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### ACCEPTED MANUSCRIPT

Title: Effect of temperature under different evaporative demand conditions on maize leaf expansion

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#### **Highlights:**

- Leaf expansion rate of maize increased along with an increase in temperature under low evaporative demand conditions.
- Under high evaporative demand conditions, leaf expansion rate reduced at 32°C due to high VPD.
- Leaf gas exchange parameters such as stomatal conductance, photosynthesis, and transpiration mirrored the response of leaf expansion rate.
- Stomatal traits were affected by VPD.
- The differential response of leaf expansion rate in maize was associated with the differential expression of genes related to leaf development and expansion.

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