



UNIVERSITÀ
DEGLI STUDI
FIRENZE

Relazione fra modelli di gestione selvicolturale e qualità del legno di Castagno.

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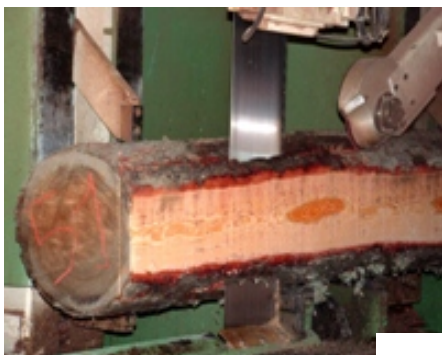


Gestione sostenibile cedui di Castagno



Qualità del legno

Valutabile solo in riferimento ad uno specifico prodotto



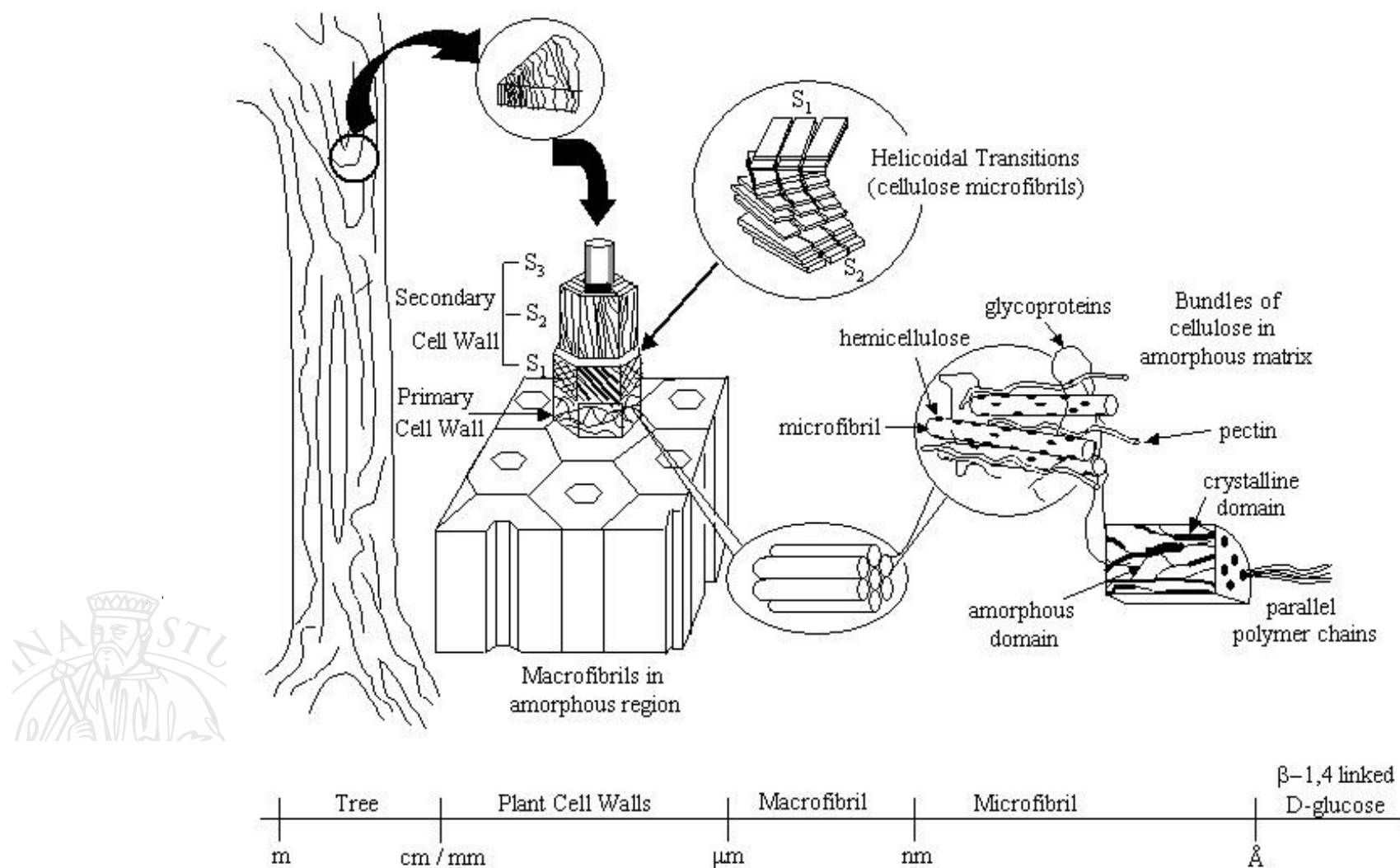


Parametri di valutazione

Dimensioni e caratteristiche di forma del fusto ,



Legno materiale a struttura gerarchica



- ☐ 130 alberi provenienti da 13 diversi popolamenti localizzati in 4 differenti Paesi europei (I, F, E, G);
- ☐ Governo a ceduo ed alto fusto;
- ☐ 10 alberi per popolamento;
- ☐ 3 livelli di campionamento per ciascun fusto (DBH, 5m, base chioma verde).

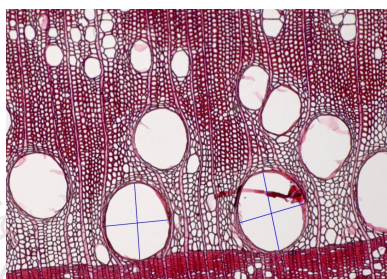
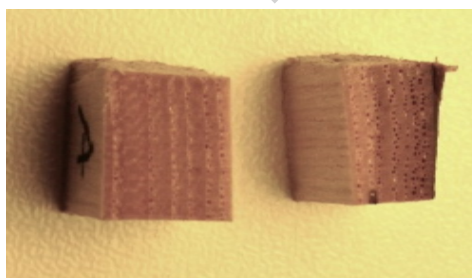
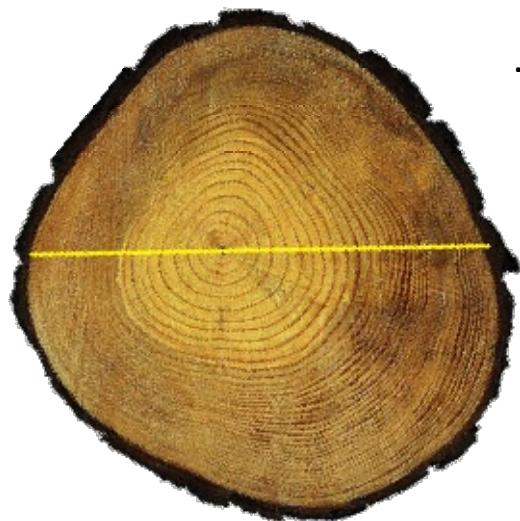


