

Corn Plants Exhibiting Lesion Mimic Mutants

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Last year, several Extension agronomists across the state found corn fields that had plant leaves dying prematurely. Plants were sent to the diagnostic lab where they were tested for various abiotic problems. Nothing was found. Samples were sent to K-State to be tested for viruses and again nothing was found.

This year, we have found more fields exhibiting these symptoms. There are three fields that I know of locally. The death starts on the lower leaves and moves upward in the canopy. This causes the plant to lose leaf area and results in low yields. These are not small areas within the field but the whole field is showing the symptoms of dying cells of the leaves.

The best answer that we have concluded is what is called disease lesion mimic mutants of maize. These are a class of mutants in plants that spontaneously form patches of dead cells

in the absence of any stress, injury or infection in the plants.

The mutants have recessive and dominant mutants that result from biological processes. Lesion mimic mutants are believed to be widespread within corn plants. A paper summary within the American Phytopathological Society indicates that there are more than 50 positions in the chromosome that may give rise to a lesioned phenotype.

If you are one of the growers who have this issue with corn, it will look like your corn field has a really bad disease. We would suggest getting your seed supplier involved. Also please contact, Wayne Flanary, Regional Agronomist, University of Missouri Extension at (660) 446-3724 if you find any field showing these symptoms so we can determine the extent of this disease in our area. Δ

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