



PRIME

# **PRE-SEMESTER BULLETIN**

July 2018 to June 2019



**REGION III – Central Luzon Region**

# AT A GLANCE

Table. Mean incidence of pest injuries, count of insect pests, and percentage of weed cover by month.

Region III

	2018						2019					
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
<b>A. FOLIAR DISEASES</b>												
Bacterial leaf blight	0.0	0.2	0.2	1.3	0	0	0	0.2	0.0	0.1	0.1	0.1
Bacterial leaf streak	0.1	1.1	0.5	1.3	1.2	0	0.1	0.1	0.1	0.0	0.1	0.1
Brown spot	0.0	0	0.1	0.1	0	0	0	0.0	0.0	0.0	0.2	0.5
Leaf blast	0.2	1.0	0.1	0.0	0	0	0.0	0.0	0.0	0.0	0.3	0.5
Red stripe	0	0.0	0	0.0	0	0	0	0	0	0	0.0	0.0
<b>B. DISEASE OR PEST INJURY ON TILLERS</b>												
Deadheart	0.0	0.4	0.1	0.1	0	0	0.2	0.0	0.0	0	0.0	0.0
Sheath Blight	0	0.2	0.6	0.1	0	0	0	0	0.0	0.1	0	0.7
<b>C. DISEASE OR PEST INJURY ON PANICLES</b>												
Neck Blast	0	0	0.1	0.0	0	0	0	0	0	0	0	0
Whitehead	0	0	0.1	0.8	3.8	0	0	0.3	0.1	0.5	0.3	0.1
<b>D. SYSTEMIC DISEASE OR PEST INJURY</b>												
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
<b>E. INSECT COUNT</b>												
Brown Plant Hopper	0.0	0.5	2.9	0.3	0.4	0	0.0	0.1	0.7	0.5	0.1	0.1
Green Leaf Hopper	0.0	0.2	0.3	0.2	0	0	0.1	0.1	0.2	0.1	0.1	0.1
Rice Black Bug	0.0	0	0.0	0.0	0	0	0	0.0	0	0.0	0	0
Rice Bug	0	0.1	0.1	1.1	0.7	0	0	0.1	0.0	0.1	0.1	0.0
Rice Grain Bug	0.0	0.0	0.0	0.0	0	0	0	0	0	0.0	0	0
<b>F. RODENT INJURY</b>												
	0	0.1	0.1	0.0	0	0	0	0	0.0	0.0	0	0.0
<b>G. WEED COVER</b>												
	0.4	0.9	1.1	1.3	5.0	0	0.3	1.5	2.1	2.0	5.5	4.4

LEGEND  1-5%  5%

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:**

Nueva Ecija: Guimba, Rizal, and San Antonio  
Pampanga: Apalit, Arayat, and Candaba  
Tarlac: Concepcion, La Paz, and Tarlac City

**Monitoring date:**

July 2018 - June 2019

**Number of monitoring fields:**

367 monitoring fields

**Data collectors:**

Analie Siababa, Blessed Hope Peridas, Bryan Agustin, Caesar Siababa, Emerizza Mendoza, Frederick Gomez, Jomar Ped, Margie Quibuyen, Mark Angelo Urma, Mark Joseph Esteban, Mildred Echallas, Roel Espiritu, Ryan Apostol

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# Growth stages

In the second semester of 2018, most of the monitored fields were at the vegetative stage in July and August and harvest occurred in September to October 2018 (Figure 1). A vast majority of the fields were fallow in November and December. Crop establishment of the fields during first semester of 2019 occurred in January to February and most of the fields were harvested in March to April 2019. Majority of the fields were fallow in April to June 2019.

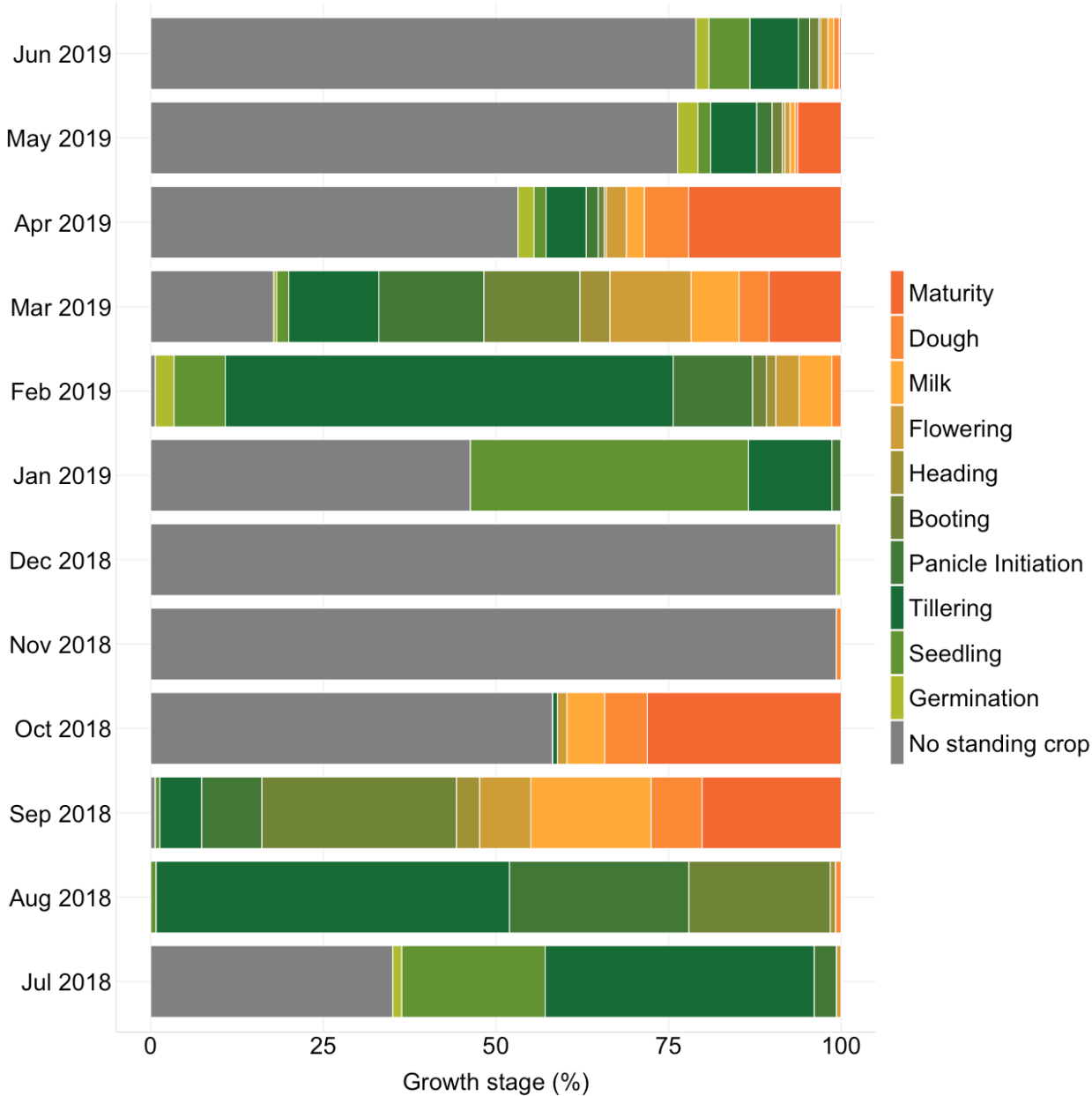


Figure 1. Proportion of crop growth stage of fields by month.

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# Pest injuries, insect count 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 2 to 8). 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 year was generally negligible (Figure 2). The highest mean incidence of bacterial leaf blight and bacterial leaf streak was 1% (observed in Oct. 2018 and October to November 2018, respectively) and that of the other foliar diseases was less than 1%. The median incidence of foliar diseases was 0 in almost all months.

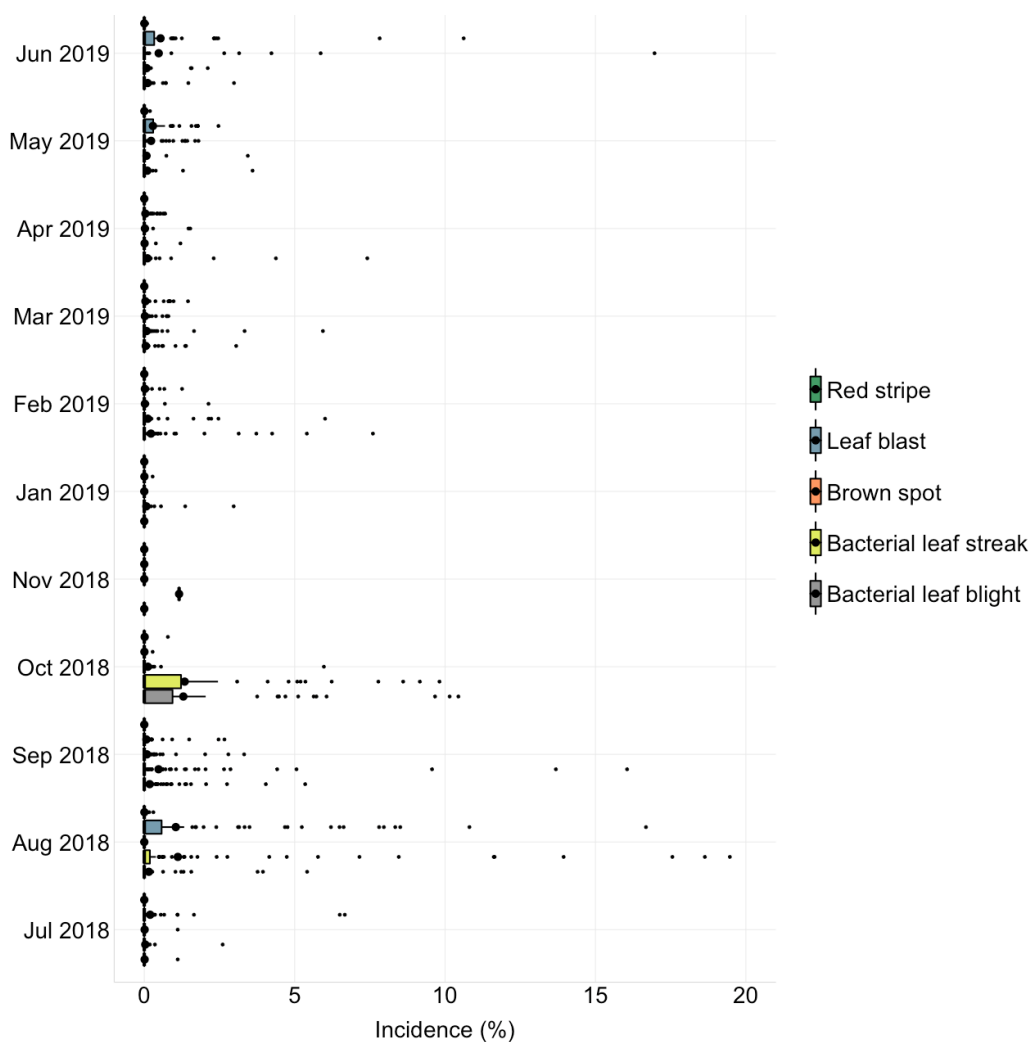


Figure 2. Incidence of foliar diseases in Region III, July 2018 to June 2019.

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## B. Insect pest injuries and diseases on fillers

The incidence of deadheart and sheath blight during the year was negligible (Figure 3).

