



PRIME

PRE-SEMESTER BULLETIN

July 2018 to June 2019

REGION IX – Western Mindanao Region

AT A GLANCE

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

Region IX

	2018						2019					
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
A. FOLIAR DISEASES												
Bacterial leaf blight	2.0	2.4	3.6	2.9	0	0	0.6	1.1	2.1	0.6	0	0
Bacterial leaf streak	0.2	0.4	0.7	0.5	0	0	0.0	0.3	0.4	0	0	0
Brown spot	0.8	0.9	0.4	0.2	0	0.1	0.0	0.0	0.3	1.2	0	0
Leaf blast	0.7	2.2	0.5	0.9	0	0.2	0.0	0.2	0.6	0.1	0	0
Red stripe	0.0	0.0	0	0	0	0	0	0.0	0.0	0	0	0
B. DISEASE OR PEST INJURY ON TILLERS												
Deadheart	0.2	4.0	1.0	0.8	0	0	0	1.0	0.3	0	0	0
Sheath Blight	0.1	0.8	2.7	4.1	0	0	0	0.5	2.1	0.5	0	0
C. DISEASE OR PEST INJURY ON PANICLES												
Neck Blast	0	0.9	0.4	0.1	0	0	0	0.9	0.7	0.5	0	0
Whitehead	0	0.1	6.3	2.2	0	0	0	1.1	0.7	4.4	0	0
D. SYSTEMIC DISEASE OR PEST INJURY												
Bugburn	2.8	0	0	0	0	0	0	0.5	0.1	0	0	0
Hopperburn	0	0	0.6	0	0	0	0	0	0	0	0	0
Tungro	0.1	0	0.1	0	0	0	0	0	0	0	0	0
E. INSECT COUNT												
Brown Plant Hopper	0.0	0.2	0.2	0	0	0	0.0	0.0	0.0	0	0	0
Green Leaf Hopper	0.0	0.5	0.7	0	0	0	0.0	0.1	0.2	0.1	0	0
Rice Black Bug	0.2	0.0	0.1	0	0	0	0.1	0.4	0	0	0	0
Rice Bug	0.1	0.1	0.3	2.4	0	0	0	0.0	0.1	0.2	0	0
Rice Grain Bug	0	0	0.0	0	0	0	0	0	0.0	0.0	0	0
F. RODENT INJURY												
	0.2	0.7	0.3	0.1	0	0.2	0.1	0.2	0.0	0	0	0
G. WEED COVER												
	0.8	3.1	2.3	0.1	0	3.3	0.4	4.1	3.1	0.4	0	0

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:	Zamboanga del Norte: Dipolog City, Labason, and Sindangan Zamboanga del Sur: Mahayag, Molave, and Tambulig Zamboanga Sibugay: Diplahan, Siay, and Titay
Monitoring date:	July 2018 - June 2019
Number of monitoring fields:	170
Data collectors:	Aljavin Andah, Alvin Academia, Eugene Dolar, Gabriel Adrian Harrun Gregorio, Glena Bandolis, Jolly Bhee Ines, Ma. Rven Elcamel, and Sara Ferrater

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Growth stages

In the second semester of 2018, crop establishment of most fields occurred in July 2018 (Figure 1). Most of the fields were at the vegetative stage in July to August and the peak of harvest occurred in September. Majority of the fields were fallow in October to December. In the first semester of 2019, the peaks of crop establishment and harvest were in January and March, respectively. Majority of the fields were fallow in April to June 2019.

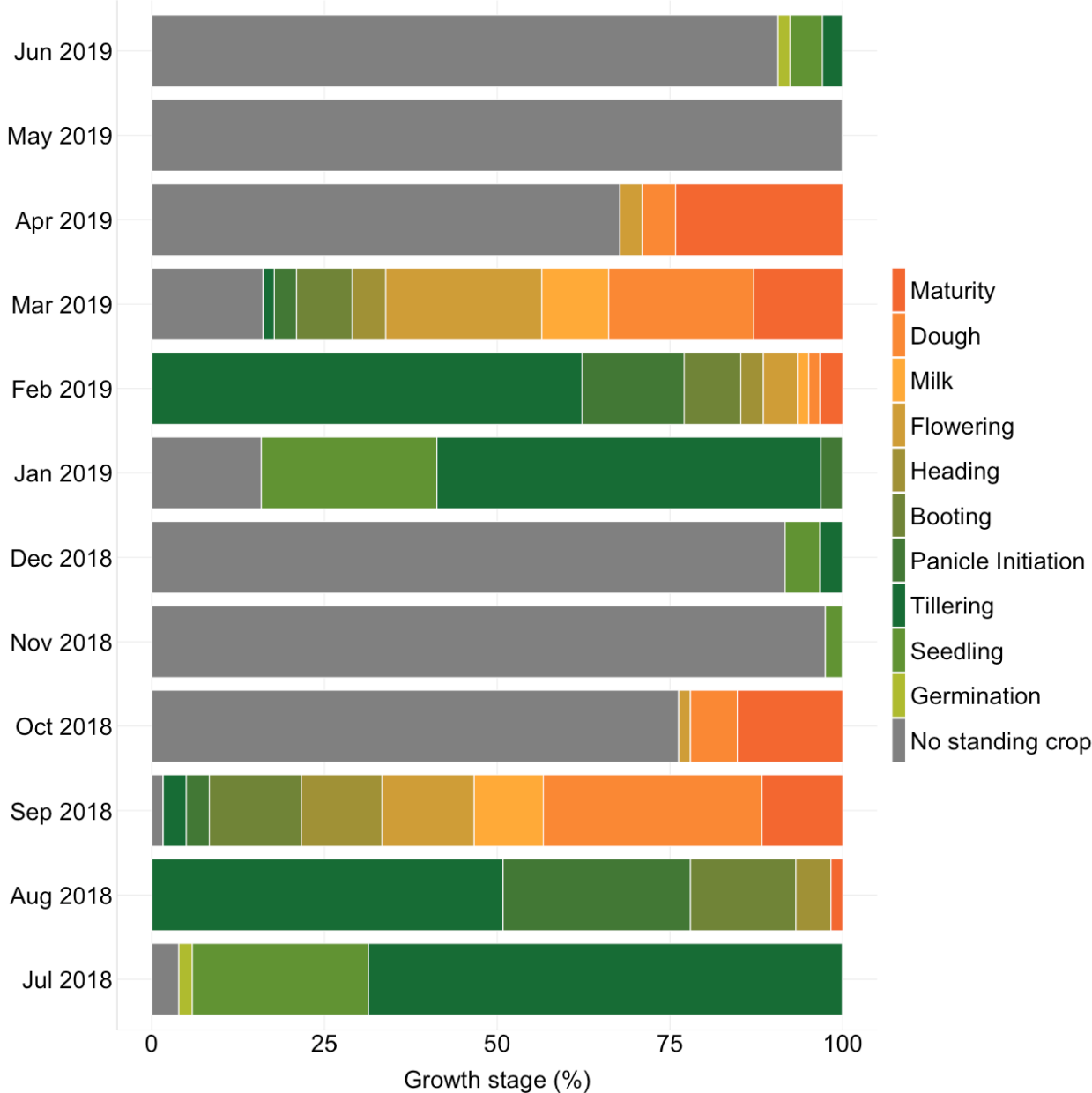


Figure 1. Proportion of crop growth stages of monitored fields by month

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

Box plots, also known as 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

Bacterial leaf blight was observed most months (Figure 2). From July to October 2018, the mean incidence of bacterial blight ranged from 2% to 4% and the median incidence ranged from 0 to 2%. From January to April 2019, the mean incidence of bacterial blight ranged from 0.6% to 2% and the median incidence ranged from 0 to 1%. The highest mean incidence of leaf blast was observed in August 2018 but the median in all months was lower than 1%. The incidence of the other foliar diseases was negligible.

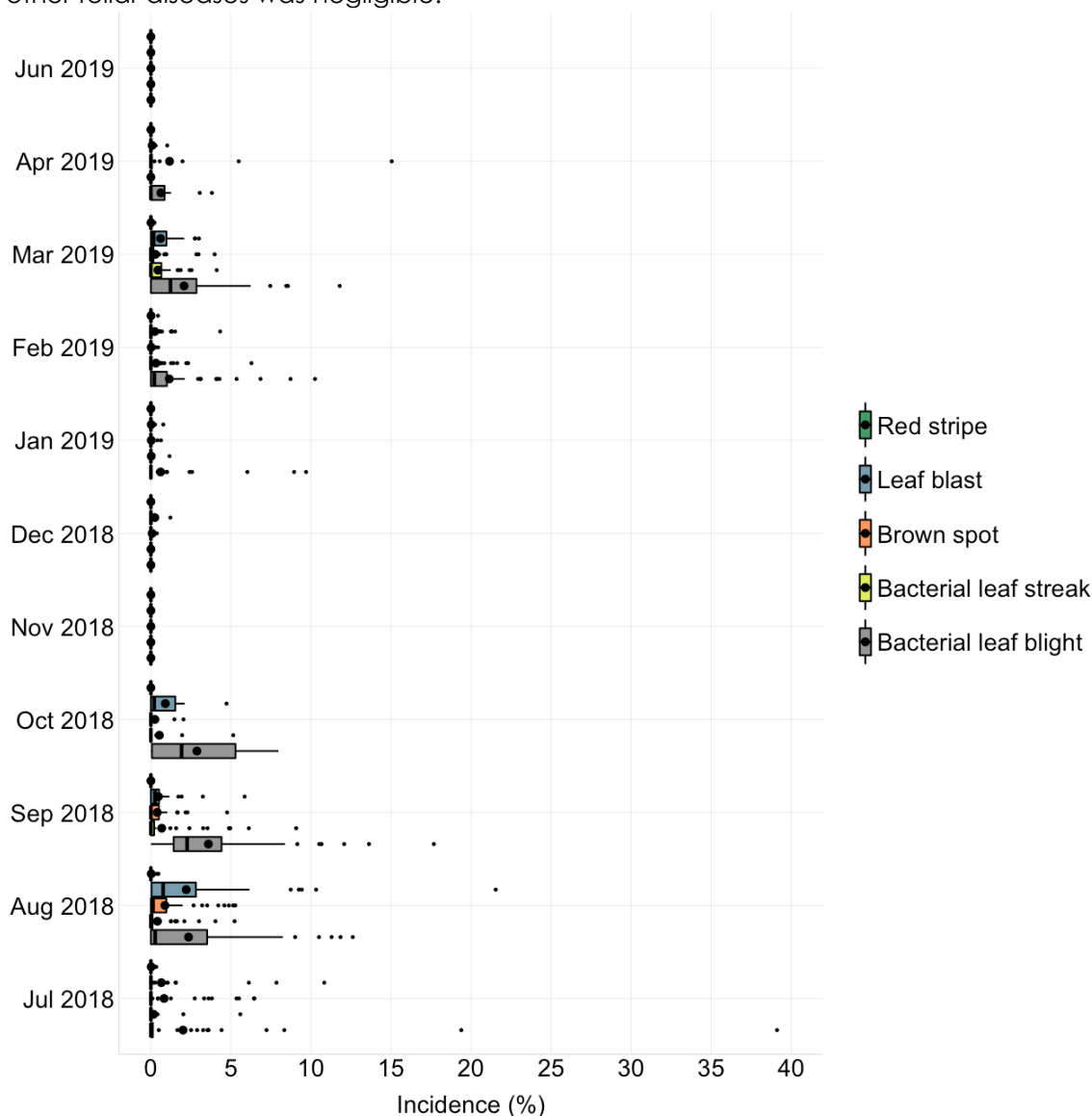


Figure 2. Incidence of foliar diseases in Region IX, July 2018 to June 2019.

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B. Insect pest injuries and diseases on tillers

The incidence of deadheart was negligible. The mean incidence of sheath blight ranged from 0.1% to 4% in August to October 2018 and ranged from 0.5 to 2% in February to April 2019. The median incidence was 0% in all months except in October 2018 which had median incidence of 1%.

