# SIMANF{}R

Results

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16/04/23



















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publications

# SIMANF(\*\*)R

inventories

scenarios

models

results



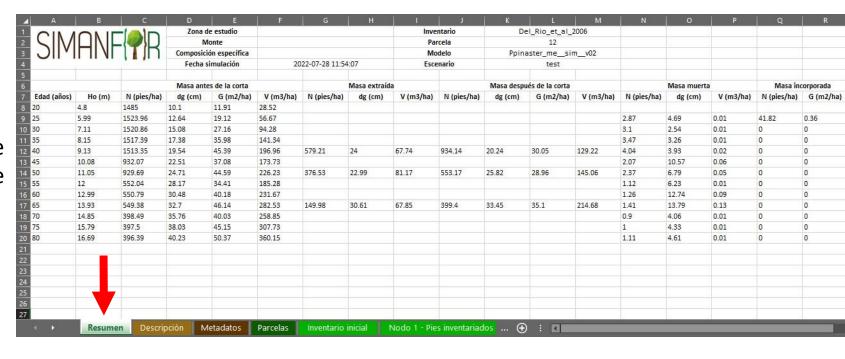
- Yield table
- Description
- Metadata
- Scenario information
- Plot information
- Trees information
- Announcements



### Yield table

**(** 

When we open the results file we are located in the "Summary" sheet, where we have a yield table like this.





At the top you will find important information about the origin of these results, so easily you can remember how the file was created.

The first 3 fields Will only be filled in if you provide this information to the initial inventory (not essential), the other fields are created automatically.



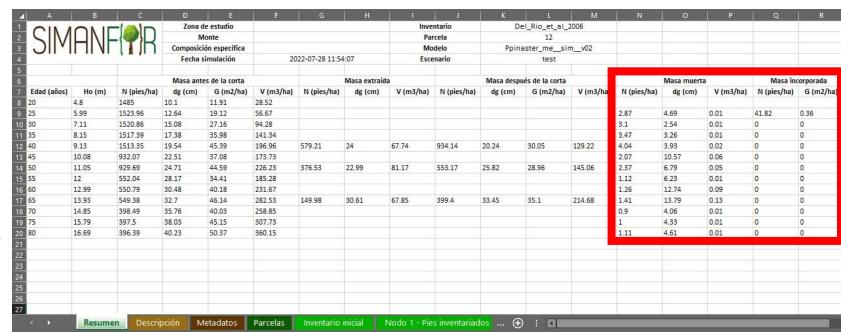


The area in the box is a classic yield table, showing the age and dominant height evolution of the stand, as well as relevant information before and after each thinning process, and also information on the extracted trees by thinning.





Finally, SIMANFOR offers some "extras" to these classical yield tables, such as information on dead and ingrowth trees (when the model has such sub-models), and even information on the mushroom, pinyon or other non-timber products production (if the model has such sub-models and we provide the necessary data, see data sheets).