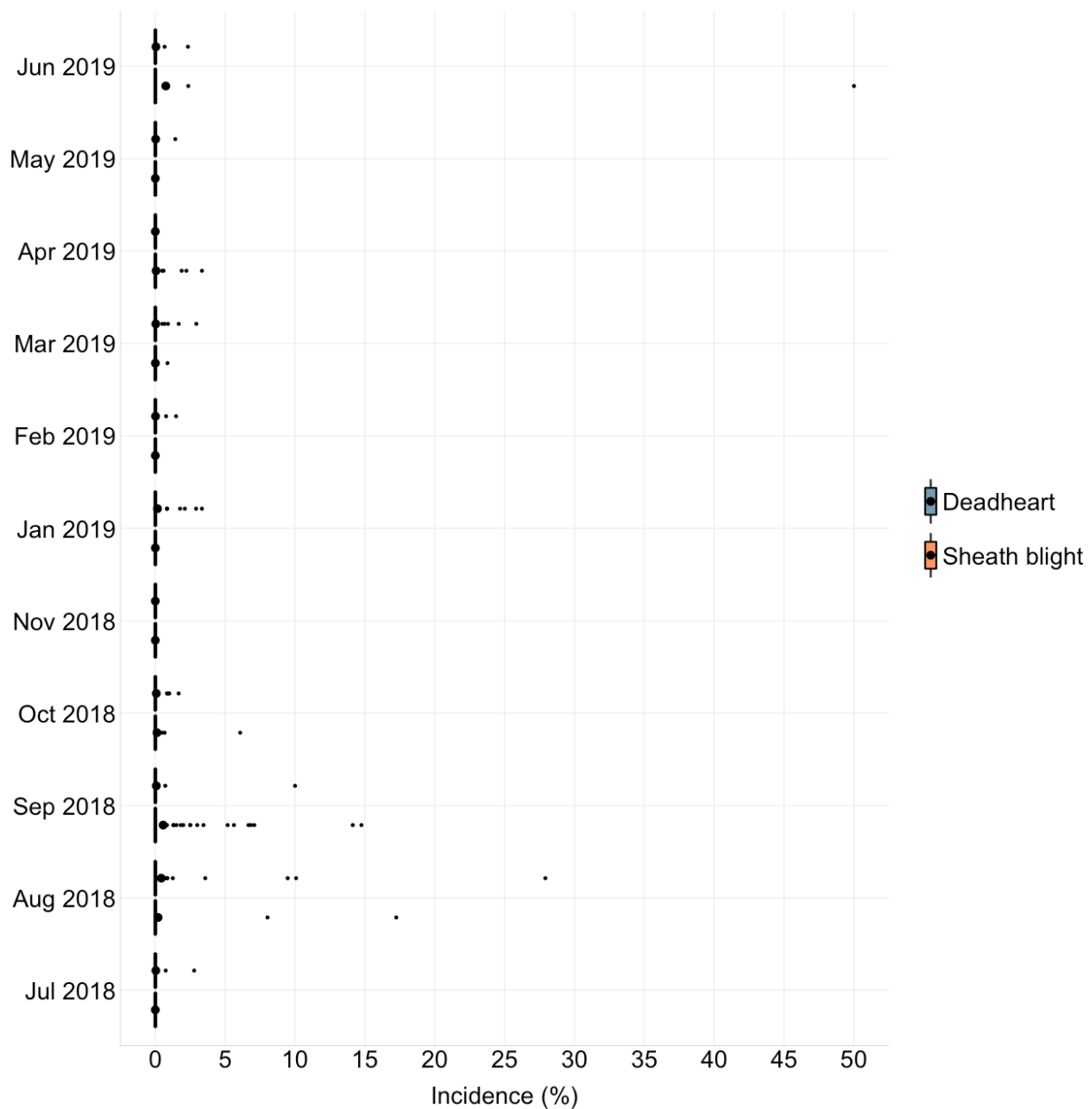


Figure 3. Incidence of deadheart and sheath blight in Region III, July 2018 to June 2019.

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

The incidence of neck blast and whitehead caused by stemborer was negligible (Figure 4).

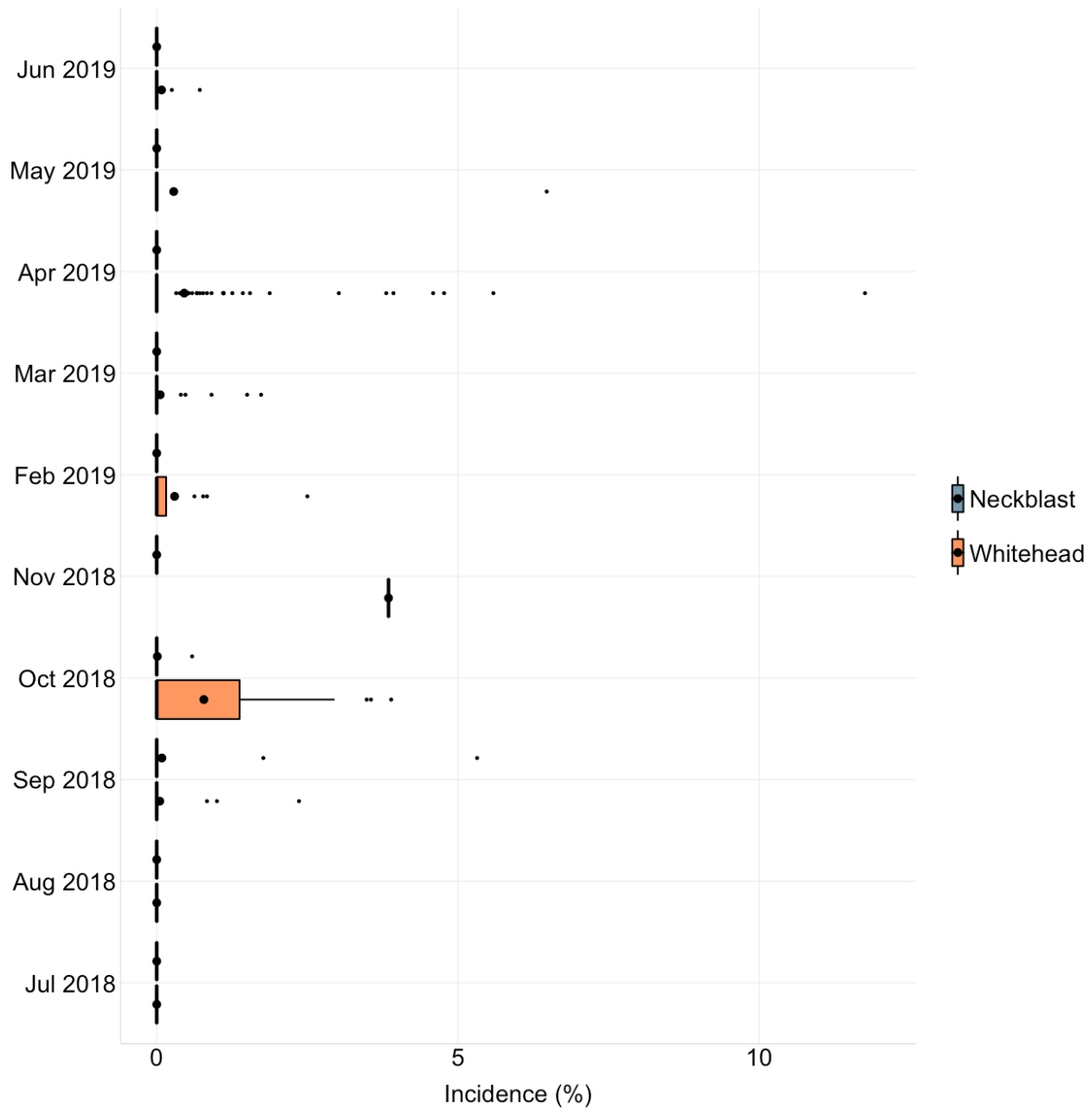


Figure 4. Incidence of neck blast and whitehead in Region III, July 2018 to June 2019.

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## D. Systemic insect pest injuries and diseases

Bugburn caused by brown planthopper, hopperburn, and tungro were not observed during the year (Figure 5).

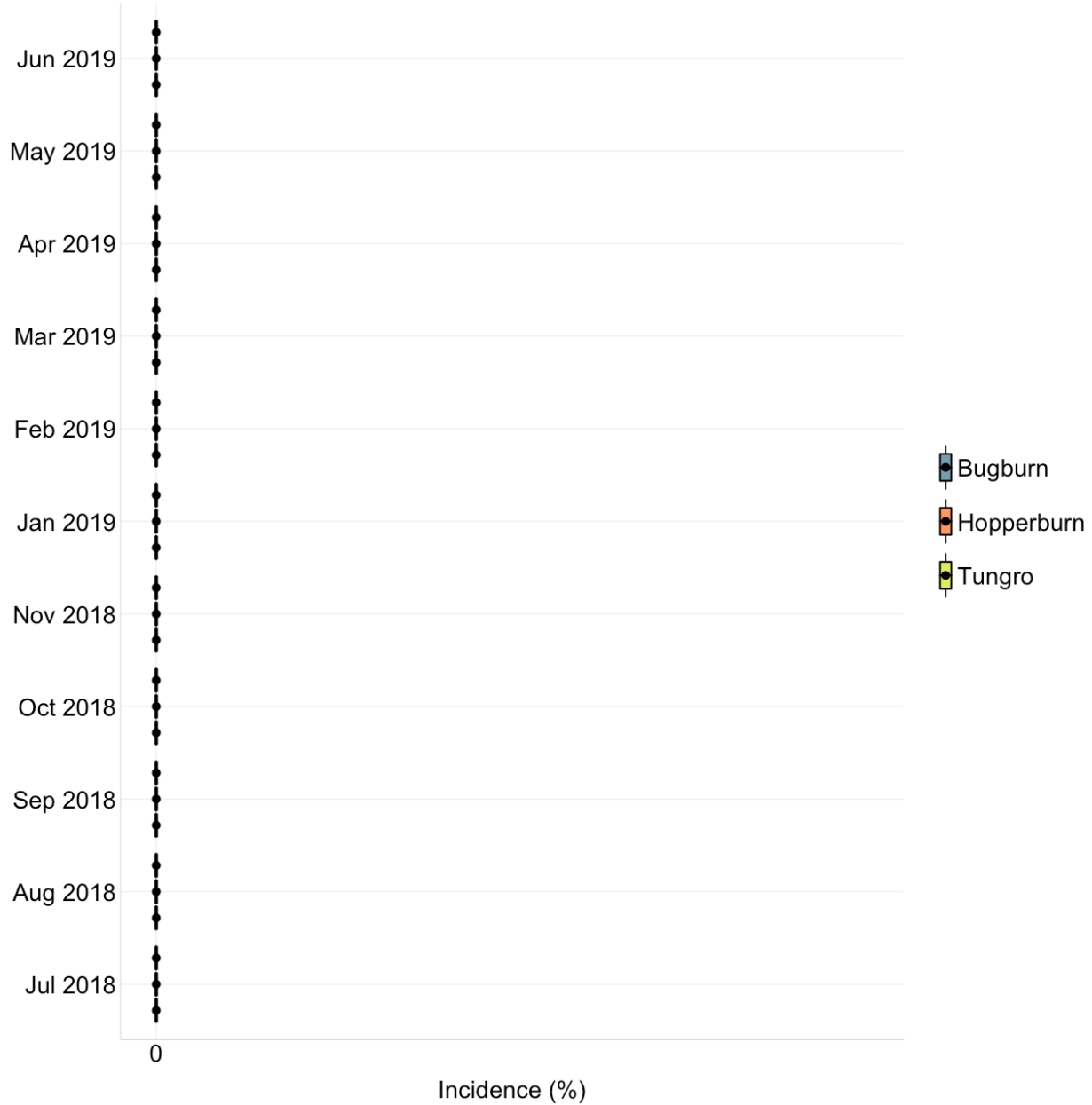


Figure 5. Incidence of bugburn, hopperburn and tungro in Region III, July 2018 to June 2019.

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## E. Insect count

The mean and median number of insect pests during the year was negligible (Figure 6).

