JOINTED GOATGRASS - A MAJOR EXOTIC THREAT TO THE AUSTRALIAN WHEAT INDUSTRY

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Jointed Goatgrass (Aegilops clyndrica) was identified as a threat to wheat under the Grain Guard initiative. It is a devastating weed of winter wheat in the USA where it has been described as “the AIDS of the wheat industry”. It is not known to be naturalised in Australia and is Prohibited entry to Australia. However it is used by wheat breeders, under strict quarantine conditions, as a source of genetic material.

Jointed Goatgrass, or JGG, is well suited to Australia, particularly the Mediterranean climate of WA. The predicted distribution for JGG in Australia centres on a strip of wheat country extending roughly from Northam to Northampton.

JGG infests 5 million wheat acres and 2.5 million acres of fallow land across the US and is spreading at a rate of 50,000 acres per year. JGG costs US wheat producers $145 million annually due to reduced yields (up to 70% yield loss), increased dockage, loss of export market, increased tillage requirements, long rotations to less profitable crops or fallow and decreased land value.

JGG and wheat are so closely related they readily hybridise and there is no effective way to control JGG selectively in wheat. JGG proliferates under minimum tillage systems. It looks like wheat, so the problem may not be identified for some time. The seed remains viable for five years and has been introduced to new areas by harvesters, sowing contaminated wheat and seeds blown from grain trucks. JGG is more frost tolerant, more drought tolerant and more competitive than wheat. One plant can produce up to 135 tillers. It harbours wheat diseases and pests such as the Russian wheat aphid.

The Australian wheat industry is worth over $5 billion. It is clear that JGG would have a dramatic impact on wheat production if it naturalised in Australia. As well as reducing yields and increasing costs, its presence could affect export markets. Risk assessment led to it being declared P1, P2 (eradication) by the Agriculture Protection Board of Western Australia.

For more information, see the JGG homepage <www.ianr.unl.edu/jgg/index.htm>