

2023 Wheat Stem Sawfly Survey Report

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AGRICULTURAL BIOLOGY
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Colorado Wheat
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Colorado state-wide wheat stem sawfly survey

The CSU Wheat Entomology Program, with the support of Colorado Wheat, conducts an extensive annual state-wide survey for wheat stem sawflies. For over a decade, our program has visited 17 wheat-producing counties throughout the state. Within these counties we collect and dissect 100 wheat stems from several field sites to determine sawfly larval infestation in each site.

Our results this year were notable in that they contrasted sharply with those of last year. As shown in **Figure 1**, there were fewer instances of high sawfly infestation (which are represented by the yellow regions on the infestation maps). Also of note is sawfly expansion to both southern and western regions. Baca, Boulder, and Larimer counties all went from having no infestation last year to low/moderate infestation this year. The new infestation in Boulder County was particularly notable, going from 0% infestation to 25%. For a county-level infestation summary see **Table 1**.

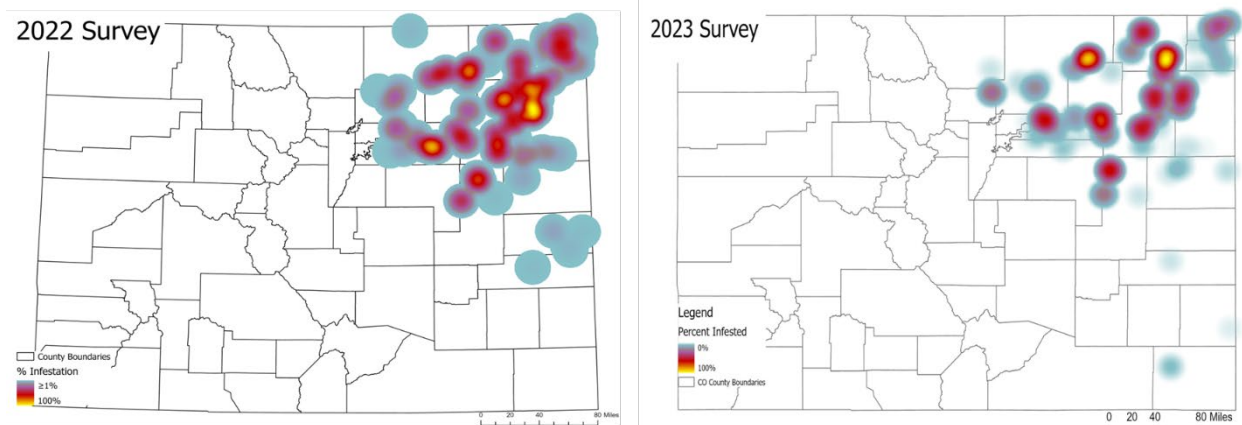


Figure 1: Comparison of the 2022 (left) and 2023 (right) wheat stem sawfly CO infestation maps.

County	# Sites (2022)	Average WSS Infestation Per site (2022)	# Sites (2023)	Average WSS Infestation Per site (2023)
Cheyenne	8	2.25%	4	0.00%
Adams	10	26.60%	7	20.71%
Arapahoe	3	5.33%	2	4%
Baca	3	0%	4	1.75%
Boulder	1	0%	1	25%
Washington	10	51.70%	8	23.13%
Kiowa	8	0.25%	4	0.75%
Kit Carson	10	1%	7	2%
Lincoln	4	39.75%	3	26%
Larimer	1	0%	1	3%
Phillips	5	28.20%	4	6.50%
Logan	5	44.20%	3	48.67%
Prowers	5	0%	3	0.67%
Weld	4	11%	4	25.25%
Morgan	4	48%	2	10%
Yuma	8	37.38%	6	13%
Sedgwick	4	25.25%	2	22.50%

Table 1: Table depicting 2022 and 2023 Colorado wheat stem sawfly infestation by county.

We hypothesize that the differences between the 2022 and 2023 infestation data are largely due to the climate conditions that impacted much of Colorado in 2023. High levels of precipitation and cool weather were observed at many of our collection sites, potentially resulting in poor sawfly emergence and survival. The increase in precipitation also likely explains the increases to the WSS 2023 range, especially in the southern regions of the state. As the extra moisture made it more feasible to sustain wheat crops, the sawflies were presented with an increase in potential host plants.

Kansas wheat stem sawfly survey

The scope of our survey was increased to include much of Western Kansas in 2022 and 2023, with the objective of assessing sawfly infestation crossing the border. Despite our lab having found minor infestation in Sheridan and Cheyenne Counties last year, the only signs of WSS larvae were found within Rawlins County this year. All Kansas results can be viewed below in **Table 2**.

County	# Sites (2022)	Average WSS Infestation Per site (2022)	# Sites (2023)	Average WSS Infestation Per site (2023)
Wallace	1	0%	1	0%
Rawlins	2	0%	2	0.50%
Decatur	1	0%	1	0%
Sheridan	1	1%	1	0%
Cheyenne	3	0.45%	3	0%

Table 2: Table depicting 2022 and 2023 Kansas wheat stem sawfly infestation by county.

Acknowledgements

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