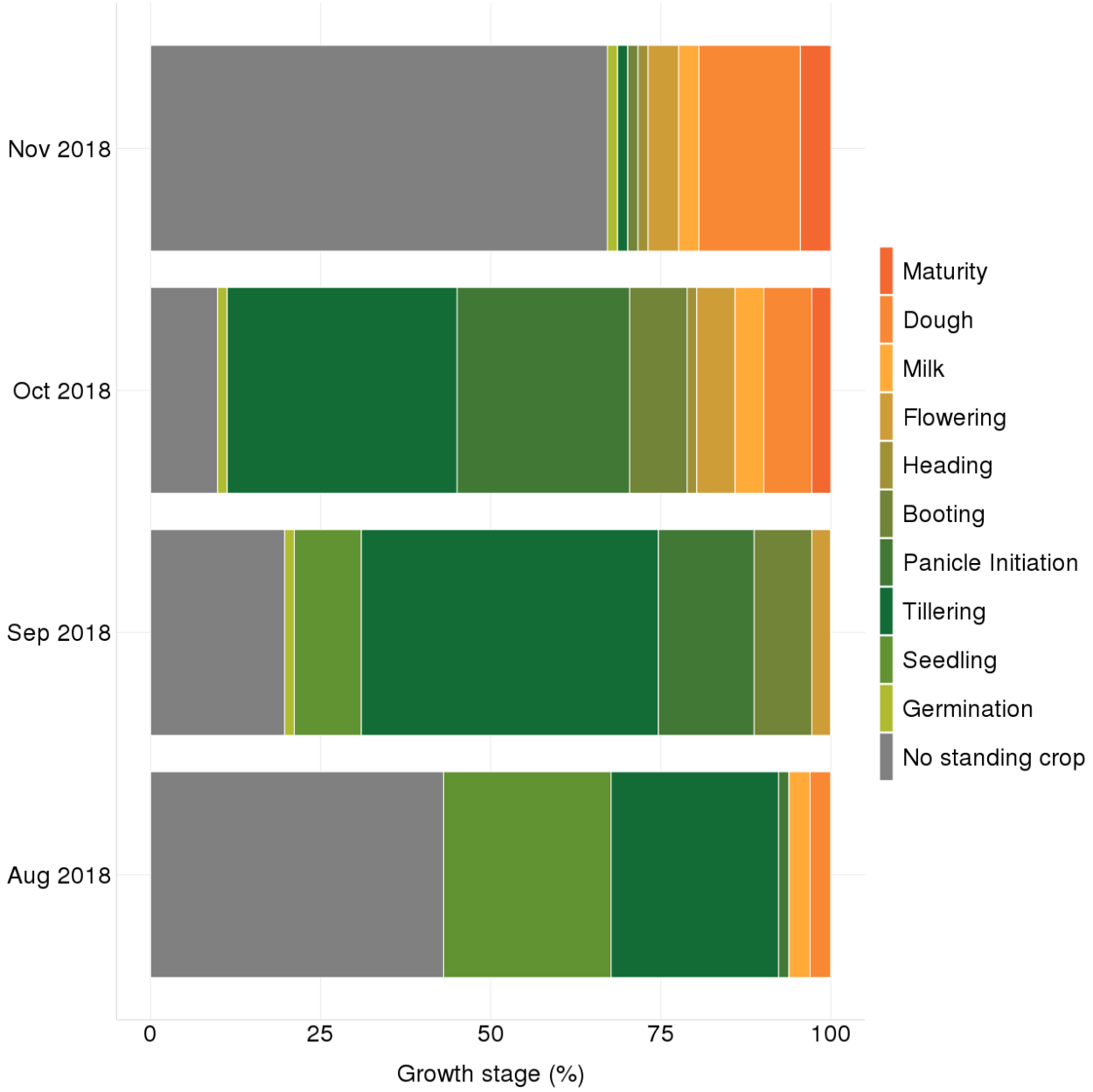

Figure 4. Proportion of crop growth stages of fields by month.

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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

As shown in Figure 5, the mean incidence of bacterial leaf blight, brown spot and leaf blast were less than 5% throughout the semester but with maximum incidences of 20% (September), 25% (November) and 11% (August and November), respectively. The mean incidence of bacterial leaf streak was 6% with maximum incidence of 26% both were observed in July while red stripe had 5% mean incidence in September and 35% maximum incidence in October.

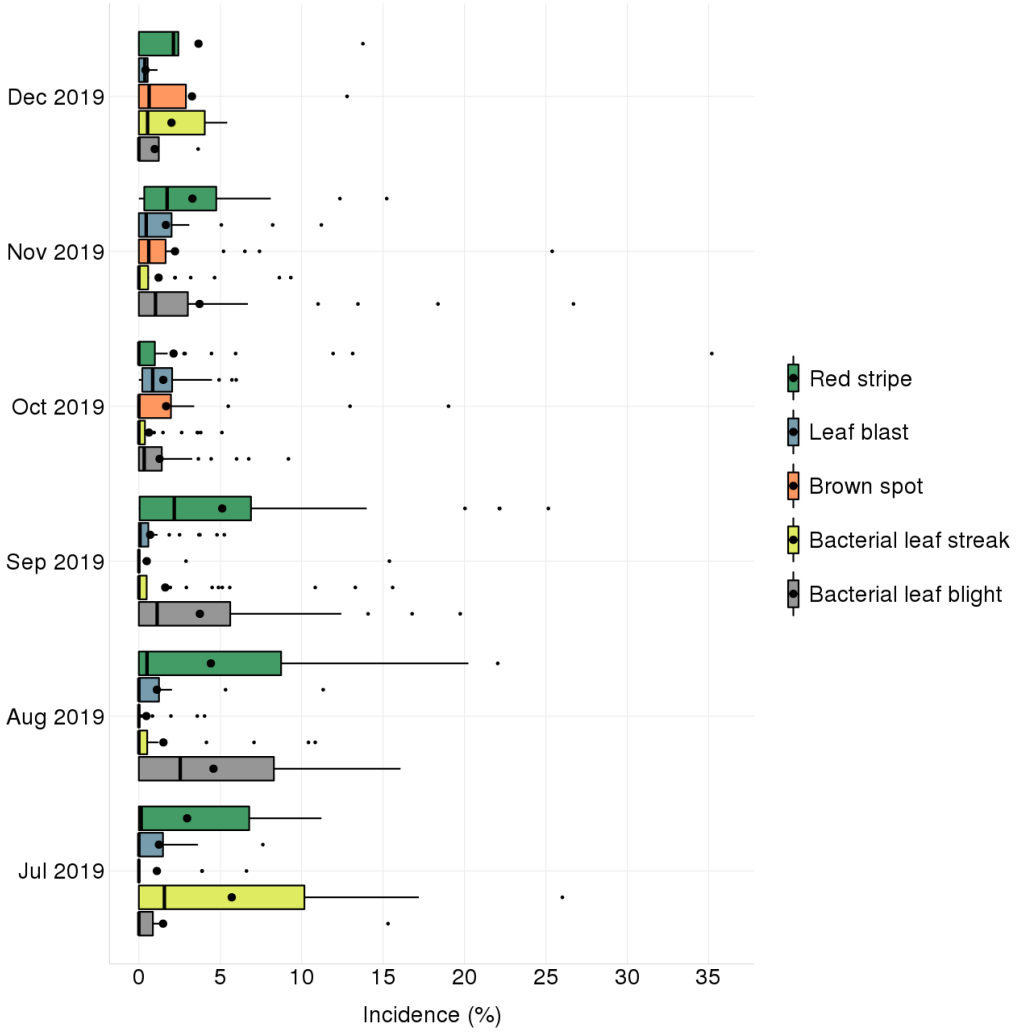

Figure 5. Incidence of foliar diseases in CAR, July 2019 to December 2019.

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The two highest mean incidences of bacterial blight were 5% (October) and 7% (November) with 56% maximum incidence observed in October (Figure 6). The highest mean incidences of bacterial leaf streak were 5% (September), 9% (October)and 7% (November) with 51% maximum incidence in October. The highest mean incidence of red stripe was 12% with maximum incidence of 25% observed on November. On the other hand, brown spot and leaf blast had an incidence ranged from 0.8-1.7% with maximum incidences of 16% in November and 21% in September, respectively.

