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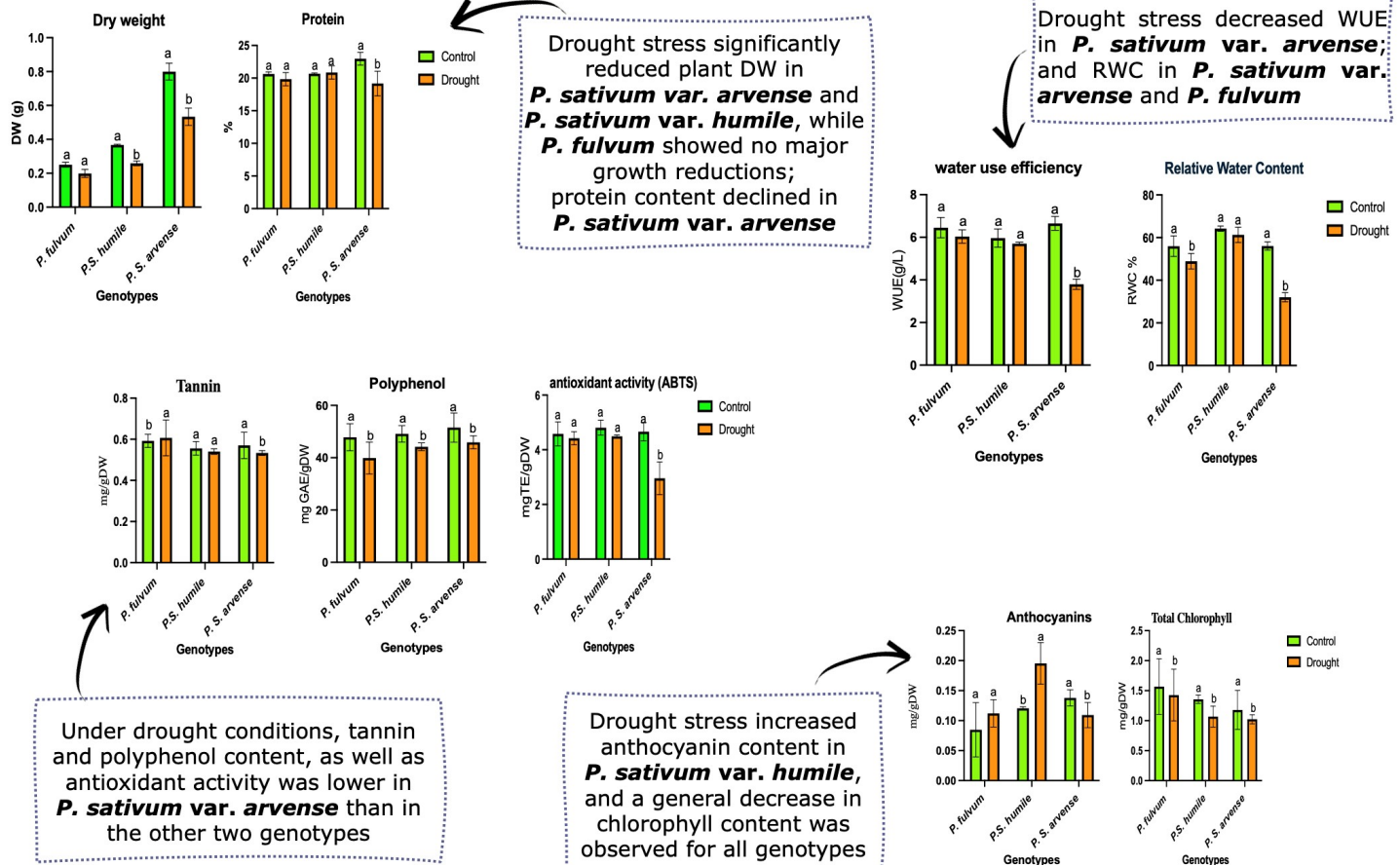
Introduction

Drought is increasingly frequent in the context of climate change and is considered a major constraint for crop yield. **Pea (*Pisum sativum*)** is a temperate grain legume rich in protein, fibre, micronutrients, and bioactive compounds that can benefit human health. The development of **new cultivars with increased drought tolerance** is critical for sustaining genetic gains in crop improvement programs. This study evaluated the drought tolerance of three pea genotypes: ***Pisum sativum* var. *humile***, ***Pisum sativum* var. *arvense***, and a wild relative, ***Pisum fulvum***.

Methods

Two irrigation treatments were applied: **control** (70% field capacity) and **drought stress** (30% field capacity) for 20 days during the vegetative phase. Each plant was grown individually in a pot, with pots randomly placed in a growth chamber (day temperature: 22°C, night: 18°C, relative humidity: 60%). Harvested plants were analysed, using spectrophotometry, for the following morpho-physiological traits: dry weight (DW), protein content, polyphenols, tannins, antioxidant activity, and pigments (chlorophyll, anthocyanins, carotenoids). Relative water content (RWC) and water use efficiency (WUE) were determined using established physiological methods.

Results



Conclusions

- Genotype significantly influenced drought tolerance
- P. fulvum* and *P. sativum* var. *humile*** generally maintained growth and activated biochemical defences