

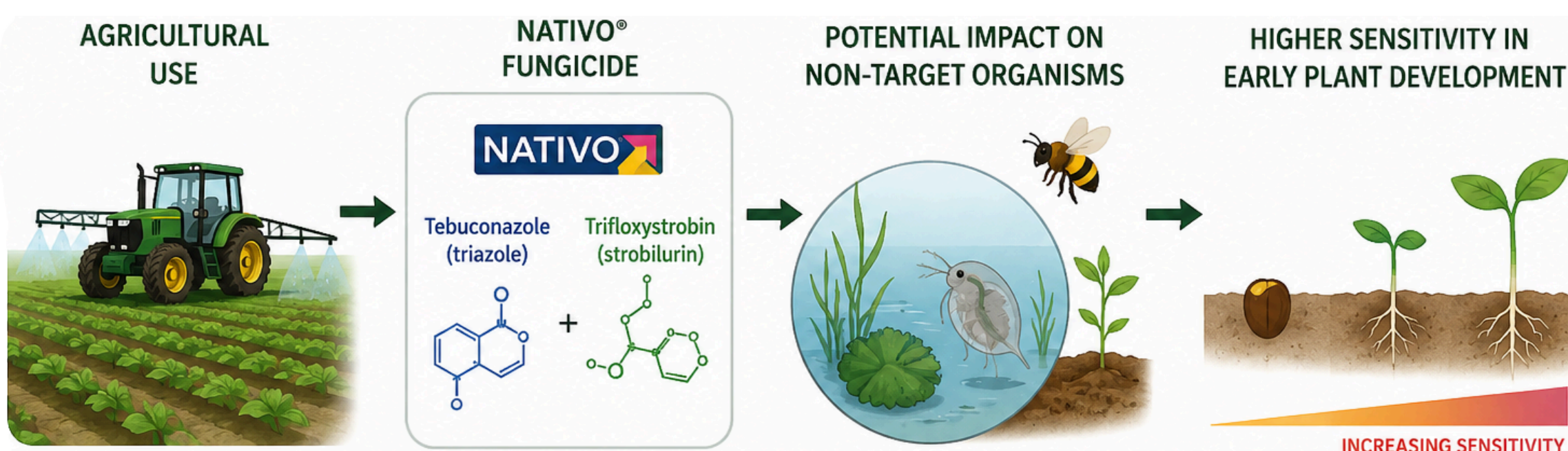
## ECOTOXICOLOGICAL EFFECTS OF THE COMMERCIAL FUNGICIDE NATIVO® ON EARLY DEVELOPMENT OF CROP PLANT SPECIES.

