

Supplemental Data for:

Fraga, H., R. Costa, J. Moutinho-Pereira, C.M. Correia, L.T. Dinis, I. Gonçalves, J. Silvestre, J. Eiras-Dias, A.C. Malheiro, and J.A. Santos. 2015. Modeling phenology, water status, and yield components of three Portuguese grapevines using the STICS crop model. Am. J. Enol. Vitic. 66:482-491. doi: 10.5344/ajev.2015.15031.

Supplemental Table 1 Annual observed and modeled values for flowering (DOY)^a for Aragonez (AR), Touriga-Franca (TF), and Touriga-Nacional (TN) varieties in the Douro and Lisboa wine regions.

	Flowering (DOY)								
	AR			TF			TN		
	Annual observed values	Annual modeled values	Difference	Annual observed values	Annual modeled values	Difference	Annual observed values	Annual modeled values	Difference
Douro									
2001	147	148	1						
2002	145	135	-10						
2003	140	139	-1						
2012				142	145	3	146	152	6
2013				148	156	8	150	163	13
2014				133	134	1	138	138	0
Mean	144	141	-3	141	145	4	145	151	6
Lisboa									
2012	160	154	-6	154	151	-3	157	149	-8
2013	154	161	7	148	157	9	151	155	4
2014	138	155	17	138	149	11	138	146	8
Mean	151	157	6	147	152	6	149	150	1

^aDOY, day of year.

Supplemental Table 2 Annual observed and modeled values for harvest (DOY)^a for Aragonez (AR), Touriga-Franca (TF), and Touriga-Nacional (TN) varieties in the Douro and Lisboa wine regions.

	Harvest (DOY)								
	AR			TF			TN		
	Annual observed values	Annual modeled values	Difference	Annual observed values	Annual modeled values	Difference	Annual observed values	Annual modeled values	Difference
Douro									
2001	263	264	-1						
2002	263	265	-2						
2003	261	259	2						
2012				264	265	1	264	264	0
2013				255	256	1	255	256	1
2014				267	265	-2	267	264	-3
Mean	262	263	1	262	262	0	258	261	-1
Lisboa									
2012	262	261	-1	262	264	2	262	263	1
2013	266	259	-7	266	264	-2	266	262	-4
2014	269	268	-1	269	270	1	269	269	0
Mean	266	263	-3	266	266	0	266	265	-1

^aDOY, day of year.

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Supplemental Table 3 Annual observed and modeled values for yield (t/ha) for Aragonez (AR), Touriga-Franca (TF), and Touriga-Nacional (TN) varieties in the Douro and Lisboa wine regions.

	Yield (t/ha)								
	AR			TF			TN		
	Annual observed values	Annual modeled values	Difference	Annual observed values	Annual modeled values	Difference	Annual observed values	Annual modeled values	Difference
Douro									
2001	9.4	10.2	0.8						
2002	3.9	5.1	1.2						
2003	10.5	8.9	-1.6						
2012				5.4	6.0	0.6	4.8	6.1	1.3
2013				7.5	10.0	2.5	8.6	10.2	1.6
2014							9.2	9.9	0.7
Mean	7.9	8.1	0.2	6.5	8.0	1.6	7.5	8.7	1.2
Lisboa									
2012	16.5	15.5	-1.0				16.6	14.2	-2.4
2013	16.2	14.0	-2.2				17.8	12.2	-5.6
2014	17.5	17.0	-0.5				10.6	9.8	-0.8
Mean	16.7	15.5	-1.2				15.0	12.1	-2.9

Supplemental Table 4 Annual observed and modeled values for dry pruning weight (t/ha) for Aragonez (AR), Touriga-Franca (TF), and Touriga-Nacional (TN) varieties in the Douro and Lisboa wine regions.

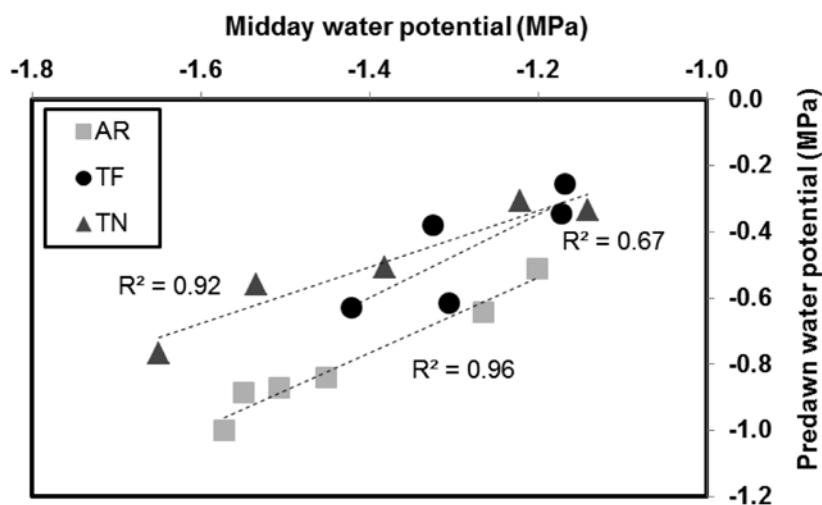
	Dry pruning weight (t/ha)								
	AR			TF			TN		
	Annual observed values	Annual modeled values	Difference	Annual observed values	Annual modeled values	Difference	Annual observed values	Annual modeled values	Difference
Douro									
2001	1.2	0.9	-0.3						
2002	1.2	0.9	-0.3						
2003	1.3	1.0	-0.3						
2012				0.5	0.6	0.1	0.6	0.6	0.0
2013				0.8	0.6	-0.2	0.4	0.5	0.1
2014					0.7	0.7	0.9	0.6	-0.3
Mean	1.2	0.9	-0.3	0.7	0.6	-0.1	0.6	0.6	0.0

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Supplemental Table 5 Annual observed and modeled values for potential alcohol content (% vol) for Aragonez (AR), Touriga-Franca (TF), and Touriga-Nacional (TN) varieties in the Douro and Lisboa wine regions.

	Potential alcohol content (% vol)								
	AR			TF			TN		
	Annual observed values	Annual modeled values	Difference	Annual observed values	Annual modeled values	Difference	Annual observed values	Annual modeled values	Difference
Douro									
2001	11.7	11.9	0.2						
2002	12.1	12.6	0.5						
2003	11.4	11.2	-0.2						
2012				12.9	11.9	-1.0	14.1	11.2	-2.9
2013				10.8	9.8	-1.0	11.8	9.8	-2.0
2014							11.8	11.2	-0.6
Mean	11.7	11.9	0.2	11.9	10.9	-1.0	12.6	10.7	-1.8
Lisboa									
2012	12.6	10.5	-2.1	9	11.2	2.2	10.4	11.2	0.8
2013	12.8	9.8	-3.0	11.3	10.5	-0.8	11.2	10.5	-0.7
2014	11.8	11.2	-0.6	8.1	11.9	3.8	13.5	11.9	-1.6
Mean	12.4	10.5	-1.9	9.5	11.2	1.7	11.7	11.2	-0.5



Supplemental Figure 1 Scatterplot of the midday leaf water potential versus the predawn leaf water potential (Ψ_{md} versus Ψ_{pd} , respectively) for the Aragonez (AR), Touriga-Franca (TF), and Touriga-Nacional (TN) varieties.