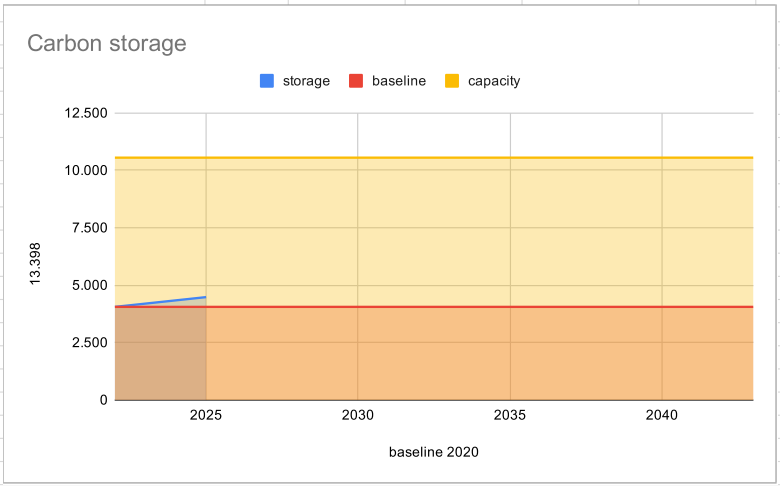
Remover name	Eric Litjens	Project code	PCB-L-001
Company name	Pauwlonia Cultures	Project name	Pauwlonia Deest 2023
Location	Deest, NL	Area (ha)	15,1505
Diversity & Permanence factor	80%	Project emissions	20%

Per hectare			
Baseline ecosystem carbon	268	tCO2/ha	Above, Below Ground and Soil Organic Carbon, TEC following CDM AR-ACM0003
Reference capacity	697	tCO2/ha	Calculation/estimation
Storage potential	429	tCO2/ha	Projection -/- baseline
Per project			
Projected storage	6.499	tCO2	storage potential over 20+ years per ha x area
LCA emissions	1.300	tCO2	project related emissions (default value, expected to be (much) lower)
Net storage potential	5.199	tCO2	project storage -/- emissions over 20 years
Removal certificates issued			
Certificates first 12 years	3.120	certificates	12/20 x net storage potential
Diversity holding	624	certificates	Holding for biodiversity measures (40 fruit trees per ha), released when implemented
Holding Pool	624	certificates	20% of the first 12 years, released when measurements confirm storage
Certificates issued 25/06/23	**1.872**	**certificates**	124 certificates/ha
Diversity holding freed up	-624	certificates	Biodiversity holding realeased as measures have been implemented
Certificates issued 28/02/25	**624**	**certificates**	

Field Code	Field name	Size (ha)
PCB-L-001	Field 1	15,1505

#	Field code	Field	Year	Date	Sample depth	SOC/AGB	Carbon (g/kg)	AGB (tCO2/ha)	Sample/report nr.	report link	Sample done by	Notes
001	PCB-L-001	Field 1	2020	31-5-2020	30	SOC	17,5	0				
002	PCB-L-001	Field 1	2020	31-5-2020	30	AGB	0	0				
003	PCB-L-001	Field 1	2023	31-5-2023	30	soc	19					
004	PCB-L-001	Field 1	2023	31-5-2023	30	soc	16					
005	PCB-L-001	Field 1	2023	31-5-2023	0	agb		28,03				From model
006												
007												
009												
010												
011												
012												
013												
014												
015												

Carbon Calculation for		**PCB-L-001**								
Surface	15,1505	ha	Fields tab							
Capacity Reference SOC	350,00	tCO2e/ha	References tab							
Capacity Reference TEC ex SOC	346,54	tCO2e/ha	References tab							
	2020		**2023**		**2026**		**2029**		**2032**	
Measurement average	17,50	SOC g/kg	17,50	SOC g/kg	#DIV/0!	SOC g/kg	#DIV/0!	SOC g/kg	#DIV/0!	SOC g/kg
Sample depth	30	cm	20	cm	#DIV/0!	cm	#DIV/0!	cm	#DIV/0!	cm
Calculation depth	30	cm	30	cm	30	cm	30	cm	30	cm
Soil density	1,39	g/cm3	1,39	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3
SOC (soil carbon) / ha	268	tCO2e/ha	268	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha
trees / ha	0,00	tCO2e/ha	28,03	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha
Storage current	4.054	tCO2e	4.479	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e
Storage capacity	10.553	tCO2e	10.553	tCO2e	10.553	tCO2e	10.553	tCO2e	10.553	tCO2e
Storage capacity / ha	697	tCO2e/ha	697	tCO2e/ha	697	tCO2e/ha	697	tCO2e/ha	697	tCO2e/ha
Storage potential / ha	429	tCO2e/ha	429	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha



