

Soils and climate of the satellite appellations of Saint-Emilion Château Guibot la Fourvielle – Puisseguin Saint-Emilion

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The appellations Saint-Emilion and Saint-Emilion Grand Cru (5450 ha) are surrounded by four satellite appellations: Montagne Saint-Emilion (1450 ha), Lussac Saint-Emilion (1450 ha), Puisseguin Saint-Emilion (730 ha) and Saint-Georges Saint-Emilion (200 ha). The geology of the satellite appellation is composed of Tertiary sediments, including soft limestone located on the slopes, called “molasses du Fronsadais” (Oligocene), hard limestone located on the plateaus, called “calcaire à Astéries” (Oligocene) and non-calcareous river sediments in the northern part of the area, called (sables du Périgord, Eocene). The topography is gently sloping and extends between 30 m above sea level (m.a.s.l.) and 106 m.a.s.l. Soils are calcareous on 34 % of the area and vary from shallow on the “calcaire à Astéries” to medium depth on the “molasses du Fronsadais”. The texture of the calcareous soils is silty clay. On 66 % of the area soils are non-calcareous and vary in texture from sandy silt to silty clay. The non-calcareous soils are deeper and have generally a greater water holding capacity.

The climate is, on average, cooler in the satellite appellation compared to Saint-Emilion, but temperatures do vary locally. The highest average temperatures are recorded on the limestone plateaus, while temperatures are lower in the northeastern part of the area.

The wines from the satellite appellations used to be not as famous as the wines from Saint-Emilion. Because of the cooler climatic conditions, maturity was more difficult to achieve. With climate change, this handicap is progressively turning into an advantage and wine quality is steadily increasing in this area.

One of the soil types of château Guibot la Fourvielle (Puisseguin Saint-Emilion) is a weakly leached silty-clay soil on “molasses de l'Agenais” substrate. Traditionally Merlot was the major variety on this soil type but, with climate change, Cabernet franc becomes an alternative option. Wines are powerful and conserve good freshness, despite moderately high alcohol levels. They blend well with wines produced on calcareous soils located on the “calcaire à Astéries” substrate, which adds complexity.

Keywords : Soil, Climate, Saint-Emilion, satellite appellation, château Guibot la Fourvielle, Puisseguin Saint-Emilion

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The Saint'Elites
 Clos Albertus
 Château La Couronne

Château Corbin
 Château De La Grenière
 Château Guibot La Fourvielle
 Château Rigaud
 Château La Rose Perrière
 Château Tour Bayard îlot 1
 Château Tour Bayard îlot 2
 Château Vieux Bonneau

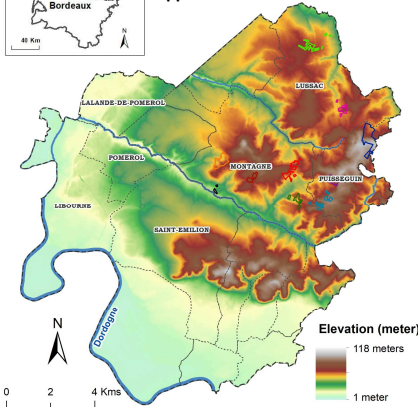


Additional information on the terroir of the Saint-Elites association

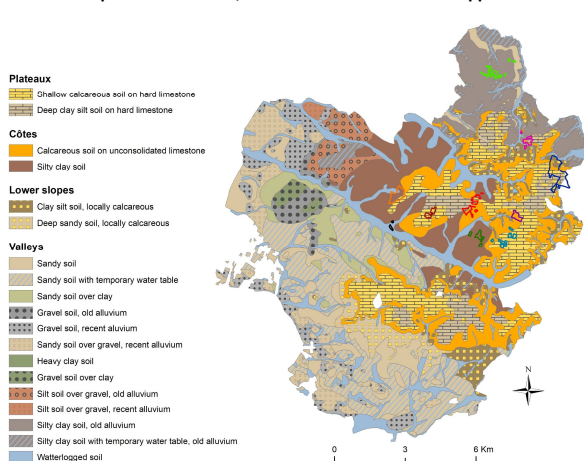


Additional information on the terroir of Saint-Emilion with multiple interactive maps (Advicim project)

