

Energy Dispersive X-ray Analysis Based Elemental Analysis of Okra Genotypes and Its Impact on Leafhopper Infestation

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INTRODUCTION & AIM

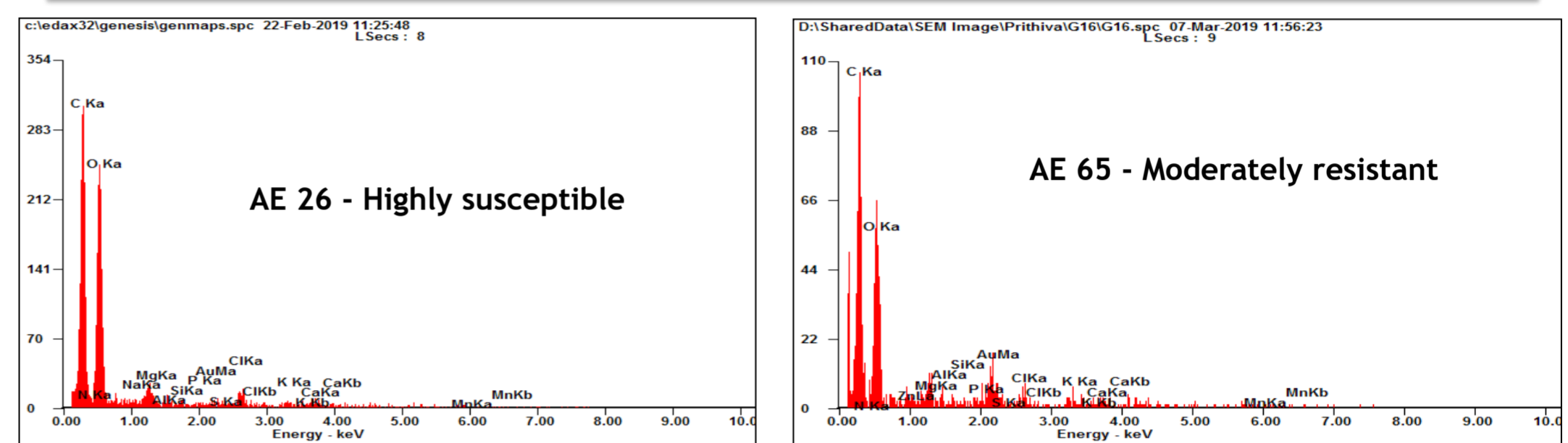
Background

- ❖ Insect pests are a major constraint in successful okra cultivation.
- ❖ The leafhopper (*Amrasca biguttula biguttula* Ishida) is a key pest causing significant yield loss.
- ❖ Conventional pest control relies heavily on chemical pesticides.
- ❖ Need for eco-friendly, sustainable pest management strategies.
- ❖ Host plant resistance offers a cost-effective, environmentally safe solution.
- ❖ Resistant varieties reduce the need for chemical inputs.