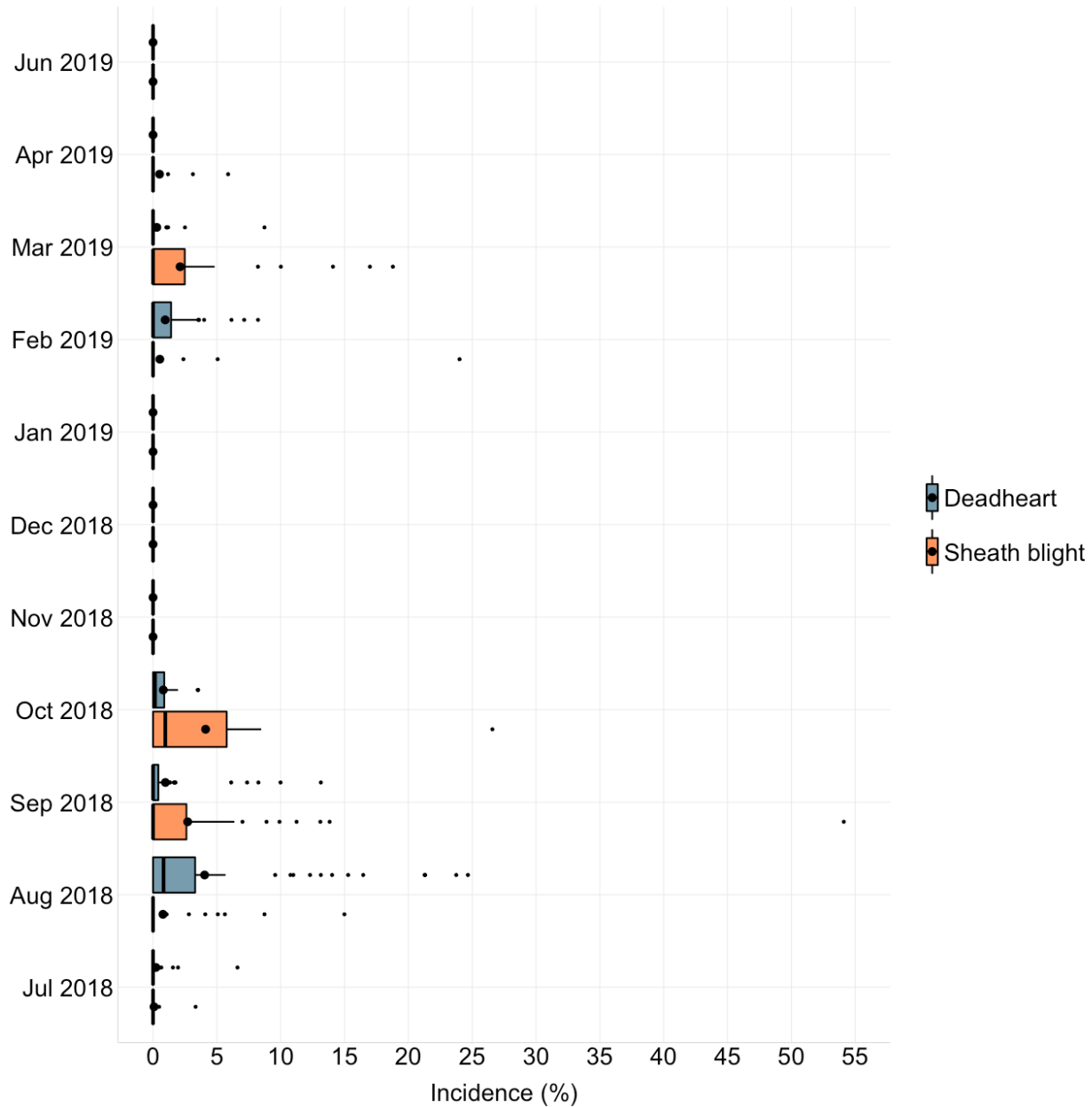


Figure 3. Incidence of deadheart and sheath blight in Region IX, July 2018 to June 2019.

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C. Insect pest injuries and diseases on panicles

The incidence of neck blast was negligible (Figure 4.). In the second semester of 2018, the highest mean and median incidences of whitehead at 6% and 3%, respectively, were observed in September 2018. In the first semester of 2019, the highest mean and median incidences of whitehead at 4% were observed in April 2018.

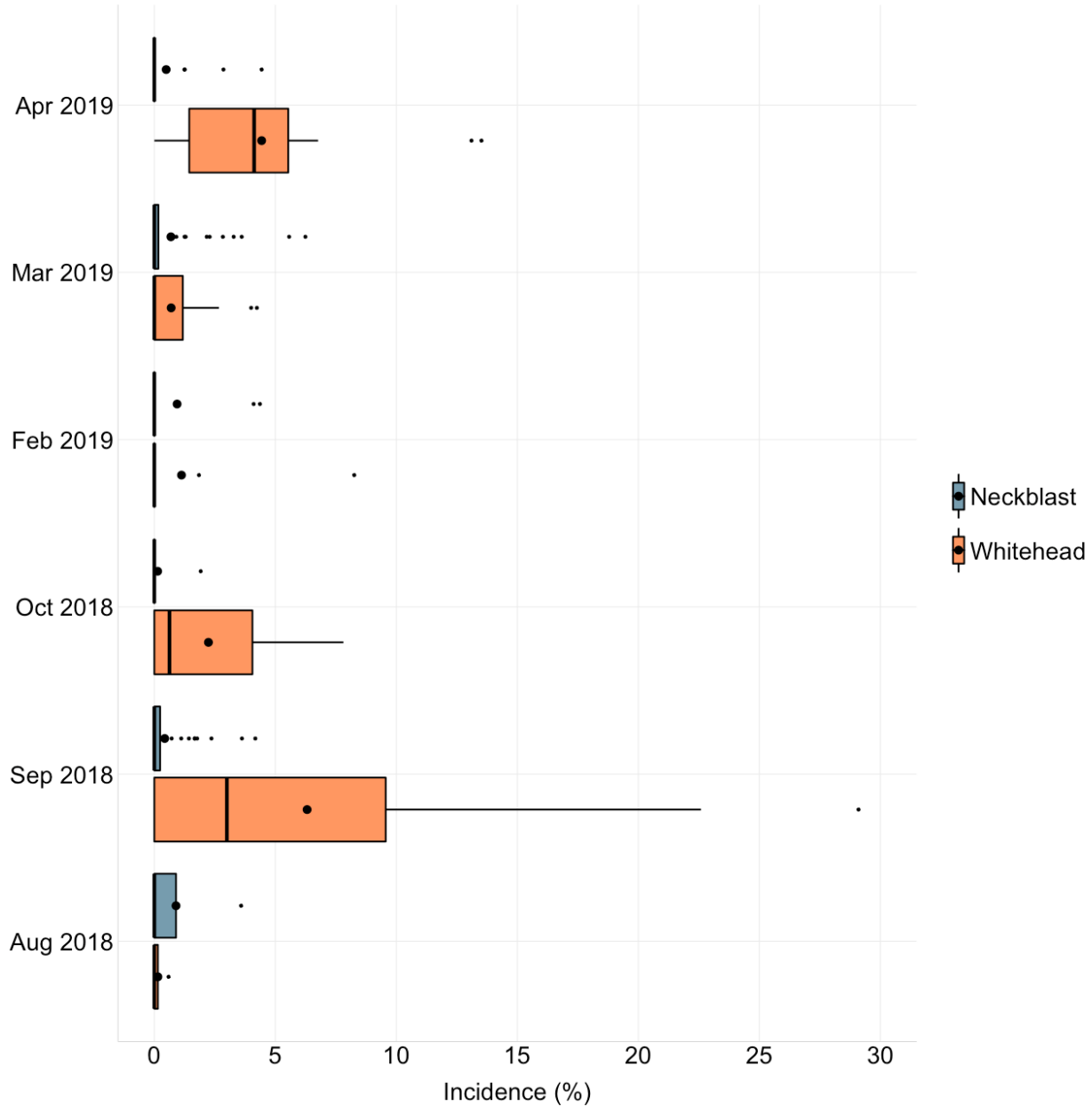


Figure 4. Incidence of neck blast and whitehead in Region IX, July 2018 to June 2019.

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Systemic insect pest injuries and diseases

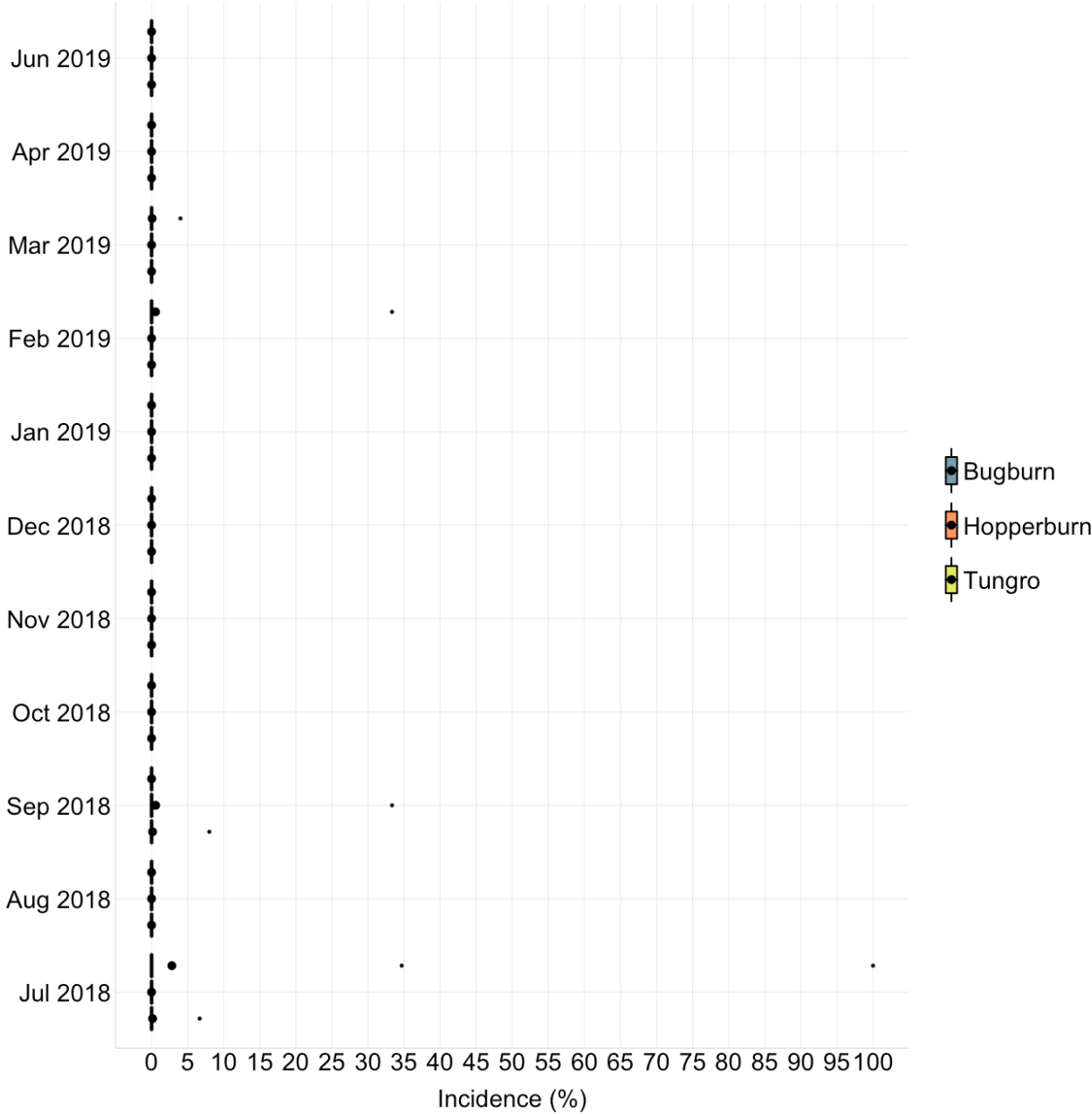


Figure 5. Incidence of bugburn, hopperburn and tungro in Region IX, July 2018 to June 2019.