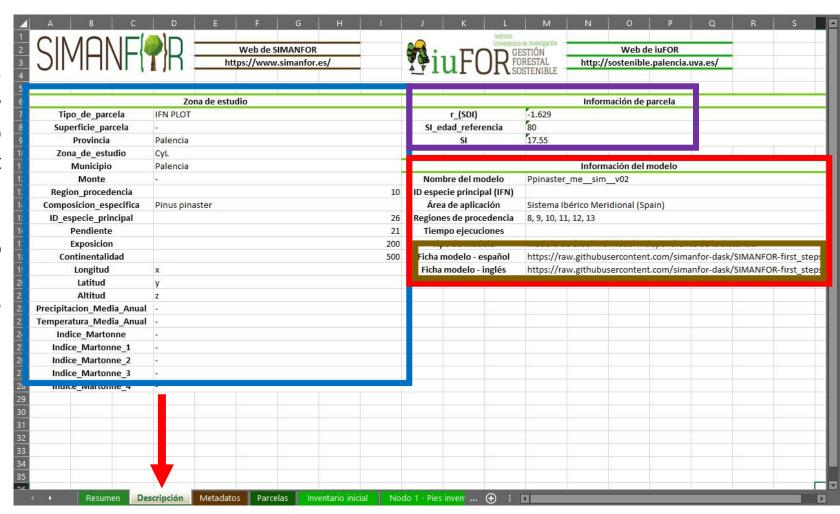




### Description



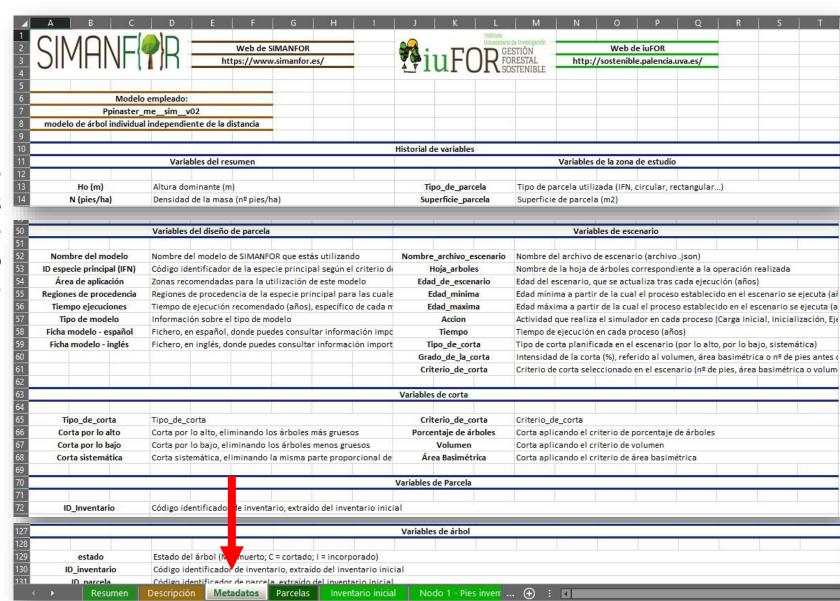
The second sheet is "Description", where you can find information about the study area (variables that you have to provide to the simulator), plot information that doesn't vary (as Site Index) and information related to the model you used. In the last section, you will also find links to the model's data sheet, both Spanish and English, where you can find more information.





### Metadata

The third sheet is very important: metadata. This sheet contains all the variables that you can find in the results file, grouped according to the sheet where you can find them. Do not hesitate to check it when you have doubts about the meaning of a variable or the units in which it is shown.

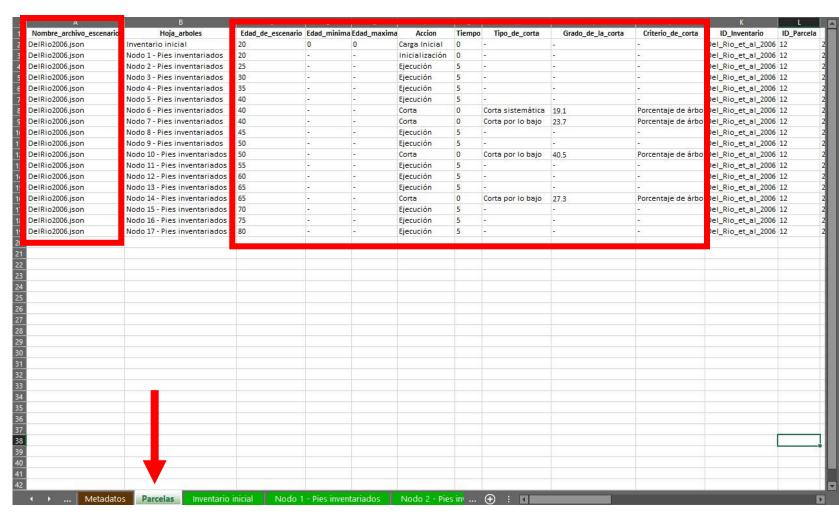




## Scenario information

The fourth sheet, "Plots", includes both the information on the silvicultural scenario and the plot.

The first column refers to the name of the file containing the forestry scenario (you can skip it, it has uses that are not interesting on the web); the second red box contains all the silvicultural scenarios. This is interesting, as it can be used as a guide to check why different variables have changed.