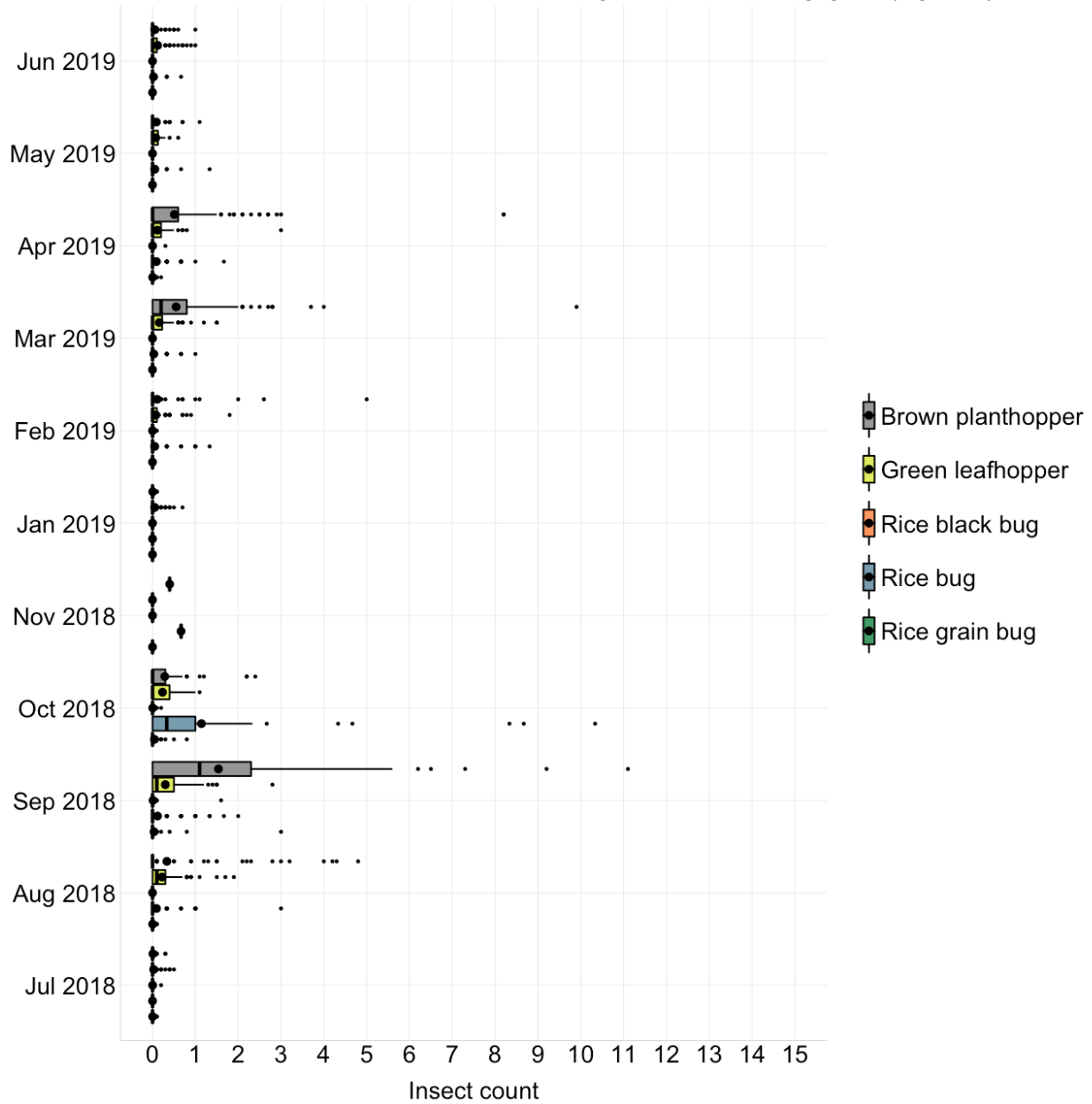


Figure 6. Count of insect pests in Region III, July 2018 to June 2019.

## F. Rat injury

The incidence of rat injury during the year was negligible (Figure 7).

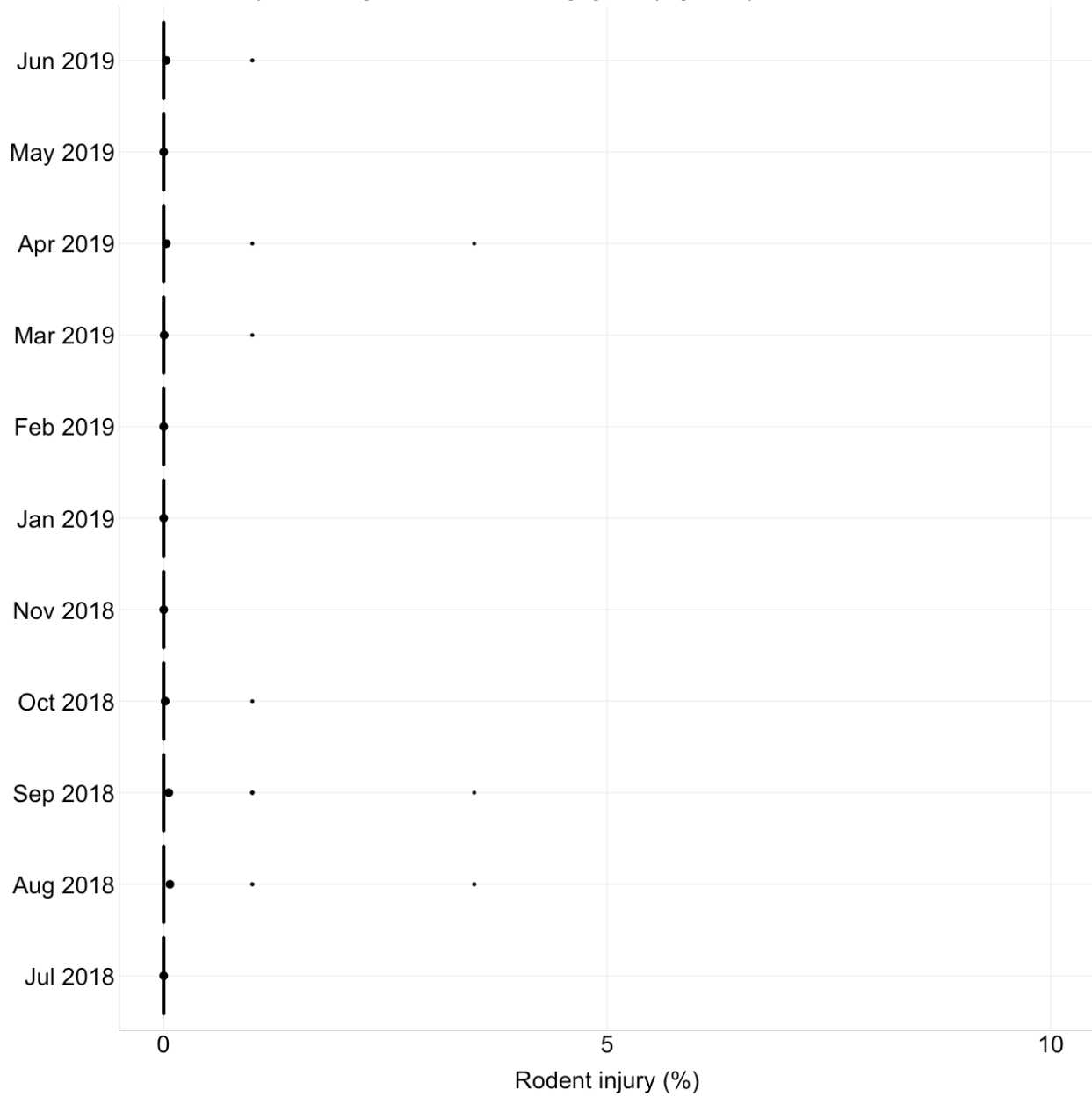


Figure 7. Incidence of rat injury in Region III, July 2018 to June 2019.

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## G. Weed cover

The highest mean percentage of weed cover was 5% in November 2018 and May 2019 (Figure 8). The mean of weed cover ranged from 0.35% to 4% in the other months. The median was 0 in all months except in November 2018 when only one field was monitored. Weed cover in some fields was higher than 20%.

