

Symphyla - a new threat to cotton

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During the 2008/09 season, a number of cotton fields in Theodore had problems with seedling establishment in areas where large numbers of symphyla were present. Plants also showed signs of water stress and the roots displayed a distinctive branching pattern known as a 'witch's broom'.

Symphyla (*Hanseniella* sp.) are soil-dwelling creatures that normally feed on decomposing organic material. There are no reports worldwide of symphyla causing damage to cotton. However a DAFF Entomology pot trial found that when symphyla are present at planting they:

- Prevent seed germination which leads to poor plant establishment
- Damage the tap root and impede root growth
- Make the plant more vulnerable to diseases (e.g. Fusarium) due to damaged roots

Regular reports of symphyla damage in the Theodore cotton region indicate that it continues to be an annual pest. Therefore further trials investigating the management of symphyla will be conducted. Trials will address:

- Basic biology questions
- Early season management options (e.g. press wheels)
- Insecticide control (e.g. seed treatment and in-furrow insecticide application)



Symphyla (above) normally feed on decomposing organic material but have become an annual pest in cotton in Theodore.



Fields infested with symphyla had poor plant establishment and plants displayed signs of water stress (above).



Plants infested with symphyla (left) did not germinate and had stunted root systems. Feeding damage was visible on the roots providing entry points for disease.



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