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Research to improve management of Rhizoctonia bare-patch and root lesion nematode in wheat

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Key messages
Paddocks with a high root lesion nematode risk should be sown to non-host crops/pasture where possible. If planted to wheat, the current management practice for Rhizoctonia is to cultivate below the seed (~10cm) at the time of sowing and the use of a registered fungicide seed treatment

Background
Rhizoctonia solani (Rhizoctonia bare-patch) and Pratylenchus neglectus (root lesion nematode; RLN) present a significant problem in many cereal growing regions in WA. Often they occur together in a paddock complicating the management and control of each disease. Currently Dividend ® is the only fungicide available for either of this diseases; it is registered for suppression of R. solani, but it does not offer “complete” control. There is no registered chemical for the control of P. neglectus in broadacre crops. The most effective management options for a paddock infested with both pathogens are combinations of adequate nutrition, deep cultivation for rhizoctonia and rotation with non-host crops/pasture for RLN.

We are currently conducting research to determine the efficacy of current and potential management options, including in-furrow chemical options, to control Rhizoctonia and RLN in wheat.

Results
• Root weight (dry) at anthesis was higher for the treatment with both Dividend® and deep cultivations for both wheat varieties (but especially for Wyalkatchem) compared to the Nil treatment. It is not known whether this result would have translated to a yield gain had the plots been harvested.
• There was no difference for any treatment in seedling emergence and disease on primary and crown roots at both the seedling and anthesis assessments.