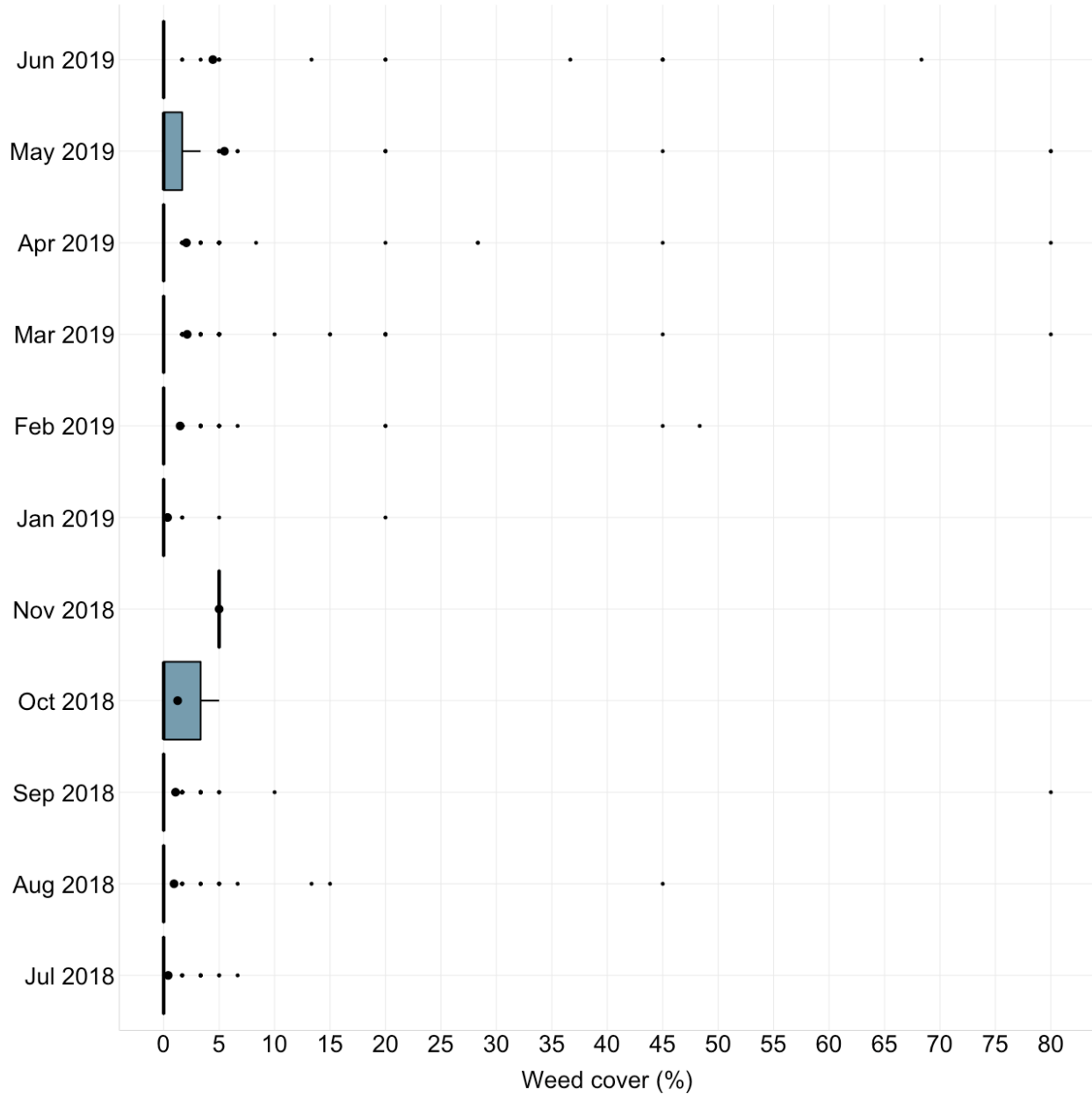


Figure 8. Percentage of weed cover in Region III, July 2018 to June 2019

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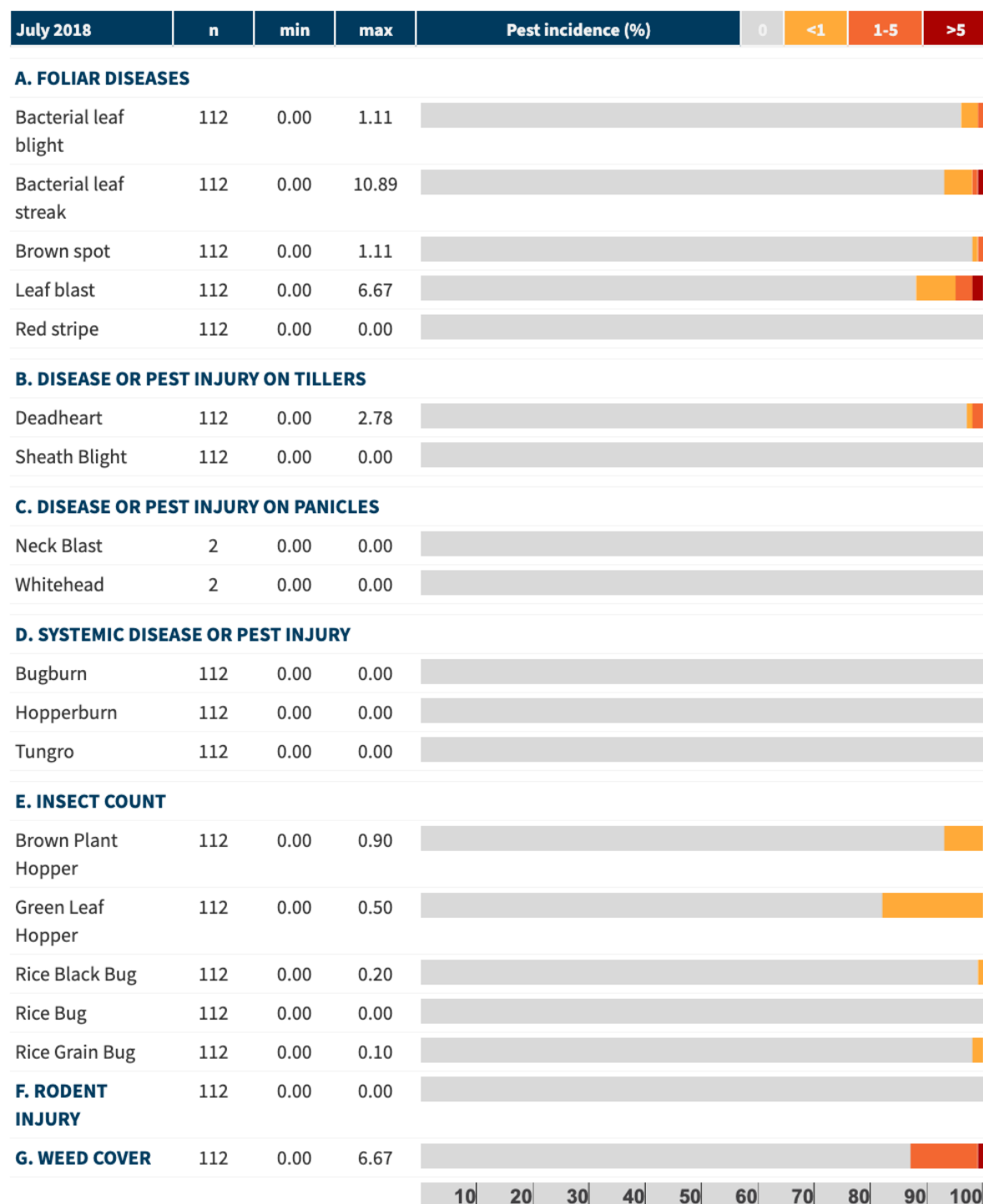
# Management of major rice pests

This section describes the management of the most important pests during the reporting period. A pest is operationally considered important if the mean incidence of injury (for insect pests and diseases) or percentage of cover (for weeds) in at least one month was at least 5%, or in the case of insect pests, the count was at least 5 per square meter.

## 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 fenclorim 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. 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.

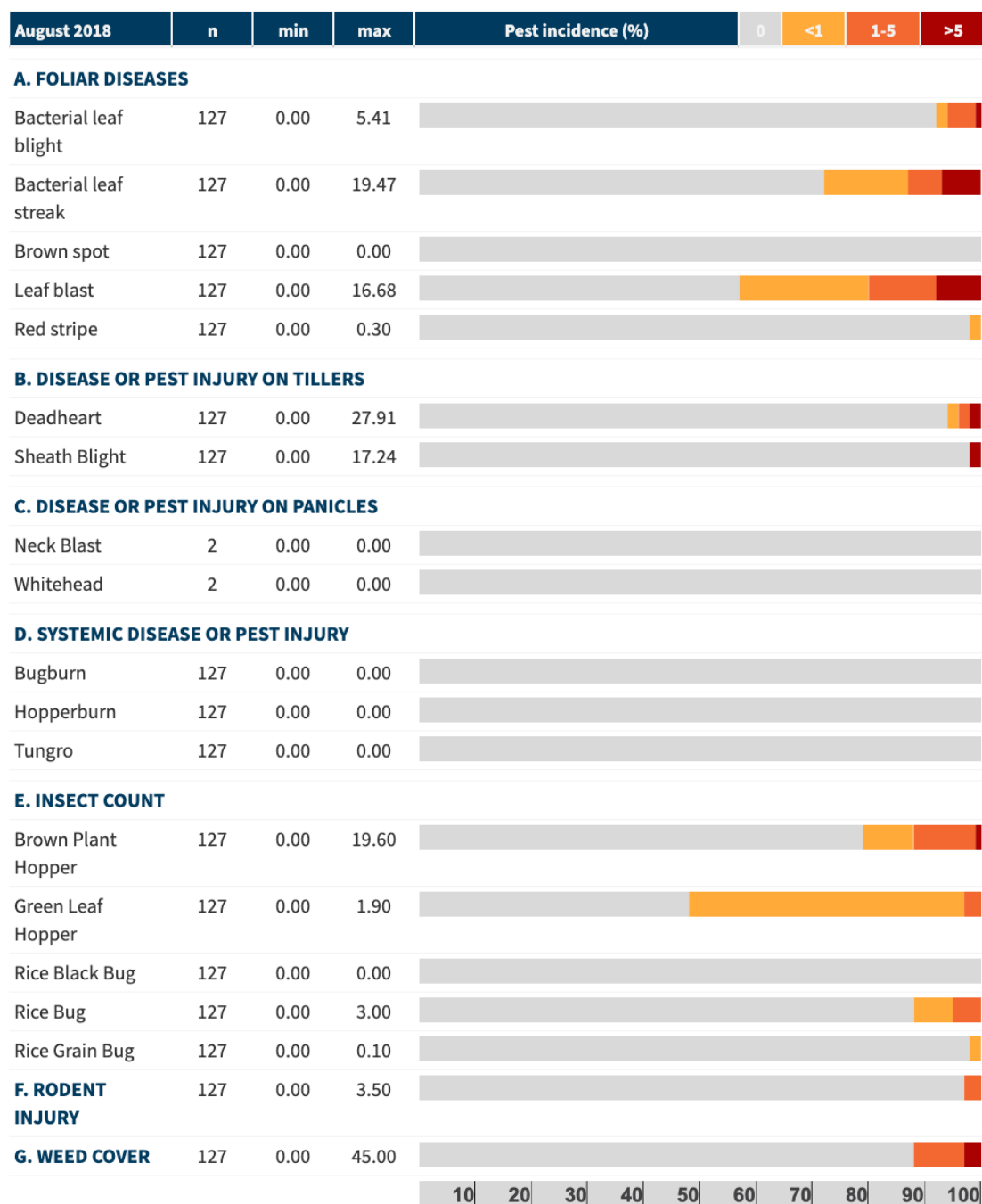
## Region III



Annex Figure 1. Incidence of pest injuries, count of insect pests, and weed cover in July 2018. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count, or weed cover.

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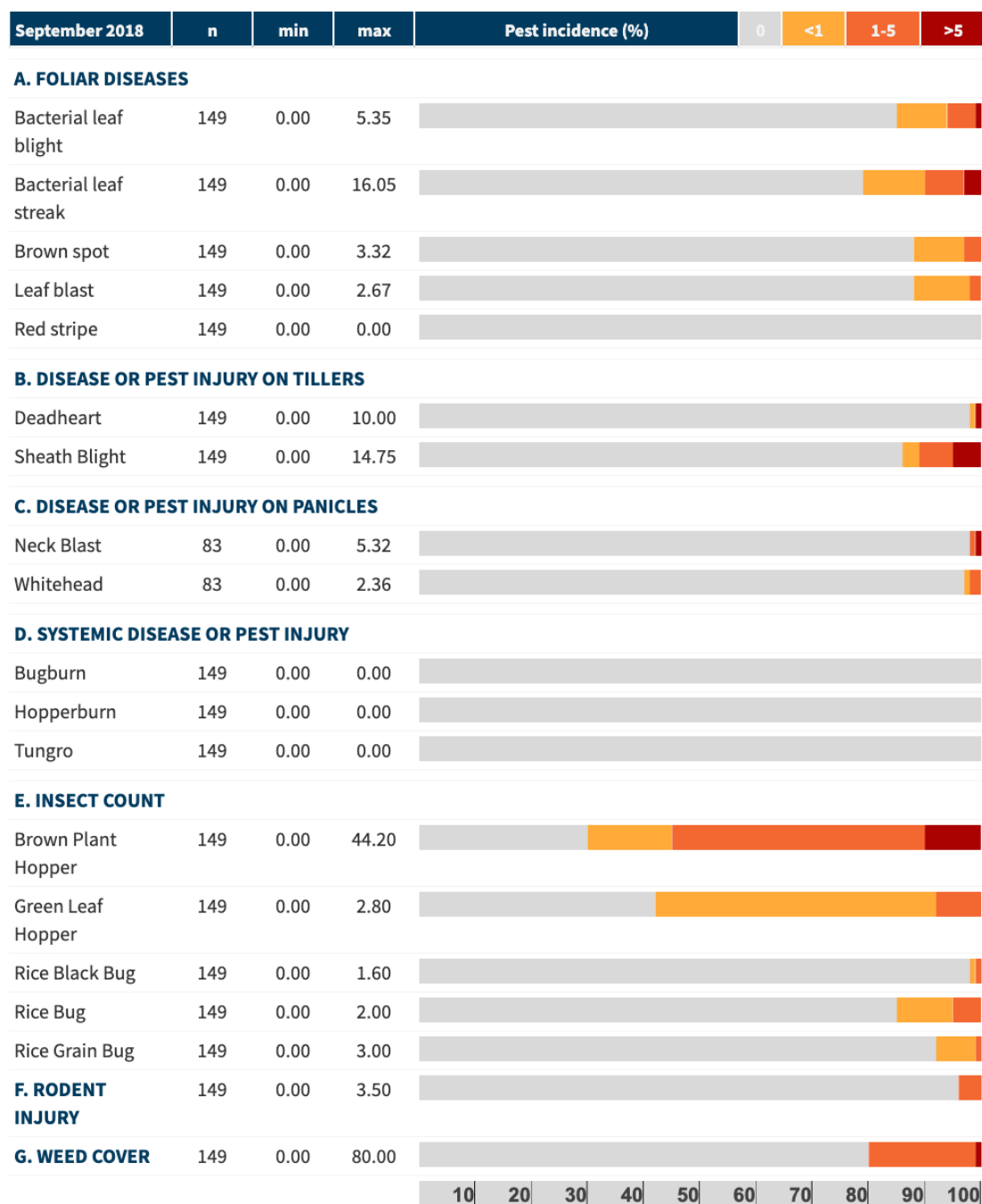
## Region III



