

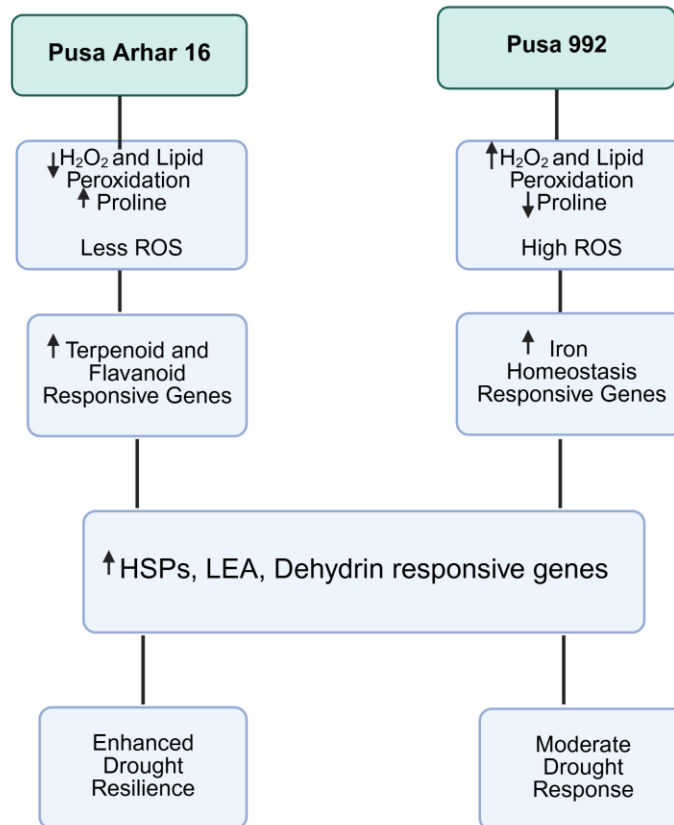


Figure S6- Overview of genotype-specific drought stress responses in pigeonpea. The drought-tolerant genotype Pusa Arhar 16 (PA16) shows reduced H₂O₂ and TBARS levels, increased proline accumulation, and activation of terpenoid and flavonoid biosynthesis genes, resulting in enhanced drought resilience. In contrast, the drought-sensitive Pusa 992 displays elevated ROS and TBARS, reduced proline, and upregulation of iron homeostasis-related genes, reflecting a moderate drought response. Both genotypes exhibit upregulation of shared stress-responsive genes including HSPs, LEA proteins, and dehydrins, indicating core drought defense mechanisms.