Sources																		
value	**source**	**URL**	Notes															
CEDA aboveground biomass carbon	https://climateesa	https://datacedaa	2018 data															
SOC	A critical review of the conventional SOC to SOM conversion factor (Geoderma,Volume 156, Issues 3–4, 15 May 2010, Pages 75-83)																	
Density	Wageningen Uni	https://edepot.wu	We've added these soil density levels to the calculation factors tab															
Paulownia growth	Berg et al (2019)	https://link.springer.com/article/10.1007/s11676-019-01021-9																
Reference data for capacity																		
Soil Organic Carbon (SOC)	350,00	tCO2/ha	estimation based on https://esdac.jrc.ec.europa.eu/content/pan-european-soc-stock-agricultural-soils															
Trees (TEC excl SOC)	346,54	tCO2/ha	Total ecosystem carbon minus soil, see below															
CALCULATION																		
Trees per hectare	800,00	trees/ha																
Damage percentage	1%	trees/y																
Time first harvest	10	y																
Time successive harvests	8	y																
Harvest per harvest year	150	trees/ha																
Wood volume per tree	1,0	m3														agb t/ha	avg	min	max
Density dry	300	kg/m3														0	0	0	0
Average CO2 uptake flow	16,65	tCO2/h.y														0			
CO2 stock trees and roots 8 years 800 t	346,54	tCO2/ha	Total ecosystem excluding soil carbon increase. Conservative, as y10-20 stock average is 446,86tCO2/ha															
SOC	pm	tCO2/ha	Soil carbon increase excluding roots															
Estimation																		
	fallout rate	1%	corrected for replant (2% - 1% = 1%	https://link.springer.com/article/10.1007/s11676-019-01021-9														
	wood density	300	kg/m3															
	harvest	150	trees year 10, then once per 3 years															
												Average y10-20	**326,10**					
dry matter above ground	**y**	**#trees**	**vol/tree m3**	**vol/ha**	**% in roots/tops**	**dry matter**	**CO2 stock**	**seq rate**	**stock per tree**	**2nd planting**	**3rd planting**	**CO2 stock**	**5th planting**	**dry matter roots**	**CO2 roots**			
		trees/ha	**m3**	**m3/ha**	**%**	**tons**	**tCO2/ha**	**tCO2/ha.y**	**tCO2/tree**	**tCO2/ha**	**tCO2/ha**	**tCO2/ha**	**tCO2/ha**	**tons**	**tCO2/ha**			
	1	800	0	0	30%	0,00	0,00	0	0			0,00		0,00	0,00			
	2	792	0,02	15,84	30%	6,18	11,33	11,33	0,0143			11,33		1,43	2,61			
	3	784	0,05	39,20	30%	15,29	28,03	16,71	0,03575			28,03		3,53	6,47			
	4	776	0,09	69,86	30%	27,25	49,95	21,92	0,06435			49,95		6,29	11,53			
	5	768	0,18	138,33	30%	53,95	98,90	48,95	0,1287			98,90		12,45	22,82			
	6	761	0,35	266,28	30%	103,85	190,39	91,49	0,25025			190,39		23,96	43,94			
	7	753	0,50	376,59	30%	146,87	269,26	78,88	0,3575			269,26		33,89	62,14			
	8	746	0,65	484,67	30%	189,02	346,54	77,28	0,46475			346,54		43,62	79,97			
	9	738	0,75	553,65	30%	215,92	395,86	49,32	0,53625			395,86		49,83	91,35			
	10	581	0,85	493,69	30%	192,54	352,99	-42,87	0,60775	0		352,99		44,43	81,46			
	11	575	0,90	517,51	30%	201,83	370,02	17,03	0,6435	2,145		372,16		46,58	85,39			
	12	569	0,95	540,79	30%	210,91	386,67	16,65	0,67925	5,3625		392,03		48,67	89,23			
	13	414	1,00	413,56	30%	161,29	295,70	-90,97	0,715	9,6525		305,35		37,22	68,24			
	14	409	1,05	429,90	30%	167,66	307,38	11,68	0,75075	19,305	0	328,83		38,69	70,93			
	15	405	1,10	445,87	30%	173,89	318,79	11,42	0,7865	37,5375	2,145	361,69		40,13	73,57			
	16	251	1,15	288,97	30%	112,70	206,61	-112,18	0,82225	53,625	5,3625	269,89		26,01	47,68			
	17	249	1,20	298,52	30%	116,42	213,44	6,83	0,858	69,7125	9,6525	283,15		26,87	49,26			
	18	246	1,25	307,85	30%	120,06	220,11	6,67	0,89375	80,4375	19,305	300,55		27,71	50,80			
	19	244	1,30	316,96	30%	123,61	226,63	6,52	0,9295	91,1625	37,5375	317,79		28,53	52,30			
	20	241	1,35	325,86	30%	127,09	232,99	6,36	0,96525	96,525	53,625	329,52		29,33	53,77			

from C to CO2	3,666666667		
soil density	% organic matter	% organic carbor	soil density
1,59	0,5	0,25	1,59
1,52	1,5	0,75	1,52
1,45	2,5	1,25	1,45
1,39	3,5	1,75	1,39
1,34	4,5	2,25	1,34
1,29	5,5	2,75	1,29
1,24	6,5	3,25	1,24
1,18	7,5	3,75	1,18
1,13	8,5	4,25	1,13
1,09	9,5	4,75	1,09
1,05	10,5	5,25	1,05
1,01	11,5	5,75	1,01
0,96	12,5	6,25	0,96
0,93	13,5	6,75	0,93
0,9	14,5	7,25	0,9
0,87	15,5	7,75	0,87
0,84	16,5	8,25	0,84
0,81	17,5	8,75	0,81
0,79	18,5	9,25	0,79
0,77	19,5	9,75	0,77
0,75	20,5	10,25	0,75
0,73	21,5	10,75	0,73
0,71	22,5	11,25	0,71
0,7	23,5	11,75	0,7
0,69	24,5	12,25	0,69
0,67	25,5	12,75	0,67
0,65	27	13,5	0,65
0,62	29	14,5	0,62
0,6	31	15,5	0,6
0,58	33	16,5	0,58
0,56	35	17,5	0,56
0,54	37	18,5	0,54
0,52	39	19,5	0,52
0,5	41	20,5	0,5
0,49	43	21,5	0,49
0,47	45	22,5	0,47
0,46	47	23,5	0,46
0,44	49	24,5	0,44