Stand	Stem/Ha	Stool/Ha
1 (I)	972	414
2 (I)	1636	696
3 (I)	1300	375
4 (G)	770	200
5 (G)	500	250
6 (E)	735	-
7 (E)	290	-
8 (E)	255	-
9 (F)	550	-

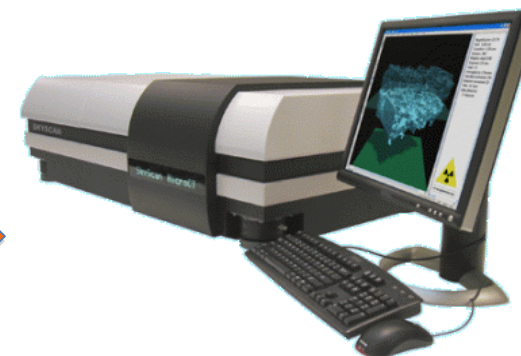


METODOLOGIA

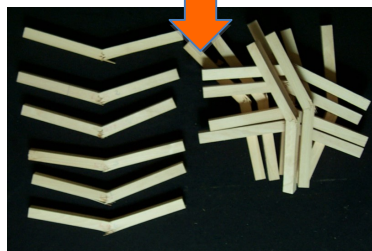
- Misura ampiezza degli anelli di accrescimento,



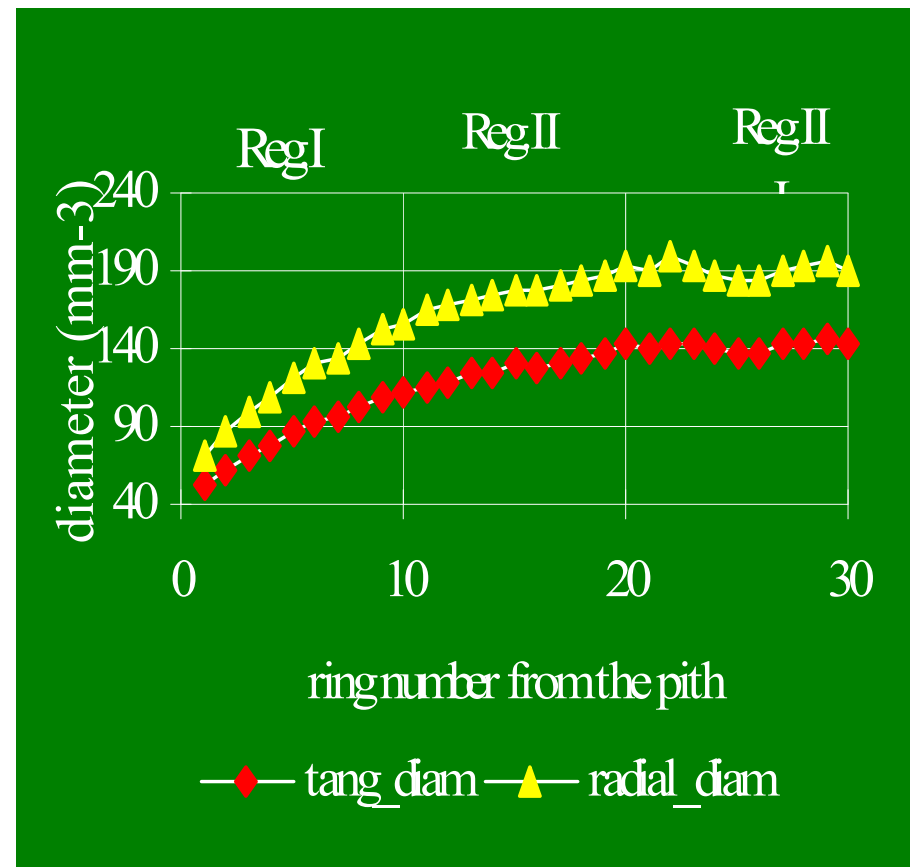
- Misura dimensioni dei
vasi primaverili



- misure densitometriche
mediante micro-tomografia
a raggi X.



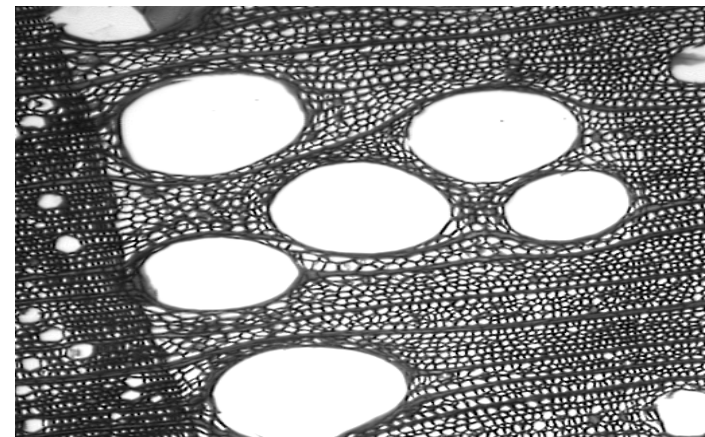
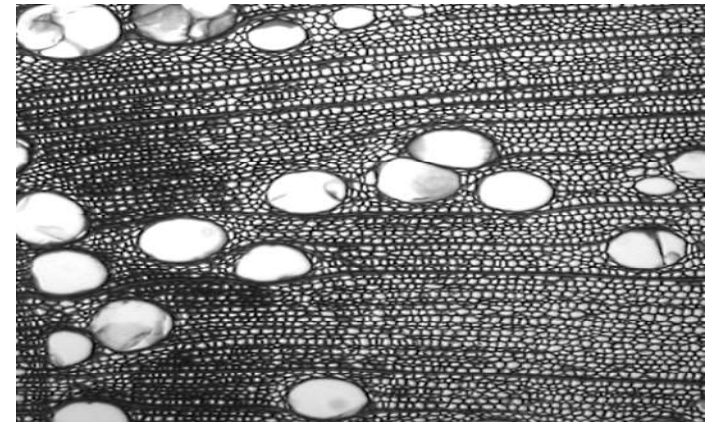
- Reg.I Legno giovanile
(maturazione iniziali
cambiali, sviluppo della
chioma)
- Reg.II – zona di
transizione
- Reg.III – legno maturo



