

PHYSIOLOGICAL PARAMETERS AS TOOLS TO DISCRIMINATE WATER STRESS TOLERANCE IN PEA VARIETIES

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The success of a breeding programme is determined by the selection of key traits with the most effective and accurate tools for their detection. Classical breeding for drought resistance has been mainly based on empirical selection for yield but this is characterized by a low heritability and a high genotype x environment interaction making it a poor assessment criterion. The use of physiological, biochemical and molecular characteristics which may better reflect lineage productivity is most needed in modern breeding.

In this work we used different parameters to analyze the response to water stress under controlled conditions of different *Pisum* accessions. We also tested their resistance to high light stress and the interaction between this two closely related abiotic stresses in a tolerant and a sensitive accession. Stomata conductance and carbon fixation patterns taken with the CIRAS equipment suggested a ranking in efficiency among accessions that can be refined with then use of a visual scale and the Relative Water Content in soil and leaves, discriminating with this methods the intermediate genotypes. Discriminating efficacy and applicability of each screening methods are discussed.