

## Effect of ectopic expression of the eutypine detoxifying gene Vr-ERE in transgenic apple plants

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R�sum� en anglais	<p>The development of alternative selection systems without antibiotic resistance genes is a key issue to produce safer and more acceptable transgenic plants. Eutypine is a toxin produced by <i>Eutypa lata</i>, the causal agent of eutypa dieback of grapevine, which is detoxified in mung bean (<i>Vigna radiata</i>) by the gene Vr-ERE. Many phytotoxic compounds containing an aldehyde group can act as substrates for the Vr-ERE enzyme. The aim of the present work was to evaluate the effects of the overexpression of Vr-ERE in transgenic apple plants, as a first step towards the development of an alternative selection system. Viable transgenic apple clones expressing Vr-ERE were produced from the cultivar Greensleeves under kanamycin selection. Although the Vr-ERE transgene was normally expressed at the RNA and protein levels, the increase in aldehyde reductase activity tested on a range of potential substrates was very low in these clones. None of them revealed a significant increase in tolerance to toxic aldehydes compared to their non-transgenic control. This work with transgenic apple plants overexpressing the detoxifying gene Vr-ERE illustrates some of the difficulties in developing an alternative selection pressure.</p>
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