# Resistance of weed species *Amaranthus retroflexus* L. to ALS inhibitors

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**Abstract**

In intensive agricultural production, weed herbicide resistance is becoming an increasing problem. Frequent use of herbicide of the identical action mechanisms leads to selection of resistant weeds and elimination of susceptible biotypes. Until now, a total of 426 cases of resistance occurrence have been determined worldwide. Currently, resistance to ALS – inhibitors has been recorded in 143 weed species. So far, in the Republic of Serbia herbicide resistance has been confirmed on several locations to triazine herbicides for the following weed species: *Abutilon theophrasti* Medic., *Amaranthus retroflexus* L., *Chenopodium hybridum* L., *Setaria viridis* (L) Beauv., as well as to ALS inhibitors: *Amaranthus retroflexus* L., *Datura stramonium* L. and *Echinochloa crus-galli* L. on several locations. During 2013 resistance research has expanded to other sites of Serbia. Resistance of weed species *Amaranthus retroflexus* L. to the active ingredient nicosulfuron was tested in laboratory conditions. Seeds of *Amaranthus retroflexus* L. were collected from maize crop at locality Kovin, from soybean crop at locality Budisava and from ruderal site, i.e. control at locality Begeč. In the study herbicide nicosulfuron was applied in a range of herbicide rates of 20; 30; 40; 50 and 100 g a.i./ha. Statistically significant difference was not found in epicotyls and hypocotyls lengths of seeds from locality Kovin, whereas in seeds hypocotyls and epicotyls lengths of weed species *Amaranthus retroflexus* L. from locality Budisava, statistically significant difference was established in comparison to the control.

Key words**:** resistance, ALS inhibitors, *Amaranthus retroflexus* L., herbicides, nicosulfuron

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