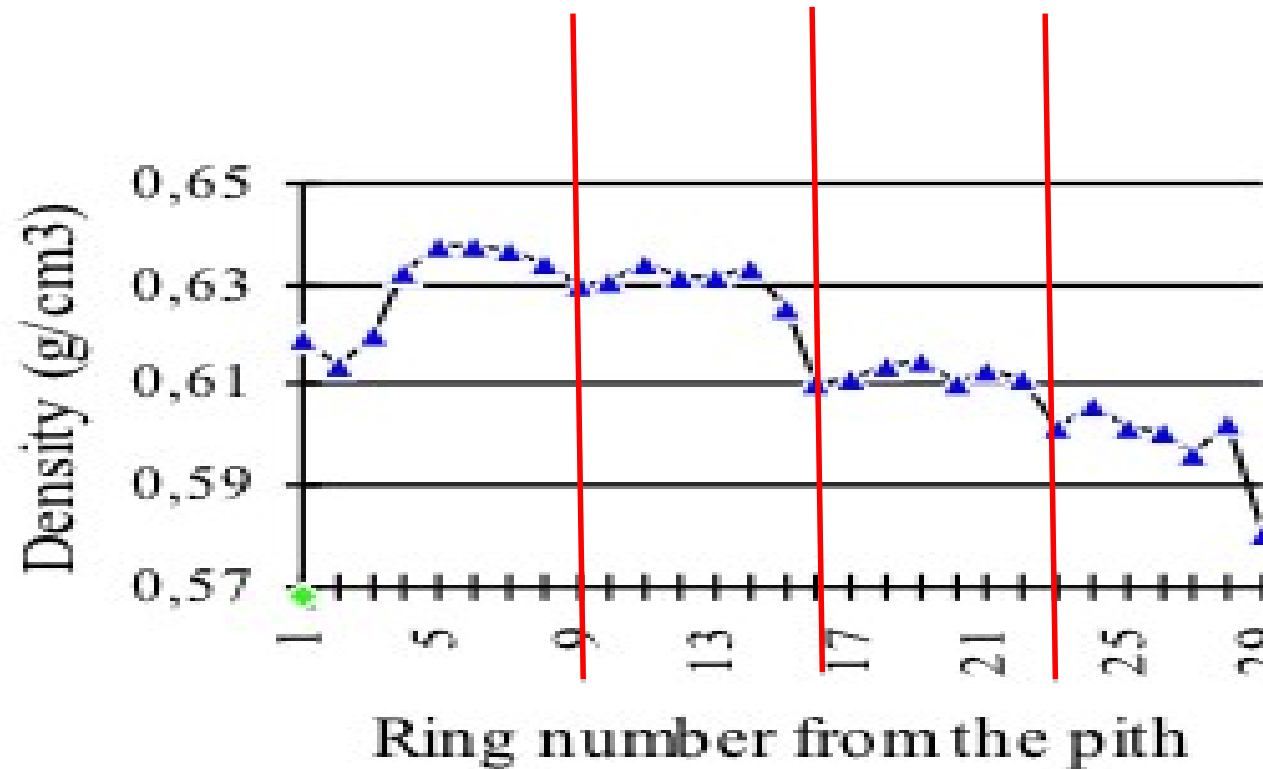
La maturazione dell'anello poroso

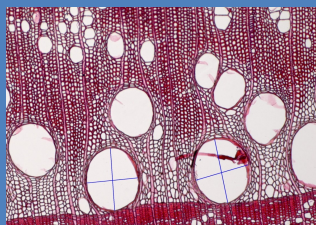
□ anelli prossimi al
midollo (struttura
giovanile)