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D. Insect pests

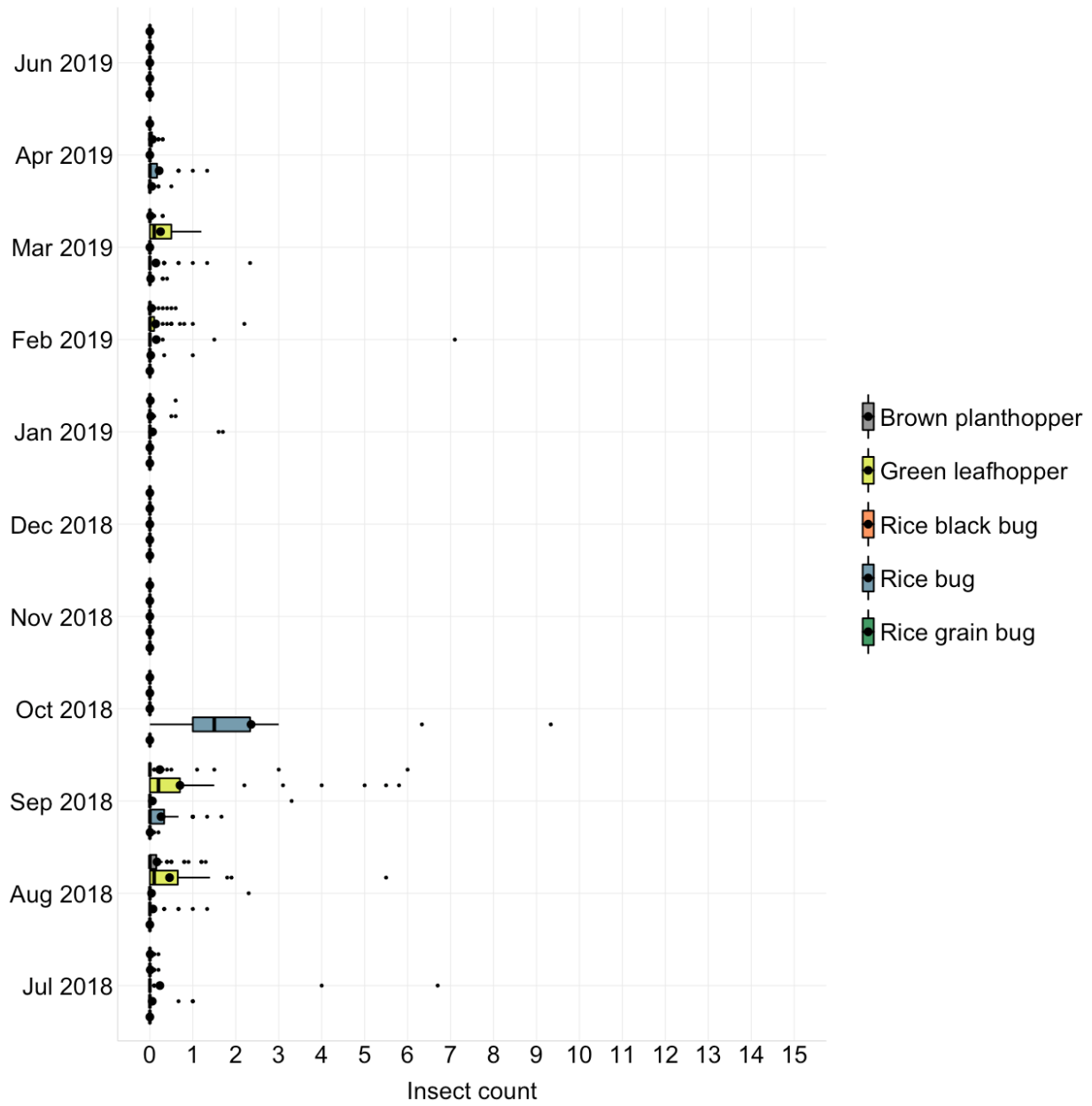


Figure 6. Count of insect pests in Region IX, July 2018 to June 2019

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E. Rat injury

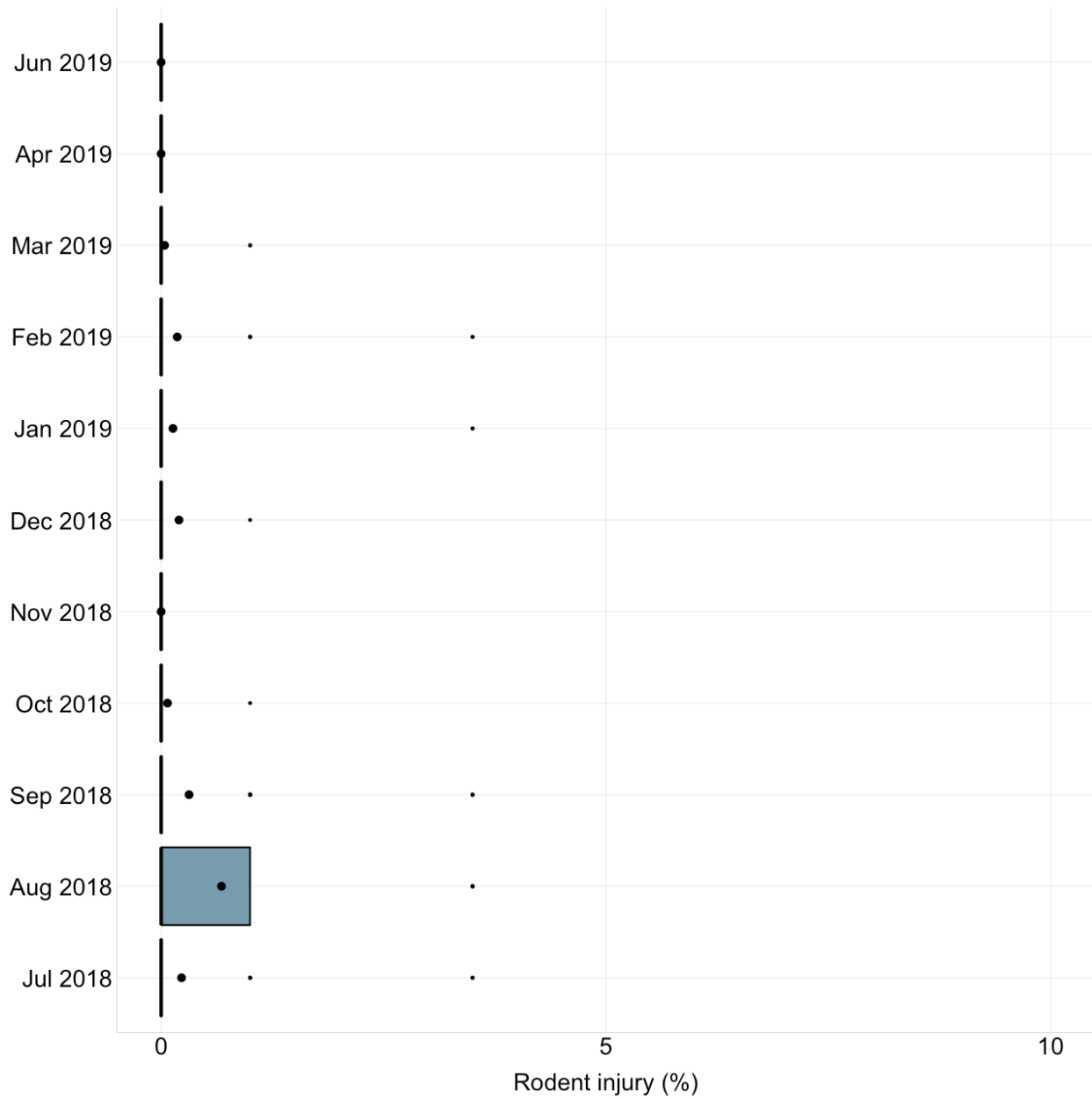


Figure 7. Incidence of rat injury in Region IX, July 2018 to June 2019.

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F. Weed cover

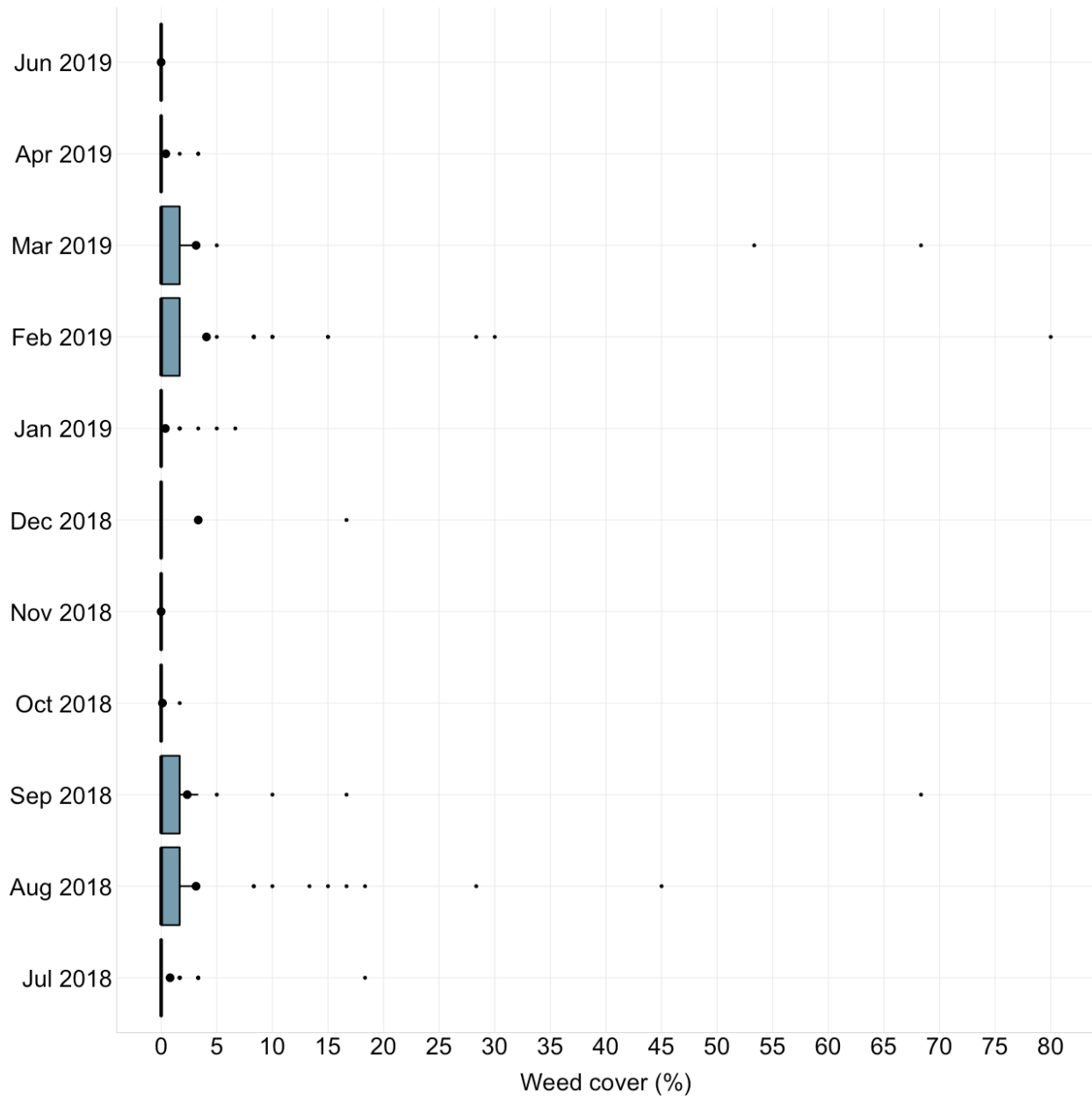


Figure 8. Percentage of weed cover in Region IX, July 2018 to June 2019.

