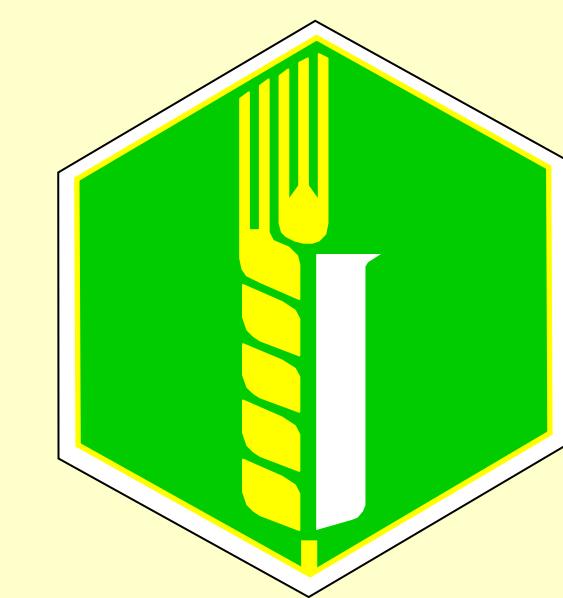


Hybrid of *Rumex patientia* × *Rumex tianschanicus* (*Rumex* OK-2) - a new invasive weed in Central Europe

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Background

Most of broad-leaves *Rumex* species are troublesome weeds. *Rumex* OK-2 is a hybrid dock of *R. patientia* L. and *R. tianschanicus* A. Los. It was bred in Ukraine by prof. Uteush for forage and energetic use. This taxon has recently been introduced into other European Countries. In the Czech Republic, *Rumex* OK-2 has been planted since 2001 mostly like an energetic crop (biofuel). It can potentially become a new invasive weed species, because the escape of *Rumex* OK-2 plants from cultivation into surrounding grassland has been recorded. Therefore we conducted field studies for recording the dynamic of its expansion. The field survey showed the expansive spreading of the *Rumex* OK-2 from former field especially along roadside ditches. Consequently we established several pot experiments to obtain knowledge about its ecological characteristics and then compared them with other broad-leaved *Rumex* species.

Experiment I - Effect of cutting frequency on above- and below-ground biomass of *Rumex alpinus*, *R. crispus*, *R. obtusifolius*, and forage hybrid *R. patientia* x *R. tianschanicus* in the seeding year

