Margherita Crosta

KEY-WORDS:
GENOMIC SELECTION · PISUM SATIVUM · GRAIN YIELD · PROTEIN CONTENT

PROFILE

I am a first-year PhD student in Agricultural Sciences specialized in Plant Genetics and Genomics. In addition to my Phd project, I am involved in research projects concerning soybean and lupin breeding for qualitative and quantitative traits.

AFFILIATIONS

- Council for Agricultural Research and Analysis of Agricultural Economics (CREA)
- Università Cattolica del Sacro Cuore

LANGUAGES

Mother language

Level C1

HOW TO REACH ME

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Reference Contacts

- Director of Research P. Annicchiarico (CREA)
- Prof. A. Marocco (Università Cattolica del Sacro Cuore)

PROJECT TITLE

Development and validation of genomic selection models for pea (*Pisum sativum* L.) grain yield and protein content in Italian environments

Steps of the research

- Genotyping of pea lines from three connected populations of recombinant inbred lines
- Phenotyping of the same pea lines for grain yield and protein content in different years and environments of Italy
- Development of genomic selection models for the prediction of grain yield, protein content, and their combination
- Assessment of genomic selection effectiveness and efficiency with respect to phenotypic selection for the examined traits

Main Results

Information about the potential of genomic selection for the improvement of grain yield and protein content in pea, both in intra- and inter-population, and intra- and inter-environment contexts

Research Contribution

- Validation of genomic selection as an effective and efficient mean in terms of selection time and cost for the improvement of pea grain yield and protein content
- Further insight into the genetic control of pea grain protein content and its genetic relationship with grain yield

Collaborations

Università degli Studi di Perugia. Further collaborations are in course of definition.

Why should you care?

Legume cultivation has the potential for increasing environmental sustainability of agriculture, mainly due to the nitrogen-fixing capacity of these species. Pea showed a remarkable yield potential in Europe, so its genetic improvement has a particular interest for European agriculture in order to meet the internal demand for high-protein feedstuff.