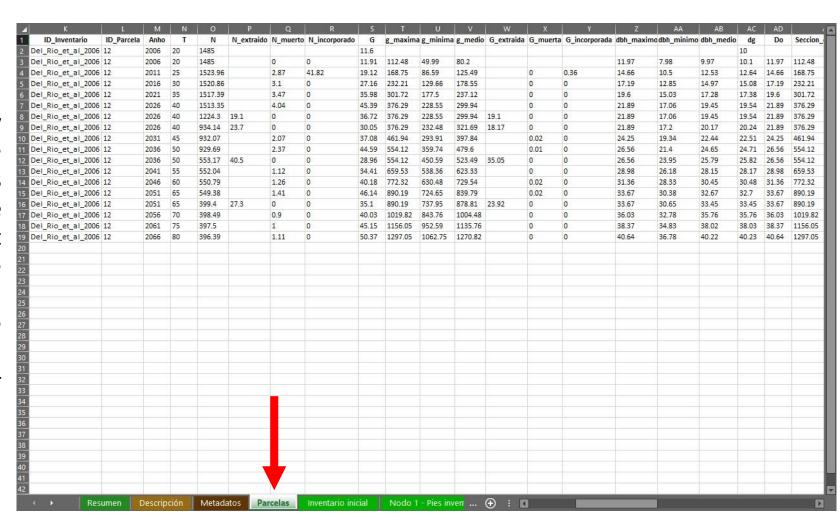


## Plot information



In the "Plots" sheet, next to the forestry scenario information, you will find all the interesting variables that SIMANFOR has been able to calculate with your data. The variables are ordered in such a way that those related to the basal área are followed by the diameter variables, then the height variables, and so on... until the end.

Remember that you can check their meaning and units on the metadata sheet.





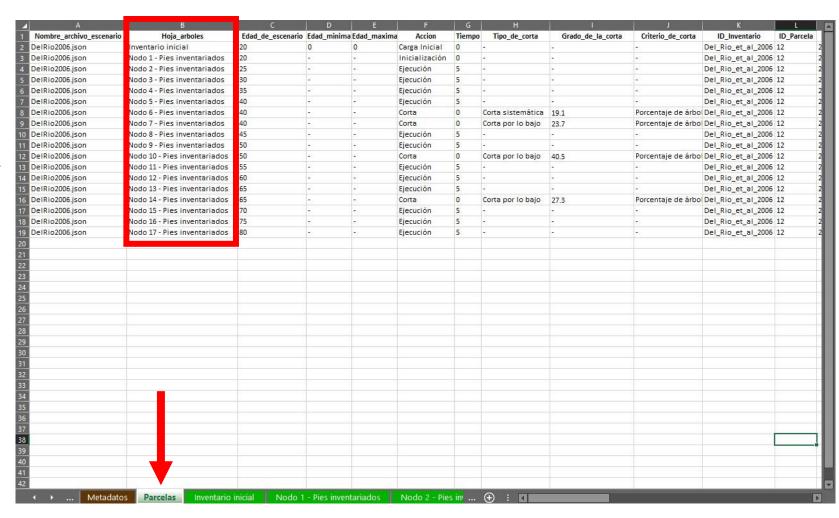
## Trees information



Trees information

After the "Plot" sheet you Will find several tabs with tree information. Each of them refers to a process carried out in the silvicultural scenario, therefore, it allows you to access the information of each of the tres in a specific process of the scenario, knowing its evolution in detail.

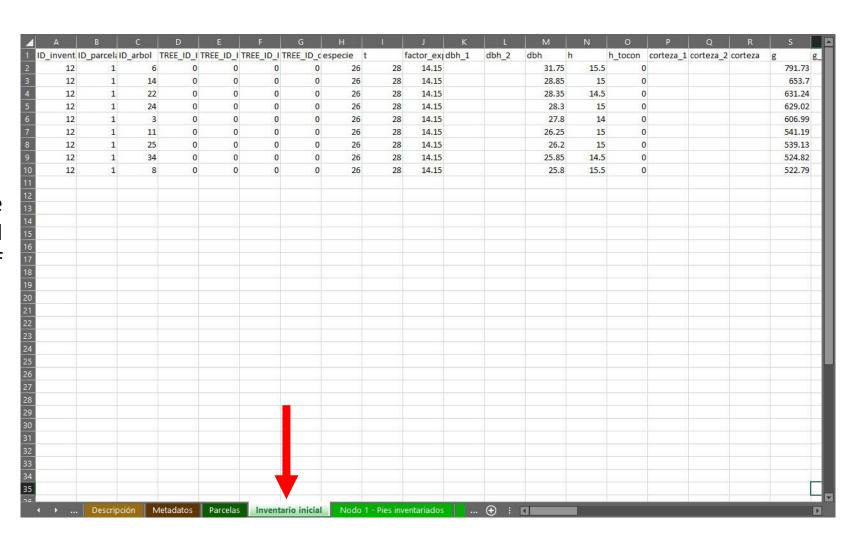
IMPORTANT! In the second column of the plots sheet, you will find a "guide" that Will tell you, about each of the processes carried out in the simulator, in which tab you can find the information about the tres.





Trees information

The first sheet, "Initial inventory", is the original data. It simply shows your initial inventory, so you will have it available if you need to review it.