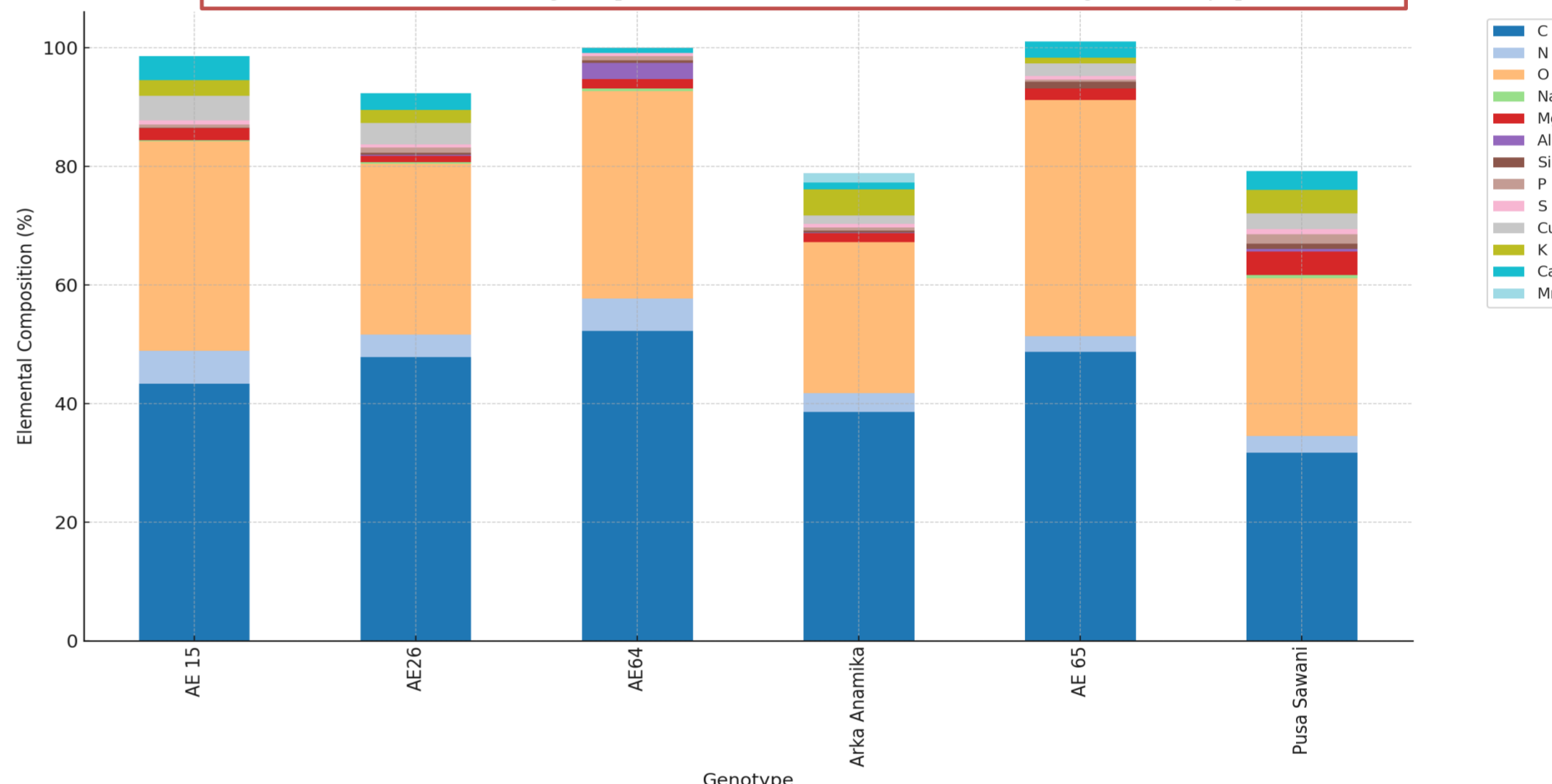
Aim of the study

- ❖ To compare elemental composition in leaves of selected okra-resistant and susceptible genotypes.

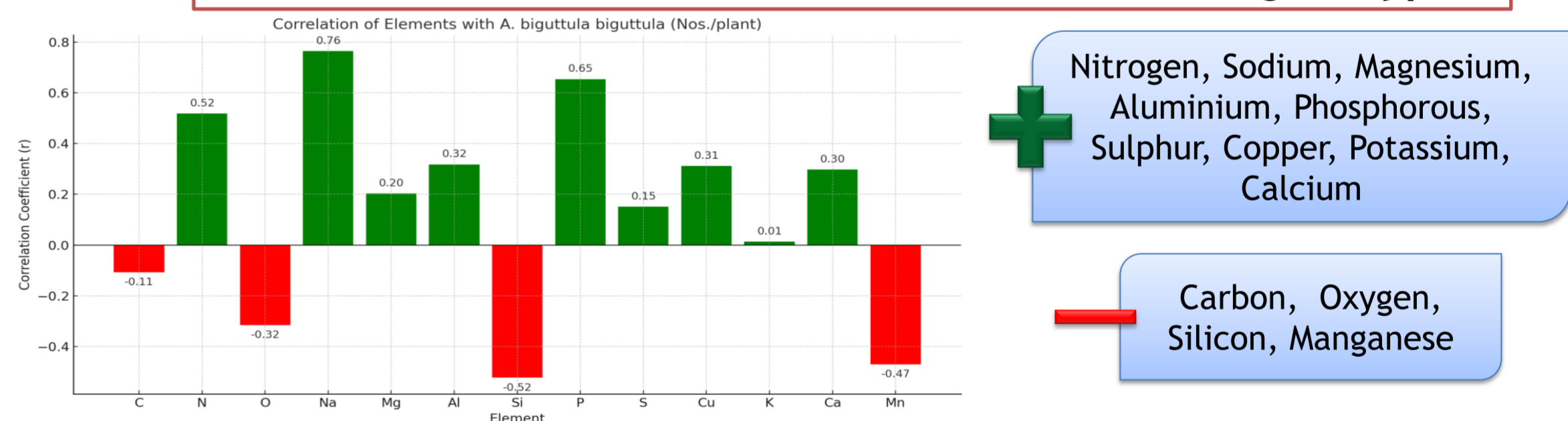
RESULTS & DISCUSSION



SEM-EDAX graph of selected okra genotypes



Scattered bar chart of nutrient content in okra genotypes



Correlation of Elements with *A. biguttula biguttula* (Nos./plant)

In the present study, high level of non digestible element Si content was maximum in moderately resistant genotype AE 65 and showed negative correlation which is in line with Iqbal *et al.* (2011) where in silica content was reported to be high in resistant genotype with negative correlation of $r = -0.833$. This element may acts as detrimental to insect feeding and development.