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### ENVIRONMENTAL CONTEXT

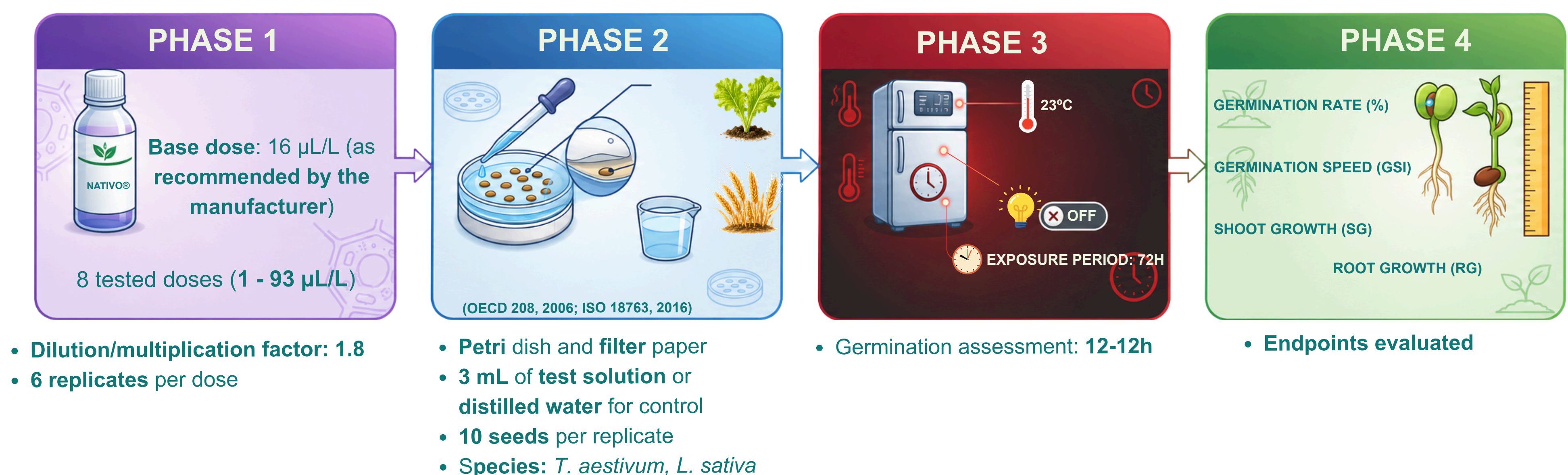


Although essential for crop protection, fungicides such as NATIVO® may threaten **non-target organisms**. **Early plant development** is particularly **vulnerable**, reinforcing the need to assess the **environmental risks** associated with **pesticide exposure**.