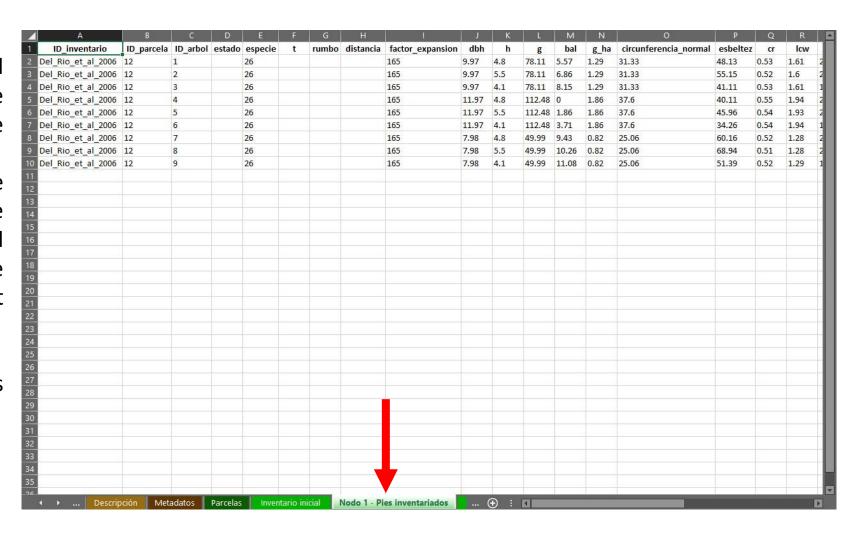




From now on, we start the so-called "Nodes", which represent each of the internal computational processes that the simulator goes through.

"Node 1" shows the "Initialization" of the simulator, where SIMANFOR uses the tree and plot information provided to input all the missing variables and to know the status of the plot at that initial moment (here it is explained in more detail).

From there, each sheet shows the results of a projection or a harvest.

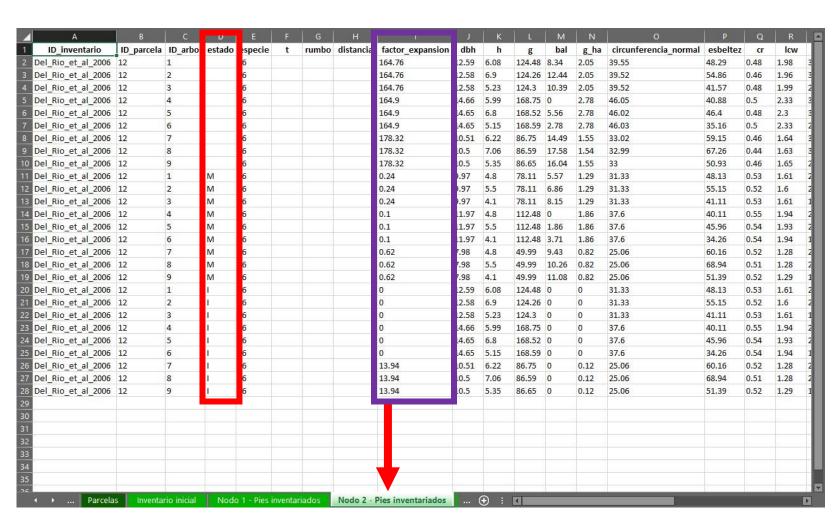




#### **PROJECTIONS**

In the image, we can see a node on which a projection was made. If we look at the status column we will see that in some cases it appears empty (these are the trees of the plot on which the survival, growth, ingrowth and remaining variables update have been applied, i.e., the trees on the field); M code means dead trees, and code means incorporated tres to the stand. From M and I trees, the only interesting column in the expansión factor, that allows us to know what part of our original tree has died/incorporated.

Note: take a close look, to visually represent this with this status coding trees were duplicated

