

Cotoneaster horizontalis on calcareous grasslands in Belgium : from ornament to management

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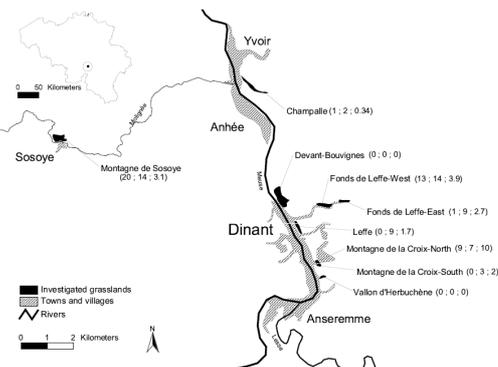
Why ? Calcareous grasslands : • among the most species-rich habitats in Western Europe • have strongly decreased since the end of the 19th century

C. horizontalis : • included in the black list of invasive species in Belgium • alters the composition and structure of different calcareous grassland communities in other countries

Invasion status on calcareous grasslands

Method

Field survey : count of *C. horizontalis* individuals.



Assessment on calcareous grasslands : 7 invaded sites out of the 9 investigated. (small individuals; large individuals; density/ha)

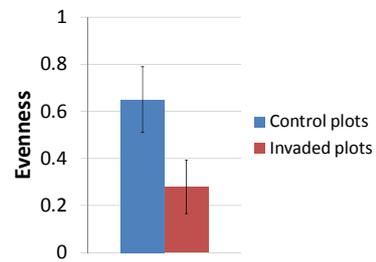
Impacts

Method

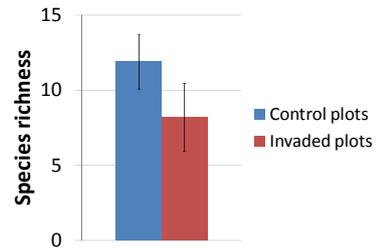
Comparing native species occurrence, species richness and evenness between invaded and uninvaded plots

Species	Invaded n = 15	Control n = 28	
<i>Allium sphaerocephalon</i>	0.00	0.36	**
<i>Bromus erectus</i>	0.60	0.89	*
<i>Festuca lemniai</i>	0.33	0.89	***
<i>Globularia bisnagarica</i>	0.13	0.39	°
<i>Lactuca perennis</i>	0.00	0.43	**
<i>Sanguisorba minor</i>	0.60	0.86	°
<i>Sedum album</i>	0.07	0.36	°
<i>Seseli libanotis</i>	0.13	0.39	°

Native species occurrence is significantly affected by the presence of *C. horizontalis* for 4 species and marginally affected for 4 other species.



Evenness is significantly lower on invaded plots.



Species richness is significantly lower on invaded plots.

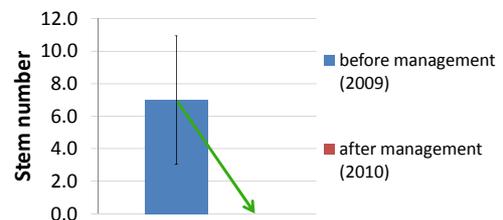
Management tests

Method

Tests of mechanical and chemical techniques in the field and measurements of efficiency, cost and feasibility.



Barking and application



Cut stump application is the most efficient method after one year.
efficiency : 100%
yield : 4,3 individuals/hour.man
cost : 36,9 €/10individuals



Pulverization



Cut and burn



Repeated cut



Cut stump application*

For more information, ask for a copy!

* herbicide compound of 450g/L of glyphosate acid form diluted 32-36 times

Take home message

- The naturalization process of *C. horizontalis* in Belgian calcareous grasslands is effective.
- Calcareous grasslands communities are affected by the presence of *C. horizontalis*.
- The best management method on short term is to cut and paint with herbicide.
- *C. horizontalis* is still present in 53% of the sale catalogs of horticulturists in Southern Belgium : propagules are continuously provided.

