

We discovered serendipitously a new and highly effective intervention against *Striga* spp., including *Striga hermonthica* (African witchweed), in cereals, which involves intercropping with cattle fodder legumes, *Desmodium* spp., including *D. uncinatum*. Although soil shading and additional nitrogen made some contribution to the reduction of *S. hermonthica* infestation, an allelopathic mechanism associated with the intercrop was a major factor. Root exudates of *D. uncinatum* contain novel flavonoid compounds, some of which stimulate germination of *S. hermonthica* and others dramatically inhibit its subsequent development, including radicle growth. *Desmodium* spp. have been developed as intercrops for both maize and sorghum and are now being evaluated for millet. From the experience with *Desmodium* spp., there is now the possibility for producing edible legumes suitable for intercropping with maize and other cereals to respond to a broader profile of farmer practices. These legumes would incorporate the powerful *S. hermonthica* controlling properties of *D. uncinatum* through feasible breeding programmes, with appropriate contributions from analytical chemistry to plant molecular genetics and biotechnology. In the longer term, it may also be possible to transfer genes associated with the allelopathic attributes to cereals themselves by heterologous gene expression, creating a new generation of parasitic weed-free cereals.