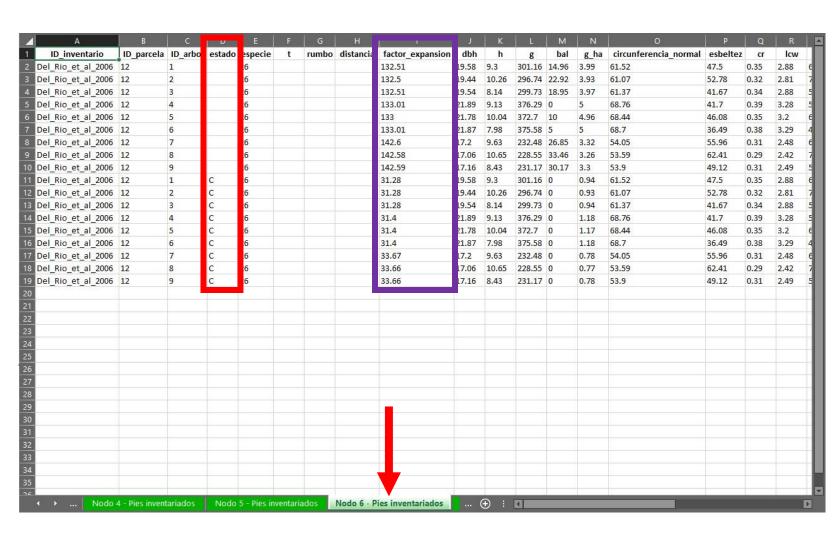




#### **HARVESTS**

In the nodes where a harvest has been made, we have a similar situation. If we look at the status column we will see that we have empty cells (where the corresponding part of its expansión factor has already been extracted) and others with a C indicating that this tree was cut. Again, just the column expansión factor is interesting to know what proportion of the tree was extracted in this process.

Note: please note that the tres have been duplicated to represent it with this status coding. At harvests, this only happens when we apply systematic harvests, as it is applied on all tres in the plot equally. When we apply thinning by above/below, then the situation changes (see next page).

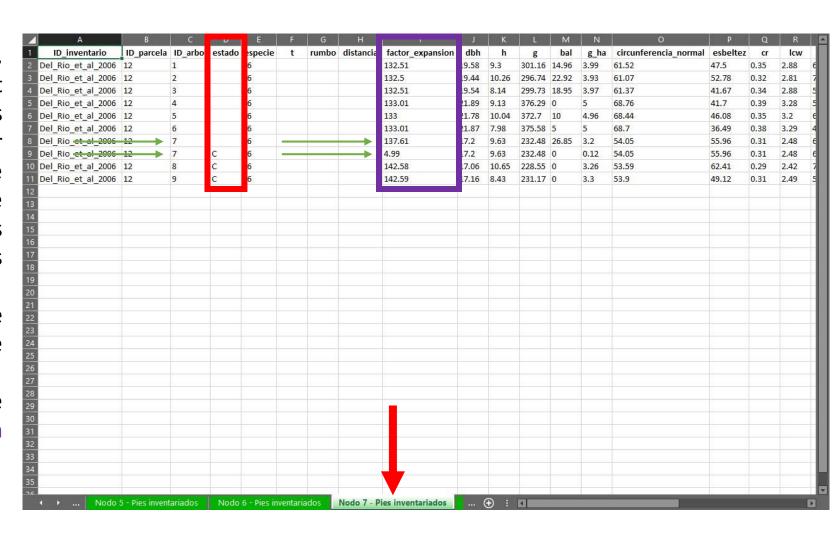




#### **HARVESTS**

When we apply thinning by above/below, the simulator orders the trees from highest to lowest or vice versa and extracts trees taking into account the expansion factor until the percentage requested by the scenario is satisfied. In this situation, the totality of some tree and part of one tree is extracted, leaving the latter tres duplicated:

- In the first row marked, where the status is empty, we can see the expansion factor remaining in the plot
- In the second row marked, where the status is C, we can see the expansion factor that was deleted by the cut





#### Announcements





Each of the SIMANFOR models has a specific execution time (you can check it in its respective <a href="mailto:sheet">sheet</a>), so if you enter an erroneous value SIMANFOR Will notify you in the "Summary" sheet to modify it.

In addition, the harvests execution time must always be 0, as they do not represent a projection in time, and SIMANFOR Will notify you if you have not done it right.

On the other hand, the code of the main species in the inventory must match the code of the model to be used (look for it here, appendix 12). If this is not the case, you will be notified so that you can review it and modify the code or change the model used.

