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## Pepper transformation: reproducible and applicable to any genotypes

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### Objectives

To obtain a successful transformation system for pepper plants

### Materials and Methods

1. Material: Pepper inbred lines

*Agrobacterium* strain: EHA105, EHA101

2. Methods: *Agrobacterium* mediated transformation by CIT (Callus induced transformation)

### Results and Discussion

Pepper is known as a difficult plant to transform and has resisted the efforts of many laboratories for many years. To obtain a successful transformation system for pepper plants, we modified an infection procedure by *Agrobacterium*. The callus should be induced first then transformed so that the callus is able to grow and generate shoots. Use of callus as a target tissue for infection enhanced the infection rate of *Agrobacterium* into pepper tissue. It also eliminated shoots grown from explant (direct) and saved shoots grown from calli (indirect). These indirect shoots grown from the callus showed a high probability of being transformed. It is called as callus induced transformation (CIT) and the transformation rate was ranged from 0.5-1.0%. We have applied this method to 15 different inbred lines and this method is reproducible and applicable to any genotypes. To monitor the transformation efficiency, *GFP* expression levels were observed at various organs and developmental stages. Here, we present the GFP expression in a whole pepper plant for the first time.

