

"Jumping" into gene regulation:

Understanding the regulatory adaptation of transposable elements and their effect on gene expression in maize

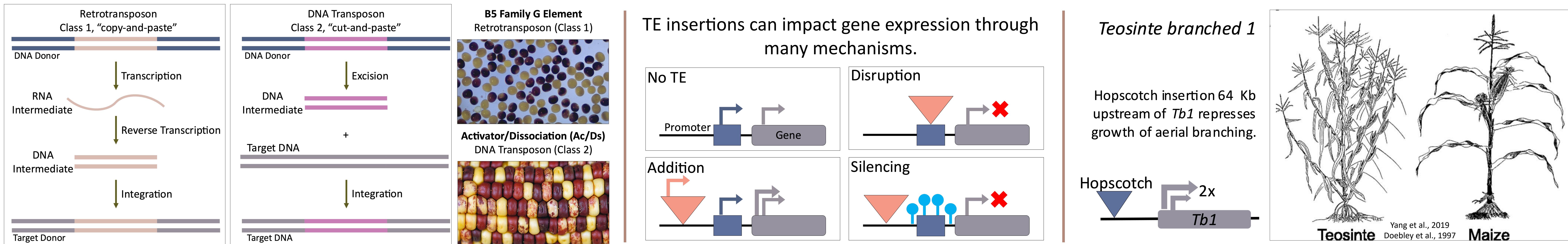


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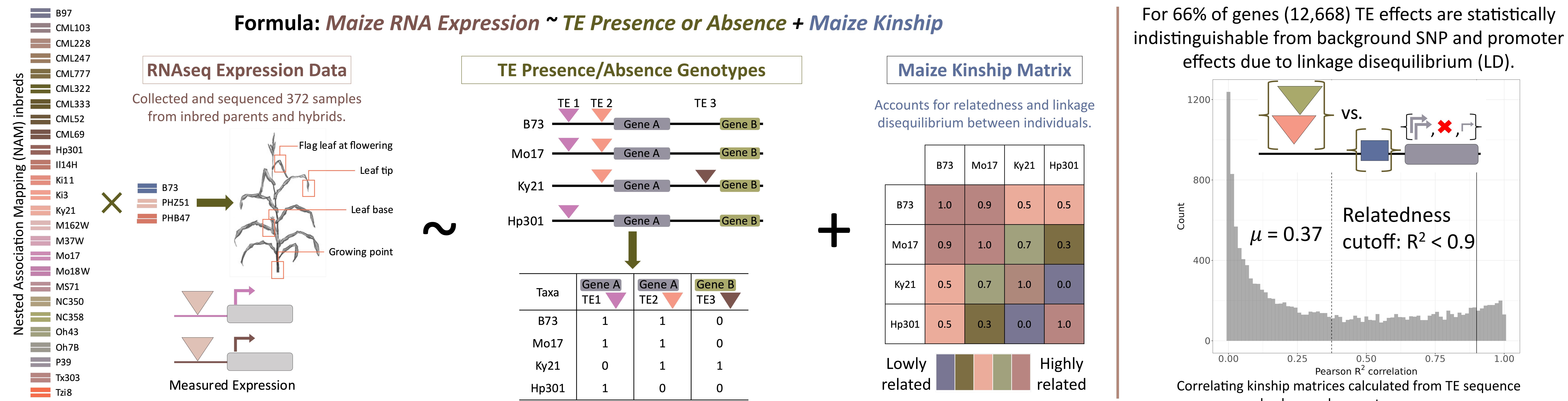
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Transposable element (TE) insertions in maize can drastically alter plant phenotypes and gene expression.