Annex Figure 2. Incidence of pest injuries, count of insect pests, and weed cover in August 2018. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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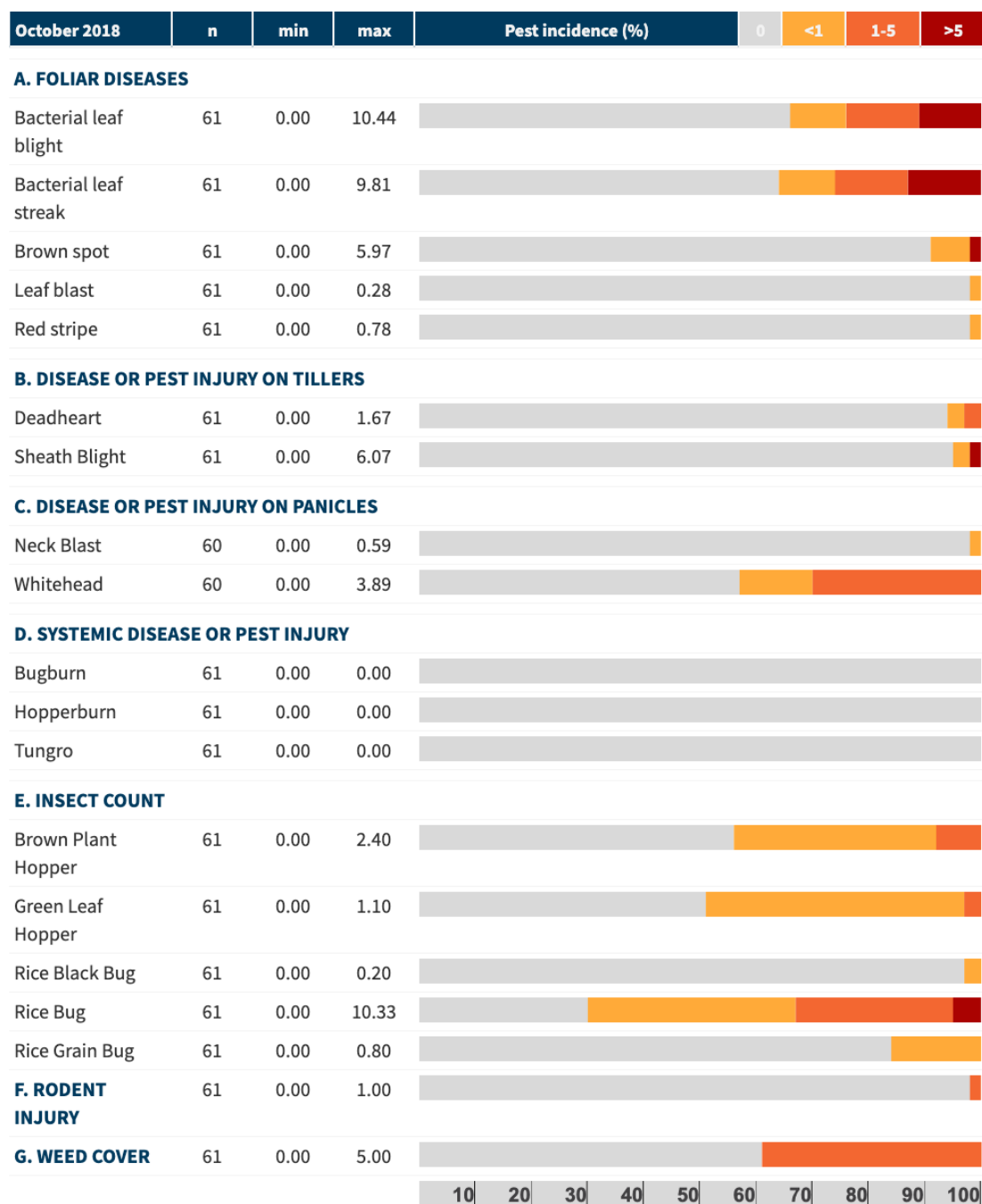
## Region III



Annex Figure 3. Incidence of pest injuries, count of insect pests, and weed cover in September 2018. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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## Region III



Annex Figure 4. Incidence of pest injuries, count of insect pests, and weed cover in October 2018. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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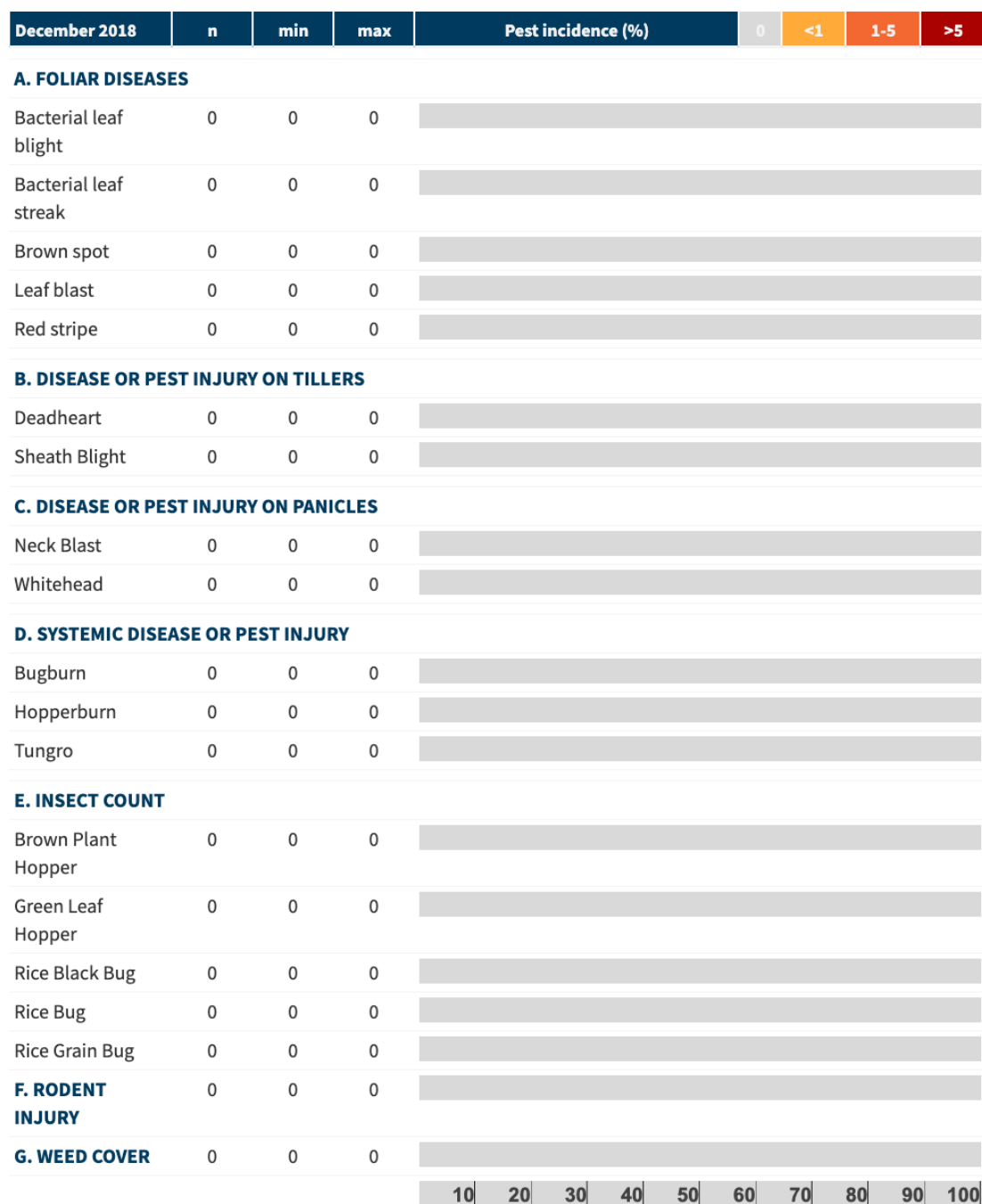
Region III



Annex Figure 5. Incidence of pest injuries, count of insect pests, and weed cover in November 2018. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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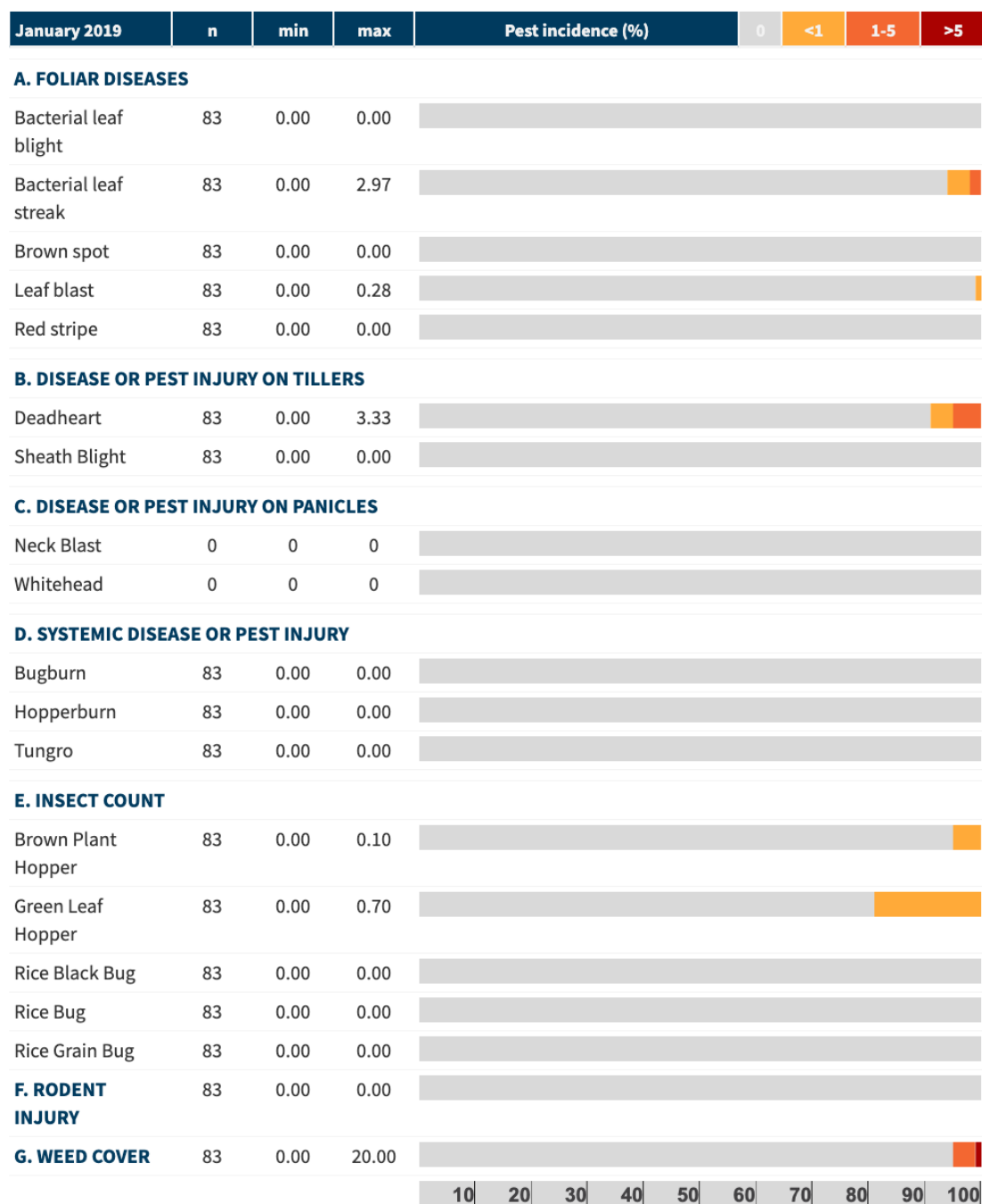
Region III