	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	P
1			-(-)-	Zona d	e estudio		CyL		Inve	ntario		ifn3				
2	CIIVI	I⊔NI∟		Zona de estudio CyL Inventario ifn3 Modelo   Monte Bosque Modelo Parcela 1   Composición específica Pinus pinaster Modelo Pradiata_stand_gal_v01   Fecha simulación 2021-04-13 13:34:08 Escenario Experimento Claras   TEN CUIDADO! Los valores de tiempo de tus ejecuciones no se corresponden con los del modelo! Revisa la hoja de parcelas para más información   Masa antes de la corta Masa extraída Masa después de la corta Masa muerta   Dg (cm) G (m2/ha) V (m3/ha) N (pies/ha) Dg (cm) G (m2/ha) V (m3/ha) N (pies/ha) Dg (cm) V (m3/ha)												
3	ا۲اال			Composici	ón específica		Pinus pinaste	CyL Inventario ifn3								
4	<u> </u>		( = )· ·	Fecha simulación 2021-04-13 13:34:08 Escenario Experimento (								xperimento Cl	aras			
5				TEI	N CUIDADO! Lo	s valores de t	iempo de tus	ejecuciones n	o se correspo	nden con los c	del modelo! F	Revisa la hoja d	le parcelas pai	ra más informa	ición	
6				Masa ante	es de la corta			Masa extraíd	a		Masa desp	ués de la corta			Masa muert	a
6 7	Edad (años)	Ho (m)	N (pies/ha)			V (m3/ha)			_	N (pies/ha)				-		
6 7 8	Edad (años) 10	Ho (m)	N (pies/ha) 1793,13			V (m3/ha) 150,7			_	N (pies/ha)				-		
	. ,			Dg (cm)	G (m2/ha)				_	N (pies/ha)				-		
	10 15	14	1793,13	Dg (cm) 13,94	G (m2/ha) 27,38	150,7	N (pies/ha)	Dg (cm)	V (m3/ha)		Dg (cm)	G (m2/ha)	V (m3/ha)	N (pies/ha)	Dg (cm)	V (m3/ha)

1	A	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	P
1			-( <u>—</u> 1	Zona d	e estudio		CyL		Inve	ntario		ifn3				
2		I∐NI∟	. [ ]	M	onte		Bosque Model	О	Par	rcela		1				
3	ا۲اال			Composici	ón específica		Pinus pinaste	r	Mo	delo	Prad	iata_standga	alv01			
4			<b>, _ ,,</b> .	Fecha s	imulación	20	21-04-13 13:34	1:08	Esce	nario	E	xperimento Cla	aras			
5					TEN CUIDA	DO! El valor d	e tiempo para	las cortas qu	e has planifica	ido no es corre	ecto! Revisa l	a hoja de parce	elas para más i	información		
6				Masa ante	s de la corta			Masa extraíd	a		Masa despu	ués de la corta			Masa muerta	а
7	Edad (años)	Ho (m)	N (pies/ha)	Dg (cm)	G (m2/ha)	V (m3/ha)	N (pies/ha)	Dg (cm)	V (m3/ha)	N (pies/ha)	Dg (cm)	G (m2/ha)	V (m3/ha)	N (pies/ha)	Dg (cm)	V (m3/ha)
8	10	14	1793,13	13,94	27,38	150,7										
9	15	21,02	1632,34	18,49	43,85	358,07	163,23	22,26	50,19	1469,11	18,03	37,5	307,88	160,79	13,94	14,31
10	20	26,63	1311,03	21,87	49,23	505,65	516,06	11,27	50,56	794,97	26,57	44,08	455,09	158,07	18,03	35,8
11	25	30,92	704,2	30,94	52,93	626,44	704,2	30,94	626,44	0	0	0	0	90,76	26,57	57,41

	А	В	С	D	E	F	G	Н	1	J	K	L	М	N	0	P	Q
				Zona de	estudio		CyL		Inve	ntario		ifn3					
2		I∐NI∟	. [ ]	Me	onte		Bosque Model	o	Par	cela		1					
				Composicio	ón específica		Pinus pinaste	r	Mo	delo	Pradi	ata_standga	lv01				
4			<b>( = )</b> , .	Fecha si	mulación	20	21-04-13 13:34	:08	Esce	nario	Ex	perimento Cla	aras				
5		TEN (	CUIDADO! Esta	ás intentando	utilizar un inv	entario en el	que la especie	principal es	diferente a la	del modelo. R	Revisa el esce	nario y haz los	cambios opor	tunos antes d	e ejecutar el :	simulador de nu	ievo.
6				Masa ante	s de la corta			Masa extraíd	a		Masa despu	és de la corta					
7	Edad (años)	Ho (m)	N (pies/ha)	Dg (cm)	G (m2/ha)	V (m3/ha)	N (pies/ha)	Dg (cm)	V (m3/ha)	N (pies/ha)	Dg (cm)	G (m2/ha)	V (m3/ha)	N (pies/ha)	Dg (cm)	V (m3/ha)	
8	10	14	1793,13	13,94	27,38	150,7											
	15	21,02	1632,34	18,49	43,85	358,07	163,23	22,26	50,19	1469,11	18,03	37,5	307,88	160,79	13,94	14,31	
10		26,63	1311,03	21,87	49,23	505,65	516,06	11,27	50,56	794,97	26,57	44,08	455,09	158,07	18,03	35,8	





Each of the SIMANFOR models is oriented to perform calculations on one or several species (you can check it in their respective sheets). However, our data inventory may contain tres of other species. In these cases, SIMANFOR Will detect the species different to the main one, highlighting them in red in the tree results sheets (image on the right) and will not perform the specific calculations of the model on these trees (volume, biomass, survival, growth...). This avoids mistakes in the predictions.