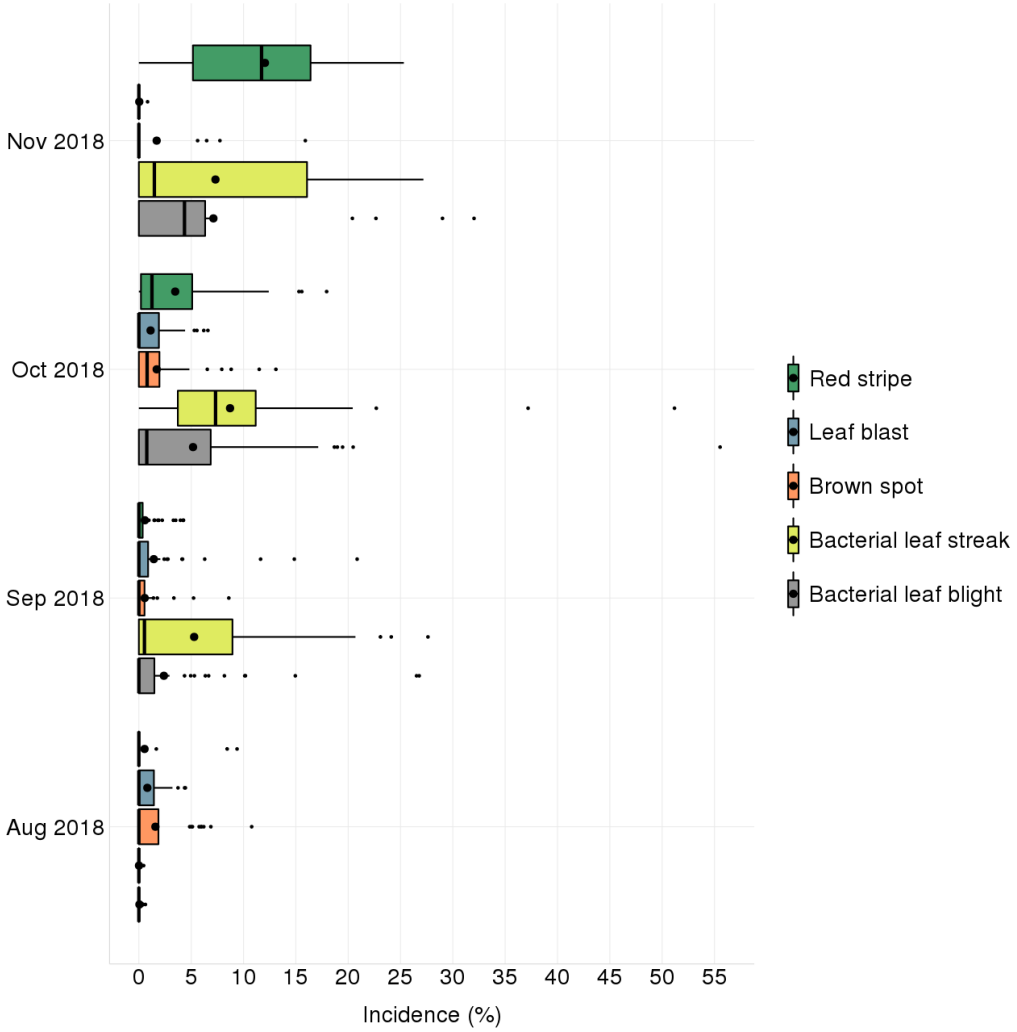

Figure 6. Incidence of foliar diseases in CAR, July 2018 to December 2018.

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B. Insect pest injuries and diseases on tillers

The mean incidence of deadheart and sheath blight were less than 3% throughout the semester but with a maximum incidence of 24% in November and 21% in August, respectively (Figure 7).

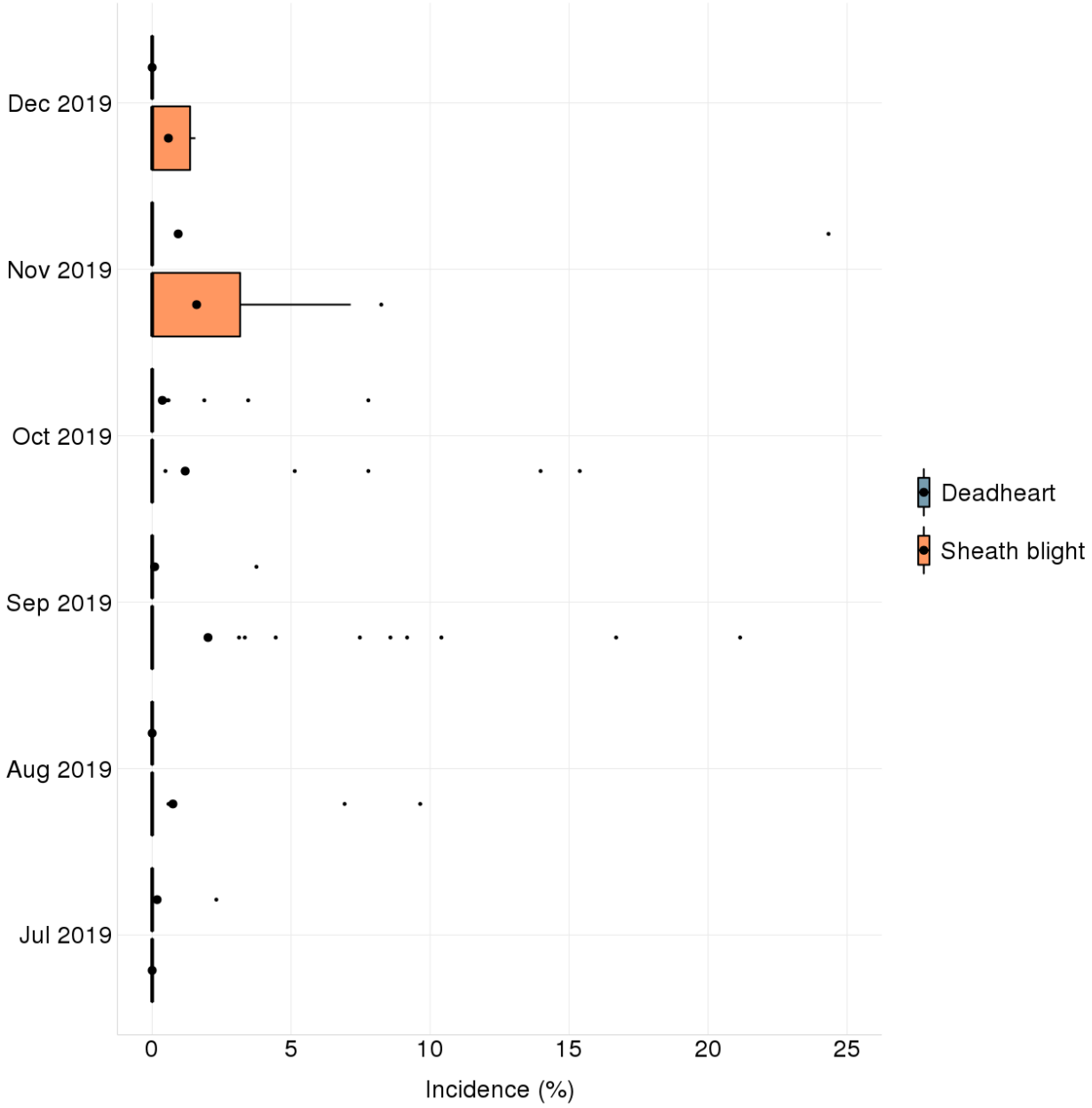

Figure 7. Incidence of deadheart and sheath blight in CAR, July 2019 to December 2019.

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The mean incidence of deadheart was less than 1% throughout the semester but maximum incidence of 7% in September (Figure 8). The highest mean incidence of sheath blight was at 15% with maximum incidence of 75% both were observed in November.