Annex Figure 6. Incidence of pest injuries, count of insect pests, and weed cover in December 2018. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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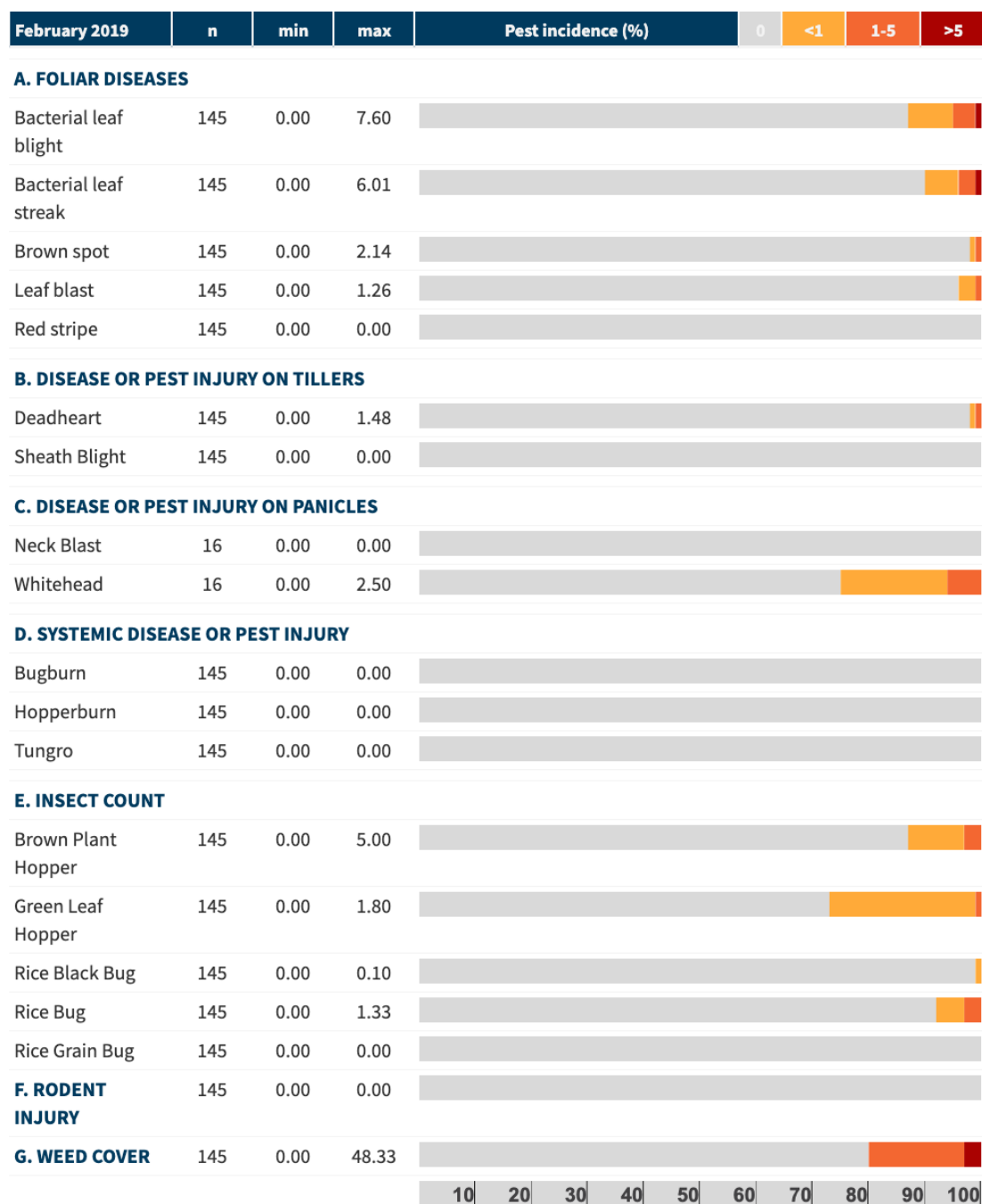
Region III



Annex Figure 7. Incidence of pest injuries, count of insect pests, and weed cover in January 2019. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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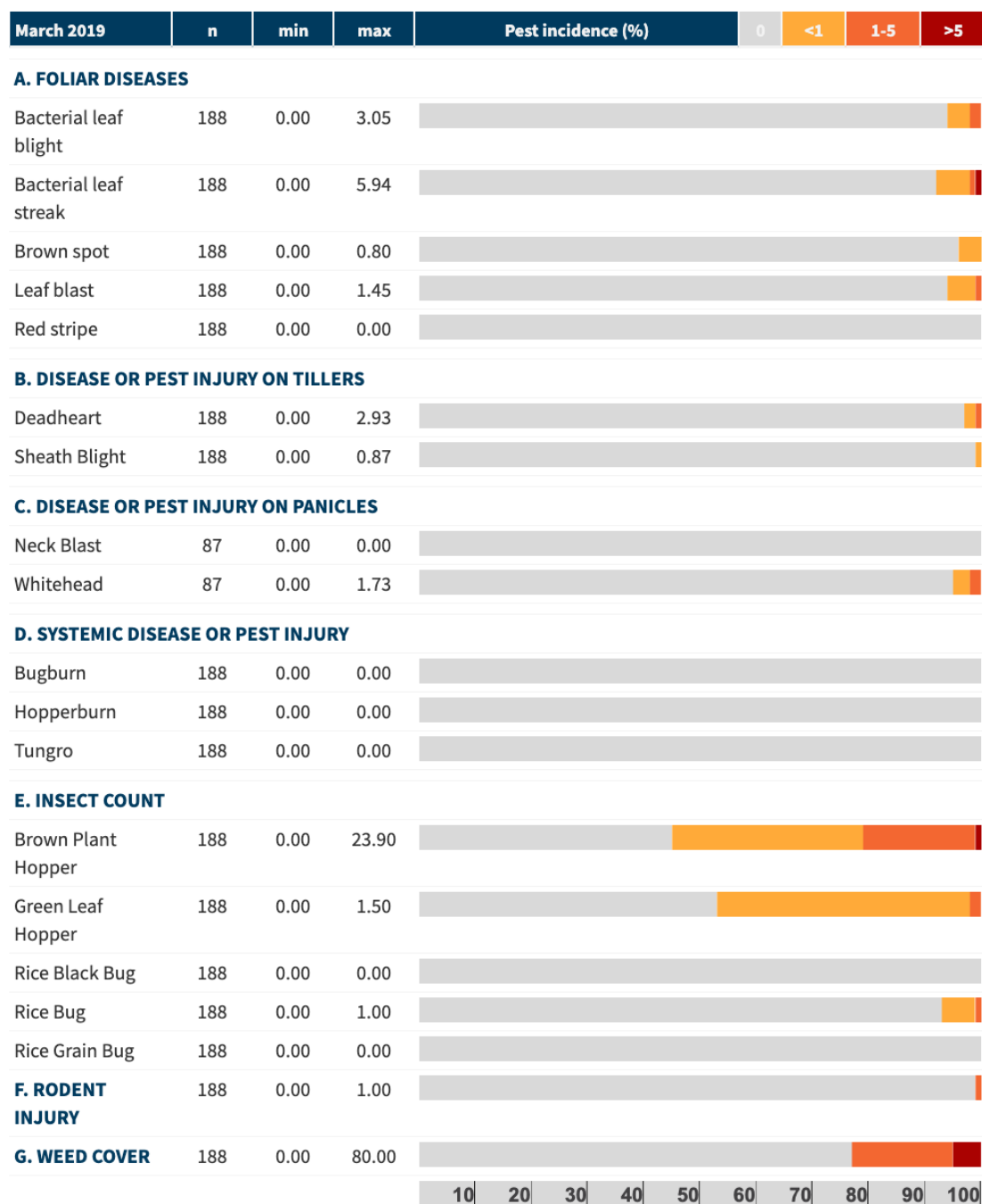
## Region III



Annex Figure 8. Incidence of pest injuries, count of insect pests, and weed cover in February 2019. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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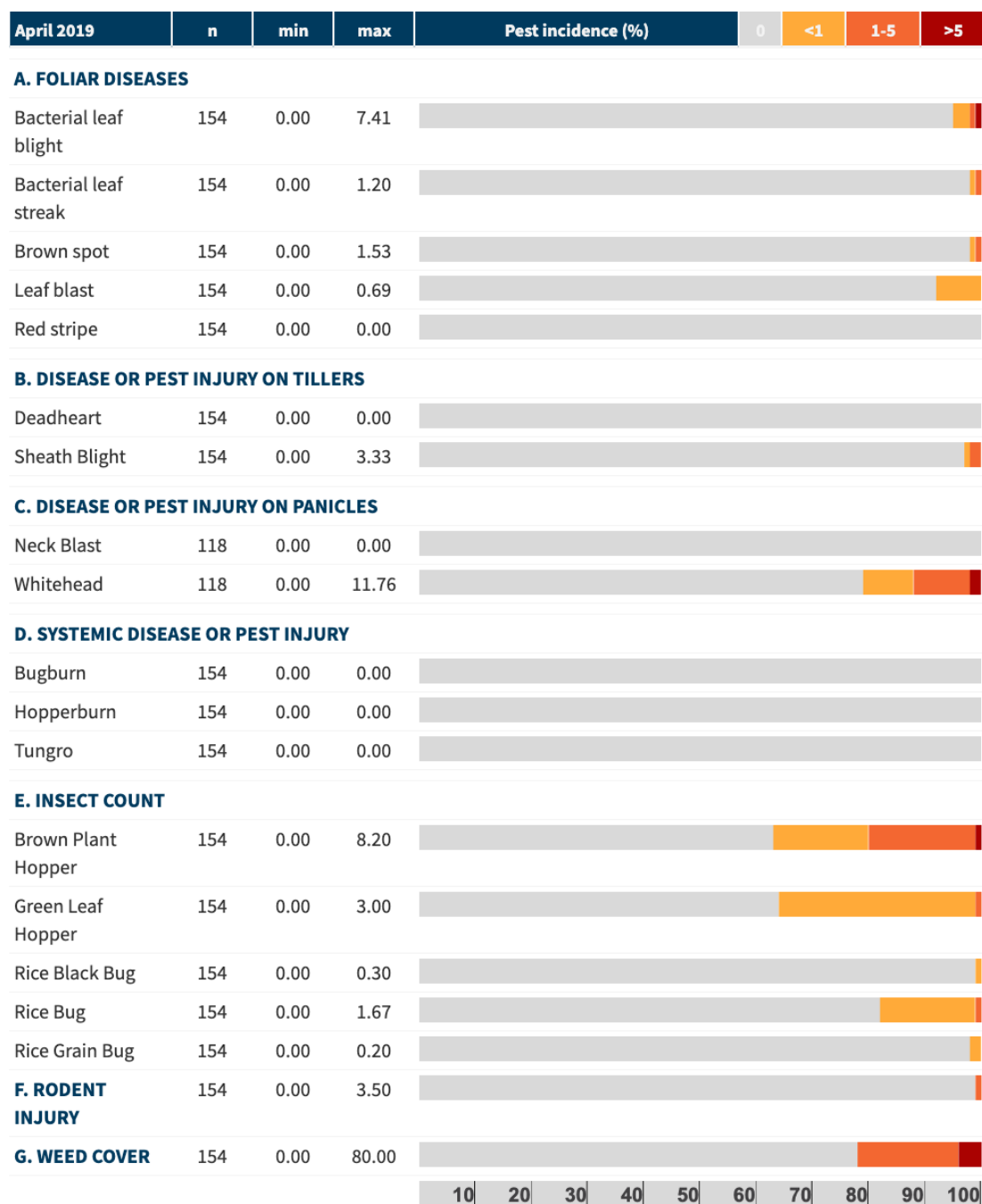
## Region III