□ struttura legno
maturo

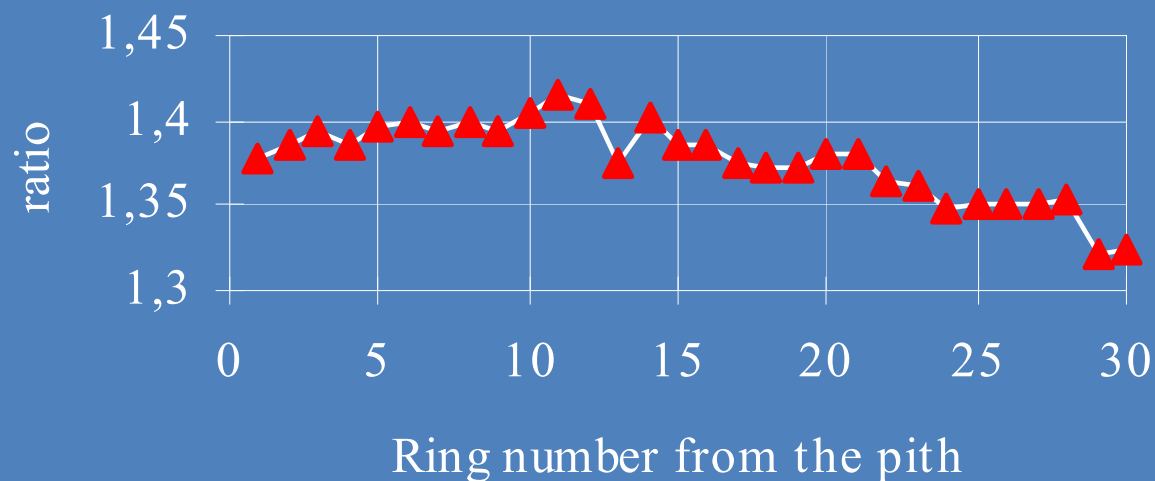


Periodicità competizione

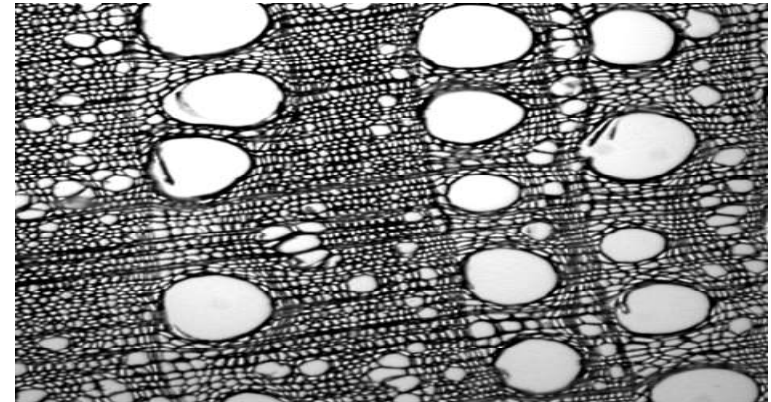




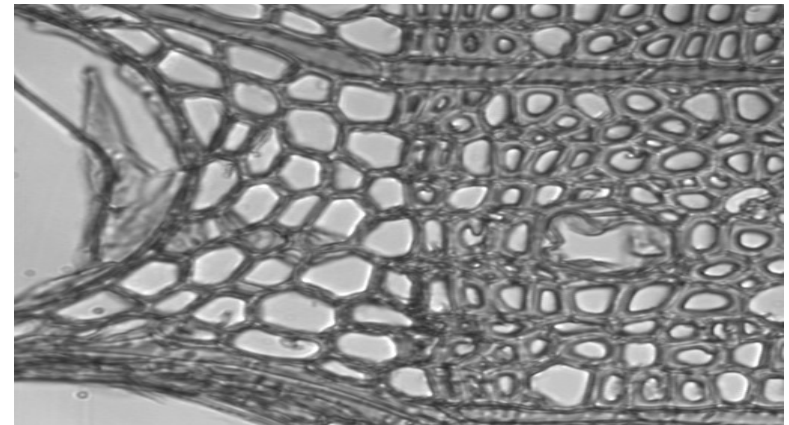
Rapporto diametro radiale /tangenziale
Vasi formanti anello poroso



□ Accrescimento ridotto



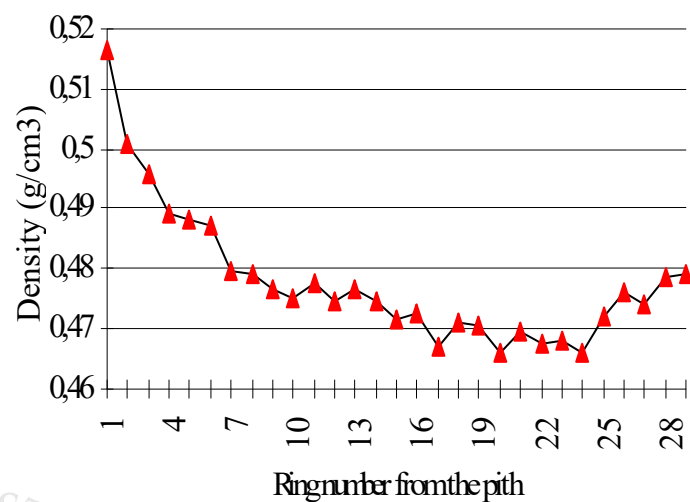
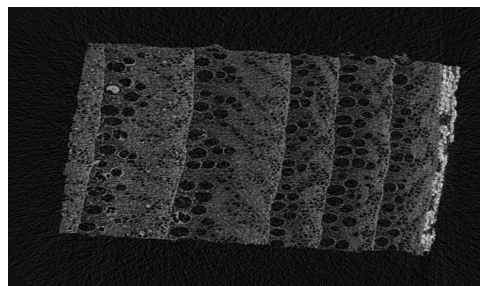
□ Accrescimento sostenuto



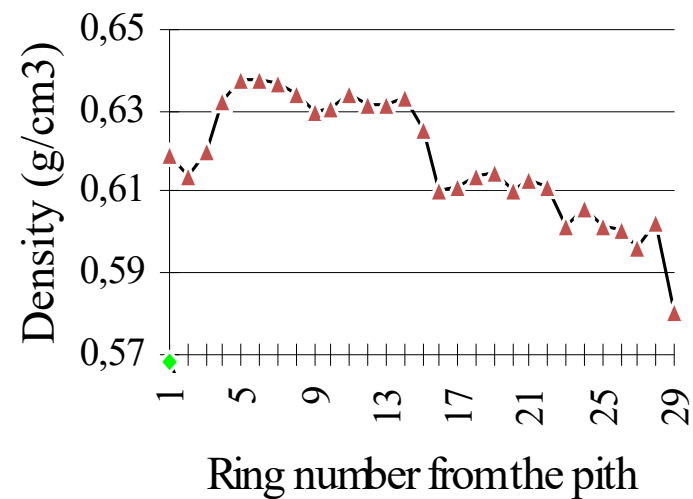
Fattori che influenzano accrescimento

Stand	I	II	III	IV	V	VI	VII	VIII	IX
Soc.pos.	***	**	***	-	-	***	n.s.	**	**
Sam.lv	***	***	***	n.s.	***	***	***	**	n.s.
Age	***	***	***	***	***	***	***	***	***
Soc*age	***	n.s.	n.s.	-	-	n.s.	n.s.	n.s.	***
Soc*Sam.lv	***	n.s.	n.s.	-	-	n.s.	n.s.	n.s.	n.s.
Sam*age	n.s.	n.s.	***	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Soc*sam*age	n.s.	n.s.	n.s.	-	-	n.s.	n.s.	n.s.	n.s.
R square	0.94	0.78	0.93	0.67	0.78	0.75	0.67	0.96	0.72
R.M.S.E.	23.78	17.75	23.12	23.97	19.32	19.47	22.08	15.41	23.85

Risultati densitometrici



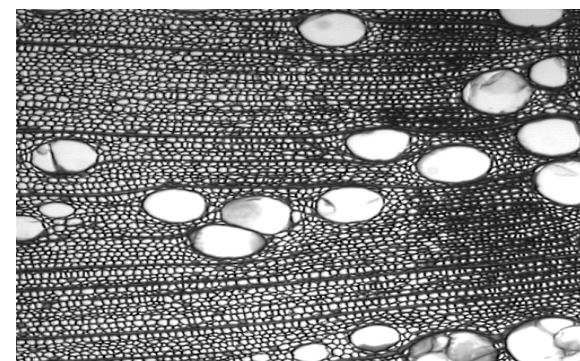
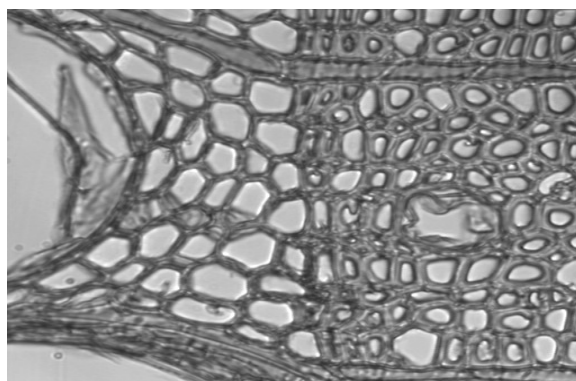
radial variation of minimum density



radial variation of maximum density

Densità anulare

	N	Mean	Std Dev	Min.	Max.
MeanDen	4986	0,550	0,061	0,326	0,765
MinDen	4986	0,478	0,068	0,292	0,644
MaxDen	4986	0,621	0,073	0,352	0,826