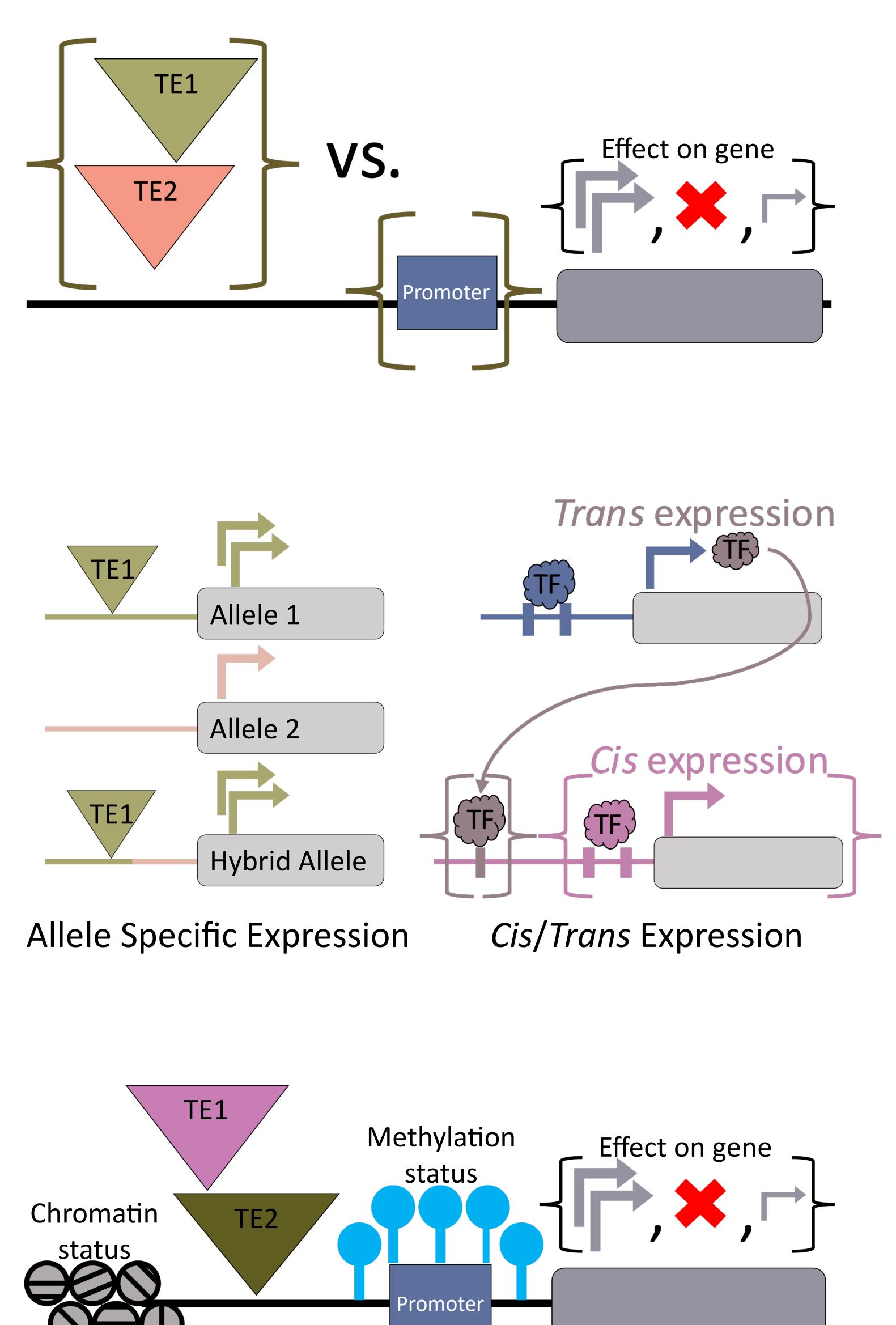
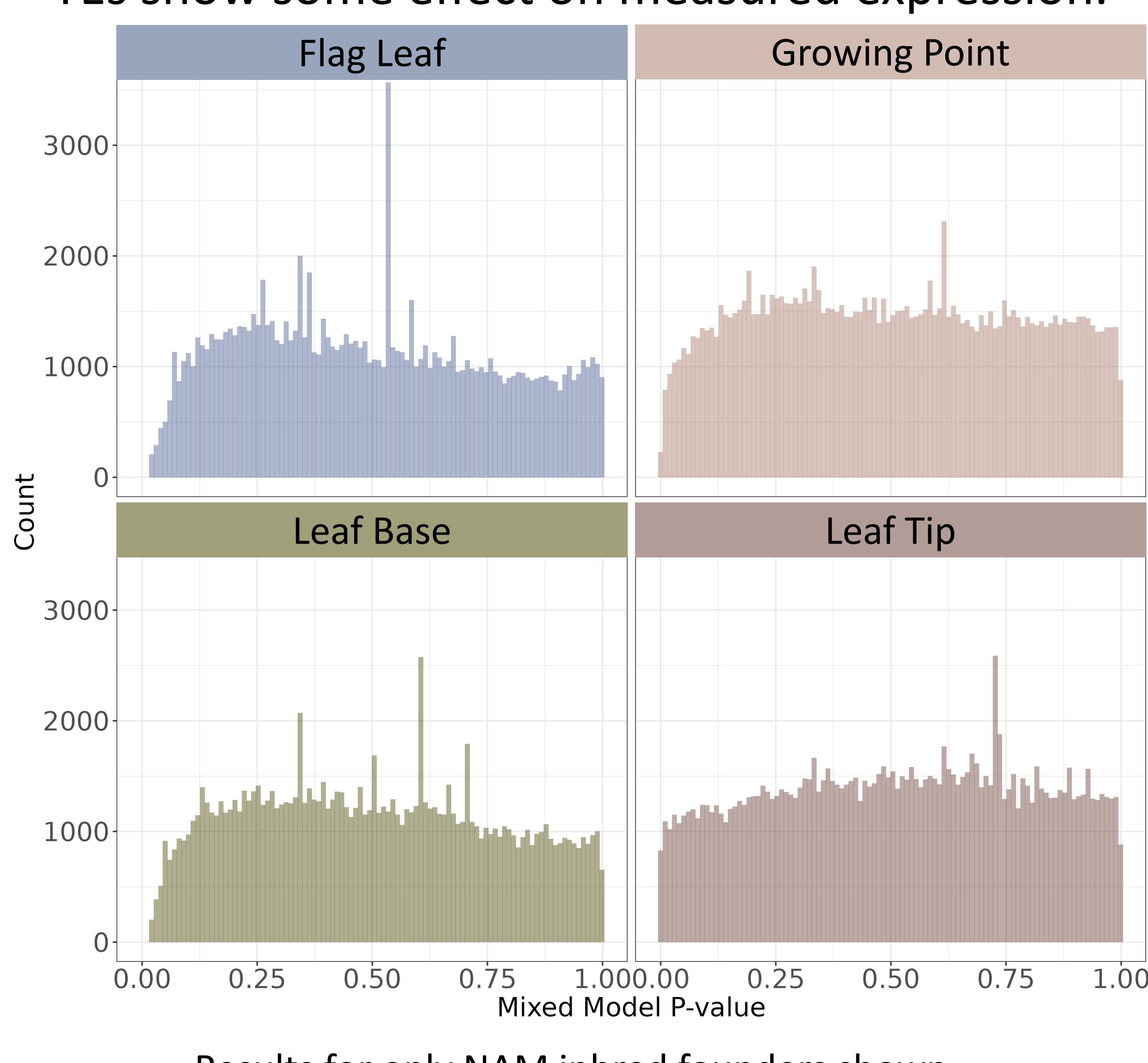