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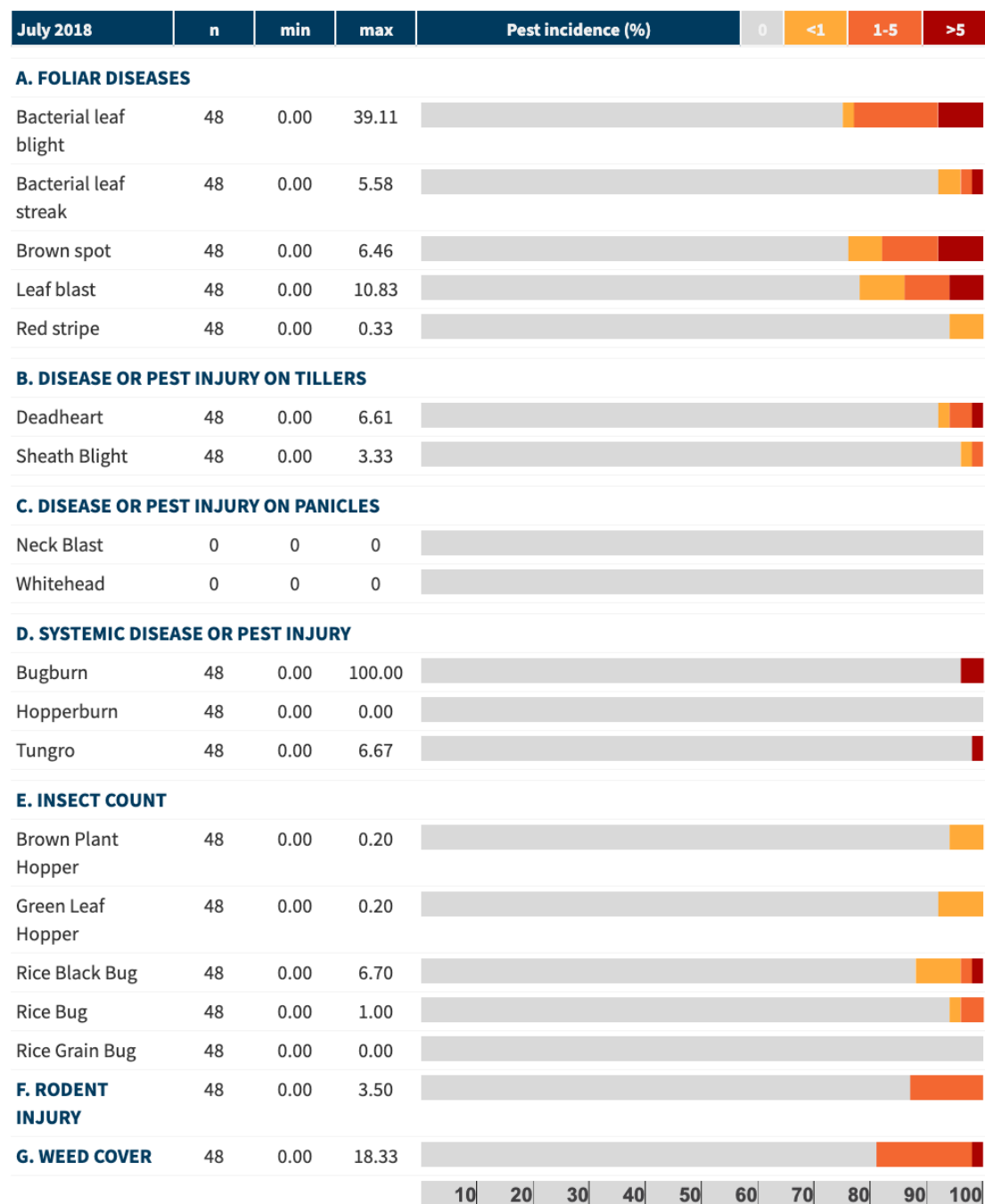
Management of major pests

This section describes the management of the most important pests during the reporting period. A pest is operationally considered important if the mean incidence 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.

Whitehead caused by stemborer

1. Monitor 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. Remove egg masses manually in the nursery and field.
7. 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.
8. Remove alternate hosts during the cropping season and fallow period.
9. 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.
10. 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 stay 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. Apply the insecticide according to the instructions in the product label including the pre-harvest interval (wait time between a pesticide application and when a crop can be harvested). Insecticides should be used as the last resort and should be integrated with other methods to conserve natural enemies.

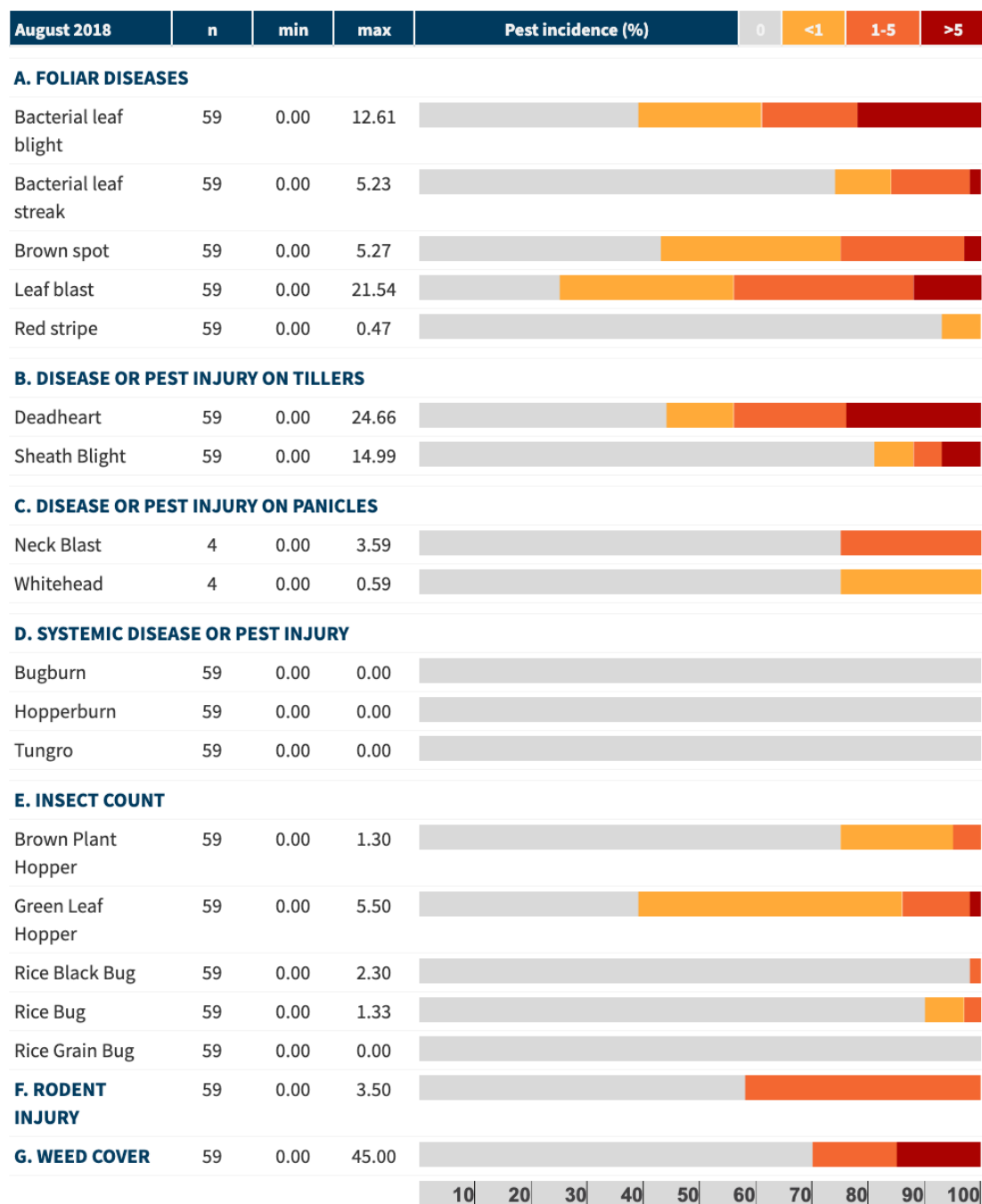
Region IX



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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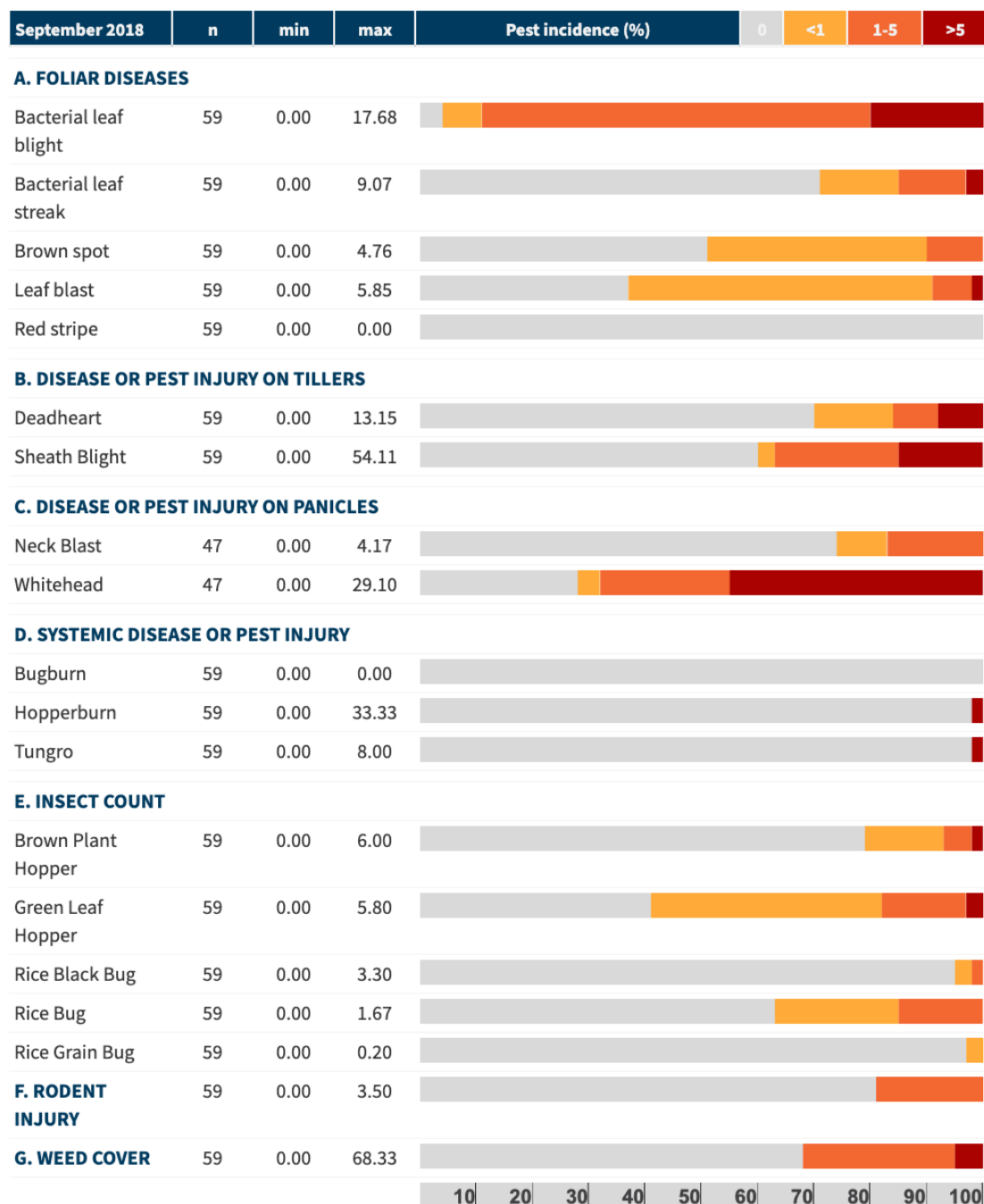
Region IX



