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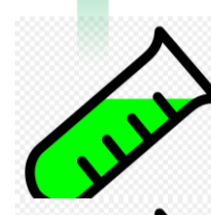


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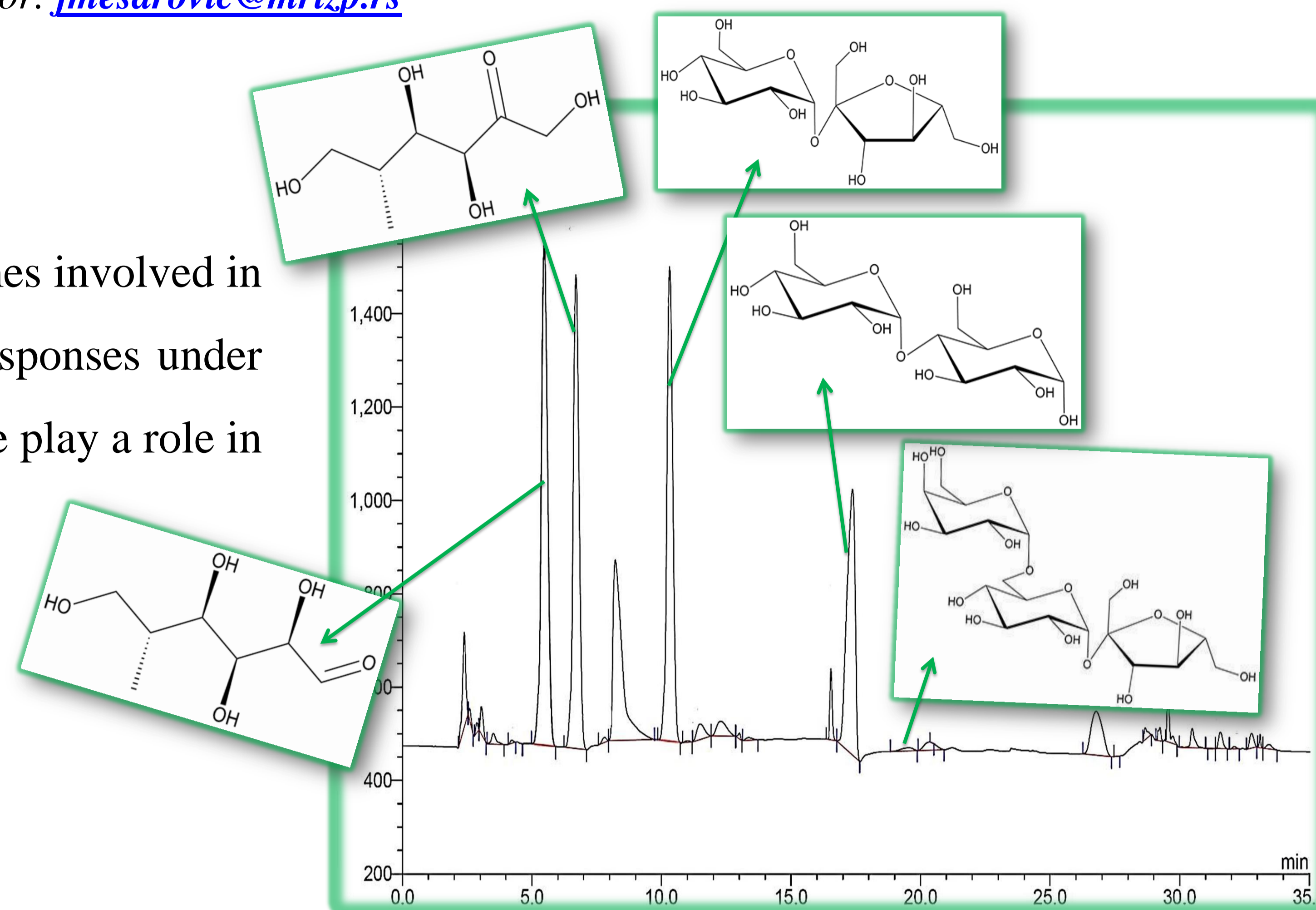
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INTRODUCTION

Small water-soluble sugars such as glucose and sucrose, and enzymes involved in their metabolism are recognized as crucial compounds in plant responses under oxidative stresses. Recent studies showed that raffinose and maltose play a role in plant protection from oxidative damage caused by drought.

EXPERIMENTAL

-  Two sweet maize hybrids (ZP355su and ZP553su)
-  Two vegetation seasons: 2016 and 2017
-  Sugar (glucose, fructose, sucrose, raffinose and maltose) quantification by HPAEC-PAD.



