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## **Efficient agrobacterium-mediated transformation of maize (*Zea mays*) inbred**

It is highly desirable to be able transformation maize inbred using *Agrobacterium tumefaciens*-mediated transformation. This is because maize inbred possesses homogenous genetic background that is easy to be maintained and studied genetically. Also most of elite maize genotypes are inbred and therefore genetic improvement of these inbred lines will directly benefit maize trait improvement. With the advent of crop post-genome era, it is even more desirable to be able to transform maize inbred efficiently for functional genomics study in maize. However, over the past decade, maize inbred transformation has been extremely low and become a bottleneck hindering maize functional genomics study in public transformation laboratories. Therefore, we propose an internship research project to develop efficient *Agrobacterium*-mediated transformation in maize inbred H99. The H99 not only represents elite public maize inbred lines with excellent agronomical traits but also has shown uniquely high frequency regeneration via somatic embryogenesis in our recent preliminary experiments (Kennon A and Zhang Z, unpublished). Thus, this inbred holds a great promise in achieving efficient *Agrobacterium*-mediated transformation and therefore should be an ideal genotype to work with. This project emphasizes on evaluating the impact of various types of medium, specifically modified N6 (Chu, 1978) or MS (Murashige and Skoog, 1962) in combination with N6, on maize regeneration and transformation. The success in this project shall provide a major breakthrough in maize inbred transformation mediated by *Agrobacterium tumefaciens* and lay a good foundation for maize trait improvement and functional genomics study.