# Systemic defense induction by volatiles renders plants susceptible to manipulation by insect herbivores

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Upon herbivore attack, plants can induce systemic defenses through both vascular and volatile signals. So far, the relative contribution of the two pathways and the capacity of herbivores to interfere with them remains unclear. We quantified the contribution of herbivore-induced plant volatiles (HIPVs) to systemic defense induction in maize and tested to what extent herbivores can interfere with volatile mediated defense. We monitored real-time volatile emissions and measured phytohormone levels of systemic tissues following wounding. We assessed the role of volatile signals by mechanically blocking HIPV transmission. We then evaluated the contribution of Green Leaf Volatiles (GLVs) as systemic signals using a GLV biosynthesis mutant and synthetic complementation. Finally, we investigated how *Spodoptera* oral secretions (OS) influence systemic signaling during simulated herbivory. We found that systemic induction of plant volatiles can be fully explained by GLV signaling, without the need for vascular signals. Systemic responses were suppressed when volatiles were mechanically blocked and when GLV biosynthesis was impaired. *Spodoptera* OS reduced systemic induction of plant volatiles by reducing GLV emissions at the feeding site. Our results identify GLVs as primary systemic signals in maize and demonstrate that herbivores can attenuate systemic defense activation by interfering with GLV signaling during feeding.