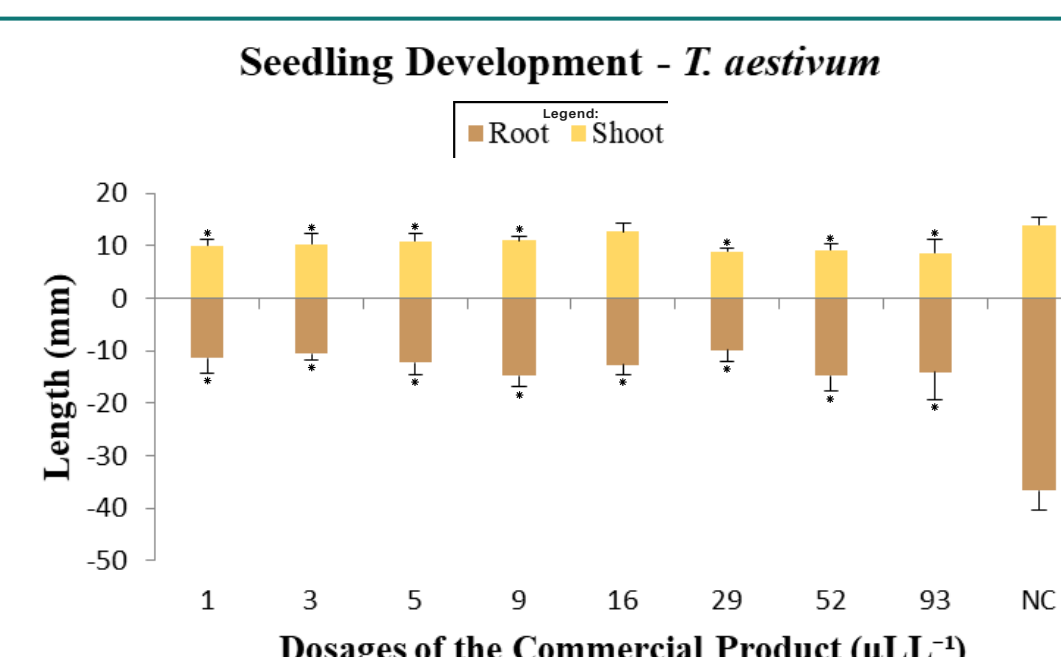
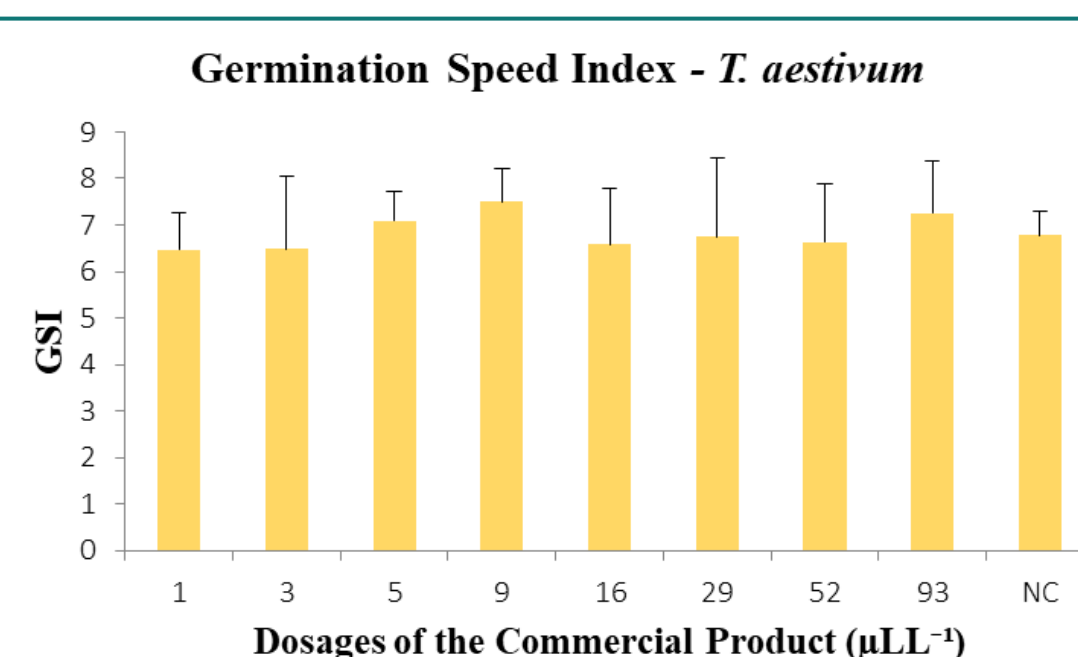
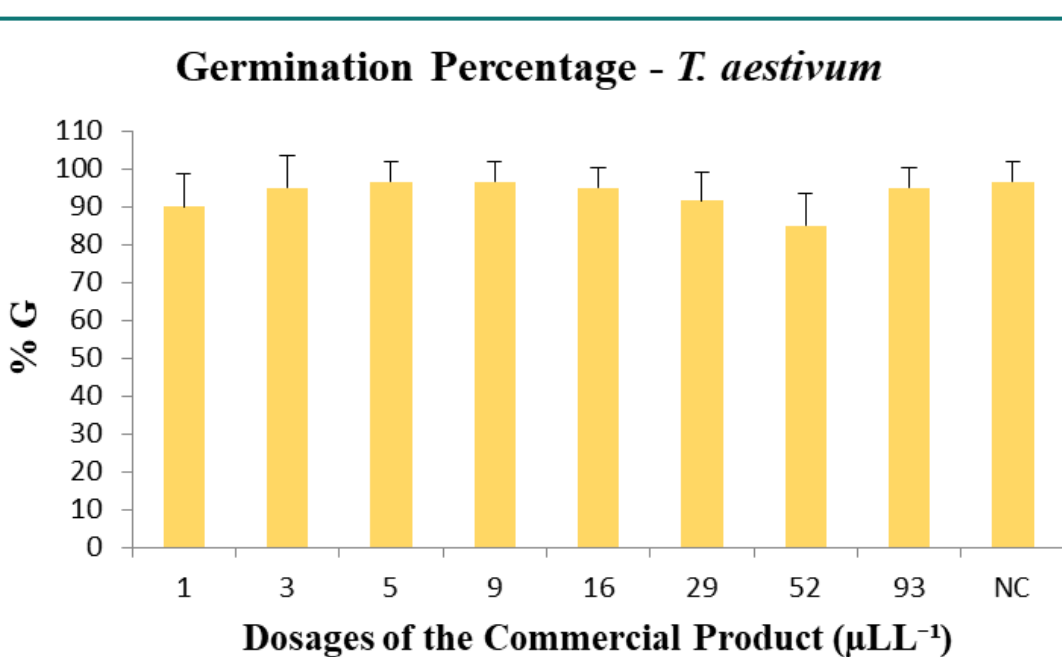
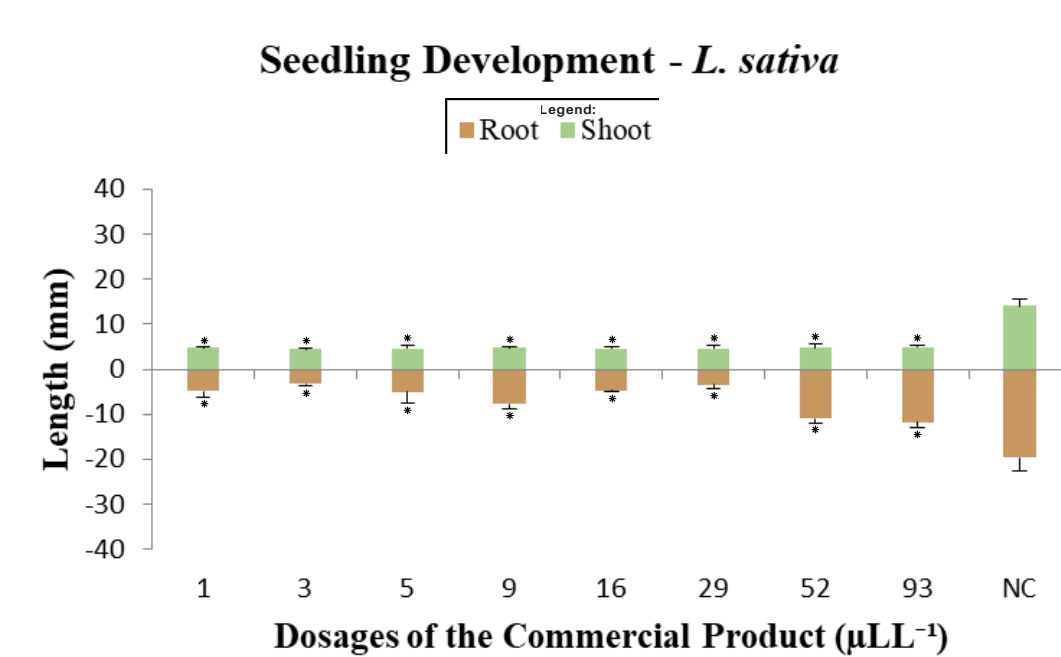
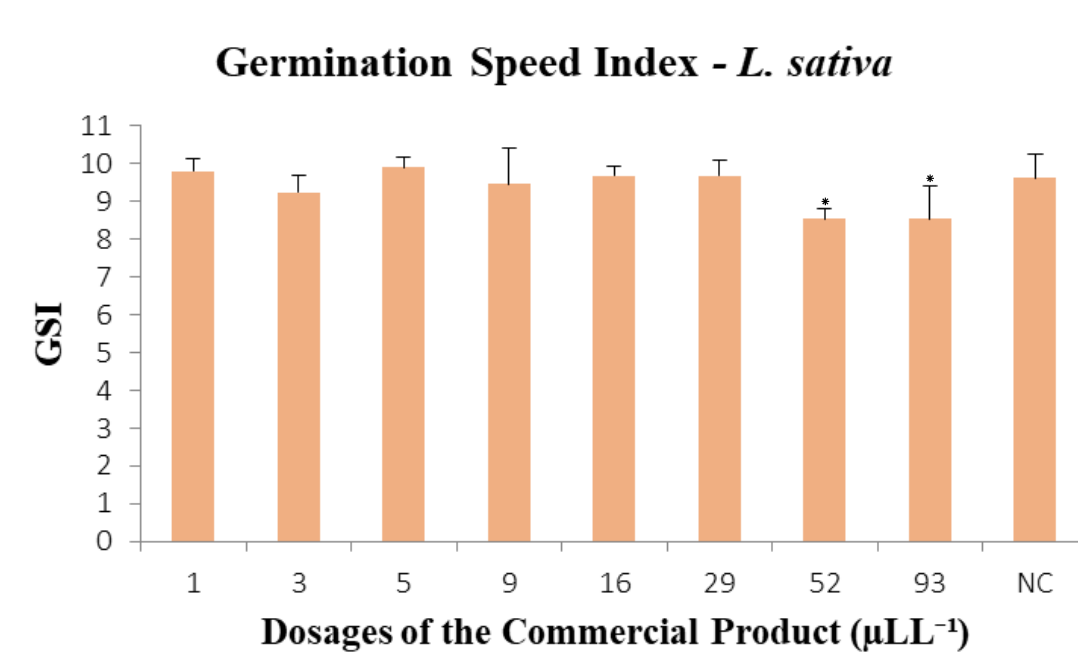
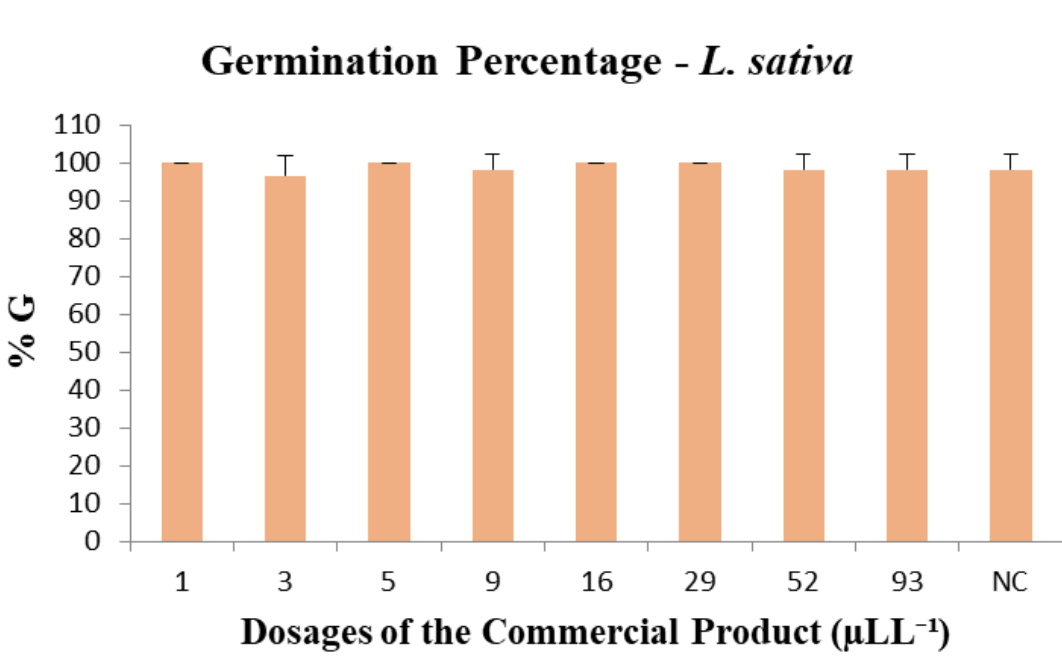
This study investigated the **phytotoxic potential** of the commercial fungicide formulation NATIVO® to determine its effects on **seed germination** and **early plant development** in *Lactuca sativa* and *Triticum aestivum*, providing insights into the **environmental risks** associated with pesticide exposure according to **OECD 208** and **ISO 18763** guidelines.

### METHODOLOGY - Terrestrial plant toxicity test



### MAIN RESULTS - Biological Responses

Effects on **Germination Rate**, **Germination Speed Index**, **Root Growth**, and **Shoot Growth** in *L. sativa* and *T. aestivum* ( $p < 0,05$ ):



- *L. sativa* exhibited **greater sensitivity** to the tested formulation.
- **Root growth** was the **most affected endpoint** in both species.
- **Growth inhibition** occurred even when germination was maintained.
- Species-specific responses emphasize the **importance of multi-species testing**.
- **Early growth** parameters proved **more sensitive** than germination alone.

### CONCLUSION

- NATIVO® exposure can significantly impair early development, particularly growth-related parameters of terrestrial plants.
- Soil residues of fungicides may compromise plant establishment, regeneration processes, and ecosystem functions.
- These findings underscore the importance of considering diverse plant species in ecotoxicological studies to provide a more realistic assessment of the environmental risks associated with fungicide uses.

### REFERENCES

