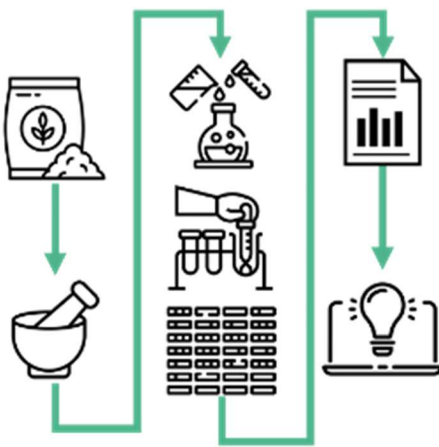


Practice abstract 4.9

Molecular characterization of grains for agrobiodiversity valorization



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CHALLENGE

The development of methods for grain quality determination is of paramount importance for the protection of agrobiodiversity, to ensure the best intended and tailored uses of the single lines concerning the nutritional and technological aspects of derived products.

Molecular tools play a pivotal role in understanding the grain's unique traits, addressing local and traditional grain varieties' genetic diversity and molecular composition. However, there remains limited integration of molecular insights into crop improvement strategies and agricultural practices.

SOLUTIONS

Developing reliable biochemical methods for molecular characterization to assess the grain quality may be the solution to define their suitability for both food and non-food applications.

Creating comprehensive databases, based on molecular characterizations will help in selecting the high-performing varieties, which can then be used to develop new food and non-food products. Integration of molecular insights into precision agriculture systems represents another critical solution.

By harnessing molecular markers for site-specific crop management, farmers can optimize resource allocation and enhance productivity while minimizing environmental impact by choosing the best agricultural techniques, enabling targeted interventions, thereby promoting sustainable farming practices and optimizing crop yields.

OUTCOMES

Molecular characterizations streamline high throughput screening, deepening crop knowledge and highlighting unique properties compared to major crops.

Bromatological and phytochemical analysis informs seed composition, aiding varietal selection and innovative solutions across food and non-food chains.

About CROPDIVA

CROPDIVA wants to put 6 underused arable crops back in the fields: oats, hull-less barley for human consumption, triticale, buckwheat, faba beans and lupins.

27 European partners are joining forces to enhance agrobiodiversity in Europe. They will achieve this by focusing on crop diversity and creating local value chains.



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