FORRISK

Final technical meeting

9th September, 2014
Bilbao

Task: WP 3.1.1 – Ecological control

Experimental hedgerows traps for *Gonipterus platensis* to protect the interior of *Eucalyptus stands*

Participants:

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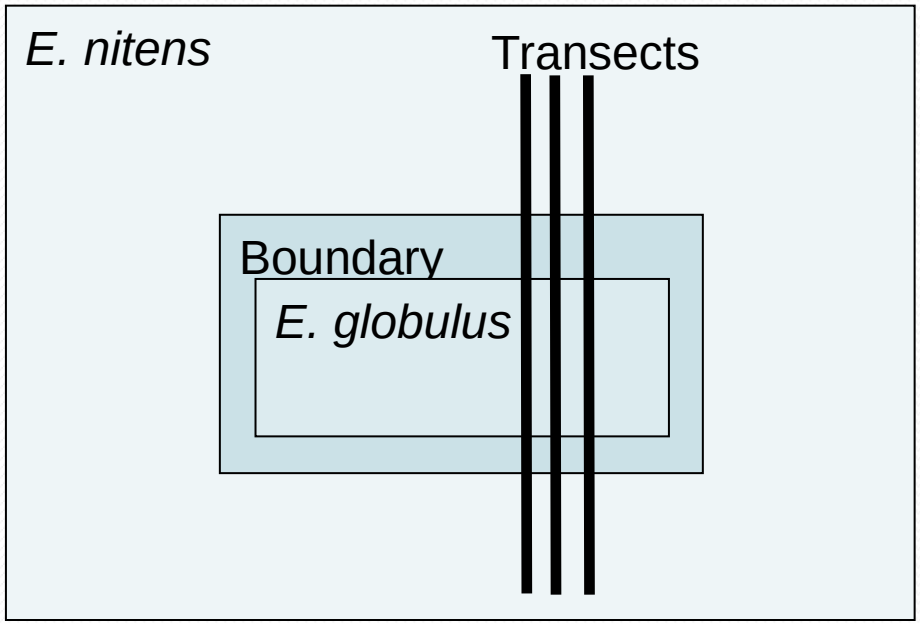
Objectives:

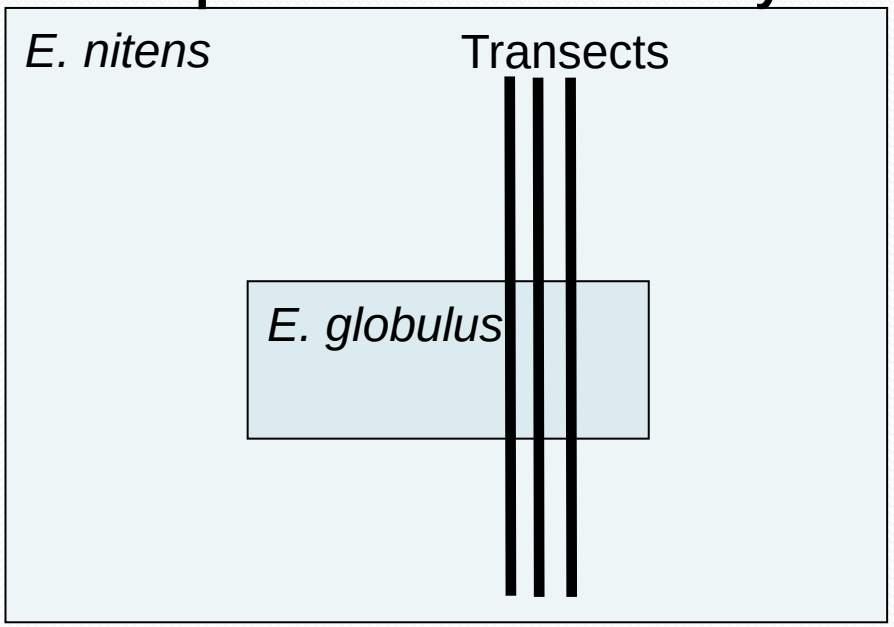
- Is the ecological control (Push & Pull strategy) using a boundary trap (attractive genotype) effective to control *G. platensis?*
- Can it be an alternative to reduce the use of insecticides*?*