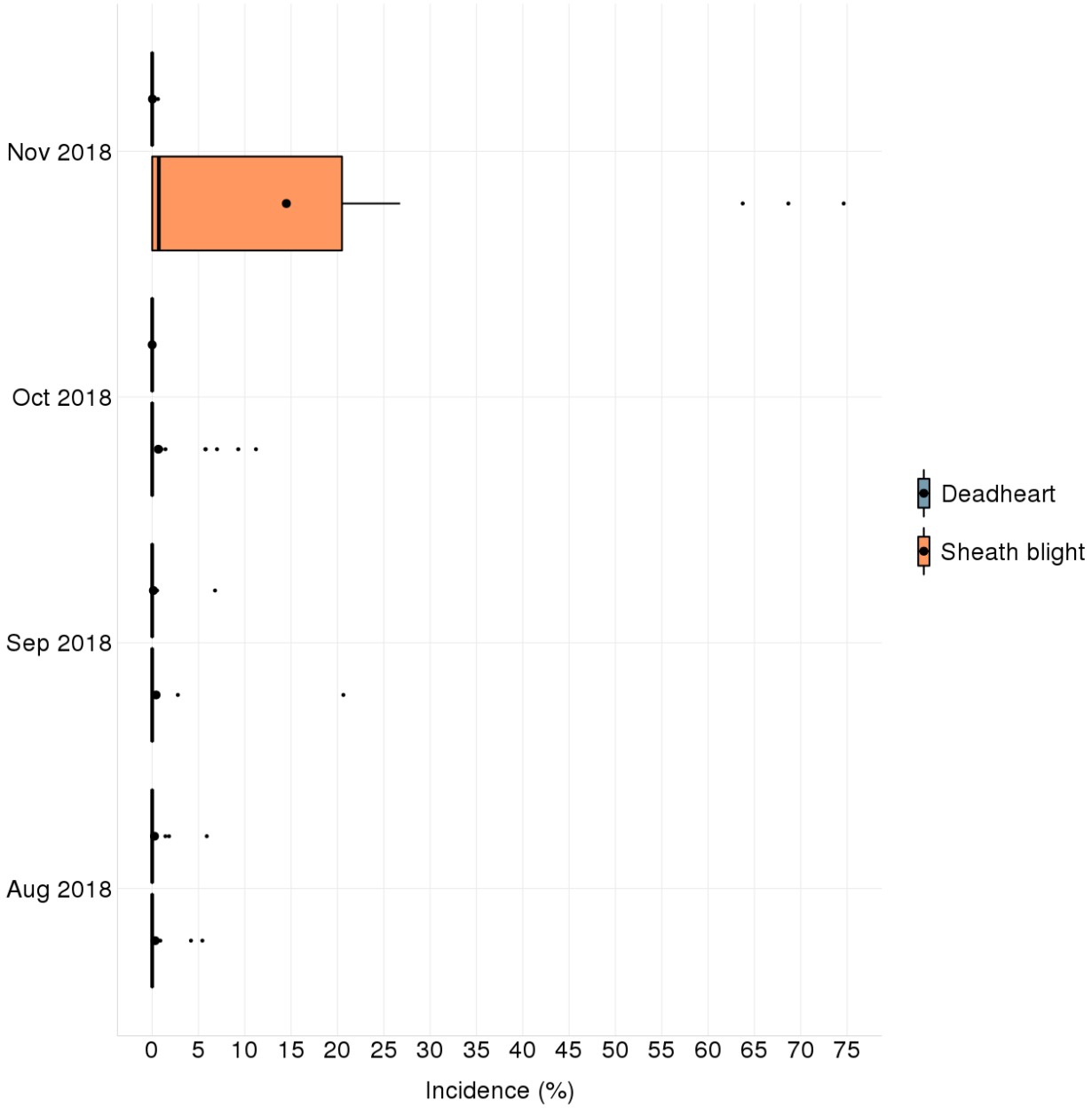

Figure 8. Incidence of deadheart and sheath blight in CAR, July 2018 to December 2018.

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C. Insect pest injuries and diseases on panicles

As shown in figure 9, the incidence of neck blast was insignificant but with maximum incidence of 1.3% in August. The highest mean incidence of whitehead was at 2% with maximum incidence of 17% both were observed in September.

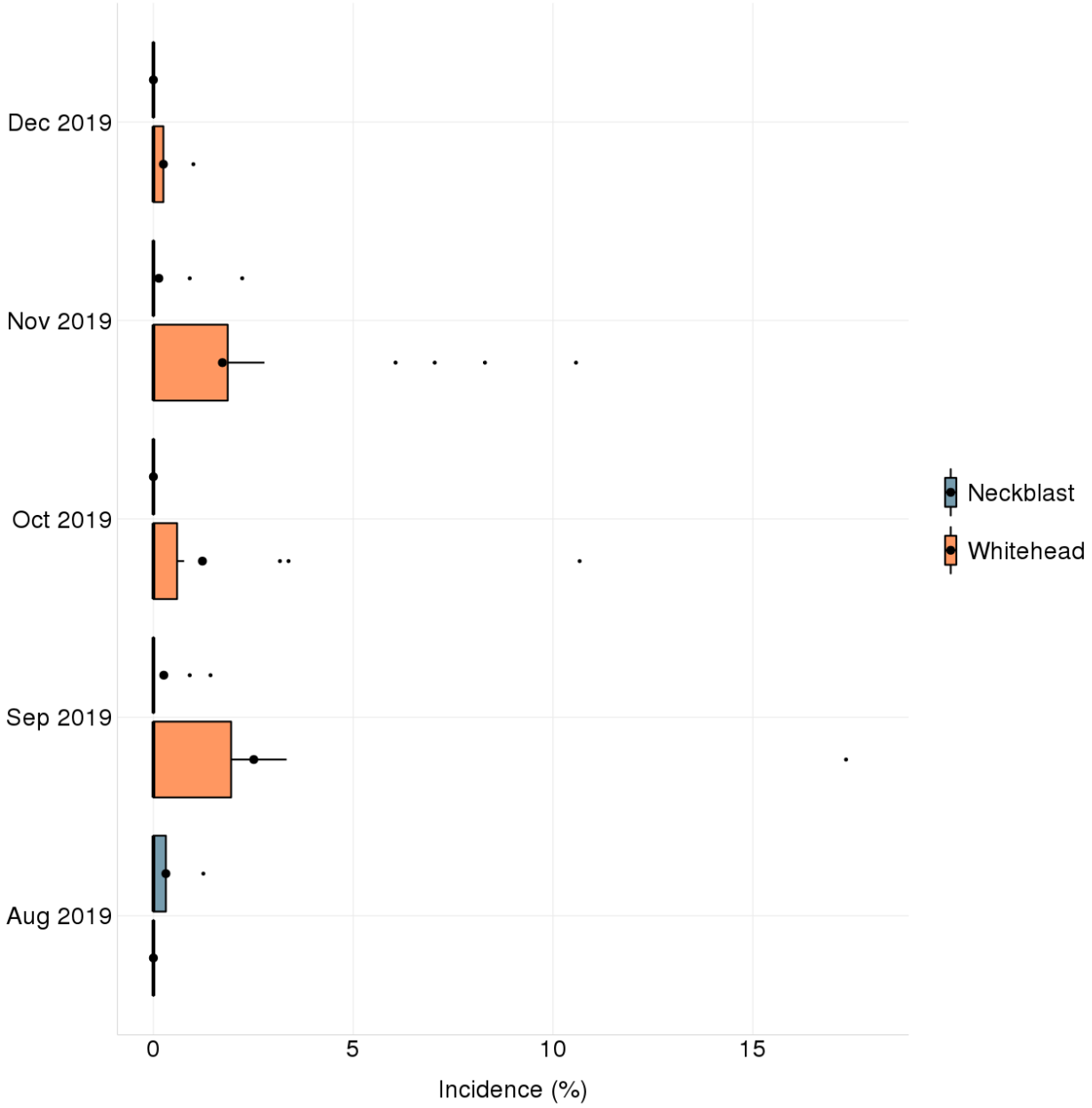

Figure 9. Incidence of neck blast and whitehead in CAR, July 2019 to December 2019.

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The highest mean incidence of neck blast was at 8% in August with maximum incidence of 53% in November (Figure 10). Whitehead had less than 2% mean incidence throughout the semester with 20% maximum incidence in October.