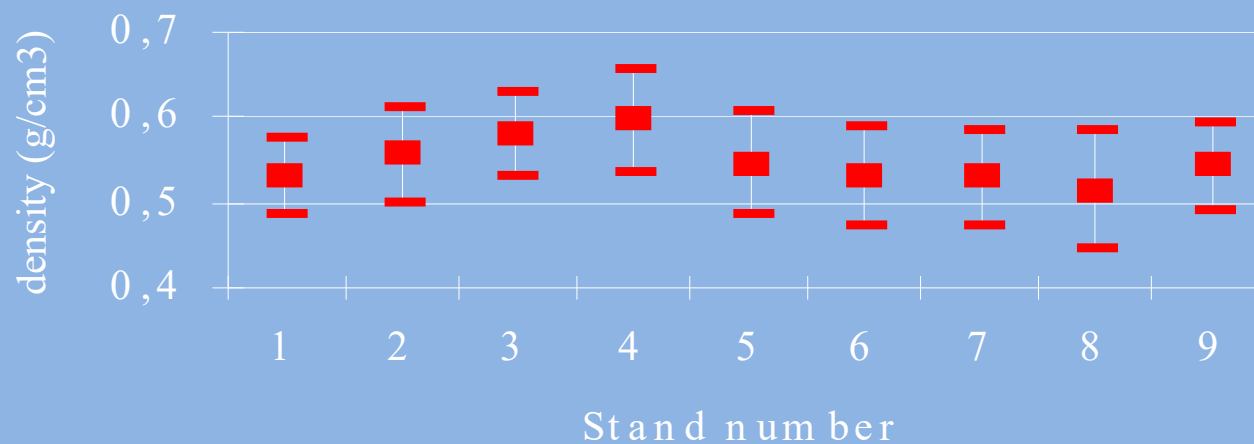


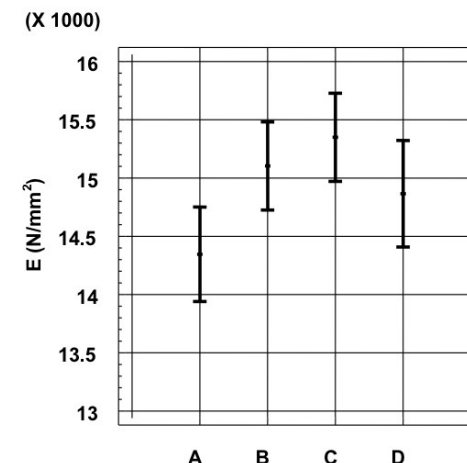
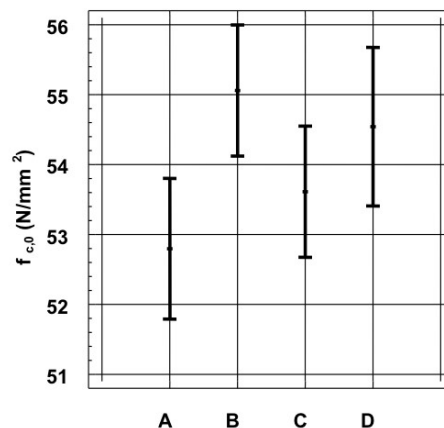
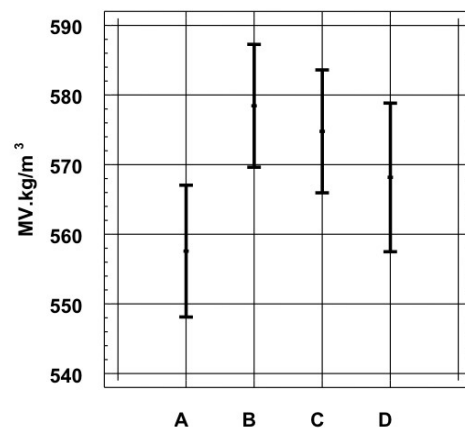
Risultati densitometrici

	I	II	III	IV	V	VI	VII	VIII	IX
Socpos	2088**	57**	282	-	-	1.62	25.43**	65.16**	1.68
Samlev.	463*	418*	209	31.10**	645**	7.96**	27.56**	67.72**	28.18**
age	209**	1.61*	231**	239**	278**	0.72	3.38**	5.09**	1.68*
sam*age	0.58	0.56	1.15	0.58	0.38	0.39	1.03	1.45	0.9
soc*age	0.79	0.38	0.51	-	-	0.63	0.31	0.56	0.53
soc*age*samlv	0.69	0.68	1.04	-	-	0.43	0.93	1.84	0.73
Rsquare	0.50	0.44	0.31	0.18	0.21	0.21	0.39	0.86	0.32