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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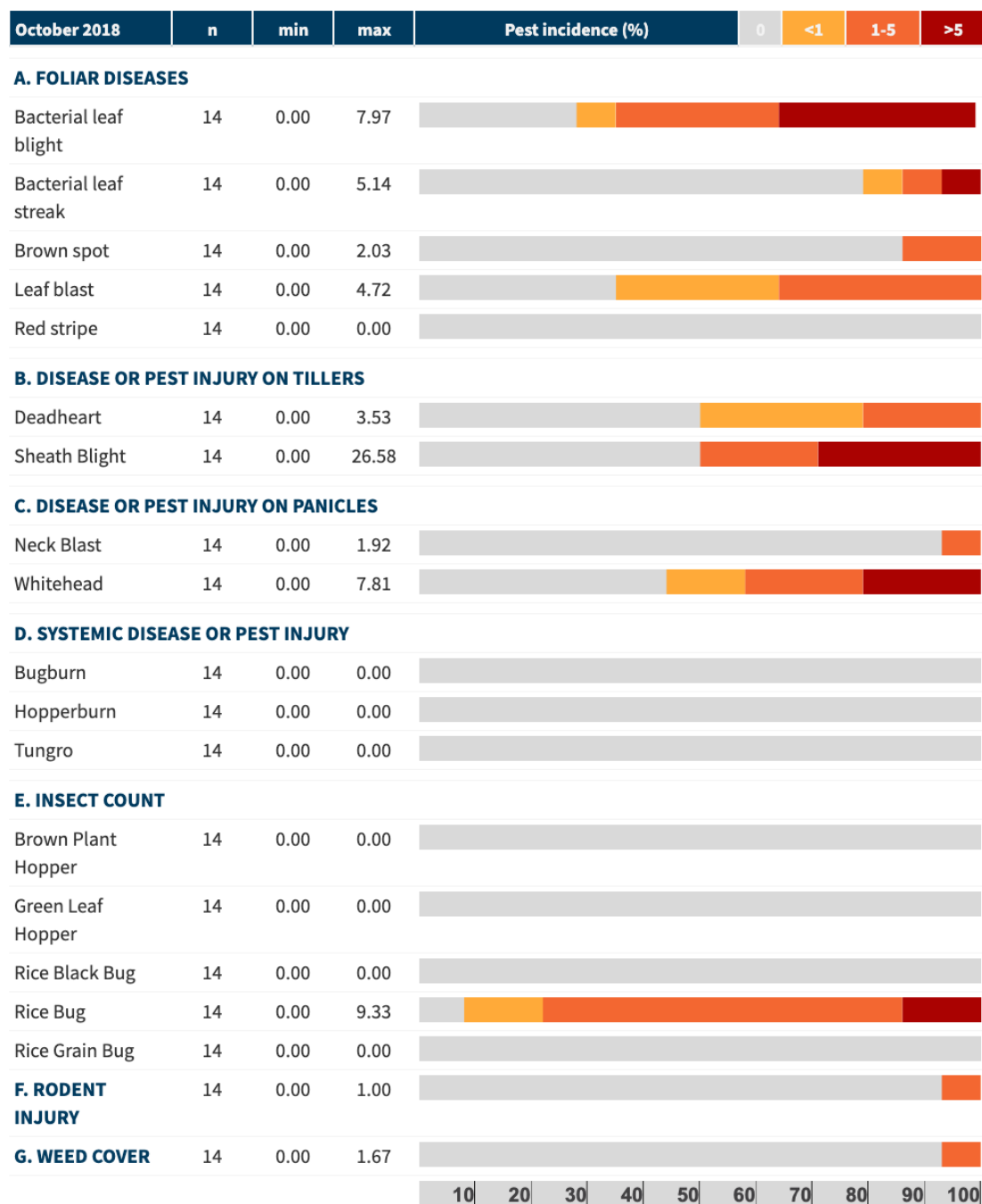
Region IX



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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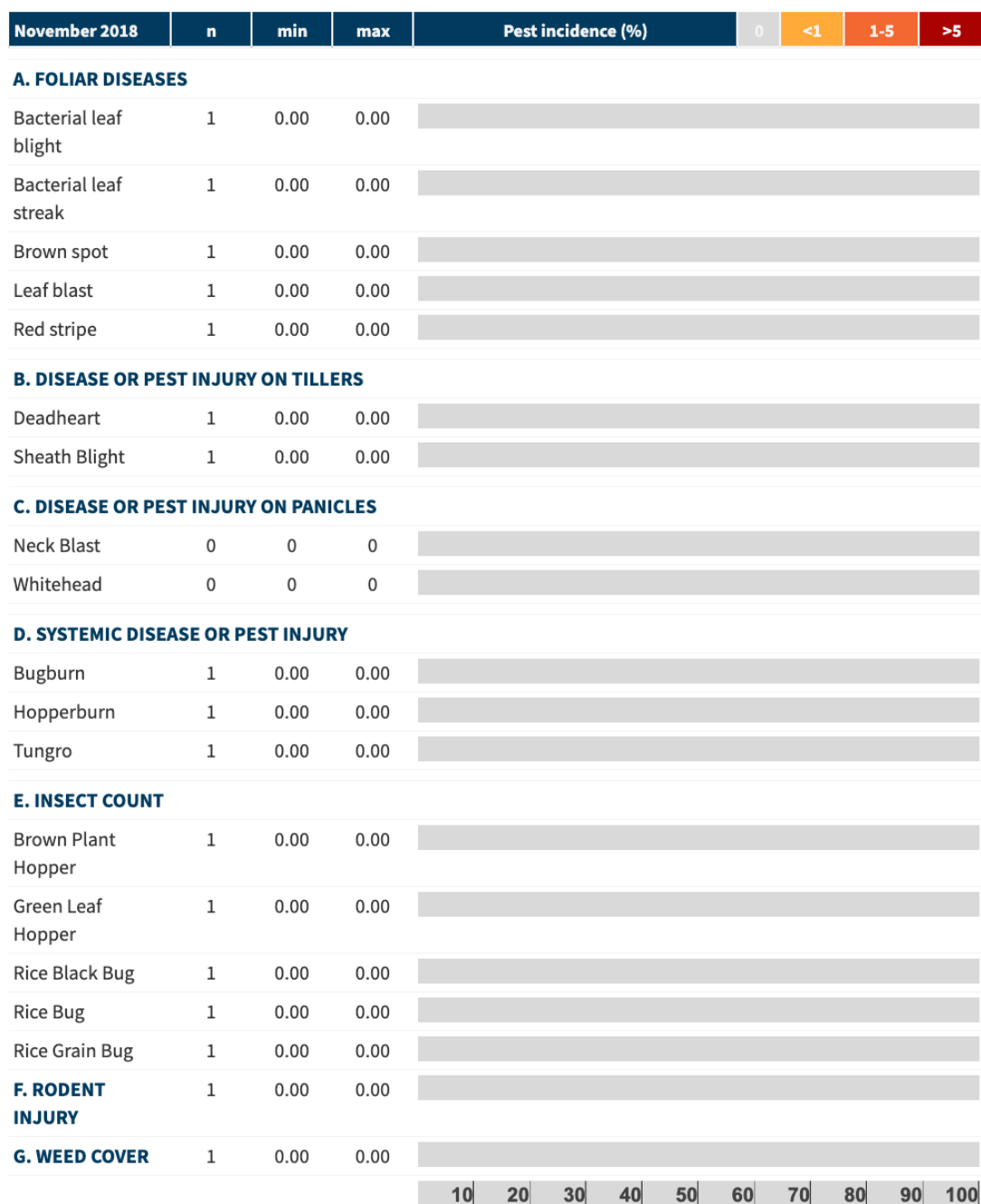
Region IX



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 IX



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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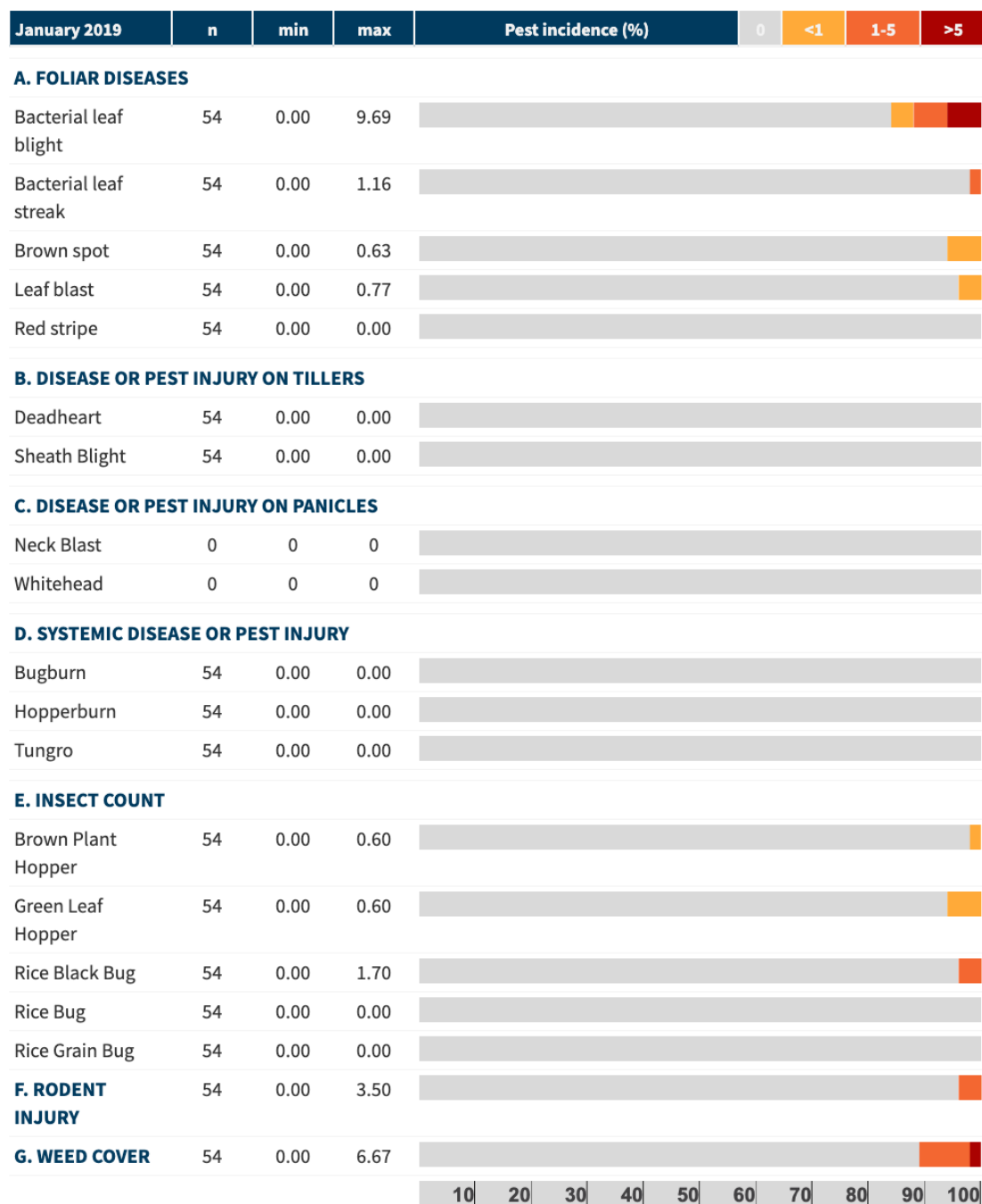
Region IX