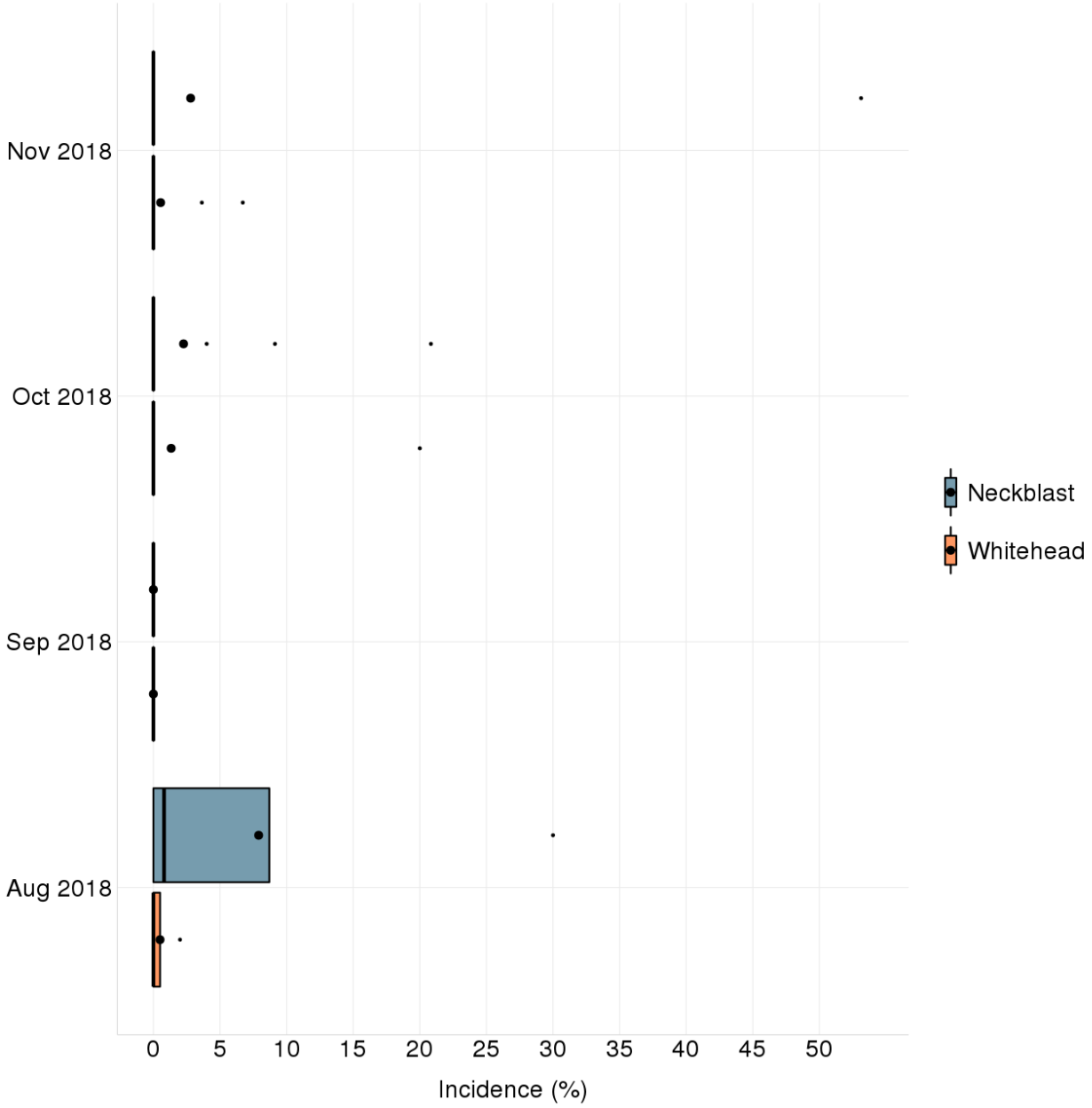

Figure 10. Incidence of neck blast and whitehead in CAR, July 2018 to December 2018.

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D. Systemic diseases and insect pest injuries

There were no incidences of bugburn, hopperburn and tungro throughout the semester (Figure 11).

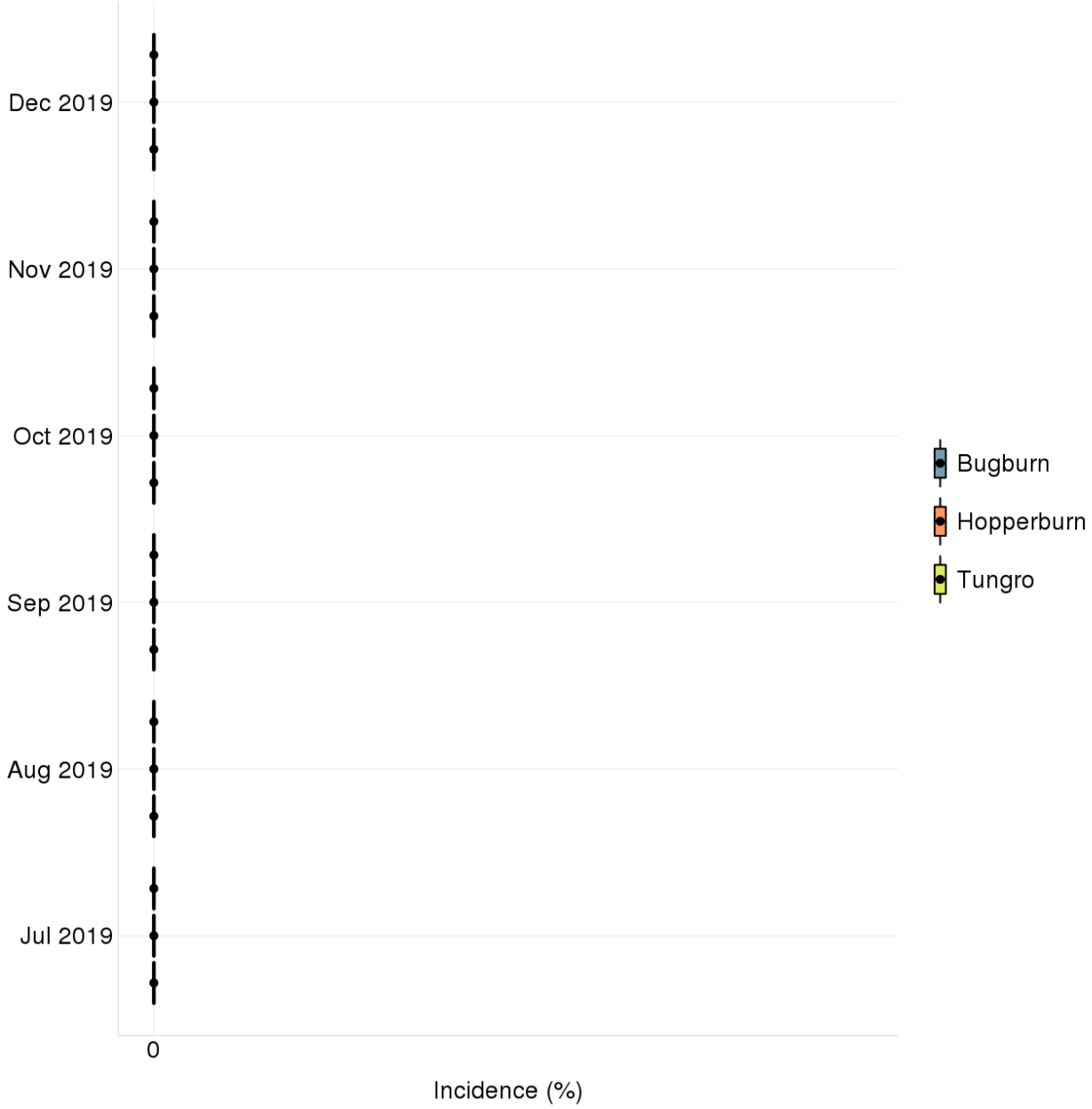

Figure 11. Incidence of bugburn, hopperburn and tungro in CAR, July 2019 to December 2019.

Disclaimer: All the data presented in this report are based on the monthly monitoring of farmers' fields by regional data collectors of PRIME.

The mean incidences of bugburn and tungro were less than 1% during the semester but with a maximum incidence of 9% (October) and 27% (September), respectively (Figure 12). However, hopperburn had a highest mean incidence of 3% with maximum incidence of 97% In October.

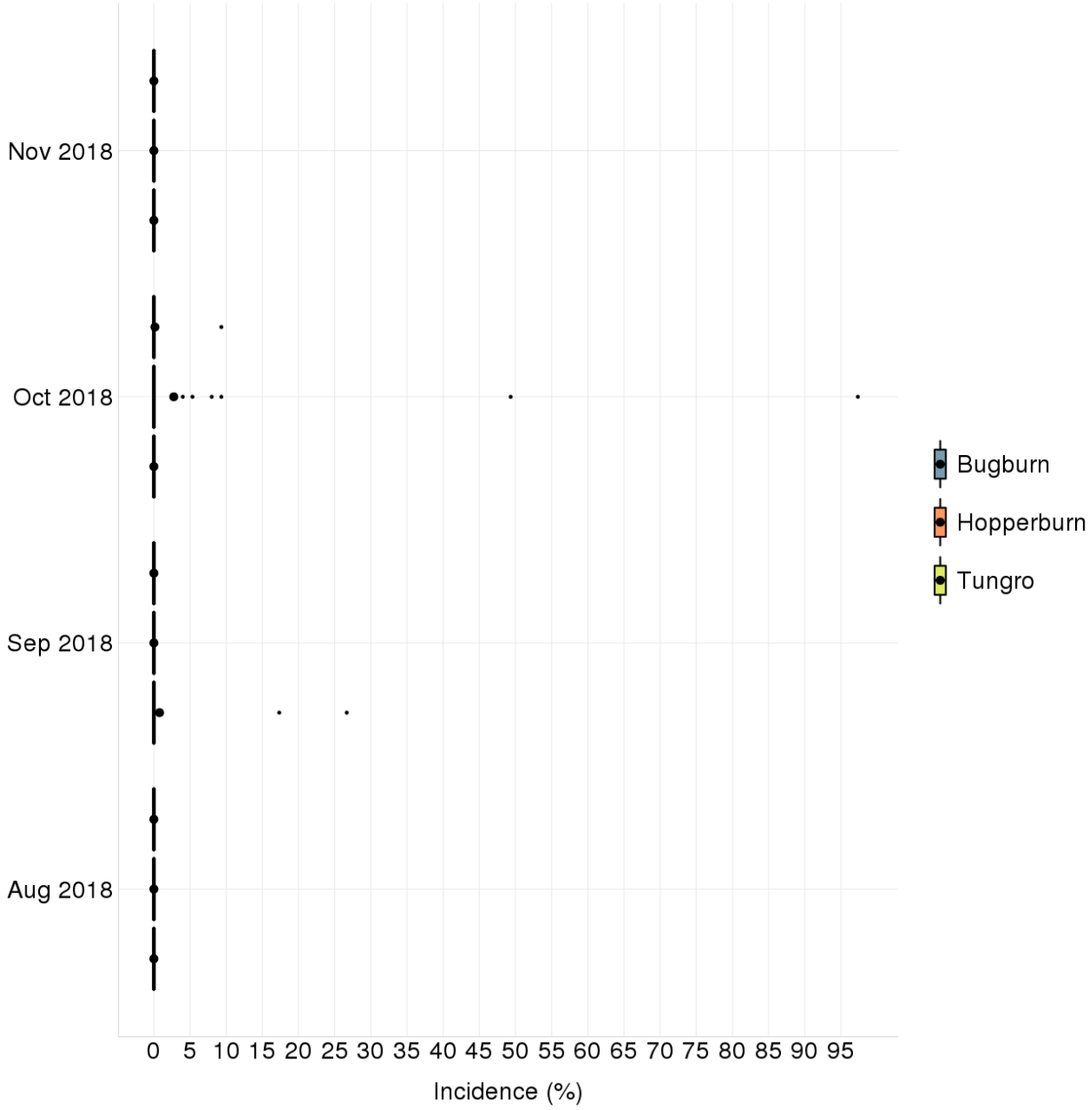

Figure 12. Incidence of bugburn, hopperburn and tungro in CAR, July 2018 to December 2018.

