



Exploring the relationship between phenolic content and seed colour in a Portuguese germplasm collection of common beans (*Phaseolus vulgaris* L.)

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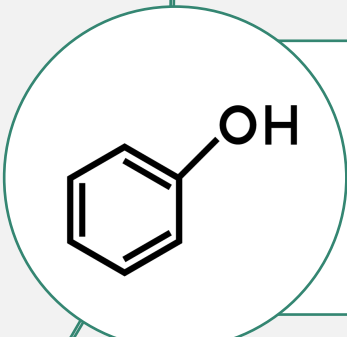

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1 Introduction

COMMON BEAN

-  Sustainable and affordable source of protein
-  Most widely produced and consumed legume in Portugal
 - average national production of 2397 tons across 3547 hectares
-  Significant **source of phenolic** compounds
-  **Wide range of seed size, shape, colour** and pattern phenotypes

Despite the substantial genetic diversity within national germplasm collections, **studies about the Portuguese accessions' nutritional quality are scarce.**

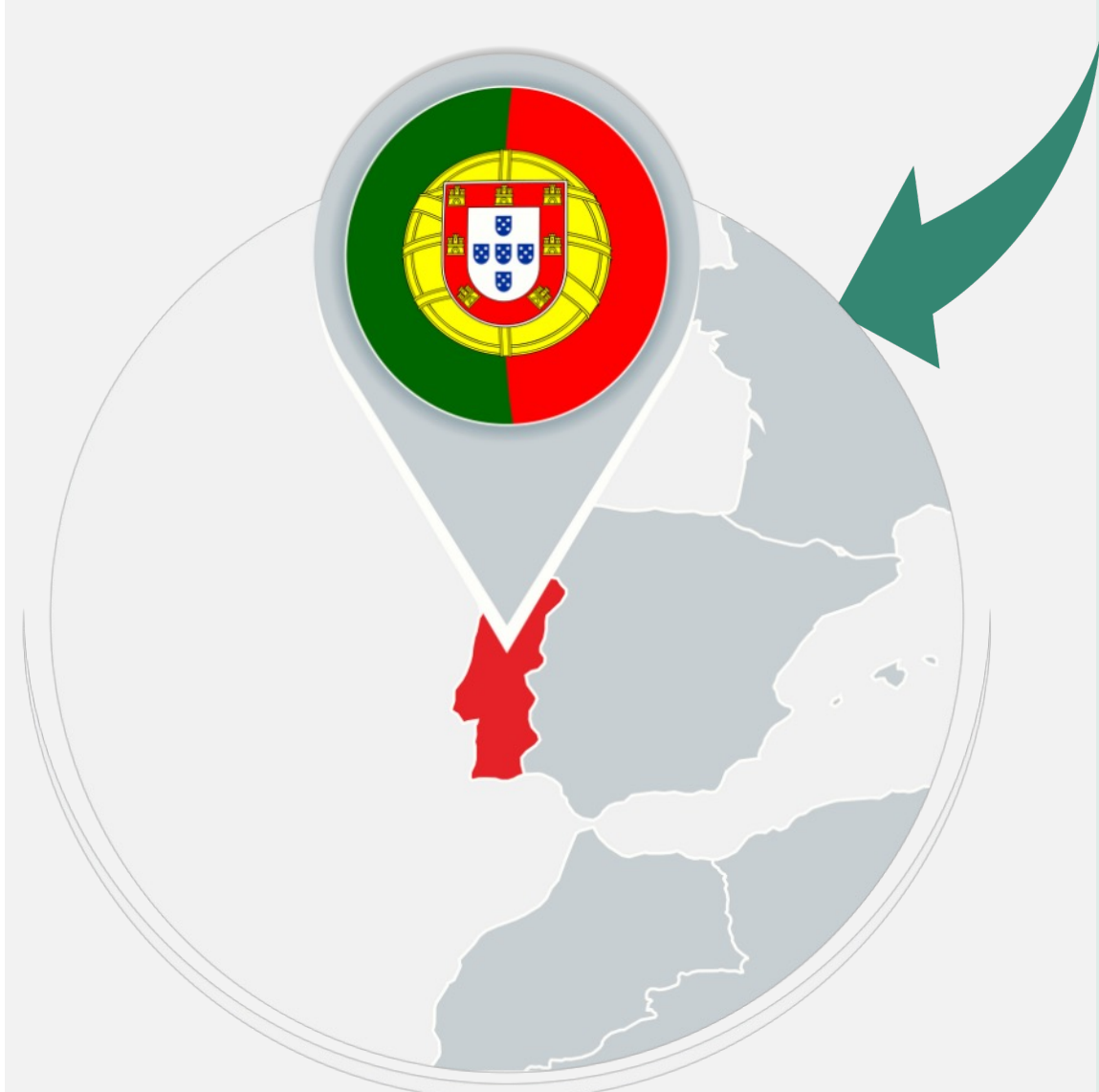
important role in the nutritional composition of plants.

stands out as a distinctive trait within the same species.

GOAL

Explore potential **correlations between phenolic content and seed colour** within the context of a Portuguese common bean germplasm collection.

2 Methods



Portuguese Common Bean collection of **259 accessions** (conserved in the National Germplasm Bank)

Screened for:

1. Colour
2. Content in total phenolics (Folin method – standard gallic acid (GA)).

3 Results



Portuguese **beans with coloured coats** exhibited a **99% higher total phenolic content** compared to those with entirely white coats, suggesting a higher antioxidant activity.

4 Conclusions

- ✓ The collection has high variability in terms of colour and phenolic content and a **correlation between both traits** exists.
- ✓ Future work will include the analysis of antioxidant components (e.g. total flavonoids, total monomeric anthocyanins) along with the total antioxidant capacity.

Acknowledgments

This work was supported by FCT (Portugal) through project LAND (2022.06252.PTDC) and 2022.01903.CEECIND; and by the European Union's Horizon 2020 Research and Innovation Program through RADIANT, Grant Agreement #101000622. We would also like to thank the scientific collaboration under FCT project UIDB/50016/2020