Material and Methods

2 plots with boundary



2 plots without boundary



Boundary - YG15 – attractive clone (*E. globulus* X *E. cypellocarpa*)

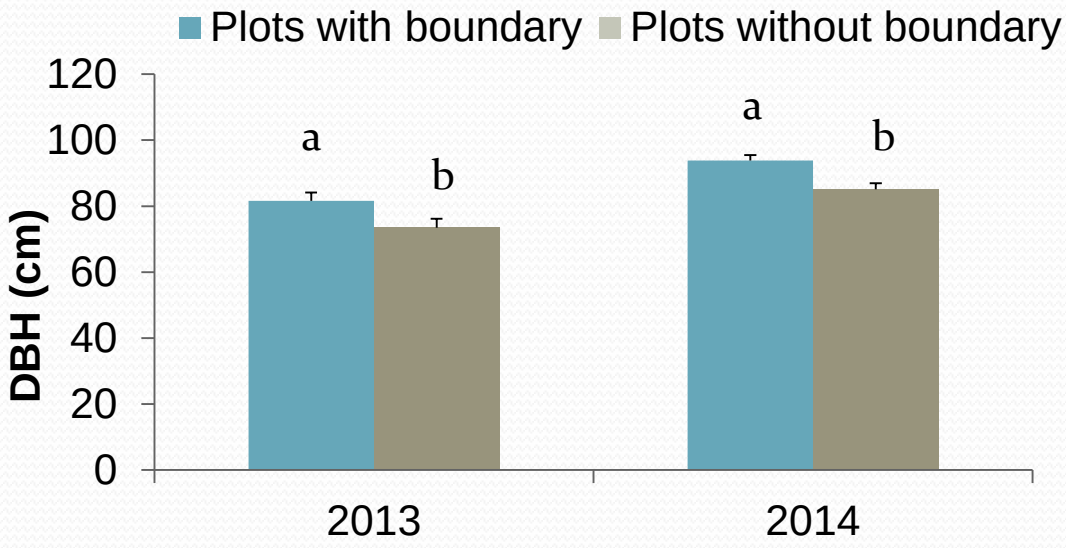
Measurements

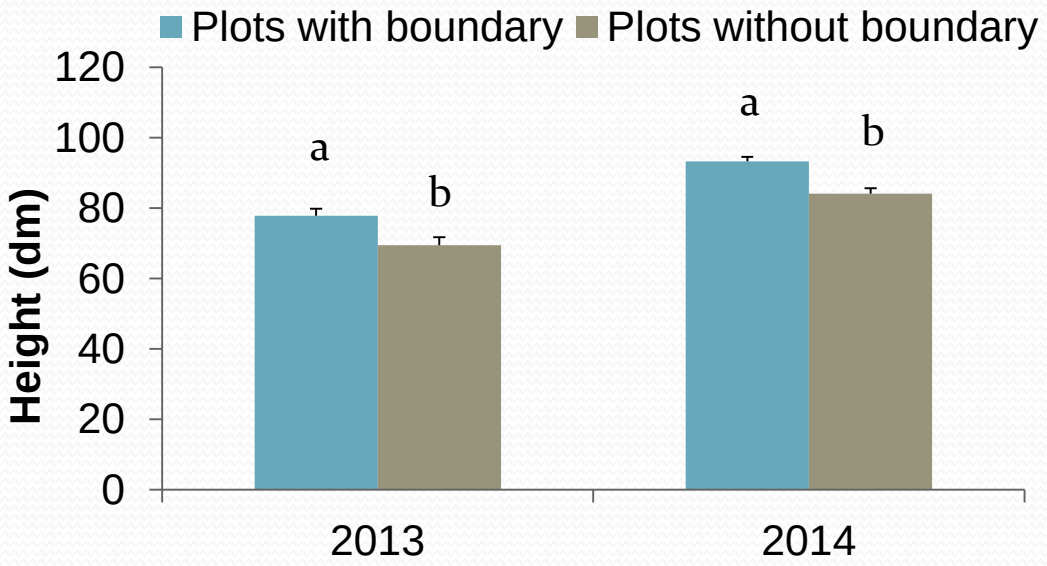
Repeated in two years 2013, 2014: 24 trees *E. globulus*, 24 border trees