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E. Insect count

The highest number of rice bug were two (2) insects per square meter during October and November (Figure 13). The count of other insects was insignificant.

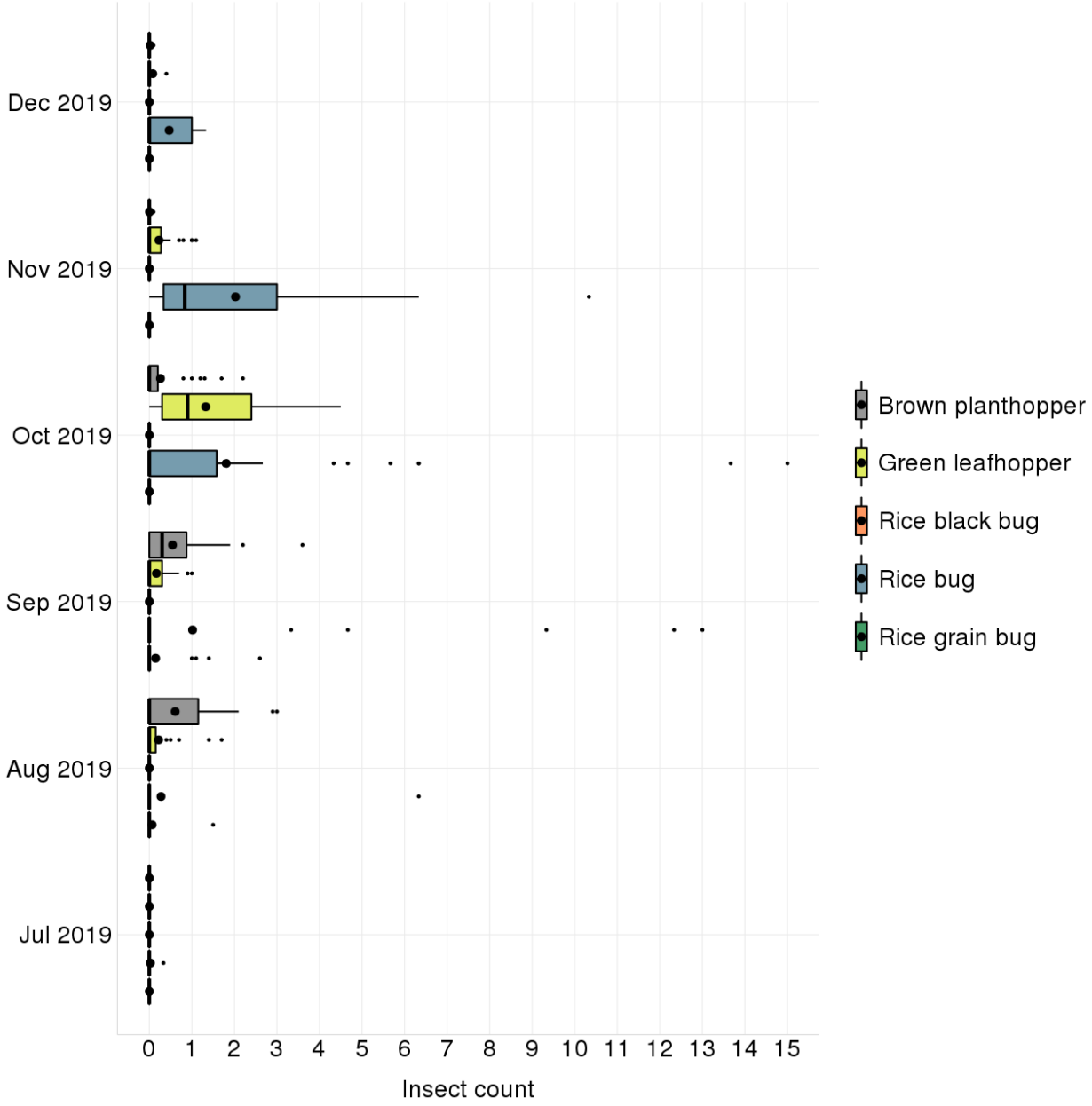

Figure 13. Count of insect pests in CAR, July 2019 to December 2019.

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As shown in figure 14, the highest number of rice bug counted was two (2) insects per square meter observed in November while green leafhopper had an average of one (1) insect per hill in October. All other insects monitored were insignificant.

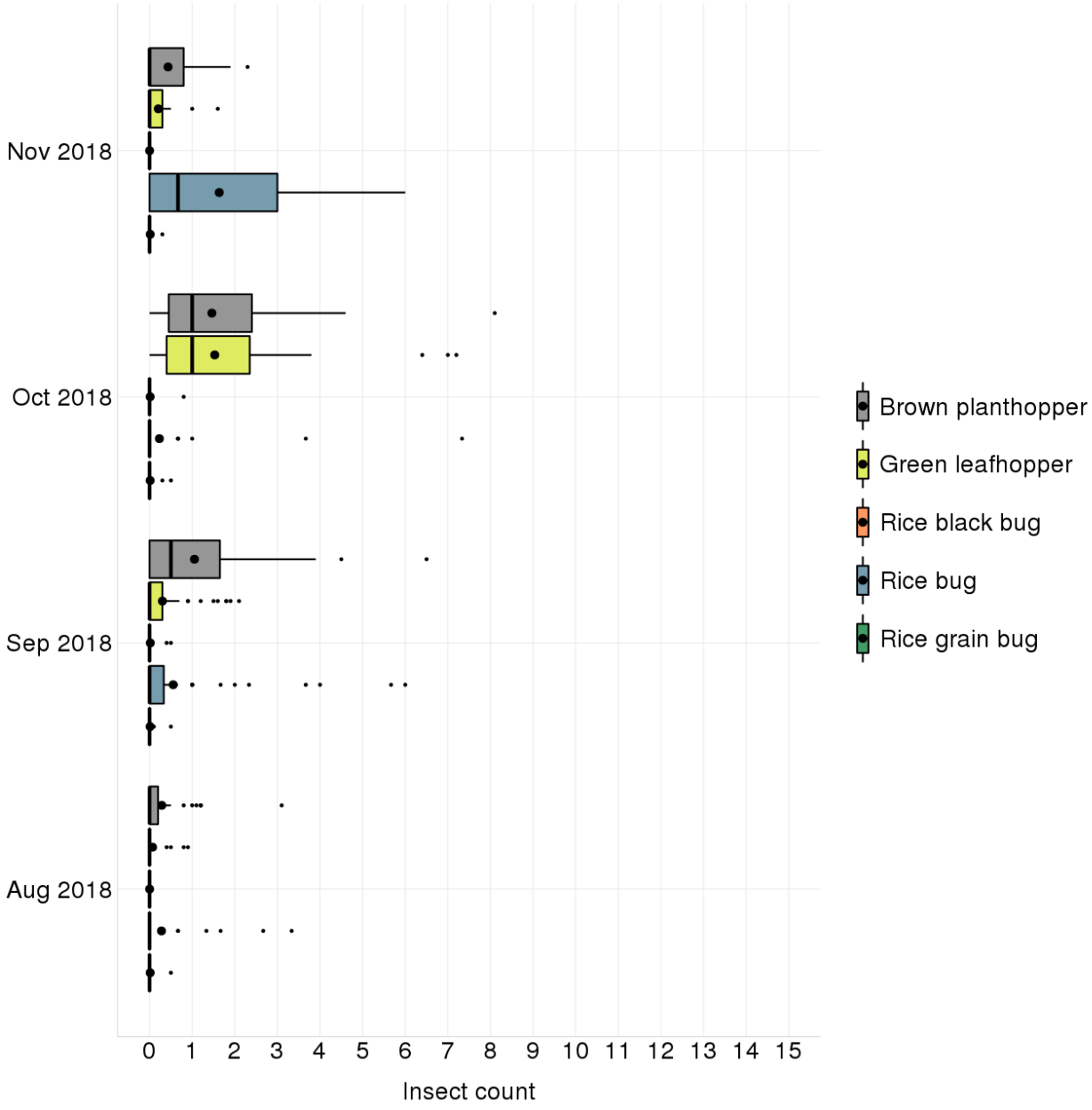

Figure 14. Count of insect pests in CAR, July 2018 to December 2018.