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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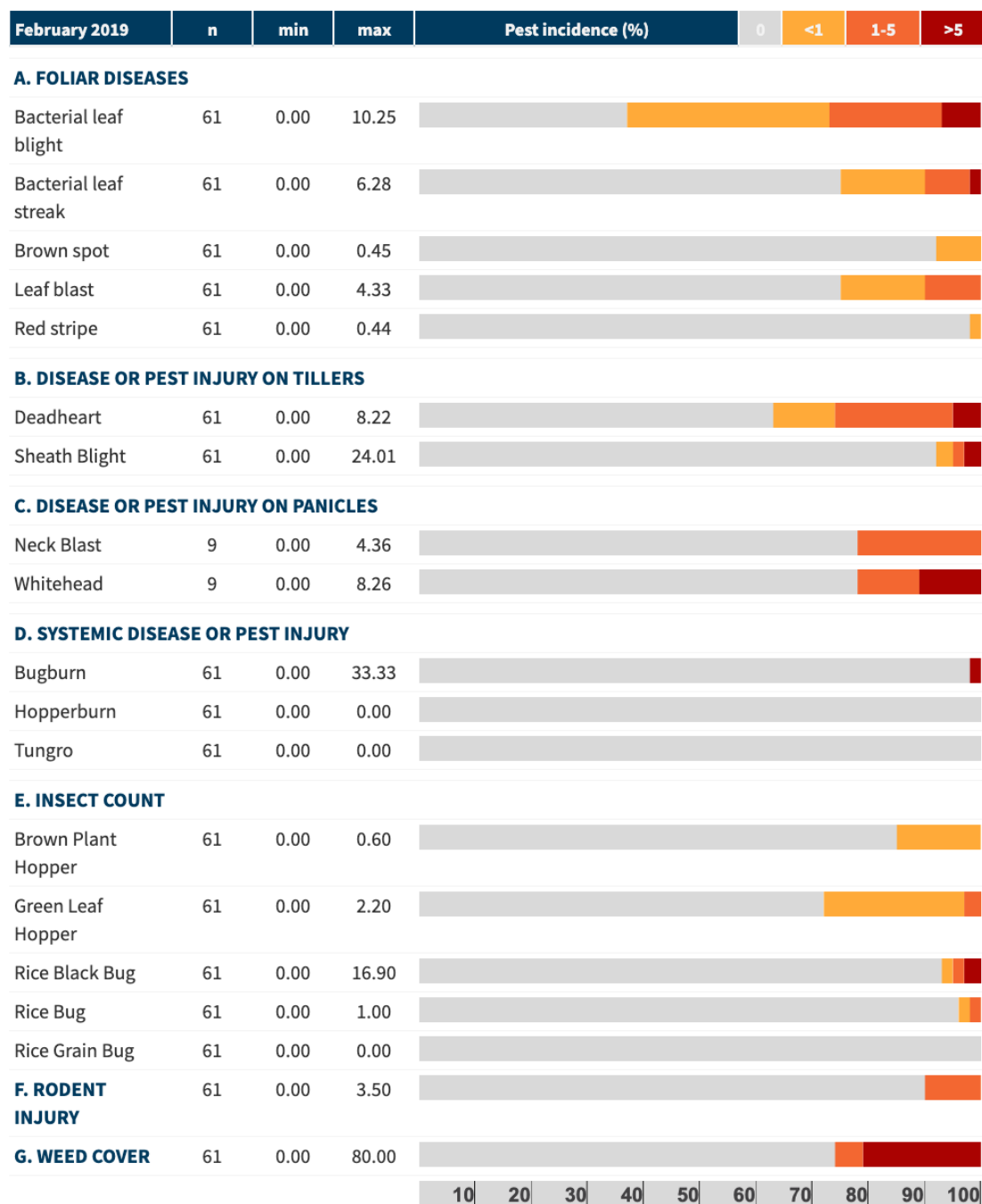
Region IX



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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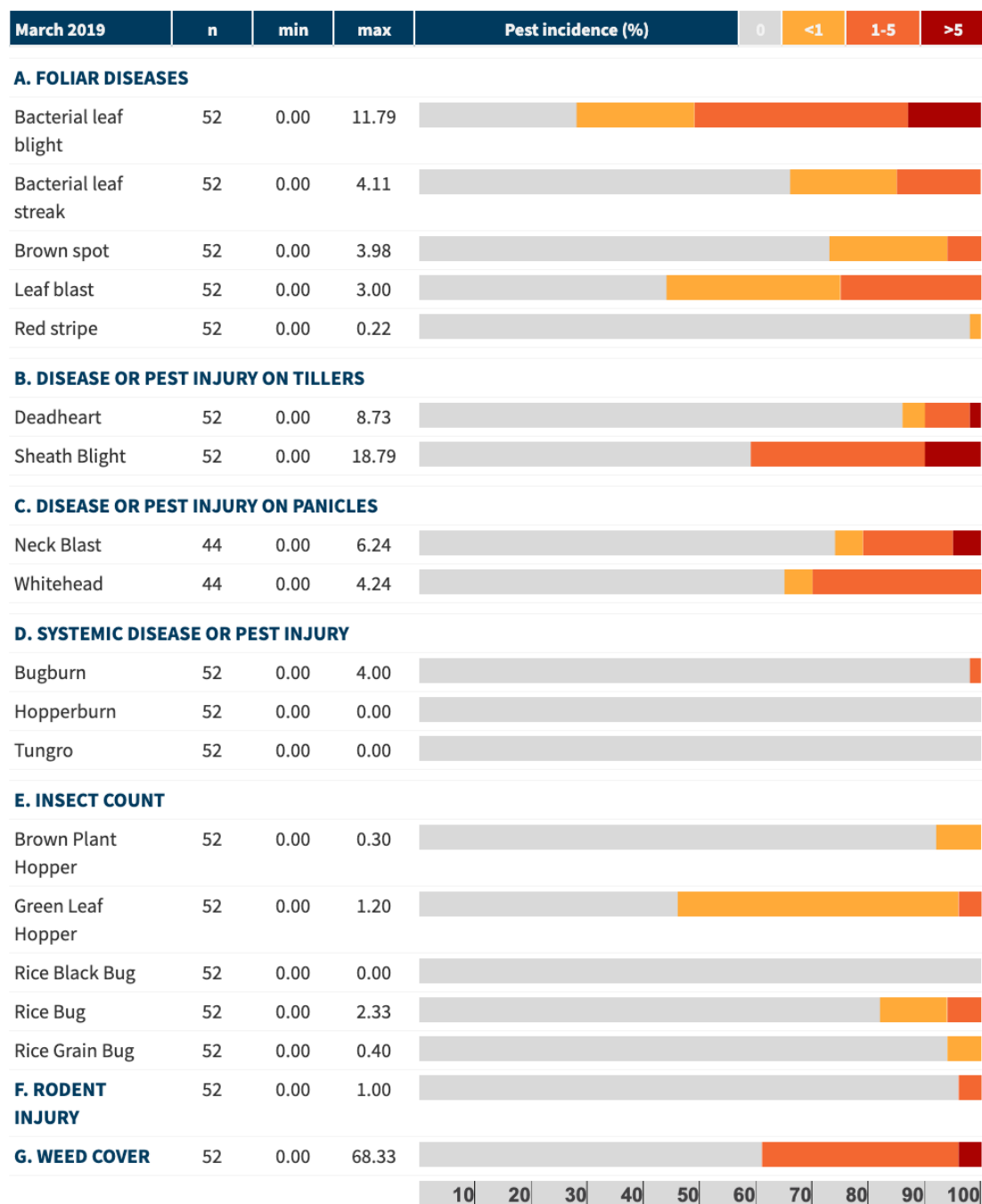
Region IX



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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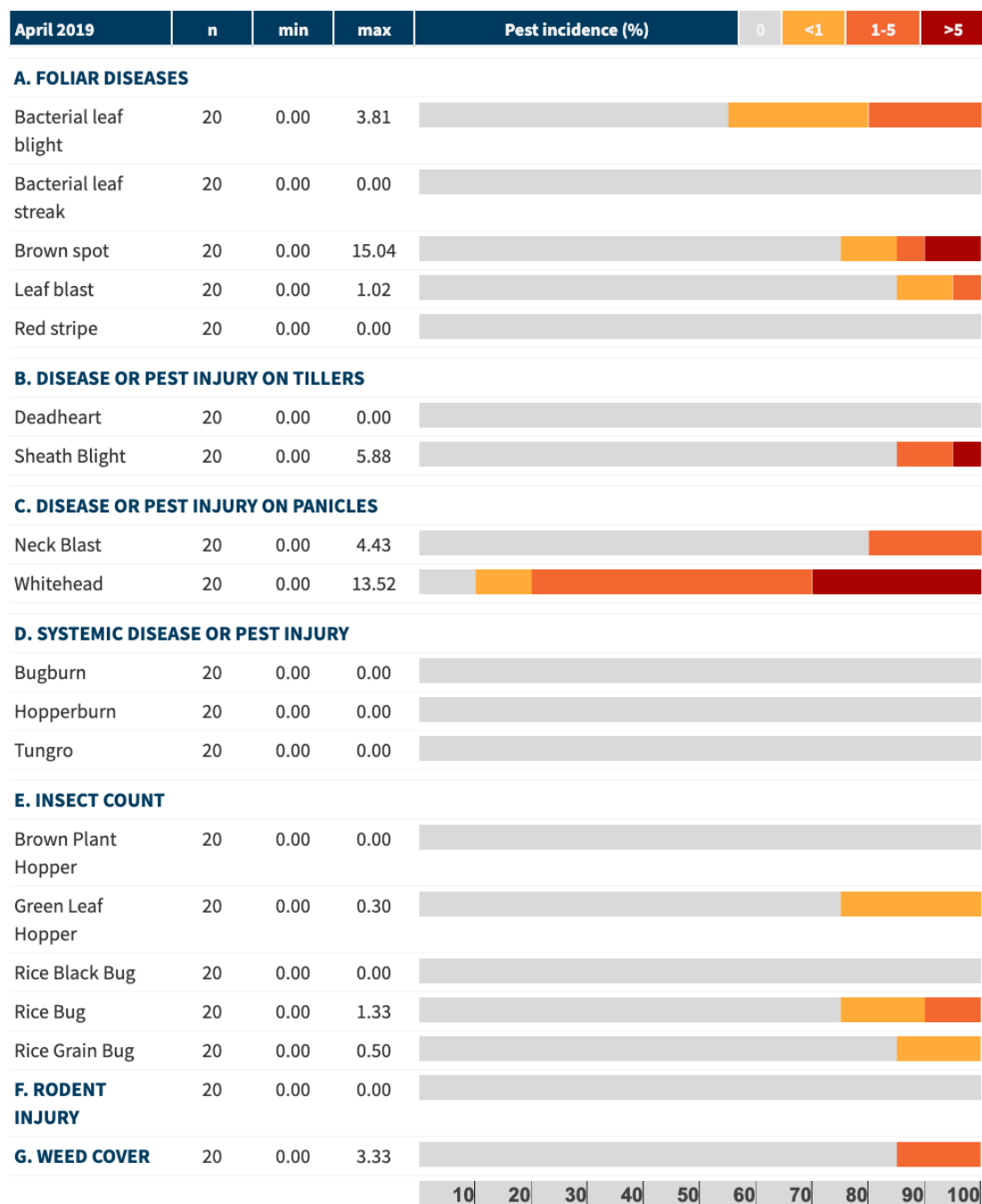
Region IX