Annex Figure 9. Incidence of pest injuries, count of insect pests, and weed cover in March 2019. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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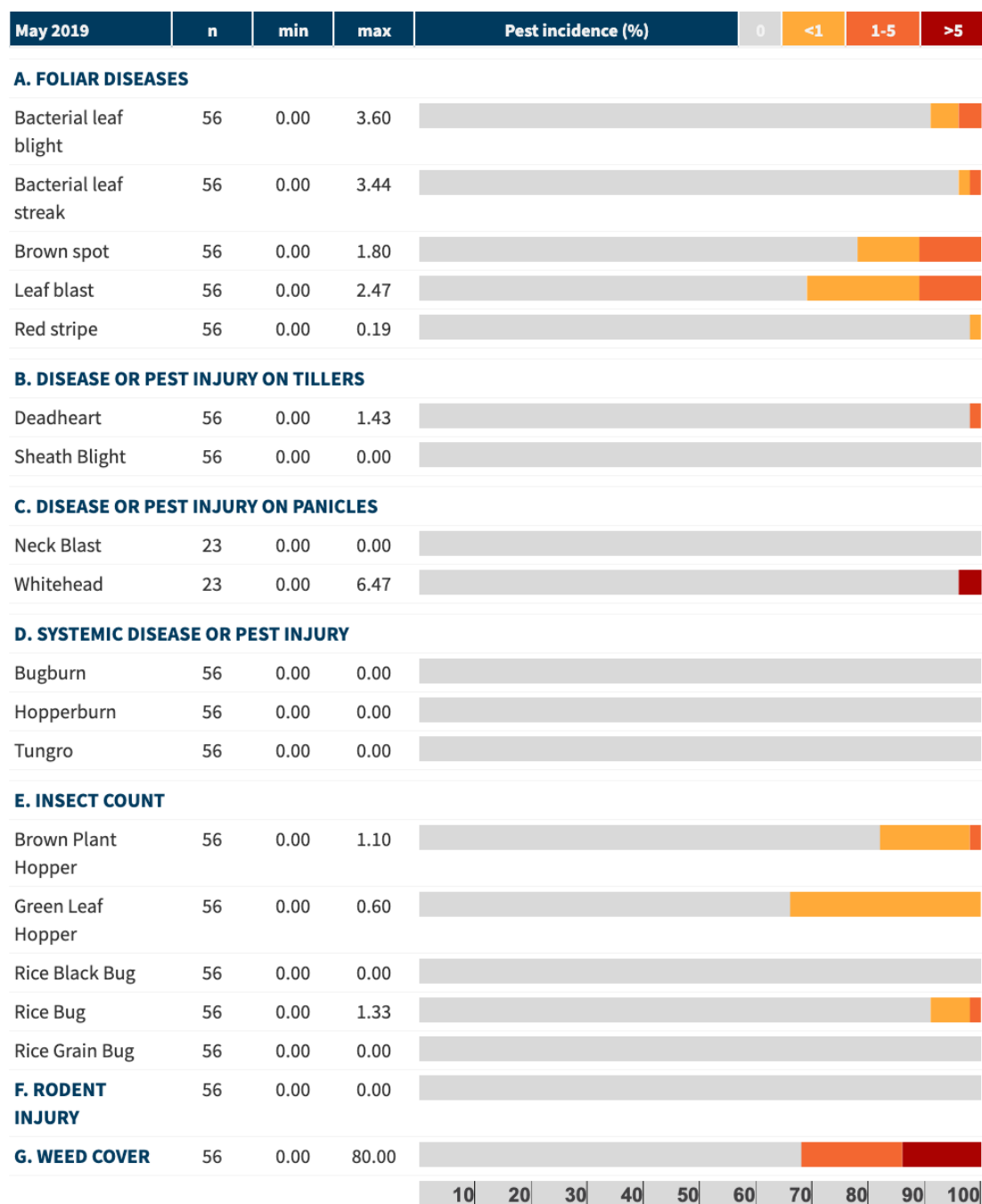
Region III



Annex Figure 10. Incidence of pest injuries, count of insect pests, and weed cover in April 2019. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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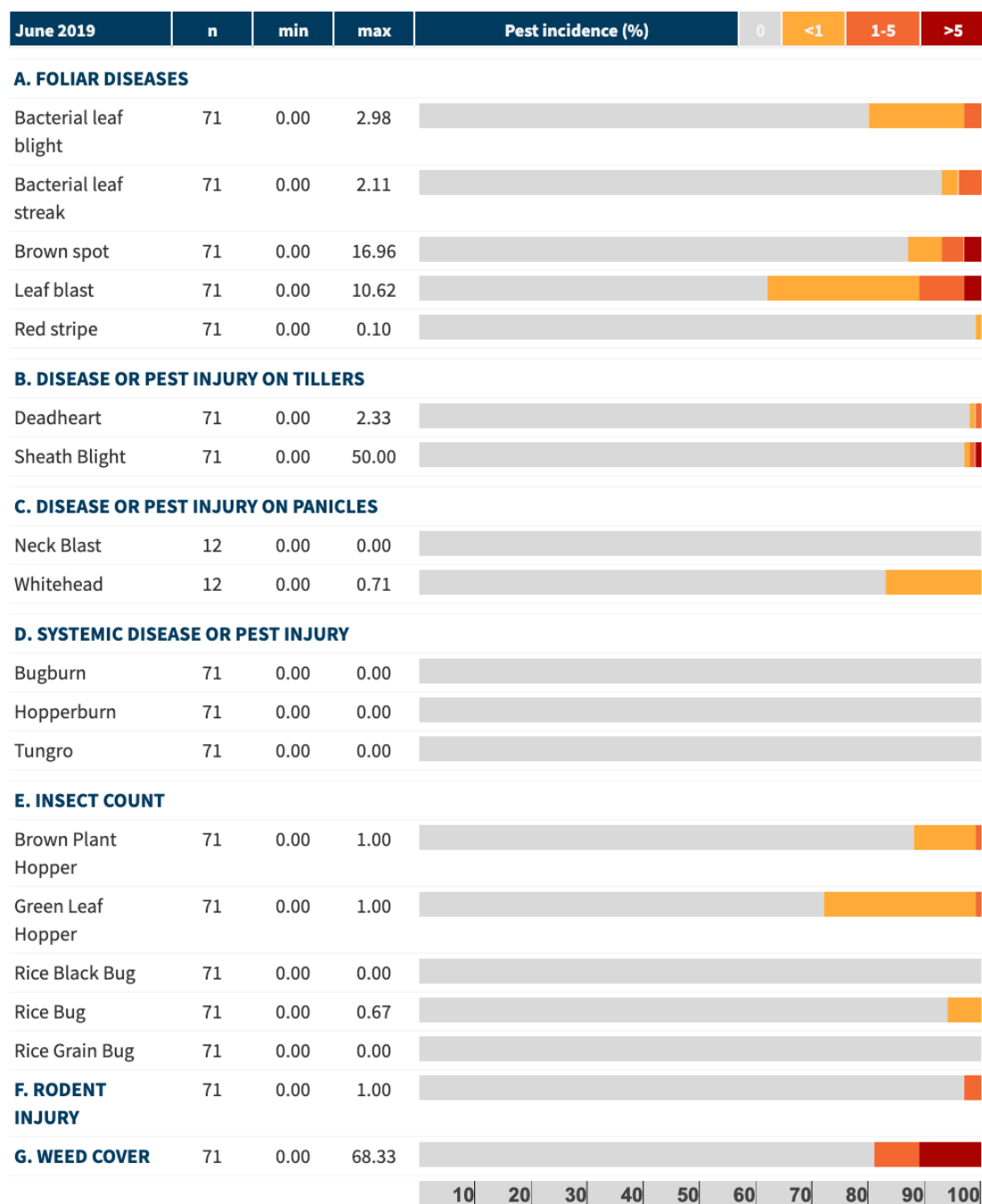
## Region III



Annex Figure 11. Incidence of pest injuries, count of insect pests, and weed cover in May 2019. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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Region III

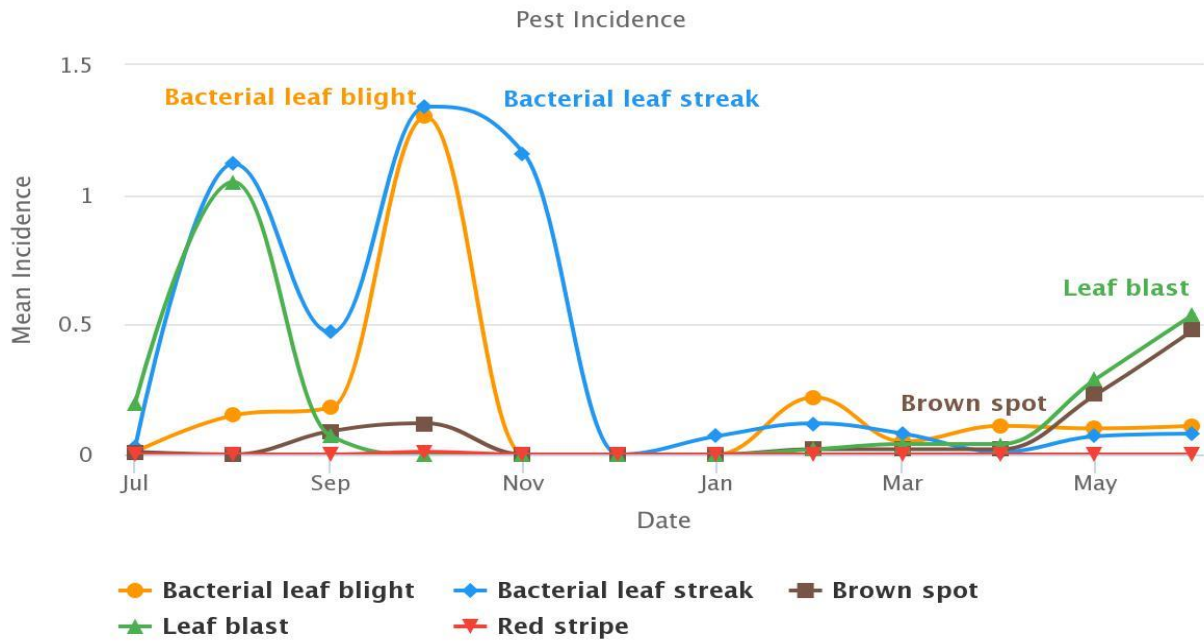


Annex Figure 12. Incidence of pest injuries, count of insect pests, and weed cover in June 2019. Horizontal bar shows the proportion of fields in each range of pest injury incidence, insect count or weed cover.

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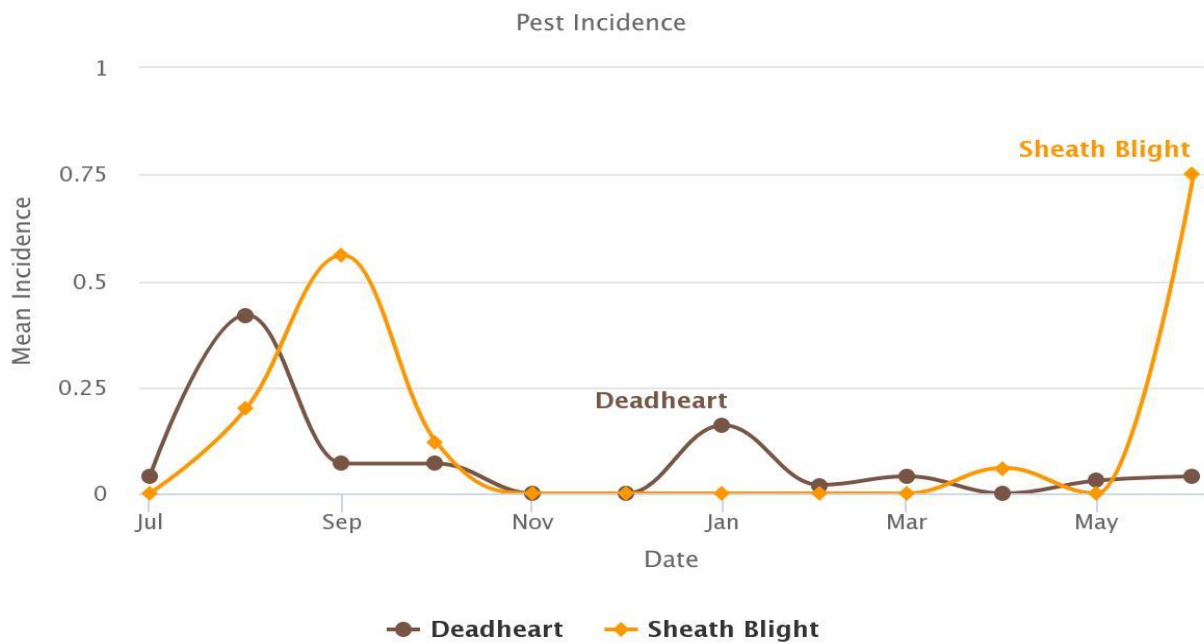


## FOLIAR DISEASES



Annex Figure 13. Mean incidence of foliar diseases in Region III, July 2018 to June 2019.