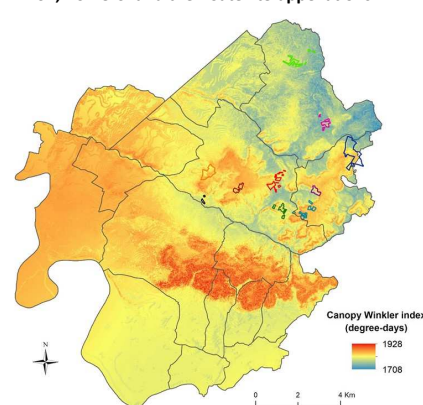
Topography map of Saint-Emilion, Pomerol and their Satellite appellations



Soil map of Saint-Emilion, Pomerol and their Satellite appellations



Canopy Winkler index map (average 2012-18) of Saint-Emilion, Pomerol and their Satellite appellations

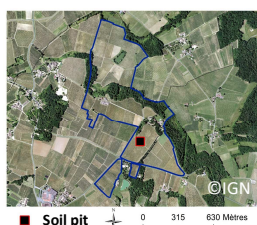


Geology, topographie and soils have a high degree of similarity between Saint-Emilion and its satellite appellations

The climate is cooler in the satellite appellations compared to Saint-Emilion and Pomerol

Château Guibot La Fourvielle PDO Puisseguin Saint-Emilion

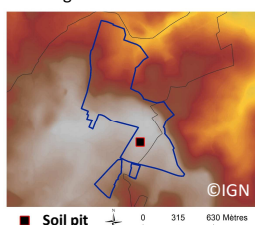
Parcels of château Guibot La Fourvielle



Soil pit parcel informations:

- Plant material: Merlot/SO4
- Planting year: 1980

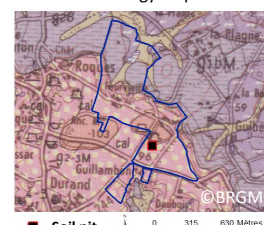
Digital Elevation Model



Topography:

Plateau, 100 m.a.s.l.

Geology map



Geology:

Molasse de l'Agenais on top of calcaire à Astéries (Oligocene)



Parcel "Le Haut du Bassin"	Horizon 1	Horizon 2	Horizon 3
DEPTH (cm)	0-45	45-80	80-130
COURSE ELEMENTS (>2 mm) (%)	0%	0%	0%
FINE EARTH (%)	100%	100%	100%
Coarse sand	3%	3%	5%
Fine sand	6%	5%	5%
Coarse silt	39%	26%	24%
Fine silt	25%	28%	25%
Clay	27%	38%	41%
TEXTURE	Silty-clay	Silty-clay	Clay
ORGANIC MATTER (%)	0.7	<0.6	-
ORGANIC CARBON (%)	0.4	-	-
TOTAL NITROGEN (%)	0.07	0.052	-
C/N ratio	5.8	-	-
pH (water)	6.8	6.8	6.8
pH (KCl)	5.9	5.8	5.9
ADSORBANT COMPLEX			
K ⁺ cmol ⁺ /kg	0.52	0.35	0.36
Mg ²⁺ cmol ⁺ /kg	1.18	1.31	1.28
Ca ²⁺ cmol ⁺ /kg	8.61	12.43	++
S (sum of cations)	++	++	++
V (saturation rate)	Sat.	Sat.	Sat.
C.E.C cmol ⁺ /kg	9.2	13.8	13.5
Total Ca (%)	<0.1	<0.1	<0.1
Active Ca (%)	-	-	-
IPC	-	-	-
P ₂ O ₅ g/kg Joret-Hébert	0.043	0.03	0.03



Soil description:

- Deep soil, parent rock not visible in the soil pit
- Silty clay topsoil (approx. 30% clay)
- Clay-silt subsoil (approx. 40% clay below 45 cm depth)
- Moderately high soil water holding capacity, little or no restriction in water uptake conditions
- Low OM content, very restrictive N conditions



Recommended plant material:

- No active lime, wide variety of rootstocks possible
- 101-14MGt is a high quality option, because it limits vigor and productivity
- Because N is so much restricted, better yields would be ensured with 3309C or 420A
- Merlot preferred, Cabernet franc is an option in a context of climate change



Wine style:

- Powerful wines
- Wines preserve freshness despite high alcohol content
- Blending with wine produced on calcaire à Astéries increases finesse and complexity

Soil type (Fr):
NEOLUVISOL faiblement redoxique sur molasses de l'Agenais

Soil type (En):
Weakly leached silty clay soil on molasse de l'Agenais