**RESEARCH ABSTRACT**

[**Diversity of resistance sources to *fusarium oxysporum* f. sp. *pisi* found within pea germplasm**](https://www.x-mol.com/paperRedirect/1366164150042587136)  
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**Purpose**

Grass pea is a legume species with recognized resistance to several diseases and thus important for the improvement of related major legume crops. It is infected by the soil-borne fungus *Fusarium oxysporum* f. sp. *pisi* (*Fop*), known as causal agent of pea Fusarium wilt. We aim to identify, among grass pea, new sources of resistance against *Fop* and characterize the detected resistance mechanisms.

**Methods**

A grass pea worldwide collection of accessions was characterized under controlled conditions for response to *Fop* race 2. Fungal colonization dynamics and potential resistance mechanisms were studied through confocal laser scanning microscopy (CLSM) using *Fop* race 2 expressing green fluorescent protein (GFP).

**Results**

A quantitative nature of resistance to *Fop*, ranging from highly to partially resistant and susceptible accessions was detected, with resistance being the most frequent phenotype. Diverse colonization patterns were observed, suggesting the existence of different resistance mechanisms. In the highly resistant accessions, absence of fungal colonization in the vascular tissue was detected, while fungal progression was arrested at the level of roots both in highly resistant and partially resistant accessions.

**Conclusions**

The resistant accessions identified here can be exploited in grass pea breeding for fusarium wilt resistance, and due to the phylogenetic relatedness to pea, potentially contribute to pea improvement.

**Key words:**

**REVIEW ABSTRACT**

1. A contextual sentence about your motivation behind your topic
2. A descriptive statement about the types of literature used in the review
3. Summarize your findings
4. Conclusion(s) based upon your findings