Confronto fra popolamenti e intrapopolamento



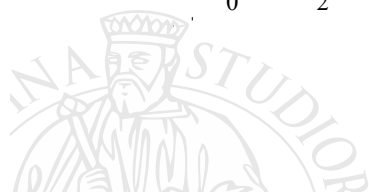
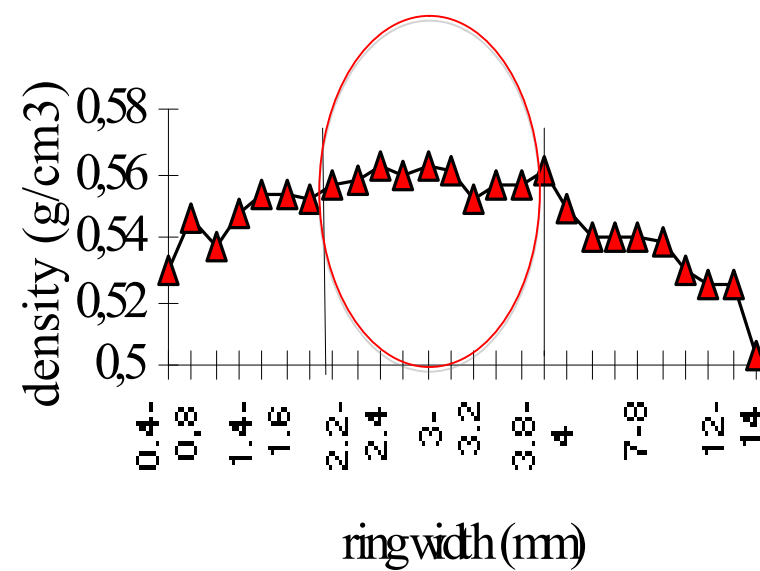
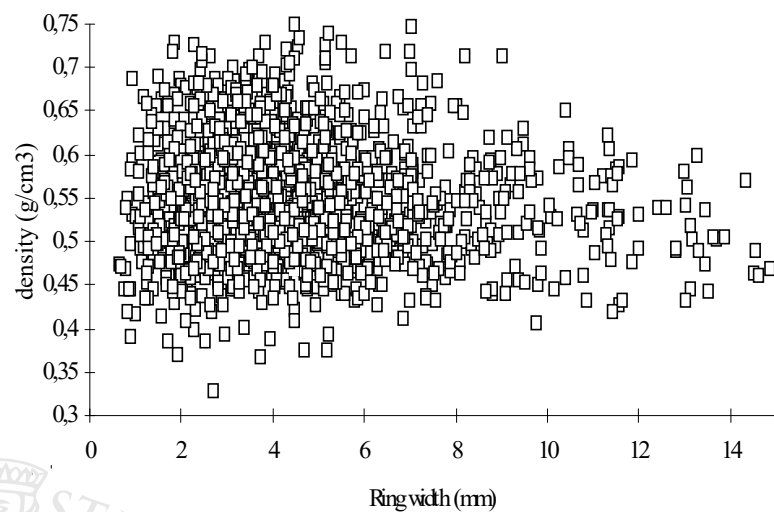


