

Understanding the mechanisms of 2,4-D resistance in *Sonchus oleraceus* (common sowthistle)

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Summary Common sowthistle is an increasingly problematic weed in fallows and legume crops. This species has evolved resistance to Group B herbicides and glyphosate across Australia leading to an increase in the reliance on Group I herbicides for control. Failure of 2,4-D to control common sowthistle was reported at several sites in South Australia in 2015.

Dose response experiments showed these populations were resistant not only to 2,4-D, but across all Group I herbicides tested. Studies have been undertaken to determine the mode of inheritance to 2,4-D and the mechanism of 2,4-D resistance in these populations.

Keywords Common sowthistle, Group I herbicides, 2,4-D, inheritance.