Title	Microbial growth in fresh-cut lettuce can increase when wound-induced phenolic accumulation is suppressed
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Abstract

Wounding lettuce (*Lactuca sativa L. longifolia*) leaves stimulates the increased synthesis and accumulation of phenolic compounds. Chlorogenic acid accumulates in excised lettuce leaf tissue held at 10°C for 2 days. The growth of five lettuce pathogens on TSA (Tryptic Soy Agar) media was not markedly reduced when it contained concentrations of chlorogenic acid that accumulated in wounded lettuce. Growth of *Erwinia carotovora* and *Pseudomona* fluorescens was stimulated when prepared with TSA media containing homogenized non-wounded lettuce mid-rib tissue, while the increase was much less when the media was prepared with 5-mm thick mid-rib tissue segments that were held for 2 days at 10°C after excision. Inhibiting the wound-induced increase in phenolic content in 2-day-old lettuce with prior 1-hexanol or heat-shock treatments allowed significantly greater growth of *Erwinia carotovora* compared to growth on media prepared with non-treated tissue. Neither the hexanol or heat-shock treatment made the excised lettuce tissue a better substrate for microbial growth. Rather, it appears that treatments that suppress wound-induced increases in phenolic compounds reduce the ability of excised lettuce tissue to suppress the growth of lettuce pathogens through the induced production of anti-microbial phenolic compounds.