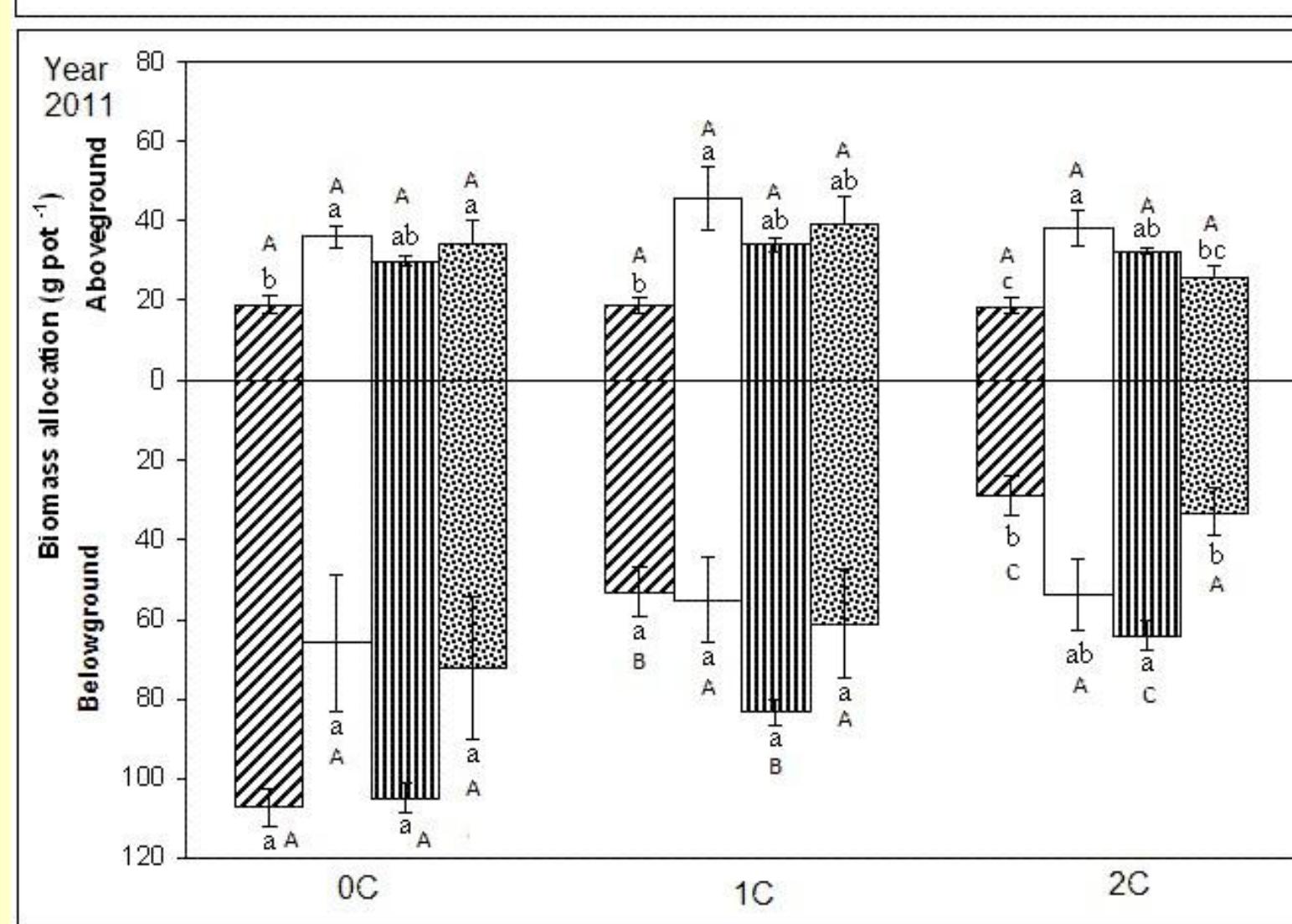
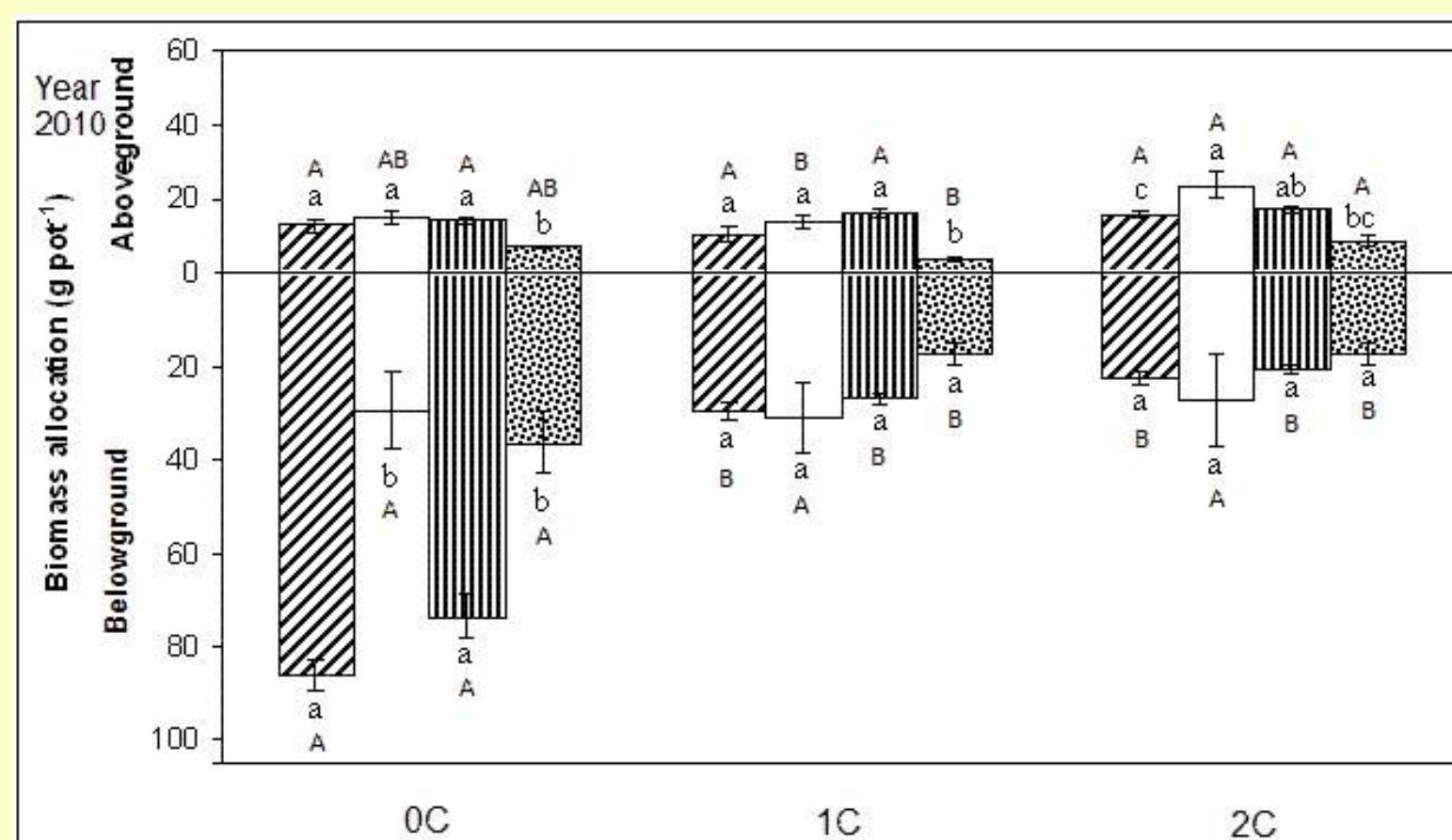
Materials & Methods