When a harvest is applied, these trees are involved in the process.

А			D E			_				L	_						S		U	V V	W				AA		AC		_	
D inventario		ID árbol		factor expansión		h		h tocón		bal		circunferencia normal			lcw	hcb			v sin corteza			v sierra gruesa				wsw		wtbl	wr	
	1	1	26	31,83	20,9		28		343,07				66,9856						148,5249		7,076			136,8234	209,7525	87,9957				
	-	2	26		13,15				135,813				79,8479						44,0981		2,186			0	62,6576	27,6483				
	-	3	26		27,8		28		606,987				50,3597						262,7825		5,454			282,6653	363,68	160,882				
	-	4	26		19,25		28		291,039				67,5325						116,9994		5,617			66,906	164,7615	70,6371				
	-	5	26		19,8		28		307,908				65,6566						123,7806		5,93			70,6425	173,9631	74,9737				
	1	6	26		31,75				791,73			99,7456	48,8189						379,4879		7,784		181,531		523,0734	226,912				
	1	7	26		14,65	11,5	28	0	168,564	25,408	0,537	46,0243	78,4983	0,333	2,116	7,6765	8,8022	92,4432	59,9448		2,943		0	0	84,6358	36,7538	1,7491	6,5363	8,2488	8
	1	8	26		25,8			0	522,792	5,2679	0,74	81,0531	60,0775	0,352	3,682	10,05	11,799	368,6221	250,582	118,0401	5,216	0	0	265,4759	350,5133	146,3	10,347	24,297	40,324	4
	1	9	26	31,83		12,5			127,676	27,728	0,406	40,0553	98,0392	0,321	1,822	8,4857	9,7057		49,3525		2,442			0	69,2039	28,8462	1,1307	4,7356	5,5877	7
	1	10	26	31,83	15,65	13	28	0	192,362	23,659	0,612	49,1659	83,0671	0,327	2,237	8,752	10,055	118,3536	77,3305	41,0231	3,767	0	0	0	108,3866	45,589	2,1523	7,6184	9,9266	.6
	1	11	21	14,15	26,25	15	28	0	541,19	0	0	82,47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 /	
	1	12	26	31,83	14,85	13	28	0	173,198	24,856	0,551	46,6527	87,5421	0,324	2,12	8,7856	10,08	106,96	69,6266	37,3335	3,405	0	0	0	97,9525	40,8003	1,8252	6,7452	8,5685	.5
	1	13	21	14,15	23,25	14	28	0 /	424,56	0	0	73,04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	14		14,15	28,85	15	28	0	653,7	0	0	90,63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 /	
	1	15	26	31,83	17	13	28	0	226,98	21,632	0,723	53,4071	76,4706	0,331	2,435	8,6949	10,012	138,8363	91,2473	47,589	4,419	0	0	0	127,1443	54,3077	2,791	9,2306	12,519	.9
	1	16	26	127,32	8,8	1	28	0	60,8212	32,488	0,774	27,646	11,3636	0,39	1,376	0,6096	0,6938	3,186	1,8808	1,3052	0,406	0	0	0	0	2,7646	0,3528	2,0035	1,9757	.7
	1	17	26	31,83	22,2	13,5	28	0	387,076	7,2312	1,232	69,7434	60,8108	0,36	3,213	8,6388	10,117	241,0439	161,5915	79,4524	7,672	0	0	152,2759	226,2279	97,7524	6,4539	17,145	26,458	.8
1	1	18	21	31,83	21,9		28	0	376,68		0	68,8	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0 /	A
2	1	19	26	31,83	17,3	13	28	0	235,062	20,883	0,748	54,3496	75,1445	0,333	2,48	8,6737	9,9954	143,6014	94,4962	49,1052	4,571	0	0	54,4483	131,5081	56,3546	2,9487	9,6129	13,148	.8
	1	20	26	31,83	18,55	13,5	28	0	270,258	17,525	0,86	58,2765	72,7763	0,337	2,657	8,9506	10,354	170,4547	112,8237	57,631	5,426	0	0	62,7811	159,9775	66,8557	3,6711	11,302	15,989	.9
	1	21	26	31.83	19.6	13	28	0	301.719	15.638	0.96	61.5752	66.3265	0.344	2.825	8.5232	9.8813	182.6985	121.2926	61.4059	5.815	0	0	69.2725	170.5892	73,381	4.3642	12.842	18,658	8