Disclaimer: All the data presented in this report are based on the monthly monitoring of farmers' fields by regional data collectors of PRIME.

F. Rodent injury

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

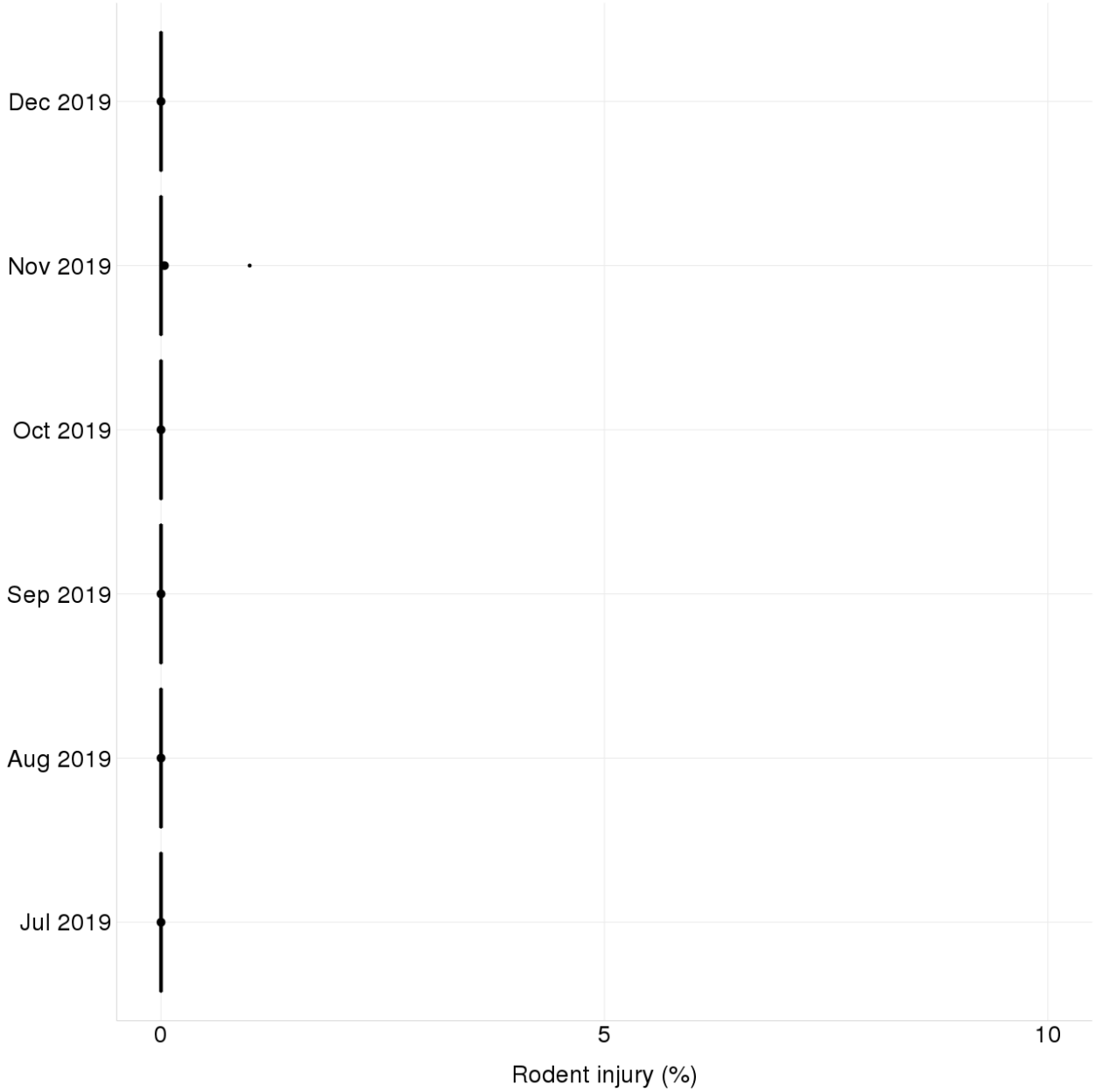

Figure 15. Incidence of rodent injury in CAR, July 2019 to December 2019.

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

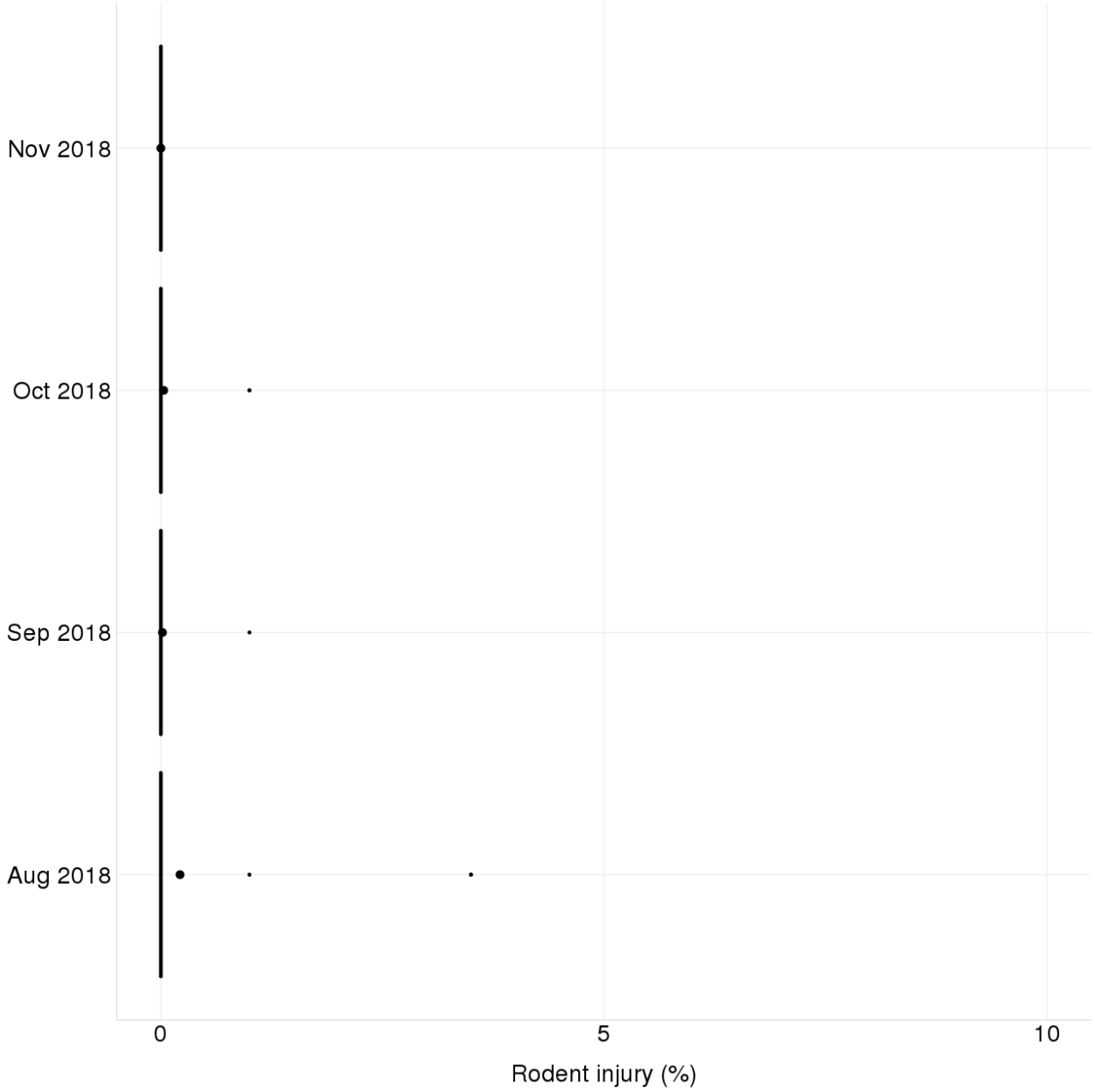

Figure 16. Incidence of rodent injury in CAR, July 2018 to December 2018.

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G. Weed cover

The mean incidences of weed cover were above 5% throughout the semester with a maximum incidence of 80% both in August and September (Figure 17).

