Investigating Stem Cell Regulation Through the Novel ‘Disking’ Phenotype in *Arabidopsis thaliana*

Plants cannot reproduce or bear fruit without functional flower production, which comes from the production of stem cells. Some of these stem cells differentiate and produce flower tissue, among other key components. Understanding how plants control stem cell proliferation is integral in feeding our growing society. We study this pathway in the model plant, *Arabidopsis thaliana*. CLV and BAMs are a class of LRR receptor kinases that are known to regulate the growth and proliferation of stem cells.[1] CLE ligands perform this same function by binding to CLV receptors. In previous experiments, I discovered a disadvantageous ‘disking’ phenotype by knocking out some of these key receptors. To determine if CLE25 signals through BAM3, I generated a *clv1 bam1 cle25* mutant and brought it to the F3 generation. To determine if CLV3 signals through CLV1BAM1, I generated a *clv1bam1 clv3* mutant. This plant displayed a phenotype very similar to *clv3*, suggesting that CLE25 may signal through BAM3.