	1	22	26	14.15	28.35	14.5	28	0	631,242	1.1203	0.893	89.0642	51.1464	0.368	4.096	9.1703	10.823	414.2542	283.0433	131.2109	5.862	0	0	295.1957	390,4906	171.364	13.912	30,235	52,527	2
	1	23	26	14.15	24.2	13.5	28	0	459,961	6.0077	0.651	76.0265	55,7851	0.363	3,507	8,6009	10.088	284.6851	192.0186	92.6665	4.028	0	0	179.8456	270.5496	117.317	8.4623	20,943	33,698	/8
	1	24	26	14.15	28.3	15	28	0	629.018	2.0135	0.89	88.9071	53.0035	0.362	4.069	9.5664	11,278	426.7398	291,7715	134.9683	6.038	0	0	297.1039	402.8278	174.34	13.835	30.112	52,263	3
	1	25	26	14.15	26,2	15	28	0	539,129	3,7625	0.763	82,3097	57,2519	0.358	3.76	9.6264	11.323	367.7622	250.0763	117,6858	5,204	0	0	266,8286	347.1549	148,107	10.86	25.18	42,107	/2
	1	26	26		11.15		28		97.6427				98.6547						33.214		6.656			0	44.5657	20.073				
	1	27	26	31.83	21.05	13	28	0	348.012	8.4633	1.108	66.1305	61,7577	0.361	3.055	8.3126	9.7204	209.6667	139.9028	69.7639	6.674	0	0	135.6976	195.7699	85,3375	5,4608	15.154	22,797	/2
	1	28	21	31.83		13.5		0 /	343.07		0	65.66	0		0	0	0	0	0	0	_	0	0	0	0	0	0	0	0	
	1	29	26	31.83	19.9	14	28	0	311.026	12 698	0.99	62 5177	70.3518	0.345	2.853	9 1769	10 676	202 2483	134.652	67.5963	6.438	0	0	124.4755	190.8228	79.3279	4 5774	13 302	19 47	_
	1	30	26		20,1				317,309				64,6766						127.5599		6,105			72.7218		77,3965				
	1	31	26		8.7		28		59.4468				11,4943						1.8383		0.397				0	2.6985				
	1	32	26	31.83	12.5				122.719								8.0142		39.8463		1.982			0	54.3713	24.8373				
	1	33	26		15.3		28		183.854				84.9673						73.9103		3.606			0		43,4594				
	1	34	26		25.85				524,821				56,0928						235.3249		4.906			260.0856	326,7896	140,969				
	1	35	26		18.05				255.885				72.0222						102.8671		4.961			59.0935	145.5227	61.6469				
	1	36	26		22.7		28		404.708				57.2687					242.5231	162,6949		3.432			156.9625	226.4486	100.105				
	1	37	26		19,7				304,805				63,4518						117.8206		5,652			69.2191	164.7694	72,3988				
	1	38	26		9.2		28		66.4761				119.565						22.6124		4.594			0	28.5441	13.3671				
	1	39	26		20.25				322.062				69,1358						139.4302		6.658			128.7333	197.3501	82,3078				
	1	40	26		12,15				115,942				98,7654						43.0242		8.552		-	0	58 9233	25,4014				
	1	41	26		12,15				131.713				88.8031						46.8399		2.319			0	64.4213	28,3144				
	1	42	26		16.5		28		213,825				78,7879						85.9587		4.172			0	120.029	50,9848				
	1	43	26		13.25		28		137.887				86,7925						49.0352		2,424		•	0	67.3313	29,7196				
	1	44	26		18.4				265.904				70.6522						106.8951		5.148		-	61.3239	151.0151					
	1	45	26																					60.0435		64,2024				
	1	45	26		18,3		28		263,022				68,306						101,6696		4,903			0 0,0435	142,9276	61,9469				
					14,05		28		155,04				85,4093						57,5324		2,83		-	-	81,1702	34,5394				
	1	47	26	31,83	15,8		28		196,067				82,2785						78,82		3,837		-	0	110,3995	46,5181				
	1	48	26	31,83	12,6	12	28	0	124,69	28,134	0,397	39,5841	95,2381	0,323	1,808	8,1192	9,2825	/2,0491	46,2702	25,779	2,293	U	0	0	65,7868	27,4323	1,0894	4,6073	5,4053	3



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