A- C Turno lungo (35-39 anni) – C diradato

B-D Turno breve – B diradato



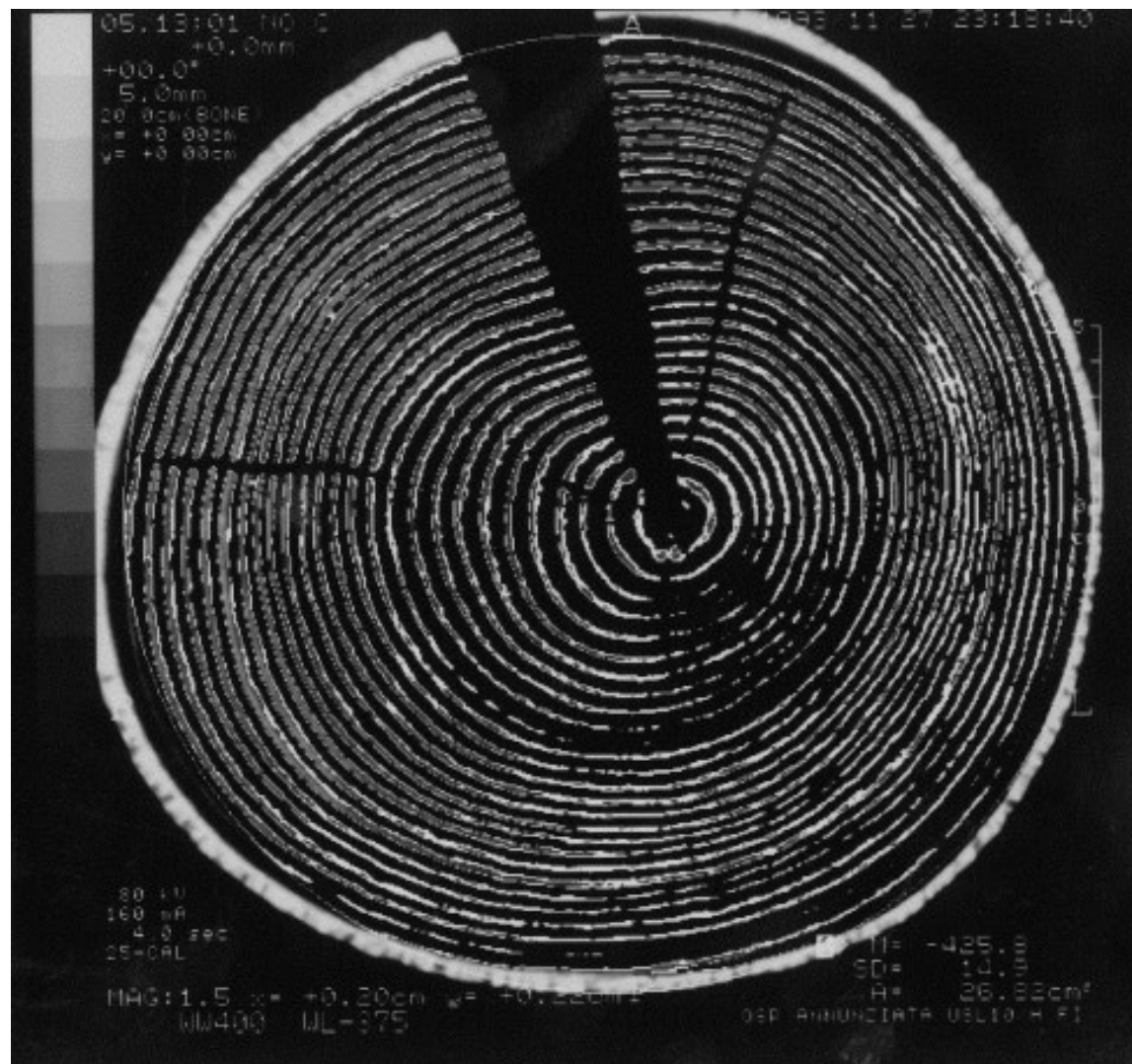
Risultati densitometrici







Densità anello tardivo



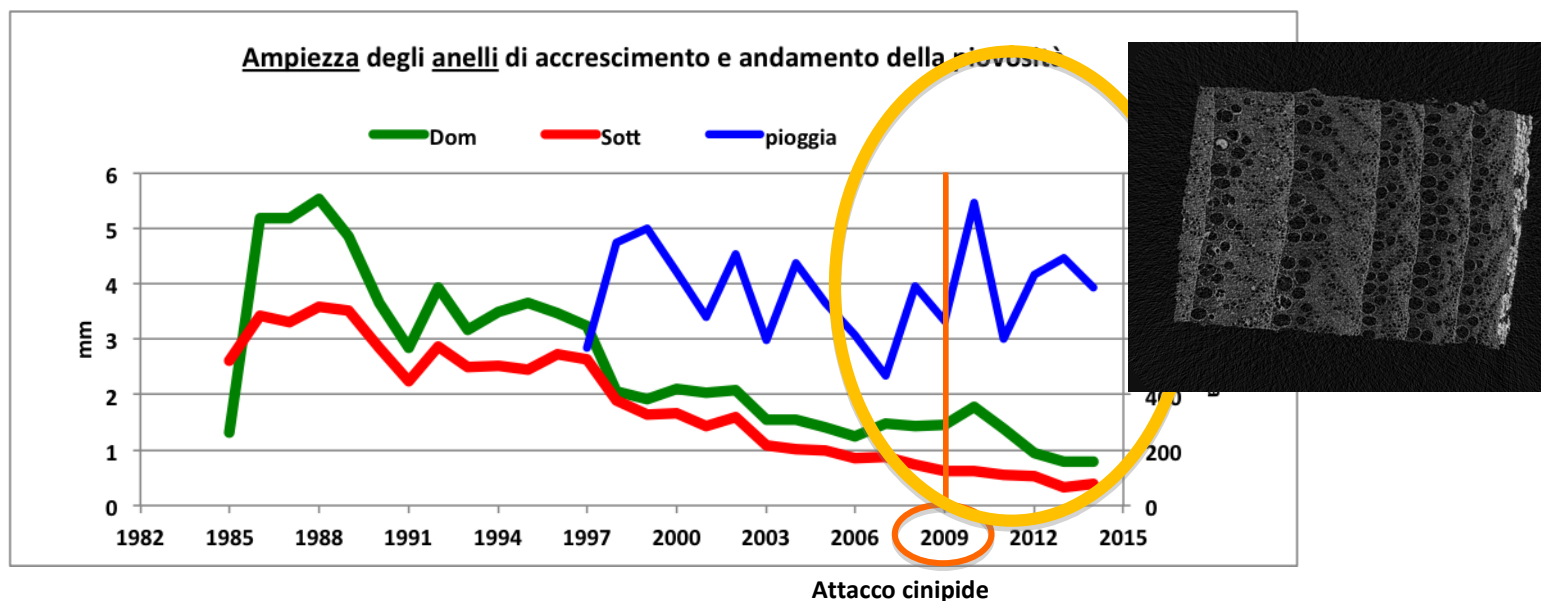
Effetti attacco Cinipide

- Tipo di soprassuolo: ceduo di Castagno
- Località: comune di Giuncugnano (LU)
- Età: circa 30 anni
- Cure colturali: nessuna
- Attacco Cinipide: 2009

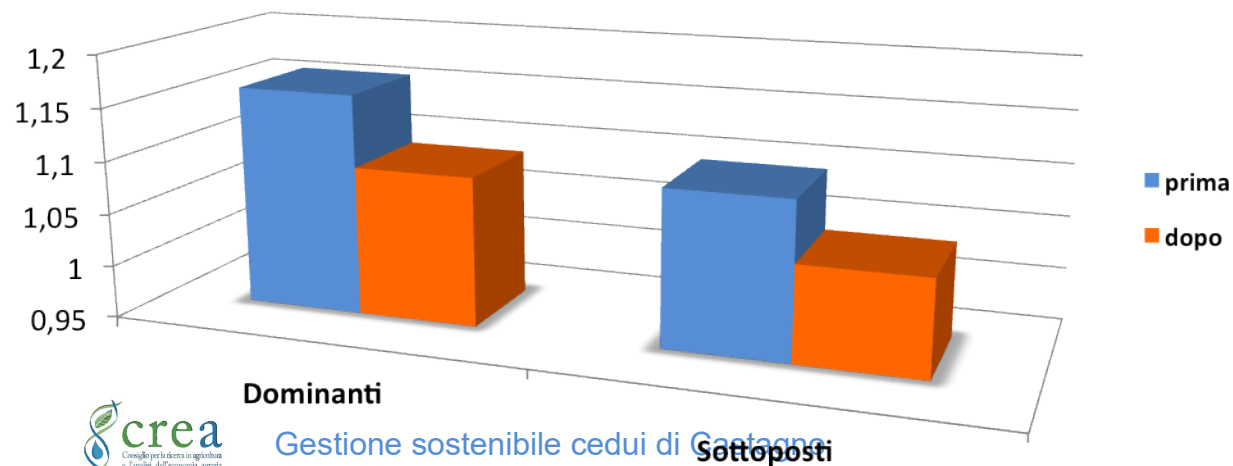
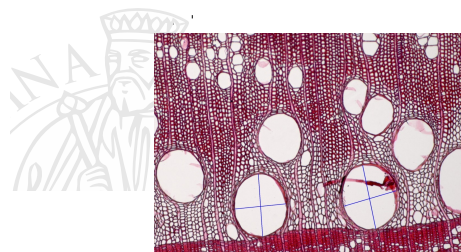


N° polloni	Posizione sociale	Diametro medio (cm)	H media (m)
10	Dominanti	17,18	15,13
10	Sottoposti	11,73	13,88

