

Strigolactones as signalling compounds in the rhizosphere

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In the rhizosphere a multitude of communication processes takes place, however, although many substances released by plant roots have been identified, only relatively little data are available on their possible function as signalling compounds in the rhizosphere. Strigolactones are apocarotenoids exuded by roots in extremely low concentrations and stimulate the seed germination of the parasitic weeds *Striga* and *Orobancha*. Recently, strigolactones have been identified to act also as important signalling molecules for the establishment of the arbuscular mycorrhizal (AM) symbiosis due to their activity on AM hyphal branching. Moreover, due to their role as plant hormones regulating shoot branching, strigolactones have been suggested to be present in all plant species. This ubiquitous presence of strigolactones in plants could mean that these compounds not only play a signalling role in the interaction between plants and parasitic plants (such as *Striga* and *Orobancha*) and plants and AM fungi, but are more general signalling compounds in rhizospheric plant-microbe interactions. Presenting recent results on the role of strigolactones in rhizospheric plant-microbe interactions we will discuss this hypothesis.

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