

Germination ecology of resistant and susceptible populations of barnyard grass (*Echinochloa colona* (L.) Link.) collected from Queensland

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Summary Barnyard grass is the most prevalent summer weed in the northern grain region of Australia occupying the regional ranking of 1 in terms of yield loss and revenue. Barnyard grass is highly competitive, prolific in nature and difficult to control by commonly used herbicides in Australia. Here, barnyard grass has developed resistance to glyphosate and other groups of herbicides. For effective weed management, it is important to understand the seed germination ecology of herbicide-resistant and susceptible populations of barnyard grass. Therefore, laboratory experiments

were conducted to evaluate the effect of temperature, light, salinity, pH, soil burial depth and the amount of sorghum crop residue on germination and emergence of glyphosate-resistant and susceptible populations of barnyard grass. The research findings from this study may help growers in developing appropriate weed management strategies for barnyard grass.

Keywords Weed biology, seed germination, burial depth, osmotic potential, integrated weed management.