Growing in pots – diameter 30 cm in bottom and 40 cm in upper diameter

Treatments: no cut (0C)

one cut in July (1C)

two cuts in July and August (2C)



Results

The aboveground and belowground biomass responses of *Rumex* OK-2 to cutting were very similar to *Rumex* *crispus*

Rumex OK-2
 R. obtusifolius
 R. crispus
 R. alpinus

Experiment II - Dynamics of belowground biomass of *Rumex* *crispus*, *R. obtusifolius*, and the new weedy species *Rumex* hybrid cv. OK-2 (*R. patientia* x *R. tianschanicus*) in the seeding year

Materials & Methods

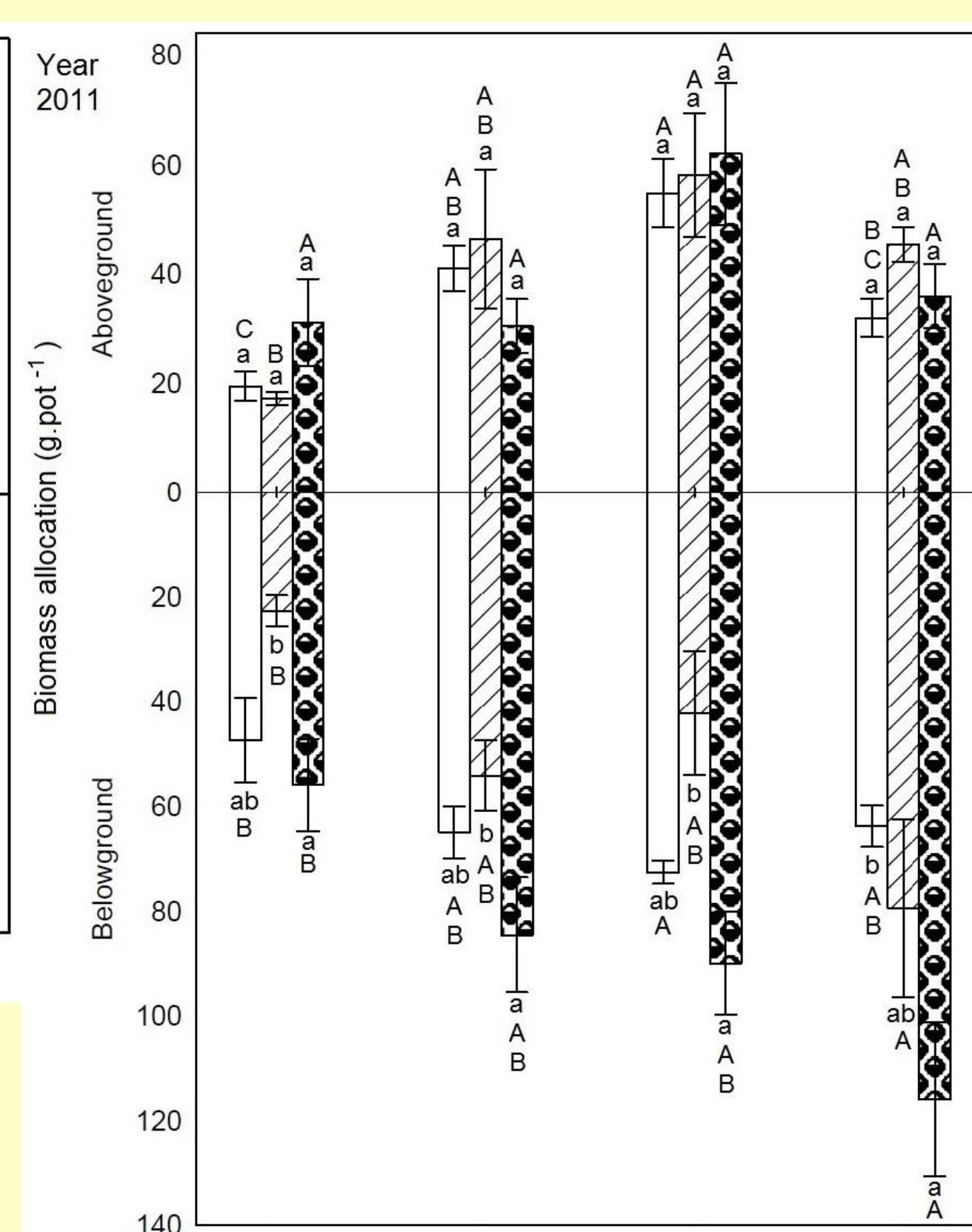
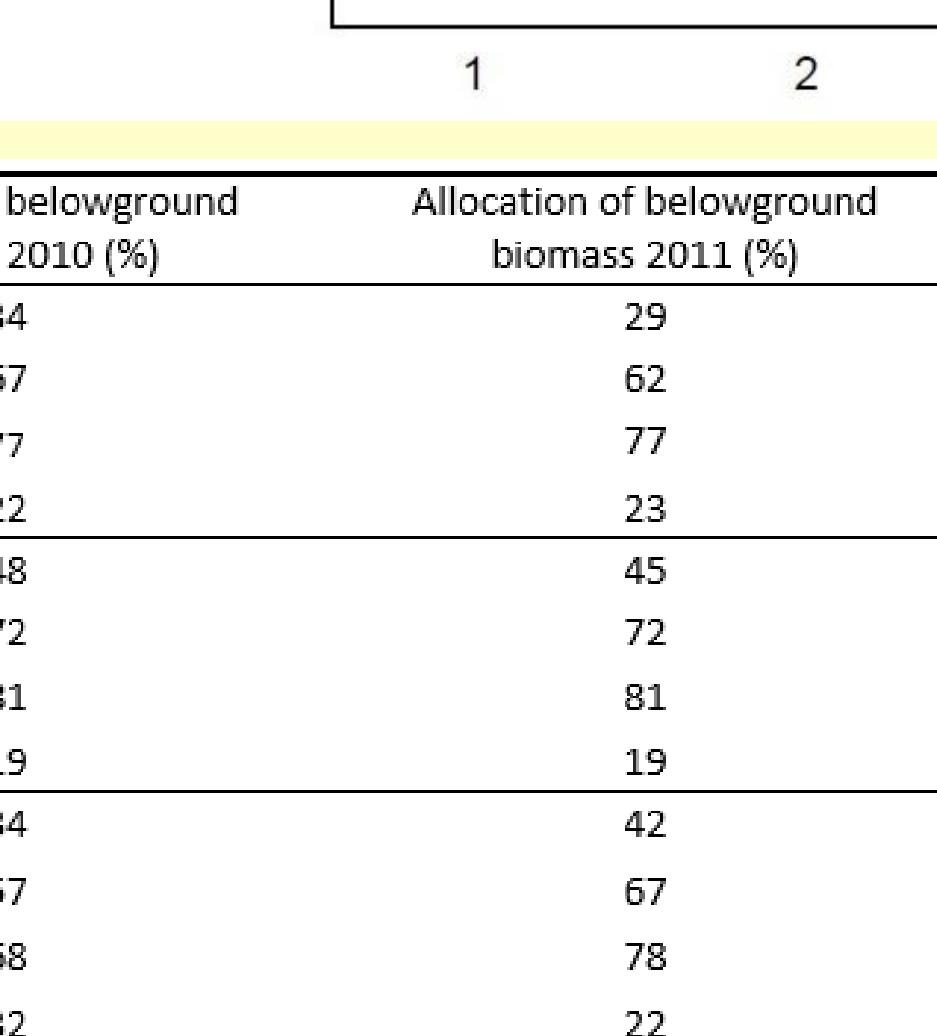
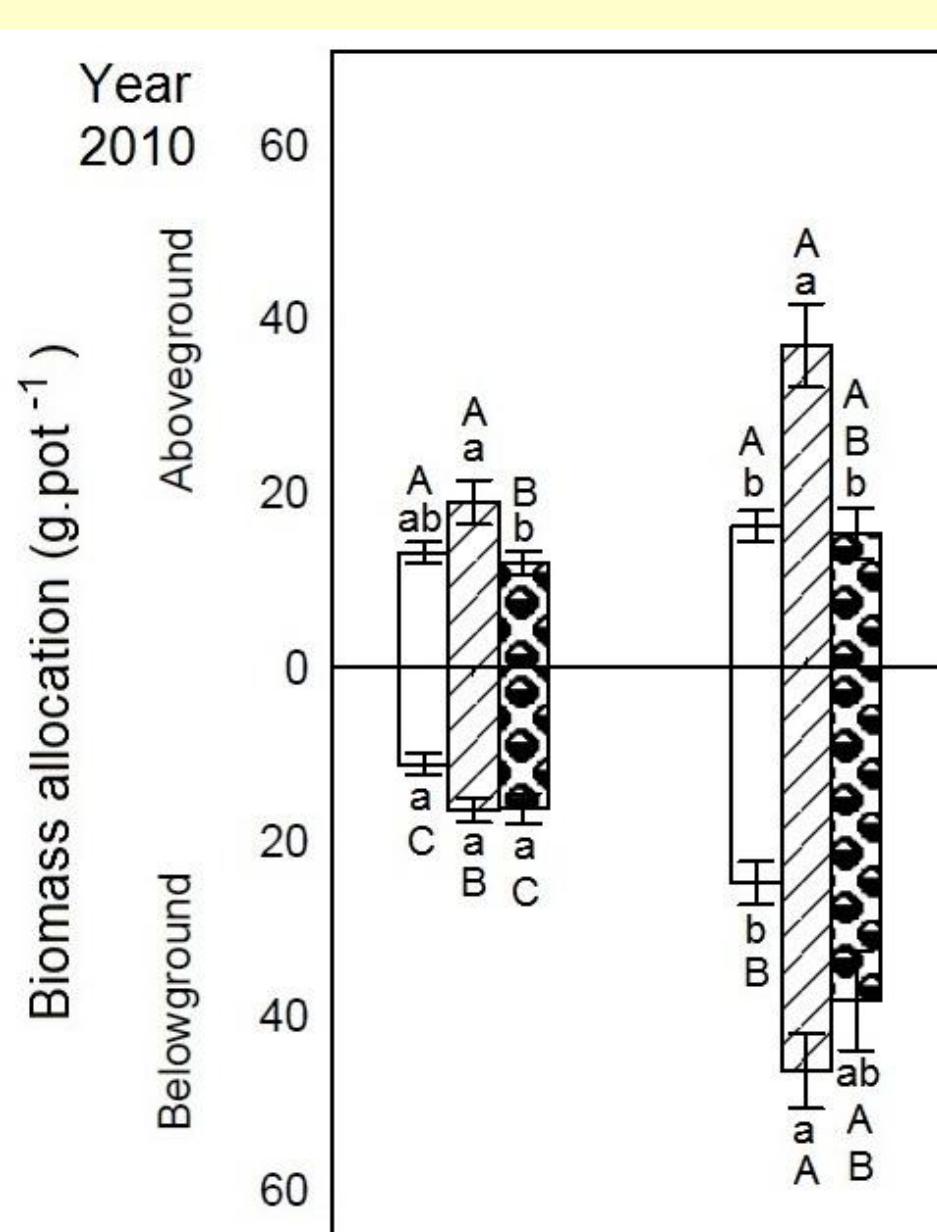
Sowing

- May 2010, 2011

Transplanting seedlings

- June 2010, 2011

- pots - Ø 19.5 cm
height of 150 and 200 cm



R. crispus
 R. obtusifolius
 Rumex OK-2

Treatments:

Harvesting dates (7.,8.,9.,10. months)

Results

The growth dynamics and allocation of belowground biomass of *Rumex* OK-2 was more similar to *R. crispus* than to *R. obtusifolius*

Depth	Species	Allocation of belowground biomass 2010 (%)	Allocation of belowground biomass 2011 (%)
0 - 10	Rumex OK-2	34	29
10 - 20		67	62
20 - 30		77	77
30 - 100		22	23
0 - 10	R. crispus	48	45
10 - 20		72	72
20 - 30		81	81
30 - 100		19	19
0 - 10	R. obtusifolius	34	42
10 - 20		57	67
20 - 30		68	78
30 - 100		32	22

Conclusion: The growth characteristics of *Rumex* hybrid cv. OK-2 are very similar to *R. crispus*

Acknowledgement

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