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**Comparison of ALS functionality and plant growth in  
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susceptible and resistant *Myosoton aquaticum* L.**

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**Abstract**

Herbicide target-site resistance mutations may cause pleiotropic effects on plant ecology and physiology. The effect of several known (Pro197Ser, Pro197Leu, Pro197Ala, and Pro197Glu) target-site resistance mutations of the ALS gene on both ALS functionality and plant vegetative growth of weed *Myosoton aquaticum* L. (water chickweed) have been investigated here. The enzyme kinetics of ALS from four purified water chickweed populations that each homozygous for the specific target-site resistance-endowing mutations were characterized and the effect of these mutations on plant growth was assessed via relative growth rate (RGR) analysis. Plants homozygous for Pro197Ser and Pro197Leu exhibited higher extractable ALS activity than susceptible (S) plants, while all ALS

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