

#45: Ferulates in cell walls of forage grasses – their significance for wall growth
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The cell wall and its components play a major role in plant life as well as the nutrition of farm animals. Ferulic acid is a major component of cell walls and its role in grasses such as *Festuca*, reduce the grass' degradability and therefore hinders its potential as a bioenergy production source. Studying the significance of ferulate cross-linking on plant development, and manipulating the degradability of the cell wall may potentially lead to a new source of biomass in bioenergy production.

In these experiments we are comparing control *festuca* to transgenic lines that have a ferulic acid esterase (FAE) introduced into the apoplast. We have studied the effect of this esterase on Ferulic acid activity levels, cell wall composition and the effect on plant growth. Compared to control lines, these transgenic lines show differences in FAE activity level, esterified ferulates and diferulate levels, and overall plant growth.