Which TEs impact gene expression during normal plant development in maize inbreds and hybrids?



TE and promoter regulatory effects can be separated in a subset of genes. Within those genes, very few TEs impact gene expression.

For the 34% of genes whose TE effects are not confounded by LD and can be tested, 5,418 genes and 11,811 associated TEs show some effect on measured expression.



Able to separate TE from maize effects in 34% of genes.

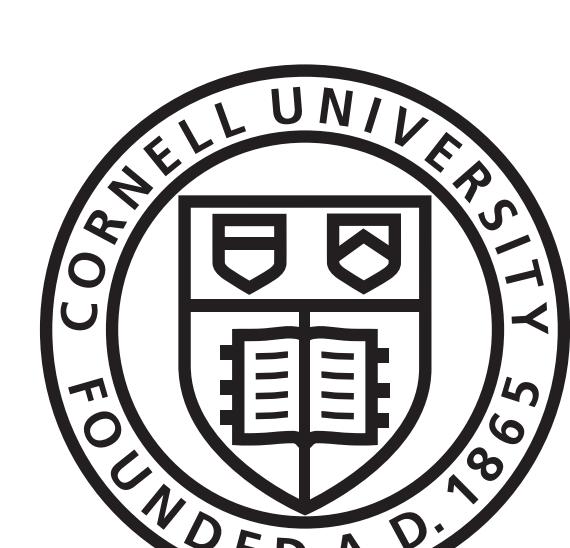
We will investigate different types of expression estimates in future models.

Plan on identifying biological features contributing to TE-induced gene expression differences.

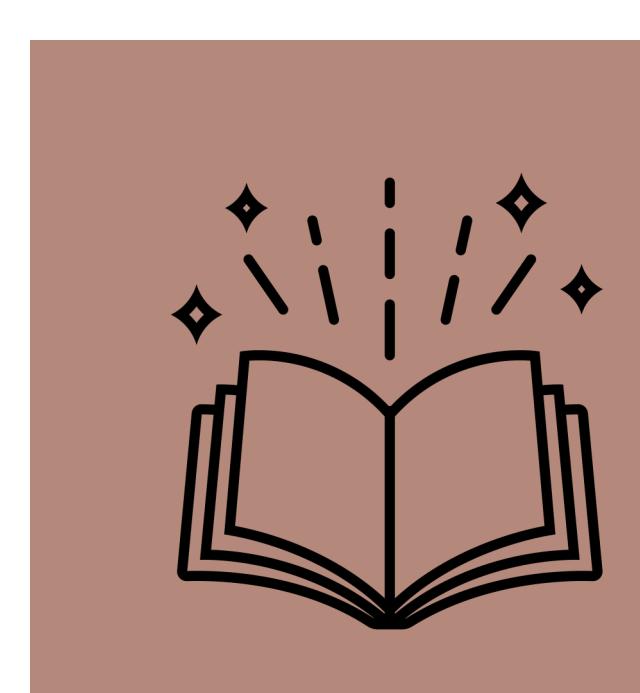
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This work was conducted on the traditional homelands of the Gayogohó:ngó? (the Cayuga Nation). The Gayogohó:ngó? are members of the Haudenosaunee Confederacy, an alliance of six sovereign Nations with a historic and contemporary presence on this land. The Confederacy precedes the establishment of Cornell University, New York state, and the United States of America.



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