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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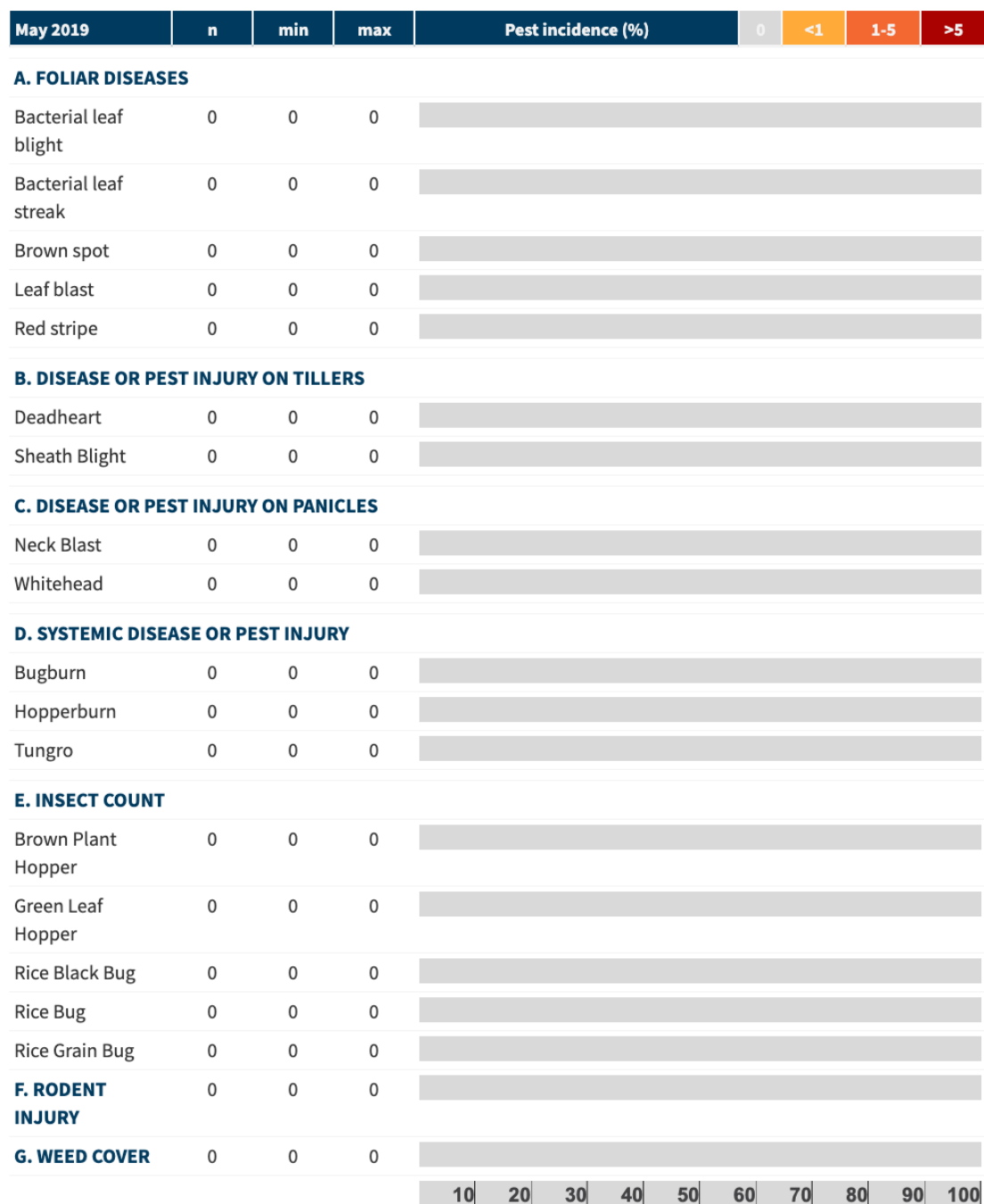
Region IX



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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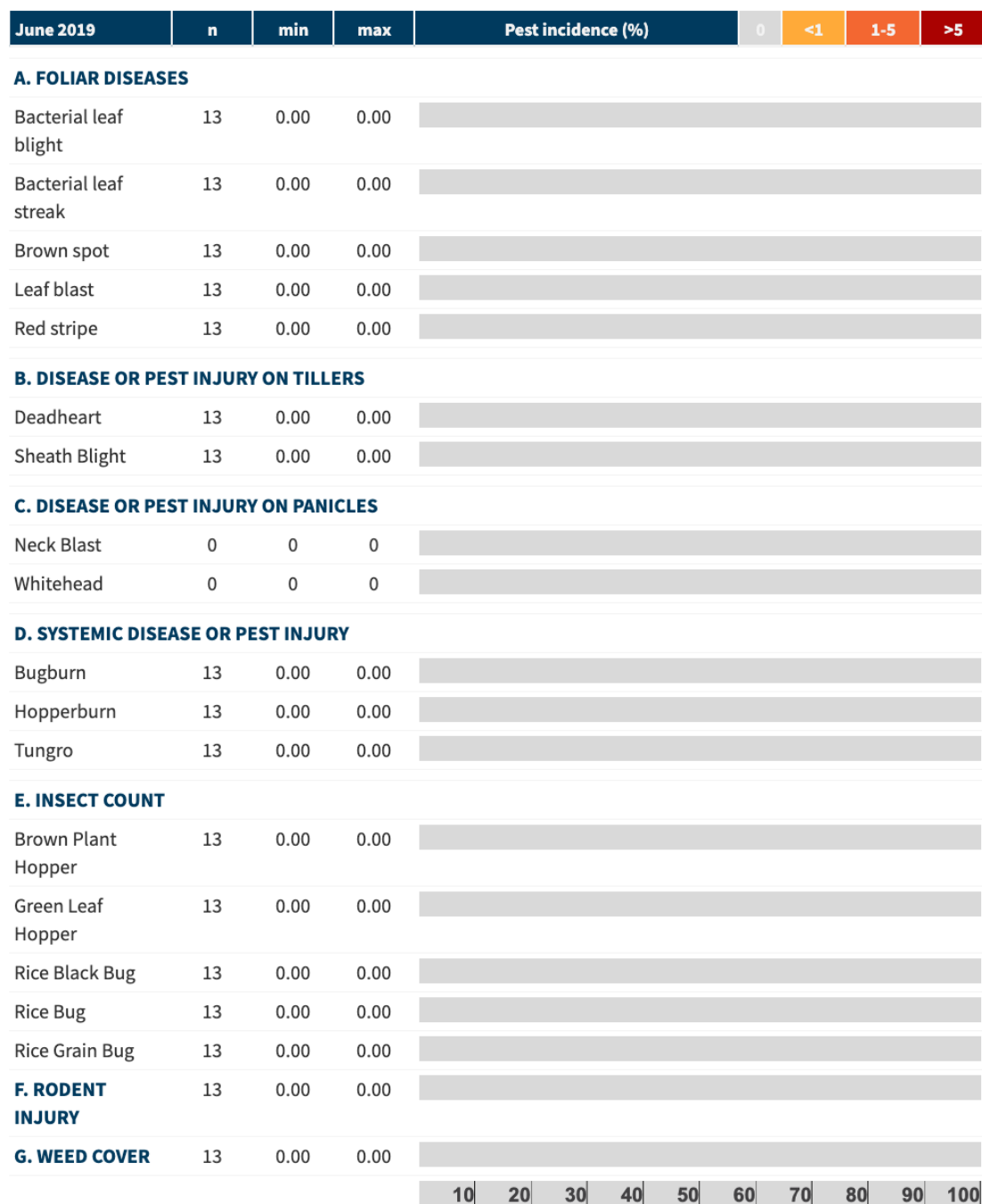
Region IX



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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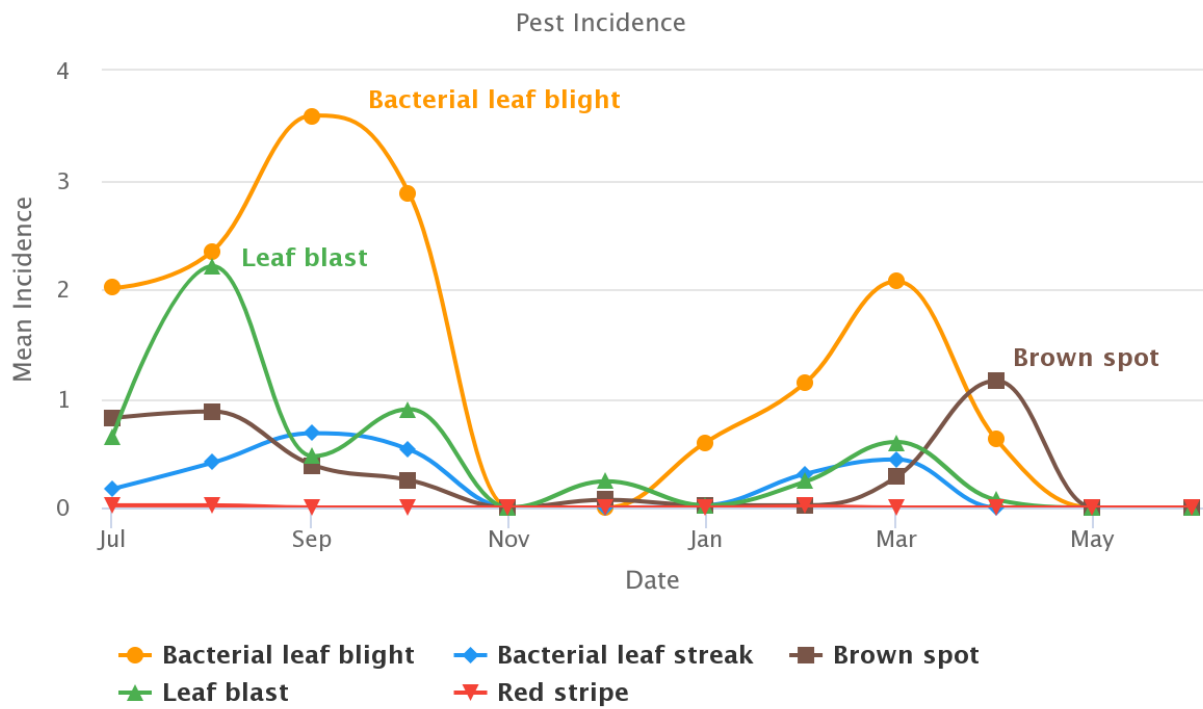
Region IX



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

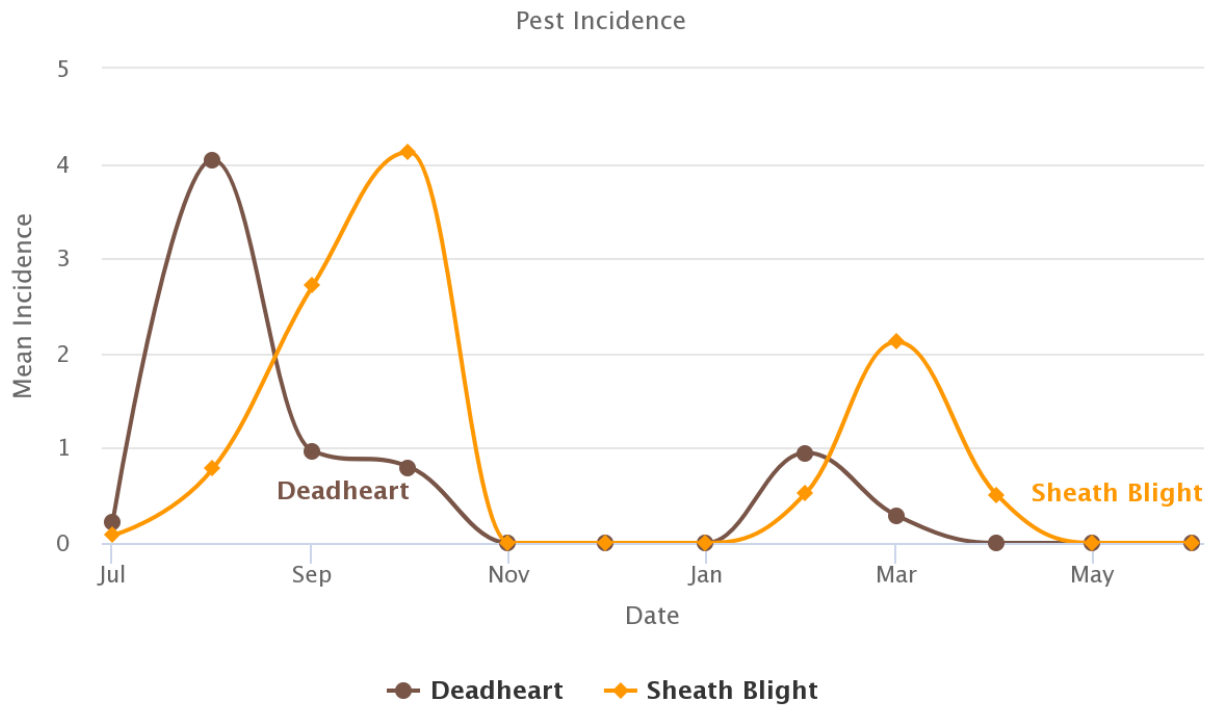


Highcharts.com

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

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DISEASE OR PEST INJURY ON TILLERS

