

Even with rain in some areas of the state this summer, grasshopper activity has been very high in many parts of Nebraska.

With upcoming winter wheat planting, growers need to consider options to manage potential grasshopper problems in establishing wheat this fall, University of Nebraska-Lincoln entomologists say.

Large numbers of grasshoppers in areas surrounding wheat fields threaten seedlings as they emerge, said Bob Wright, entomologist in the university's Institute of Agriculture and Natural Resources.

"Emerging winter wheat has very limited foliage and grasshoppers can easily keep the wheat clipped back completely, causing stand losses in the field margins," he said.

Grasshopper populations decline through the late summer and fall, but they can remain in significant densities until after the first hard freeze.

Growers need to monitor grasshopper densities in areas surrounding wheat fields both before and after planting, said Gary Hein, UNL entomologist.

Normal threshold densities in areas surrounding cropland need to be lowered because of the damage potential, he said.

"Densities in the range of 11 to 20 grasshoppers per square yard in non-crop borders surrounding newly planted wheat fields may be enough to cause significant loss," Hein said. "If grasshopper densities are extreme, it is difficult to completely eliminate the damage in emerging wheat."

However, several options are available to help reduce the risk and/or manage the problem:

- Avoid early planting in areas of high grasshopper activity. Planting higher risk fields near the end of the optimum planting window will reduce the time period that a field will need to be protected from grasshoppers in the fall.
- Increase the seeding density of wheat in field margins. This may compensate for partial stand loss and allow for a reasonable stand after grasshopper damage has run its course.
- Neonicotinoid seed treatments, such as Gaucho and Cruiser, can provide protection from emergence, and treatment can be easily limited to treating only the field margins to reduce costs.

These treatments will be effective for moderate grasshopper densities, but they will likely not hold up under severe grasshopper pressure.

These seed treatments are only available through a certified seed treater so advanced planning is necessary when ordering seed. Also, to be effective the highest registered rate of product must be applied to the seed.

- Several foliar insecticides can be used to treat wheat for grasshopper control; however, treatment of the emerging wheat crop will result in little residual activity of the product because of the restricted leaf area for insecticide deposition.

For more information about insecticides, consult CropWatch, UNL Extension's crop production newsletter, at <http://cropwatch.unl.edu/>.

"Grasshopper control around wheat fields can be challenging and the level of effectiveness for any control option will depend largely on the density of grasshoppers," Wright said. "Under very heavy pressure none of the control options will be completely effective, and the loss of some stand on the field margins may be inevitable."

If grasshopper damage reduces stand in the field margins, these areas can be replanted later

in the fall after the first hard freeze and grasshopper populations have declined.

Grasshopper control in winter wheat will likely be a compromise between effective control and affordability.