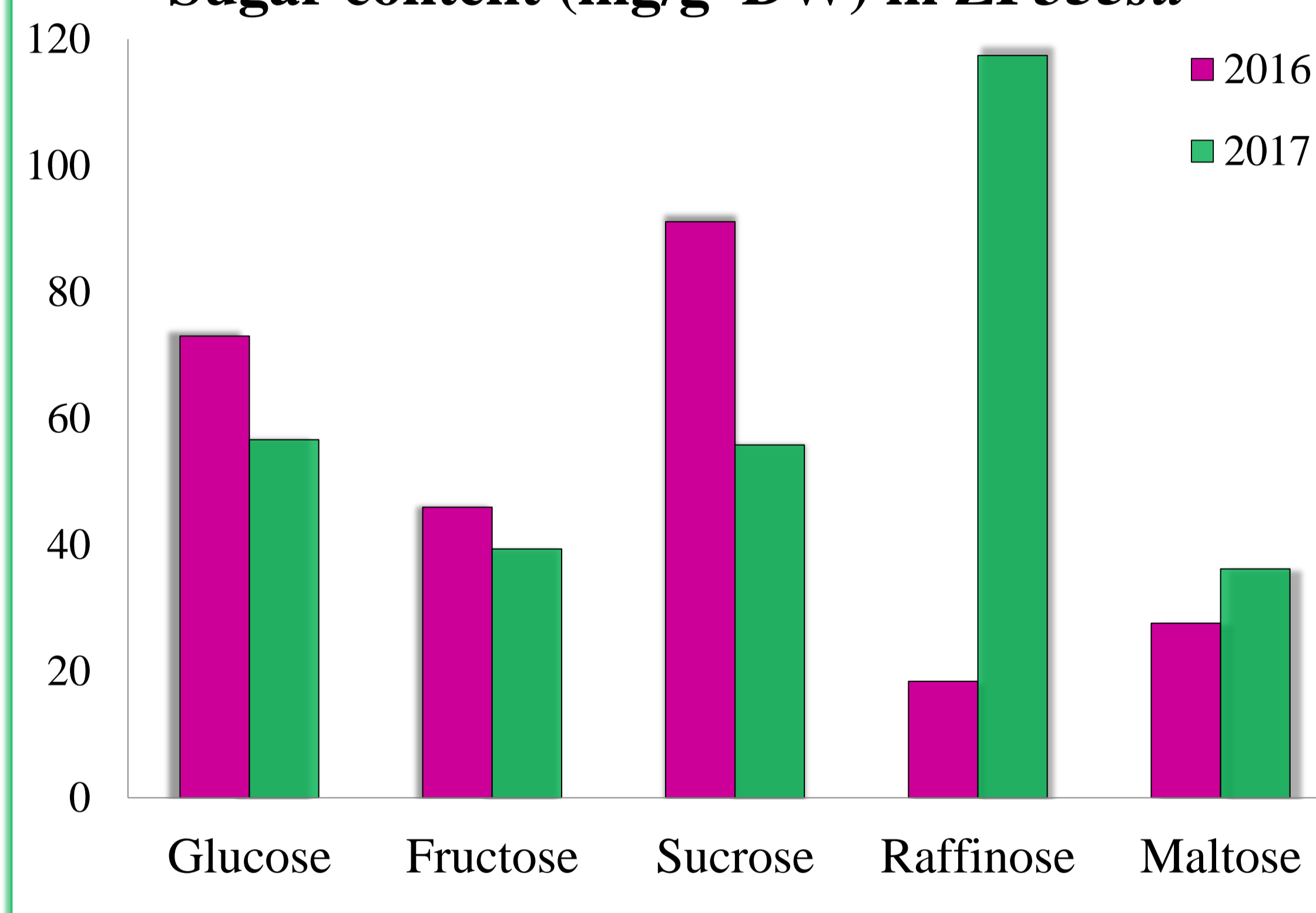
RESULTS AND DISCUSSION

- ✓ In stressful 2017 the content of glucose, fructose, sucrose, raffinose and maltose in hybrid ZP553su was higher in comparison to 2016.
- ✓ Opposite trend was found for the sucrose content in 2017 for the same hybrid.
- ✓ In hybrid ZP355su content of fructose, glucose and sucrose in 2017 was reduced compared to 2016.
- ✓ Opposite trend was found for the raffinose and maltose content in 2017 for the same hybrid.

CONCLUSION

Obtained results from this study pointed out that an increase in sugar content may indicate potentially hybrid tolerance to drought conditions. Although a small number of genotypes were tested, the obtained results indicate that sugar content, especially of glucose and raffinose, can be used for an assessment of sweet maize genotype tolerance.

Sugar content (mg/g DW) in ZP355su



Sugar content (mg/g DW) in ZP553su