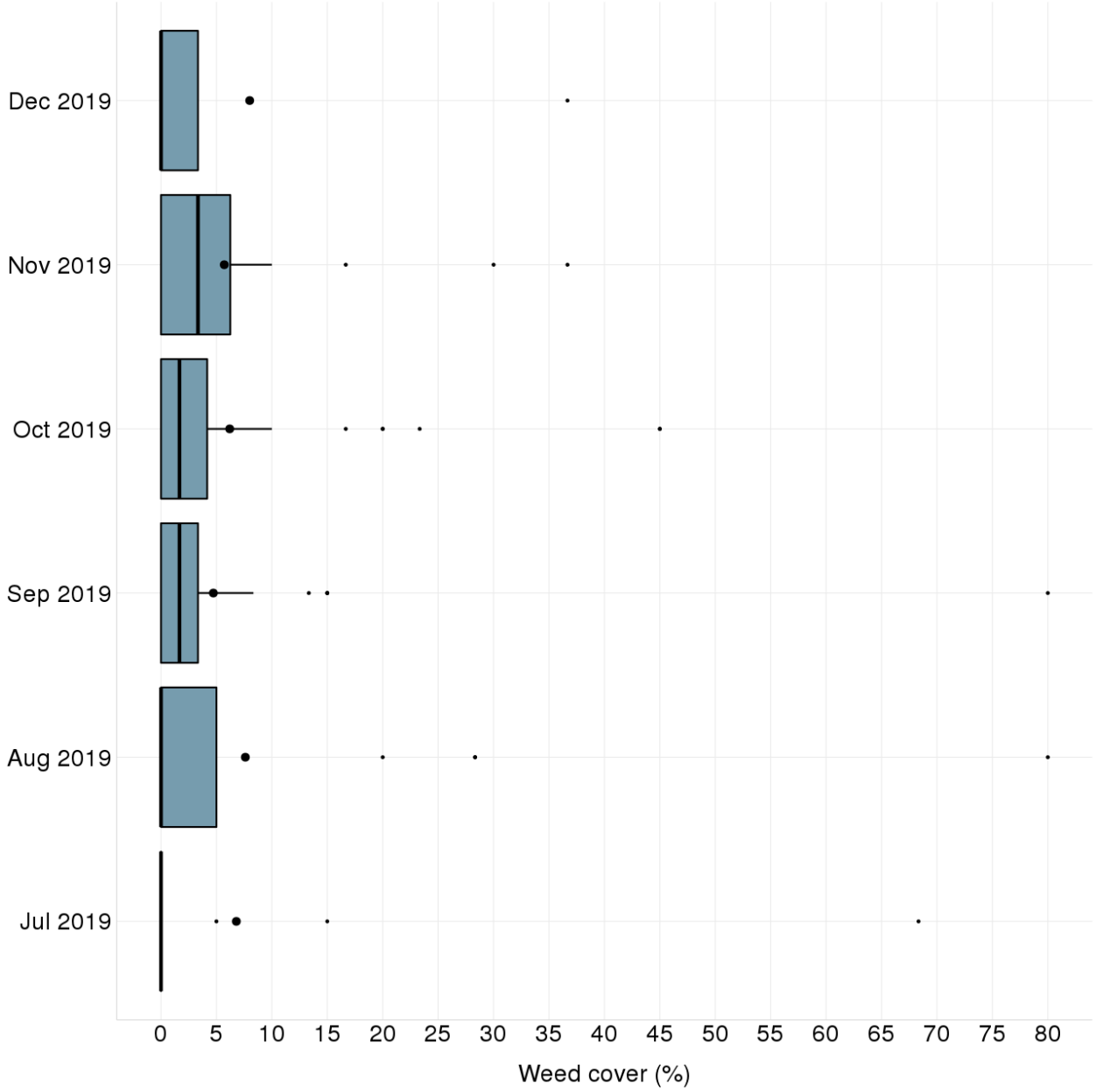

Figure 17. Percentage of weed cover in CAR, July 2019 to December 2019.

Disclaimer: All the data presented in this report are based on the monthly monitoring of farmers' fields by regional data collectors of PRIME.

As shown in Figure 18, the highest mean incidence of weed cover were 5% (October) and 11% (November) with a maximum incidence of 57% in September followed by 53% in October.

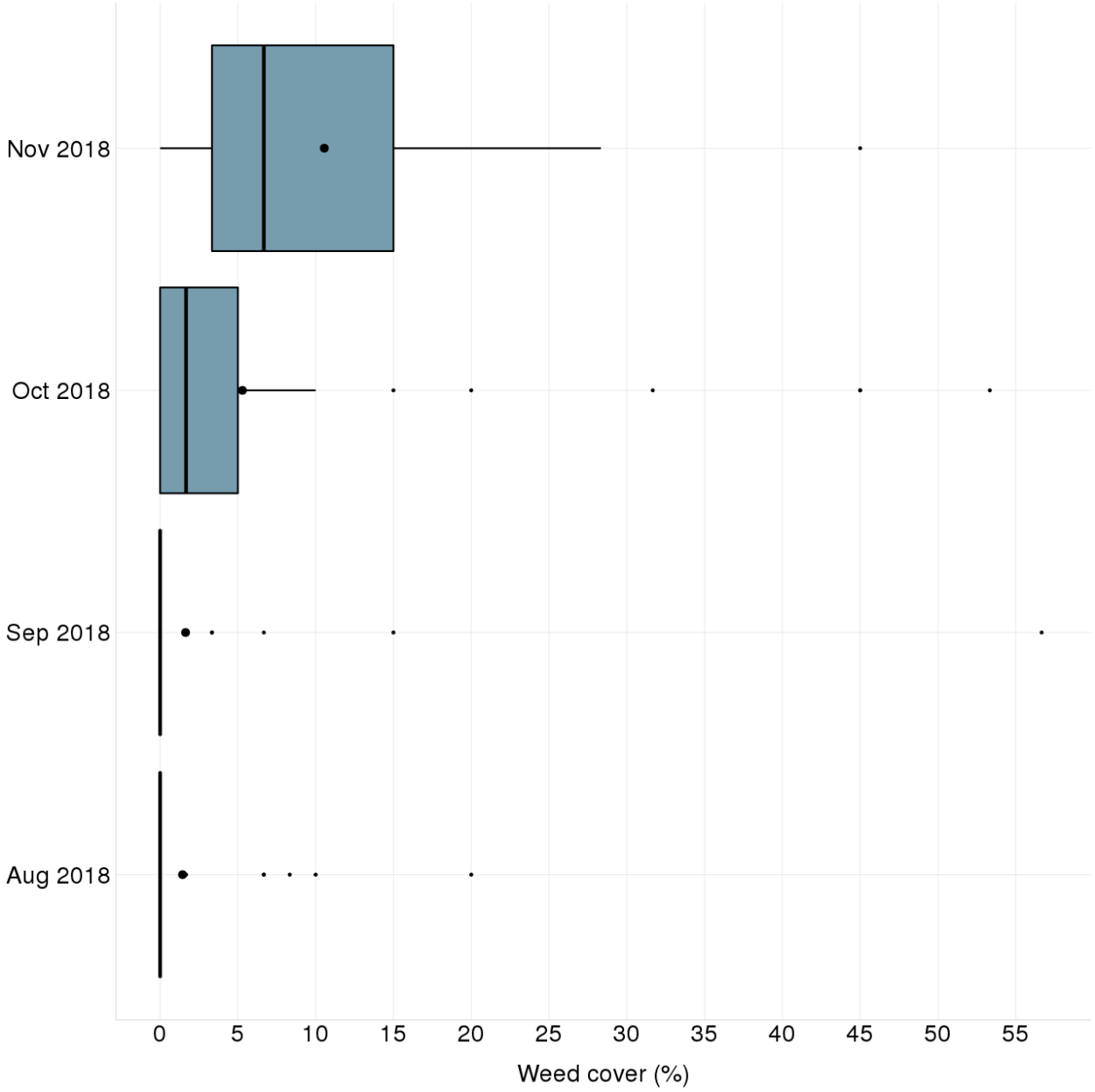

Figure 18. Percentage of weed cover in CAR, July 2018 to December 2018.

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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.

Brown spot

1. The most practical and economical approach to manage brown spot is to grow a resistant variety
2. When feasible, improve soil fertility by regularly monitoring nutrients in the soil and the application of required fertilizers.
3. If possible, the 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. Brown spot develops on plants affected by Akiochi and has, in fact, been used as its indicator. It occurs in irrigated fields that are poorly drained and have excessive organic matter. Low decomposition of stubbles, which usually occurs in areas with short fallow period, results in high organic matter.
4. Use certified seeds or clean seeds to prevent infected seeds. Brown spot is a seedborne disease which means that growing an infected seed will result in diseased plants during the cropping season. Clean seeds can be cleaned manually using flotation method which consists of the following steps:
    a. Dissolve 1.5 kg salt in 40 liters of water.
    b. Soak seeds in the salt solution.
    c. Stir to float diseased, unfilled and broken seeds.
    d. Remove floating seeds by hand or with a sieve.
    e. Wash seeds 3 to 4 times with clean water.
    f. Dry in the shade thoroughly before sowing.
5. 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 reduces sunlight penetration, increases leaf wetness duration and lowers temperature in the plant canopy, creating a favorable microclimate for disease development.
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. Apply fungicides, such as iprodione, propiconazole, azoxystrobin, trifloxystrobin, and carbendazim. Seeds may also be treated with fungicides. Use fungicides as a last resort in controlling the disease. 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 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. If harvested plants had severe disease, immediately plow or rotavate 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%.

