LEVERAGING THE MAIZE ABA SIGNAL TRANSDUCTION NETWORK TO IMPROVE WATER USE EFFICIENCY
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Abscisic acid (ABA) contributes to both plant development and plant response to the environment. Its functionality includes regulating the onset and maintenance of seed dormancy, and signaling response to changes in plant water status. Its central role in plant water relations makes ABA perception and signal transduction ideal targets for managing plant response to changes in water status. Recent work in Arabidopsis shows that ABA signal transduction can be modulated in several ways that include altering ligand specificity of the ABA receptor, identifying new ABA agonists and manipulating ABA receptor PP2C interaction. We determined that maize ABA receptors and protein phosphatase 2Cs (PP2Cs) appear to have some overlap, in both structure and function, with their Arabidopsis counterparts. We also developed a semi-automated platform to assess plant water use. Our objective is to leverage ABA signal transduction to improve crop performance. Progress to date will be presented.