**Table S1.** Characteristics of vineyards sampled (sampling points) in the present study.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study sites (vineyards) | Wine farm | Years | Generations of *Lobesia botrana* assessed | Latitude (degree, min, sec)N | Longitude (degree, min, sec)W | Variety | Vineyard system | Management of soil | Production system | Management of soil on slope | Elevation above sea level (m) |
| 1 | A | 2011-2012 | 1, 2 | 41° 12'32" | 7° 26' 7" | Touriga Nacional | V | GC | IP | - | 130 |
| 2 | A | 2011-2013 | 1, 2, 3 | 41° 12'21" | 7° 25' 47" | Touriga Franca | V | GC | IP | - | 136 |
| 3 | A | 2011 | 1 | 41°12'31" | 7°26'13" | Touriga Franca | V | GC | IP | - | 120 |
| 4 | A | 2012 | 3 | 41°12'33" | 7°26'12" | Tinta Amarela | V | GC | IP | - | 120 |
| 5 | A | 2012 | 3 | 41°12'28" | 7°25'49" | Touriga Franca | V | GC | IP | - | 128 |
| 6 | B | 2002 | 1, 2 | 41° 11'30" | 7° 31' 39" | Touriga Franca | P2 | GC | IP | H | 196 |
| 7 | C | 2011 | 1 | 41° 10'29" | 7° 31' 53" | several | T | H | IP | - | 367 |
| 8 | C | 2011-2012 | 1, 3 | 41° 11'10" | 7° 32' 38" | several | T | GC | IP | GC | 159 |
| 9 | C | 2011-2012 | 1, 2, 3 | 41° 10'35" | 7° 31' 33" | several | T | H | IP | - | 181 |
| 10 | C | 2012-2013 | 3 | 41° 10'44" | 7° 31' 58" | Touriga Nacional | P1 | E | IP | E | 204 |
| 11 | C | 2013 | 2 | 41° 10'18" | 7° 31' 09" | Touriga Franca | V | E | IP | - | 389 |
| 12 | C | 2013 | 2, 3 | 41° 10'04" | 7° 30' 55" | Touriga Franca | V | E | IP | - | 293 |
| 13 | C | 2011-2013 | 1, 3 | 41° 11'07" | 7° 32' 29" | several | T | E | IP | - | 154 |
| 14 | D | 2011-2012 | 1, 2, 3 | 41° 08'44" | 7° 22' 54" | Chardonnay | V | GC | IP | - | 539 |
| 15 | E | 2005 | 1 | 41° 08'60" | 7° 43' 44" | Touriga Franca | P2 | GC | IP | H | 186 |
| 16 | F | 2011-2013 | 1, 2, 3 | 41° 15'03" | 7° 29' 09" | Malvasia fina | FV | GC | IP | - | 575 |
| 17 | F | 2011-2012 | 1, 2 | 41° 15'34" | 7° 28' 36" | Arinto | FV | GC | IP | - | 612 |
| 18 | F | 2011-2012 | 1, 2, 3 | 41° 15'06" | 7° 28' 36" | Encruzado | FV | GC | IP | - | 589 |
| 19 | F | 2013 | 3ª | 41° 15'56" | 7° 28' 51" | Boal | FV | GC | IP | - | 629 |
| 20 | F | 2011, 2012 | 1, 2, 3 | 41°15'20" | 7°28'33" | Moscatel galego | FV | GC | IP | - | 600 |
| 21 | G | 2002, 2004, 2007, 2011-2012 | 1, 2 | 41° 09'14" | 7°37'20" | Touriga Franca | P2 | GC | IP | H | 211 |
| 22 | G | 2009, 2011, 213 | 1, 2, 3 | 41° 09'15" | 7°37'52" | Touriga Franca | P2 | T | Conv. | H | 234 |
| 23 | G | 2011 | 1, 3 | 41° 09'09" | 7°37'04" | Touriga Nacional | P1 | GC | IP | GC | 205 |
| 24 | G | 2011 | 1 | 41° 09'14" | 7°37'43" | Touriga Nacional | P2 | GC | IP | H | 242 |
| 25 | G | 2011-2012; 2015 | 1 | 41° 09'24" | 7°37'26" | Touriga Franca, Tinta Barroca | P2 | GC | IP | H | 114 |
| 26 | G | 2011, 2015 | 1 | 41° 09'17" | 7°37'38" | Touriga Franca | V | GC | IP | - | 183 |
| 27 | G | 2015 | 1 | 41° 09'5" | 7°37'25" | Touriga Nacional | P2 | GC | IP | H | 300 |
| 28 | G | 2011, 2015 | 1 | 41° 09'1" | 7°37'17" | Viosinho | P2 | GC | IP | H | 290 |
| 29 | G | 2011-2012 | 1 | 41° 9'27" | 7°37'7" | several | T | H | IP | H | 111 |
| 30 | G | 2011-2012, 2015 | 1, 3 | 41° 09'23" | 7°36'53" | Touriga Nacional | P1 | GC | IP | H | 224 |
| 31 | H | 2005 | 2 | 41° 10'25" | 7° 33' 06" | Touriga Franca | V | GC | IP | - | 88 |
| 32 | H | 2011 | 2 | 41°10'3" | 7°33'2.62" | Touriga Franca | V | GC | IP | - | 157 |
| 33 | H | 2011 | 2, 3 | 41°10'14" | 7°33'5" | Touriga Nacional | P2 | GC | IP | GC | 126 |
| 34 | H | 2011 | 2 | 41° 09'49" | 7° 33' 16" | Touriga Franca | P2 | GC | IP | H | 277 |
| 35 | H | 2011 | 2, 3 | 41° 09'58" | 7° 33' 21" | Touriga Franca | P2 | GC | IP | H | 240 |
| 36 | H | 2011 | 3 | 41° 09'57" | 7° 33' 35" | Touriga Franca | P2 | GC | IP | H | 191 |
| 37 | I | 2005, 2011 | 1 | 41° 09'56" | 7° 33' 16" | Touriga Franca | P2 | GC | IP | H | 125 |
| 38 | I | 2011 | 1, 2 | 41° 09'28" | 7° 46' 06" | Touriga Franca | P2 | GC | IP | H | 132 |
| 39 | I | 2011 | 1ª | 41° 09'42" | 7° 46' 03" | Touriga Franca | FV | GC | IP | GC | 71 |
| 40 | J | 2009, 2011 | 1, 2, 3 | 41° 11'12" | 7° 30' 42" | Touriga Franca | P2 | GC | IP | H | 121 |
| 41 | J | 2011 | 1ª | 41° 10'25" | 7° 30' 58" | Touriga Franca | P2 | GC | IP | H | 305 |
| 42 | J | 2015 | 1 | 41° 10'42" | 7° 29' 59" | Touriga Franca | P2 | GC | IP | H | 205 |
| 43 | L | 2012 | 3 | 41° 10'7" | 7° 49' 49" | several | P2 | GC | IP | H | 326 |

Organization of vineyards on land: P1: earth-banked terraces of one row; P2: earth-banked terraces of two rows; V: vertical vineyards; T: traditional vineyards, installed with no organization of land; FV: Flat vineyards; Management of soil: GC: ground cover; H: herbicide; T: tilled; Production system: IP: Integrated production; Conv: Conventional.