- Dendrometric: Dbh, height, volume
- Degree of defoliation

Field plots

Results

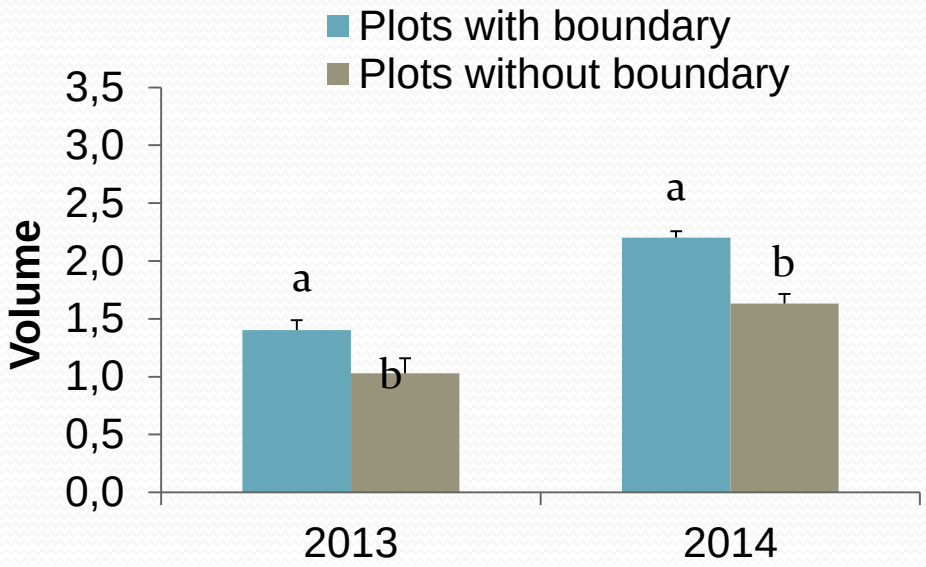




- **DBH** was higher for the plots with boundary in both years

- **Height** was higher for the plots with boundary in both years

Results



- **Volume** was c.a. 22% higher in plots with boundary

	Defoliation (%)	
	2013	2014
Z	-2,437	-1,275
p	0,015	0,202

- In 2013, plots without boundary had significant higher defoliation (p=0.015).

- In 2014 the degree of defoliation was low and thus no differences were found between treatments.

Economic analysis

- “Push and pull” estimated costs:
  - Installation
  - Maintenance
- *G. platensis* chemical control costs

Comparison between “push and pull” and chemical control costs

Scenario	Management strategy	Wood production m3/ha.10 years (Value €)	Treatment costs €/ha/10 years	Volume loss m3/ha.10 years
Without G. platensis	*E. globulus*	205 (5125)	–	–
No control	*E. globulus*	149 (3722)	0	40-45% (Reis et al., 2012)
P&P A	1 ha of boundary per 3 ha of E. globulus	173 c (4300)	120 a	21%
P&P B	1 ha of boundary per 6 ha of *E. globulus*	172 c (4300)	67,2 b	22%
Chemical control	Chemical control	200 (4950)	160 (4*40€/ha)	10% (empiric knowledge)

a - 3 treatments/year x 4 years x 40€ x 0,25 (1ha treated per 4 ha); b - 1ha treated per 6 ha
c - Trees from the boundary produces only ca. 76m^3/ha
Wood value – 25 €/m_3

Conclusions

- In two consecutive years, significant higher growth was observed on trees with boundary compared to those without boundary – ecological control reduces wood loss in ca. 22%, is economically better than doing nothing

- Chemical control is economically advantageous, but other impacts and potential costs (e.g. wood certification) were not considered