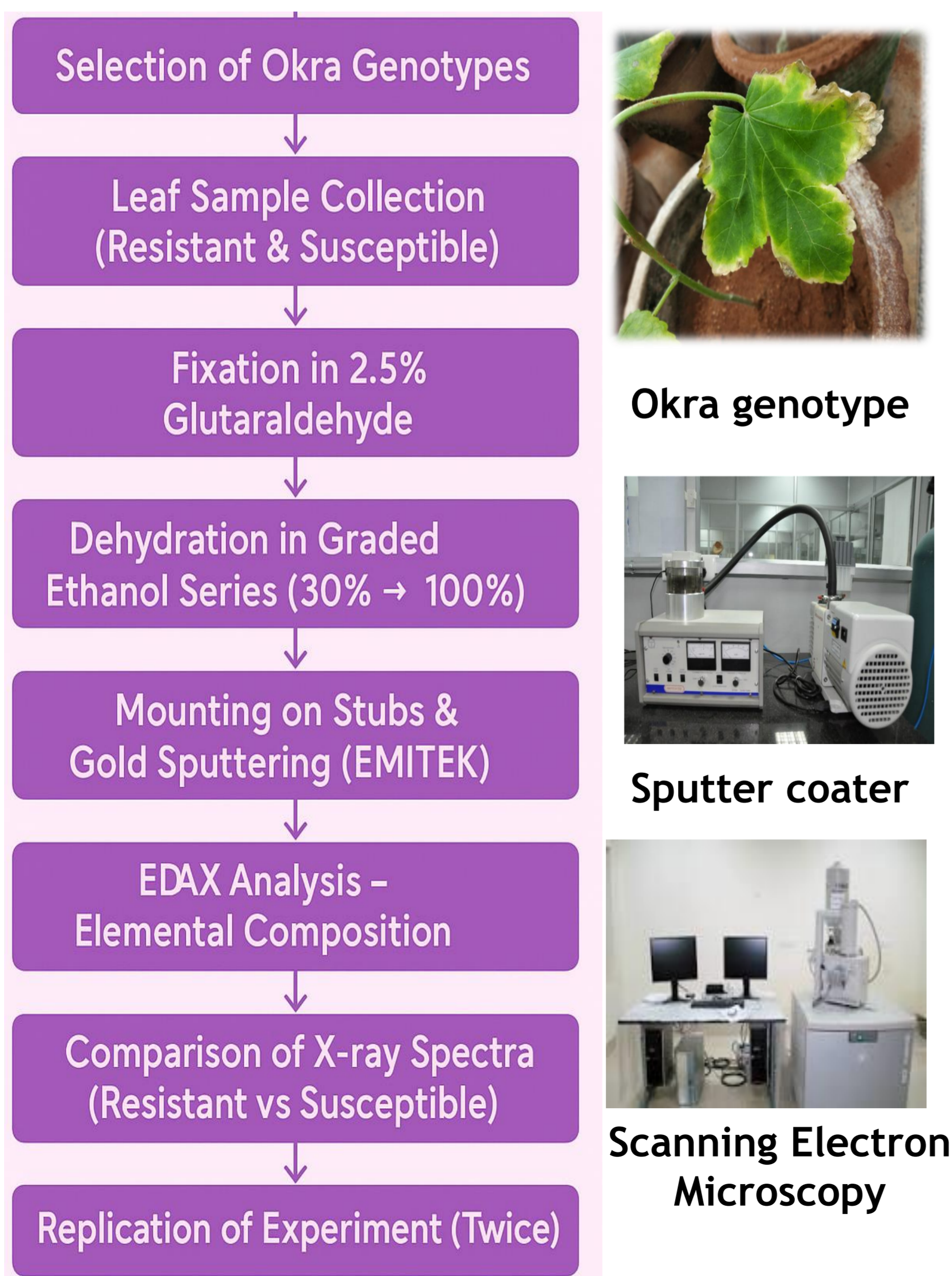
CONCLUSION

- ❖ Identifying elemental markers associated with resistance can aid in breeding pest-resistant okra varieties.
- ❖ Supports integrated pest management strategies with minimal environmental impact

REFERENCE

Shri T., Gaurav SS., Singh SK and Jain S. 2024. Multivariate Analysis of Okra [*Abelmoschus esculentus* (L.) Moench] Genotypes and Hybrids based on Mineral Content. *Agricultural Science Digest*, 1-7. doi: 10.18805/ag.D-5799

METHOD



Okra genotype



Sputter coater



Scanning Electron Microscopy