RISULTATI

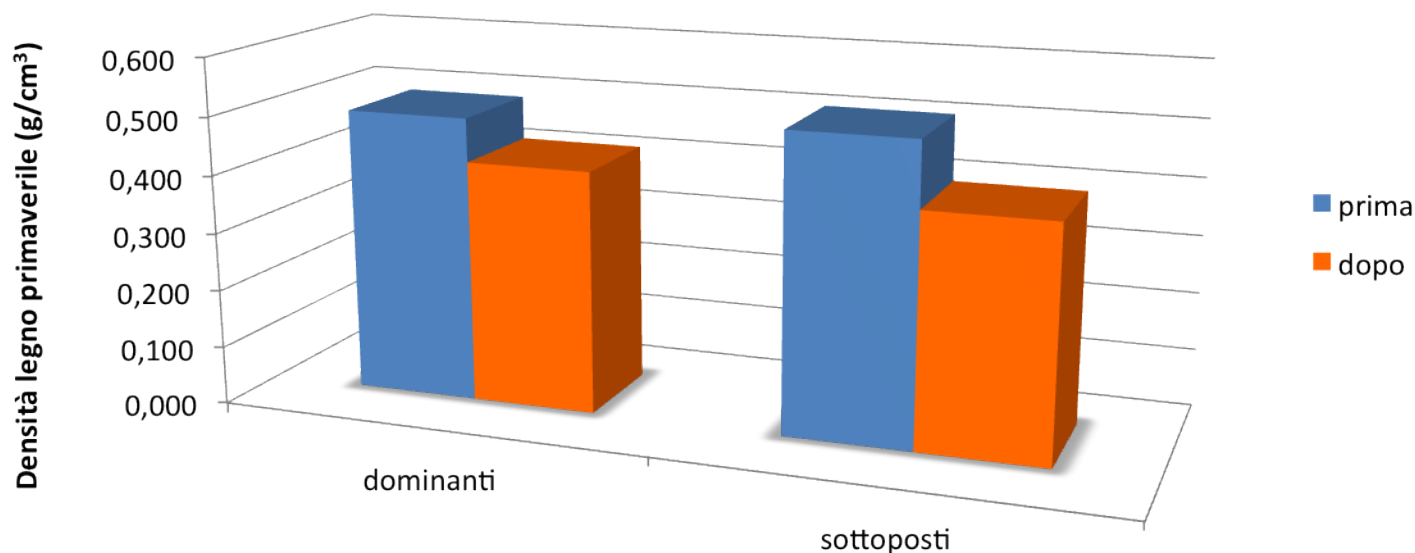


Polloni dominanti e sottoposti - confronto prima e dopo l'attacco dell'ellitticità dei vasi primaverili di anelli di uguali dimensioni, espressa come rapporto Φ_r/Φ_t



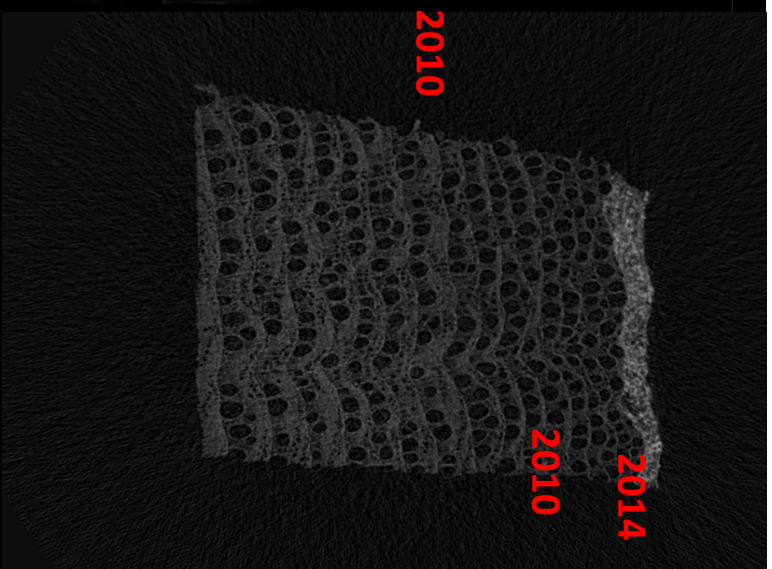
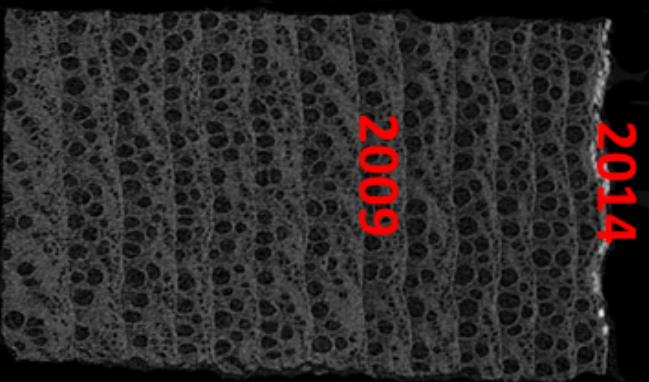
RISULTATI

Polloni dominanti e sottoposti - confronto prima e dopo l'attacco tra i valori di densità del legno primaverile di anelli di uguali dimensioni

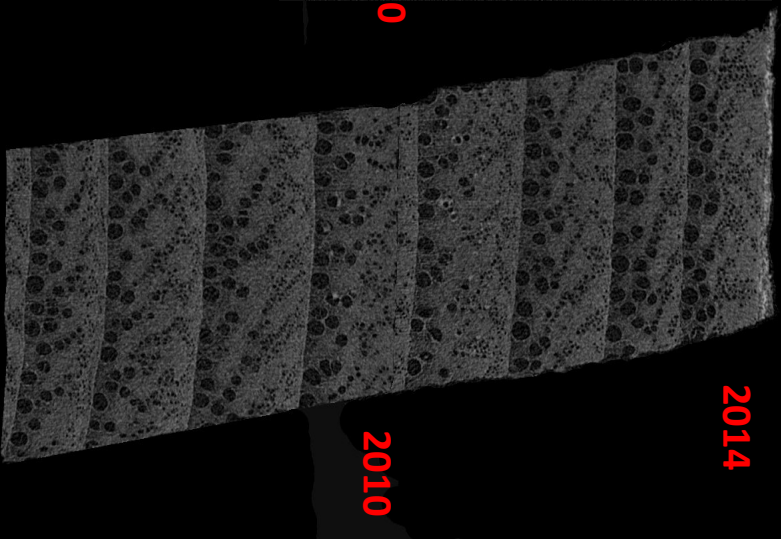
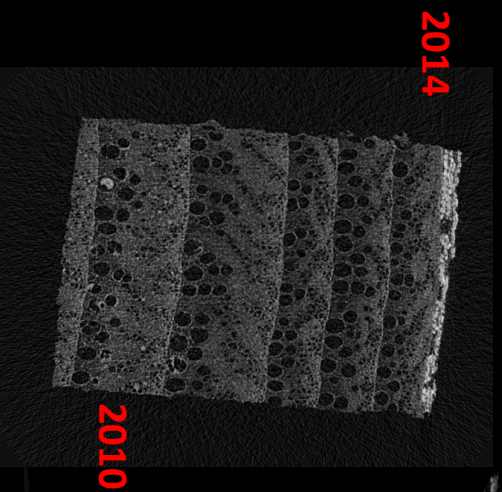


	dominanti		sottoposti	
	prima	dopo	prima	dopo
Media	0,493	0,418	0,512	0,399
Max	0,552	0,472	0,579	0,467
Min	0,455	0,387	0,440	0,326
Dev.st.	0,040	0,033	0,060	0,050
C.V.	0,081	0,079	0,117	0,126

Sottoposto



Dominante



Conclusioni