Bacterial leaf blight

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. Use optimum seeding rate (80 kg per hectare) for direct-seeded rice and optimum plant spacing (e.g., 20cm x 20cm) 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. Excessive amount of nitrogen favors the development of most rice diseases.
4. Manage the application of nutrient fertilizer. 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 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. Remove weeds from the field because the pathogen can survive and cause disease on several weed species.
8. Use copper fungicides as last resort in controlling the disease. Copper fungicides should be applied with caution because copper accumulates in the soil surface (does not leach easily) and in the roots. Copper toxicity deforms roots and may eventually reduce yield.
9. Avoid using antibiotics because bacteria easily develop resistance to antibiotics. IRRI plant pathologists have observed that several strains of isolates collected from farmers' fields in the Philippines are resistant to antibiotics.
10. 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.
11. Avoid ratooning because the pathogen can survive on ratoon.
12. Keep the field dry during the fallow period to control the pathogens in infected stubbles.

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 fallow period in your area. If this is not possible, a farmer who intends to grow a susceptible variety should not plant rice later than most farmers' fields.
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. Excessive amount of nitrogen favors the development of most rice diseases.
5. Manage the application of nutrient fertilizer. 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 creates a dense canopy that results in favorable microclimate for disease development.
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 when feasible.
8. Irrigate the field continuously until one week before harvest. Do not drain the field for long periods because drought stress favors blast.
9. Use fungicides as last resort in controlling the disease. To control neck blast, apply fungicide at late booting and heading stages if leaf blast increases before booting stage 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.
10. 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.
11. Avoid ratooning because the pathogen can survive on ratoon.
12. Keep the field dry during the fallow period to control the pathogens in infected stubbles.

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).
3. 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 difenoconazole 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

CAR		2018						2019					
Kalinga		JUL	AUG	SEP	OCT	NOV	DEC	JUL	AUG	SEP	OCT	NOV	DEC
A. FOLIAR DISEASES													
Bacterial leaf blight	mean	0.0	0.1	2.4	5.2	7.1	0.0	1.5	4.6	3.8	1.3	3.7	1.0
	median	0.0	0.0	0.0	0.8	4.4	0.0	0.0	2.5	1.1	0.3	1.0	0.0
	maximum	0.0	0.6	26.8	55.5	32.0	0.0	15.3	16.1	19.7	9.2	26.7	3.6
	count	0	37	56	63	21	0	13	23	42	39	26	5
Bacterial leaf streak	mean	0.0	0.0	5.3	8.7	7.3	0.0	5.7	1.5	1.6	0.6	1.2	2.0
	median	0.0	0.0	0.5	7.3	1.5	0.0	1.6	0.0	0.0	0.0	0.0	0.5
	maximum	0.0	0.5	27.6	51.2	27.2	0.0	26.0	10.8	15.6	5.1	9.3	5.4
	count	0	37	56	63	21	0	13	23	42	39	26	5
Brown spot	mean	0.0	1.6	0.6	1.7	1.7	0.0	1.1	0.5	0.5	1.7	2.2	3.3
	median	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
	maximum	0.0	10.8	8.6	13.1	15.9	0.0	6.6	4.0	15.4	19.0	25.4	12.8
	count	0	37	56	63	21	0	13	23	42	39	26	5
Leaf blast	mean	0.0	0.8	1.4	1.1	0.0	0.0	1.2	1.1	0.7	1.5	1.7	0.4
	median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	0.5	0.4
	maximum	0.0	4.4	20.9	6.6	0.8	0.0	7.6	11.3	5.3	6.0	11.2	1.2
	count	0	37	56	63	21	0	13	23	42	39	26	5
Red stripe	mean	0.0	0.5	0.6	3.5	12.1	0.0	3.0	4.4	5.1	2.1	3.3	3.7
	median	0.0	0.0	0.0	1.3	11.7	0.0	0.1	0.5	2.2	0.0	1.7	2.1
	maximum	0.0	9.4	4.3	17.9	25.3	0.0	11.2	22.0	25.2	35.2	15.2	13.8
	count	0	37	56	63	21	0	13	23	42	39	26	5
B. DISEASE OR PEST INJURY ON TILLERS													
Deadheart	mean	0.0	0.3	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.4	0.9	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	5.9	6.8	0.0	0.6	0.0	2.3	0.0	3.8	7.8	24.3	0.0
	count	0	37	56	63	21	0	13	23	42	39	26	5
Sheath Blight	mean	0.0	0.3	0.4	0.7	14.5	0.0	0.0	0.8	2.0	1.2	1.6	0.6
	median	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	5.4	20.6	11.2	74.6	0.0	0.0	9.6	21.2	15.4	8.2	1.6
	count	0	37	56	63	21	0	13	23	42	39	26	5

LEGEND	
Blue font	> 5 to 10 % incidence of diseases, insect pest injuries or weed cover or 5 to 10 insects.
Red font	> 10 % incidence of diseases, insect pest injuries or weed cover or > 10 insects.

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

Disclaimer: All the data presented in this report are based on the monthly monitoring of farmers' fields by regional data collectors of PRIME.

CAR		2018						2019					
Kalinga		JUL	AUG	SEP	OCT	NOV	DEC	JUL	AUG	SEP	OCT	NOV	DEC
C. DISEASE OR PEST INJURY ON PANICLES													
Neck Blast	mean	0.0	7.9	0.0	2.3	2.8	0.0	0.0	0.3	0.3	0.0	0.1	0.0
	median	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	maximum	0.0	30.0	0.0	20.8	53.1	0.0	0.0	1.3	1.4	0.0	2.2	0.0
	count	0	4	2	15	19	0	0	4	9	15	23	4
Whitehead	mean	0.0	0.5	0.0	1.3	0.5	0.0	0.0	0.0	2.5	1.2	1.7	0.3
	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	2.0	0.0	20.0	6.7	0.0	0.0	0.0	17.3	10.7	10.6	1.0
	count	0	4	2	15	19	0	0	4	9	15	23	4
D. SYSTEMIC DISEASE OR PEST INJURY													
Bugburn	mean	0.0	0.0	0.0	0.2	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	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	37	56	63	21	0	13	23	42	39	26	5
Hopperburn	mean	0.0	0.0	0.0	2.8	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	97.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	37	56	63	21	0	13	23	42	39	26	5
Tungro	mean	0.0	0.0	0.8	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	26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	37	56	63	21	0	13	23	42	39	26	5

LEGEND	
Blue font	> 5 to 10 % incidence of diseases, insect pest injuries or weed cover or 5 to 10 insects.
Red font	> 10 % incidence of diseases, insect pest injuries or weed cover or > 10 insects.

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

CAR		2018						2019					
Kalinga		JUL	AUG	SEP	OCT	NOV	DEC	JUL	AUG	SEP	OCT	NOV	DEC
E. INSECT COUNT													
Brown Planthopper	mean	0.0	0.3	1.1	1.5	0.4	0.0	0.0	0.6	0.6	0.3	0.0	0.0
	median	0.0	0.0	0.5	1.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
	maximum	0.0	3.1	6.5	8.1	2.3	0.0	0.0	3.0	3.6	2.2	0.1	0.1
	count	0	37	56	63	21	0	13	23	42	39	26	5
Green Leafhopper	mean	0.0	0.1	0.3	1.5	0.2	0.0	0.0	0.2	0.2	1.3	0.2	0.1
	median	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
	maximum	0.0	0.9	2.1	7.2	1.6	0.0	0.0	1.7	1.0	4.5	1.1	0.4
	count	0	37	56	63	21	0	13	23	42	39	26	5
Rice Black Bug	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	0.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	count	0	37	56	63	21	0	13	23	42	39	26	5
Rice Bug	mean	0.0	0.3	0.6	1.5	1.6	0.0	0.0	0.3	1.0	2.3	2.0	0.5
	median	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.8	0.0
	maximum	0.0	3.3	6.0	58.7	6.0	0.0	0.3	6.3	13.0	22.0	10.3	1.3
	count	0	37	56	63	21	0	13	23	42	39	26	5
Rice Grain Bug	mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	0.5	0.5	0.5	0.3	0.0	0.0	1.5	2.6	0.0	0.0	0.0
	count	0	37	56	63	21	0	13	23	42	39	26	5
F. RODENT INJURY	mean	0.0	0.2	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	3.5	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
	count	0	37	56	63	21	0	13	23	42	39	26	5
G. WEED COVER	mean	0.0	1.4	1.6	5.3	10.6	0.0	6.8	7.6	4.7	6.2	5.7	8.0
	median	0.0	0.0	0.0	1.7	6.7	0.0	0.0	0.0	1.7	1.7	3.3	0.0
	maximum	0.0	20.0	56.7	53.3	45.0	0.0	68.3	80.0	80.0	45.0	36.7	36.7
	count	0	37	56	63	21	0	13	23	42	39	26	5

LEGEND	
Blue font	> 5 to 10 % incidence of diseases, insect pest injuries or weed cover or 5 to 10 insects.
Red font	> 10 % incidence of diseases, insect pest injuries or weed cover or > 10 insects.

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

Disclaimer: All the data presented in this report are based on the monthly monitoring of farmers' fields by regional data collectors of PRIME.