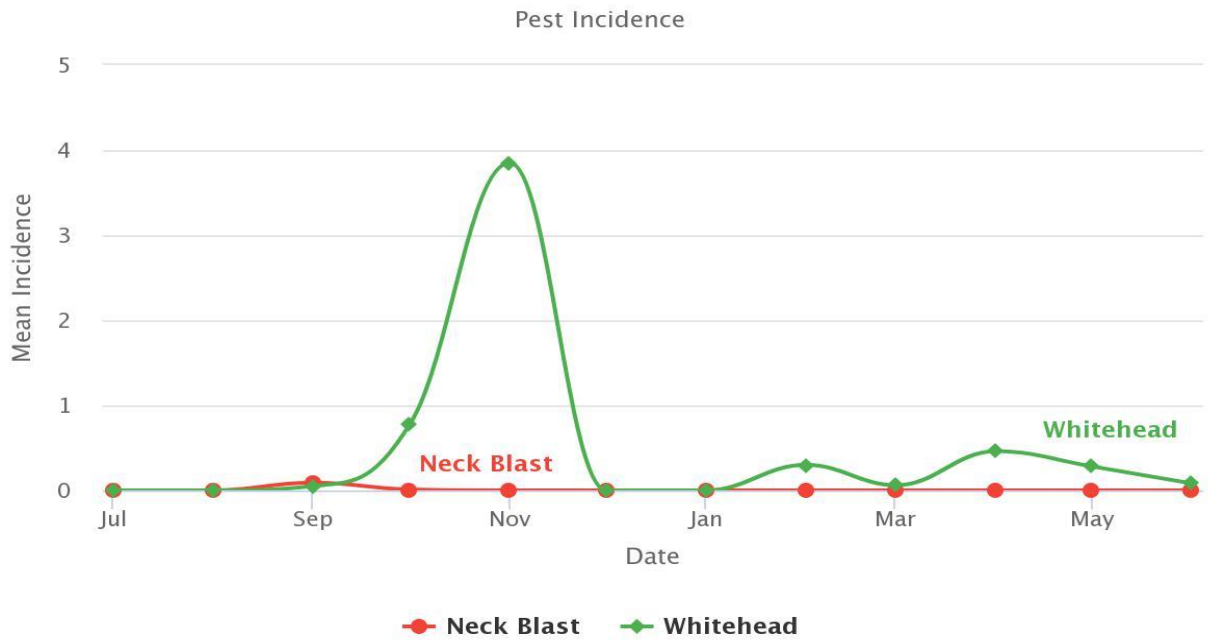
## DISEASE OR PEST INJURY ON TILLERS



Annex Figure 14. Mean Incidence of deadheart and sheath blight in Region III, July 2018 to June 2019.

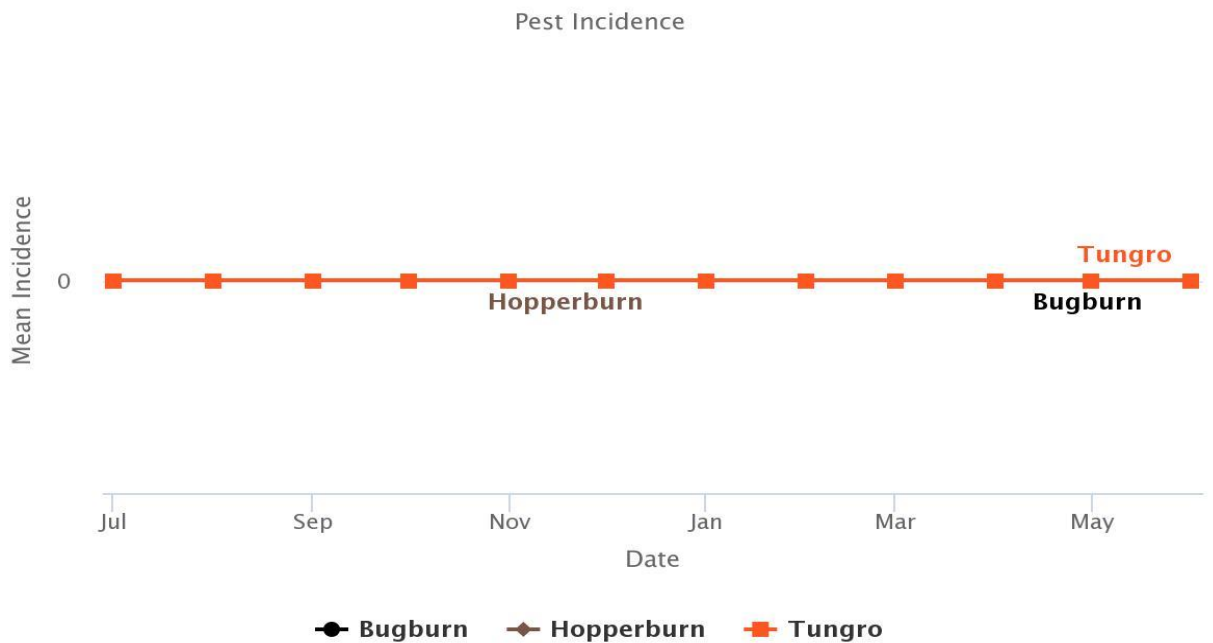
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## DISEASE OR PEST INJURY ON PANICLES



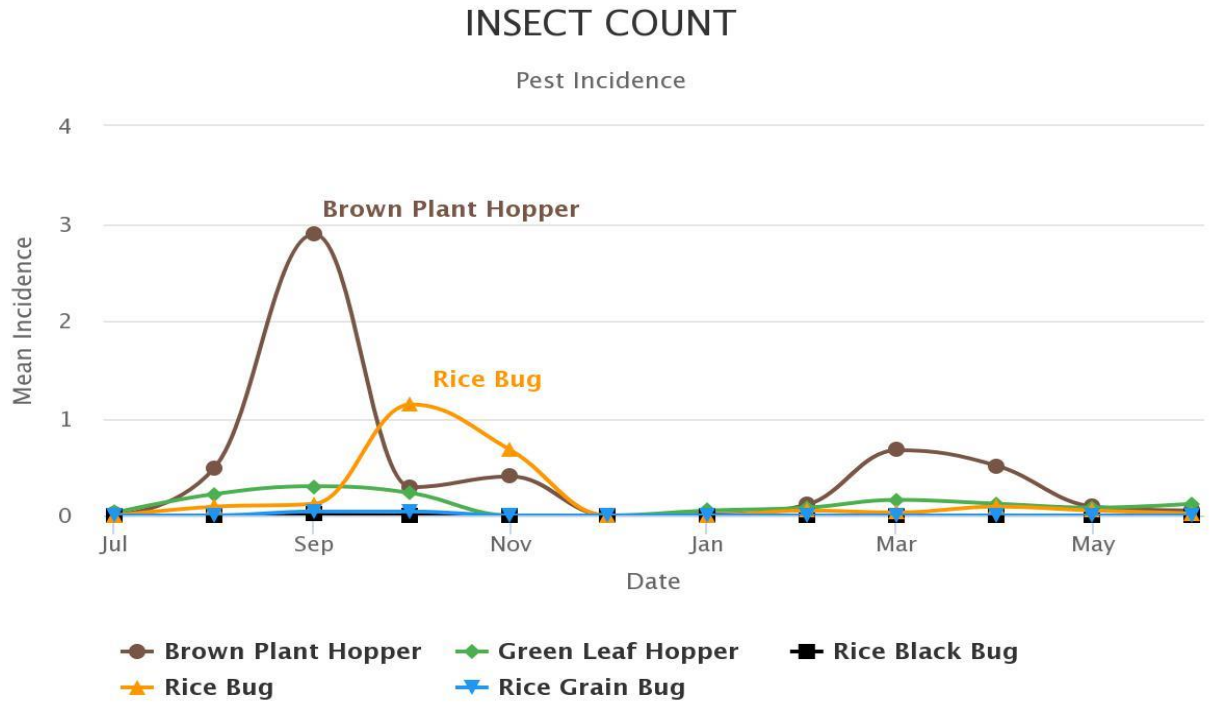
Annex Figure 15. Mean incidence of neck blast and whitehead in Region III, July 2018 to June 2019.

## SYSTEMIC DISEASE OR PEST INJURY

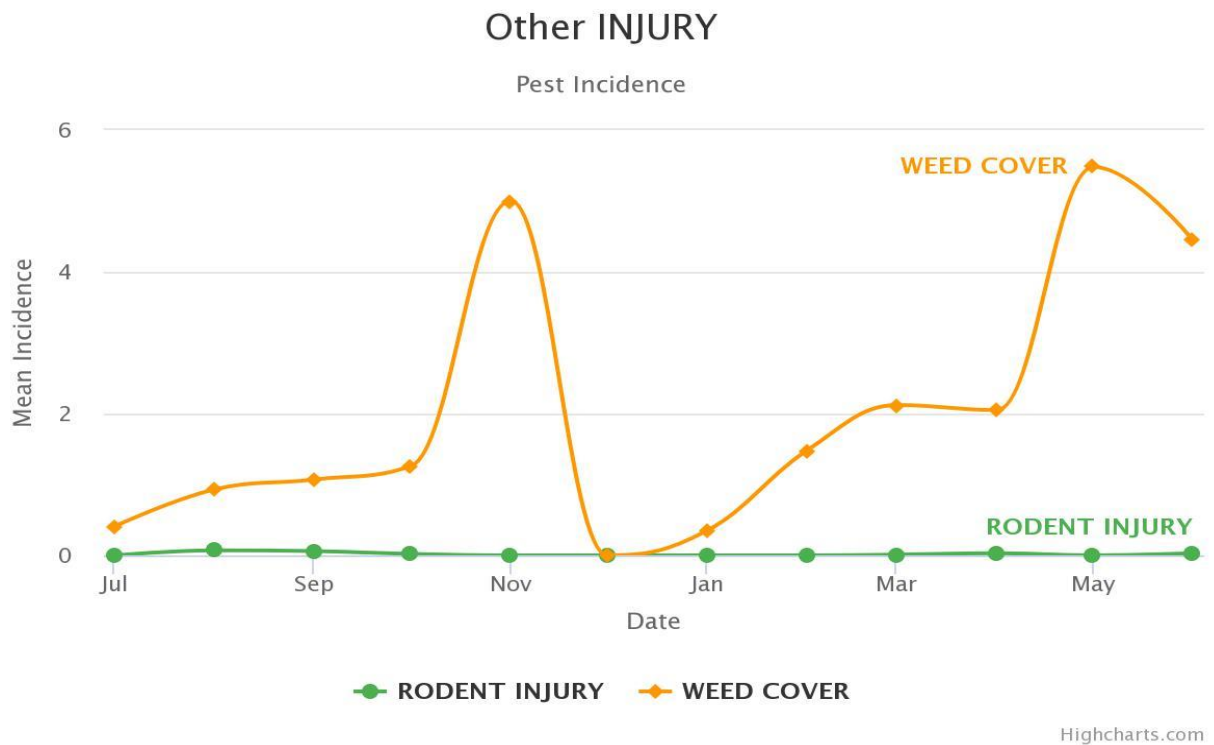


Annex Figure 16. Mean incidence of bugburn, hopperburn and tungro in Region III, July 2018 to June 2019.

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Annex Figure 17. Mean count of insect pests in Region III, July 2018 to June 2019.



Annex Figure 18. Mean incidence of rat injury and weed infestation in Region III, July 2018 to June 2019.

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