Developing novel methods for gene editing in trees

Ben Sivan

Introduction

Trees and their vital role as a source for food security

Introduction

Classical plant improvement methods for trees on a human time scale

Introduction

Genetic modification as a viable solution for trees improvement

Introduction

Exogenous DNA delivery methods

Introduction

Site-specific endonucleases

Introduction

Advance genetic Editing technologies

Hypotheses

1. By infecting young plants with *Agrobacterium tumefaciens* harboring T-DNA that contains DRs, CRISPR/Cas9 and sgRNA, it is possible to achieve de-novo shoot regeneration with knockout at the target gene.
2. By infecting Cas9-OE plants with viral vector bearing sgRNA targeting endogenous gene, a tissue containing a knocked-out targeted gene will be obtained.

Experiments layout

Results

Discussion and Conclusions