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Ability of excised root and stem pieces of maize, cowpea and soybean to cause germination of *Striga hermonthica* seedsAlphonse M Emechebe , Monday O Ahonsi¹ [+ Show more](#)

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Abstract

High variation in results from *Striga hermonthica* experiments is common. The cut-root assay for in vitro screening of host and non-host plant cultivars for germination of *S. hermonthica* is particularly insensitive. In this study, some factors of the cut-root technique that could effect significant variation in germination percentage of a population of *S. hermonthica* seeds induced by the same crop cultivar were studied. It was found that excised pieces of both root and stem of maize (hybrid var 8338-1), cowpea (var IT81D-994) and soybean (var TGx 1448-2E) stimulated the germination of *S. hermonthica* seeds. Germination percentages obtained with maize and cowpea stem pieces were significantly higher than those produced by root pieces. Moistening filter paper on which conditioned *Striga* seeds were subjected to germination stimulants with 5 ml of distilled water resulted in significantly higher germination of the parasite's seeds induced by stimulants from both maize and soybean, than adding 3 ml of water, regardless of the plant part tested. Starting germination stimulant extraction immediately after cutting plant parts gave significantly higher germination percentage of *S. hermonthica* seeds than starting 3 h later, regardless of crop species and plant part tested. Conditioning *S. hermonthica* seeds and subsequent extraction of germination stimulant with non-sterile water generally resulted in higher germination percentage of *S. hermonthica* seeds than with sterile distilled water. These results are discussed and suggestions made about how to reduce variability of results of the cut-root method of in vitro assaying of germination stimulant production by hosts and trap crops of *S. hermonthica*.

Keywords

Striga hermonthica; Germination stimulants; Trap crops; In vitro technique; Suicidal germination

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