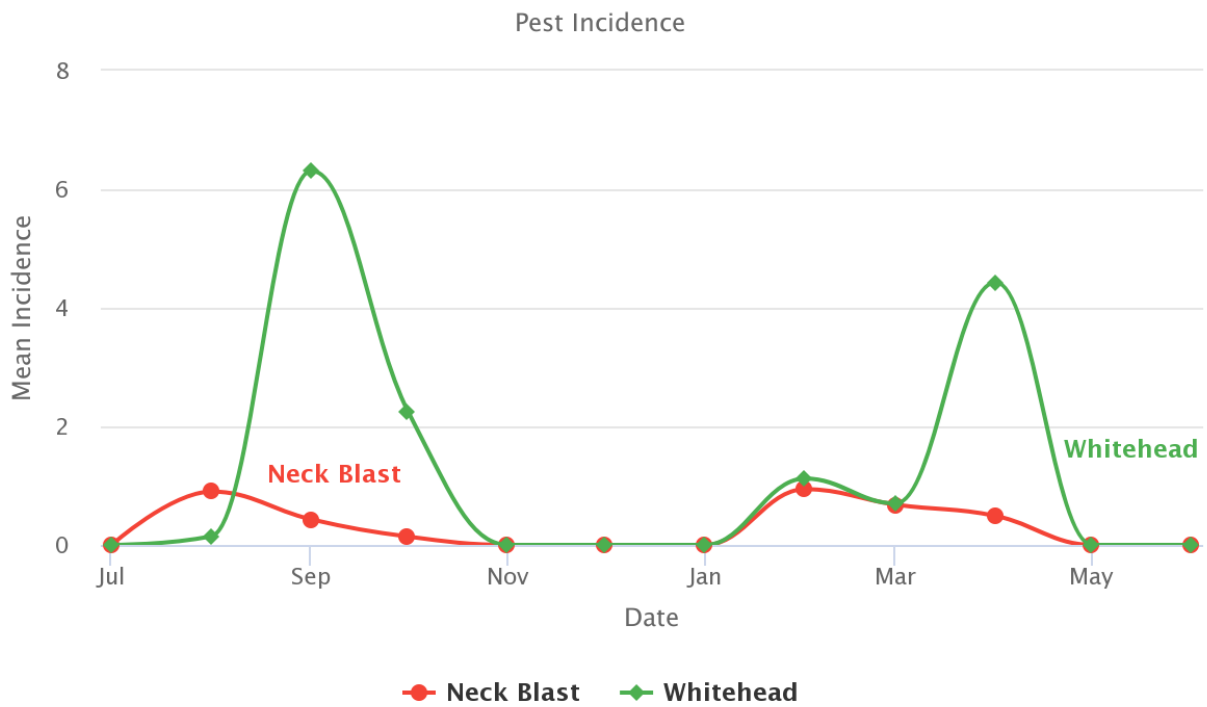


Highcharts.com

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

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DISEASE OR PEST INJURY ON PANICLES

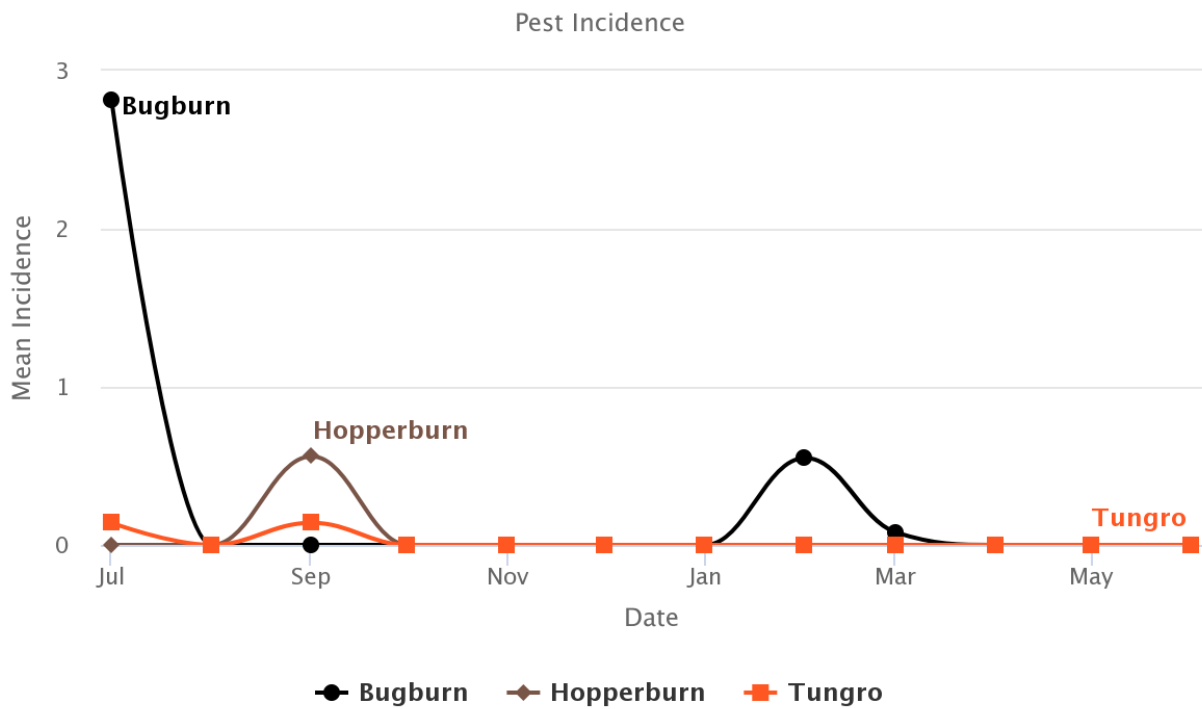


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Annex Figure 15. Mean incidence of neck blast and whitehead in Region IX, July 2018 to June 2019.

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SYSTEMIC DISEASE OR PEST INJURY

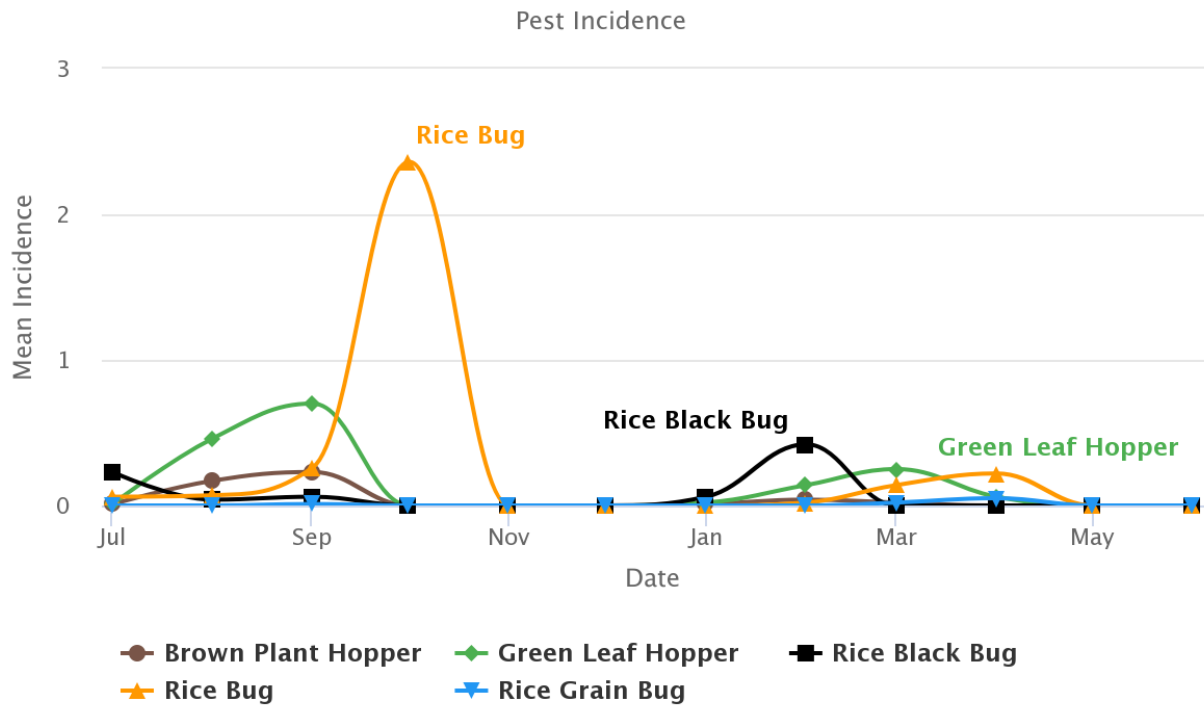


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Annex Figure 16. Mean incidence of bugburn, hopperburn and tungro in Region IX, July 2018 to June 2019.

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INSECT COUNT



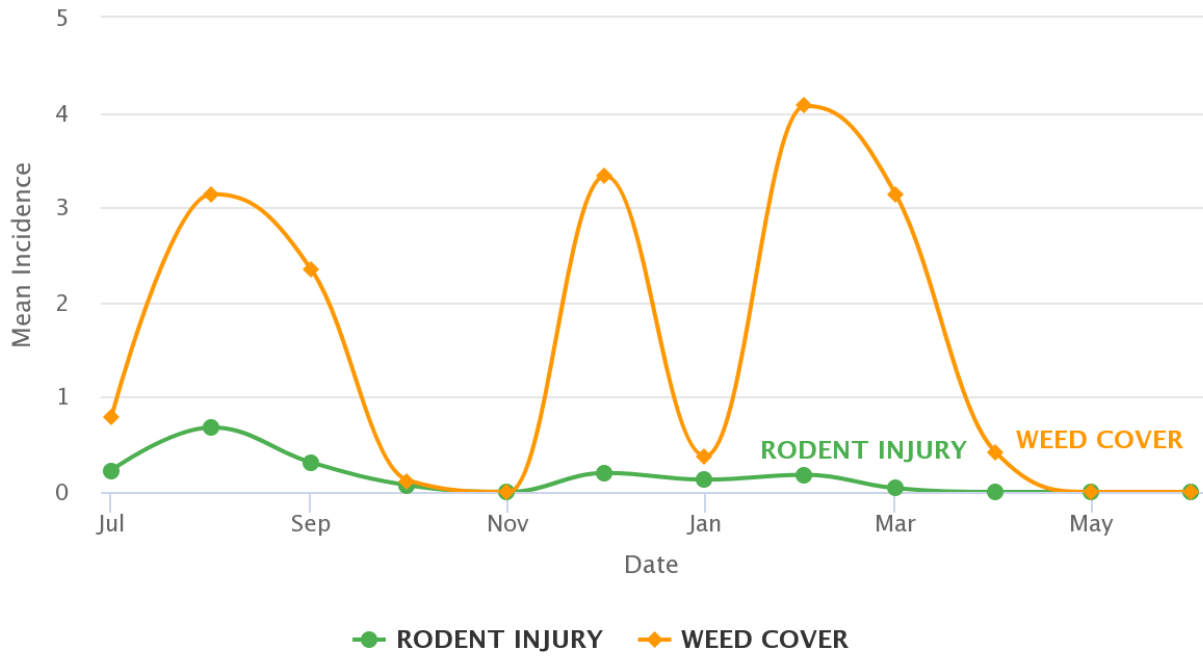
Highcharts.com

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

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Other INJURY

Pest Incidence



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

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