



# Cabernet-sauvignon N



## Name of vine variety in France

Cabernet-Sauvignon

## Origin

This vine variety is originally from the Bordeaux region. Based on published genetic studies, this variety comes from the crossbreeding of Cabernet franc N and Sauvignon B

## Synonymy

There is no officially recognized synonym in France nor in other countries in the European Union.

## Regulations

In France, Cabernet-Sauvignon N is officially listed in the "Catalogue of vine varieties". This variety is likewise listed in the Catalogues of other European Union member states: Germany, Austria, Bulgaria, Cyprus, Spain, Greece, Italy, Hungary, Malta, Portugal, Czech Republic, Romania, Slovakia, Slovenia

## Use

Wine vine variety

## Evolution of area under vines in France

|    | 1958 | 1968  | 1979  | 1988  | 1998  | 2008  | 2016  |
|----|------|-------|-------|-------|-------|-------|-------|
| ha | 7841 | 11882 | 22992 | 36468 | 49393 | 60385 | 48439 |

## Description

Identification signs include:

- young leaves are red with bronze patches,
- adult leaves are orbicular with 7 to 9 lobes, with a petiolar sinus that has slightly overlapping lobes and a base sometimes limited by a vein near the petiolar point, a flat base lateral sinus or U-shaped, medium to large length teeth with convex sides, a bubbled leaf blade and the underside has a sparse coat of flat-lying hairs,
- round-shaped berries.

## Genetic profile

| Microsatellite | VVS2 | VVMD5 | VVMD7 | VVMD27 | VRZAG62 | VRZAG79 | VVMD25 | VVMD28 | VVMD32 |
|----------------|------|-------|-------|--------|---------|---------|--------|--------|--------|
| Allel 1        | 137  | 229   | 239   | 172    | 188     | 248     | 238    | 233    | 239    |
| Allel 2        | 149  | 238   | 239   | 186    | 194     | 248     | 248    | 235    | 239    |

## Phenology

Bud burst: 13 days after Chasselas.

Grape maturity: period II, 3 to 3 and 1/2 weeks after Chasselas.

## Suitability for cultivation and agronomic production

Cabernet-Sauvignon N has a late bud burst, is vigorous with large-diameter vine shoots under fertile conditions with very long branches (elongated internodes) and lignified tendrils. It requires careful training and pruning, which can be long or short in southern areas, and is relatively slow. Large pruning wounds should be avoided. Removing wood, which is hard, likewise requires considerable time consuming work. Cabernet-Sauvignon N oftentimes produces better results on gravelly and draining ground, rather acid and well-exposed. This variety sometimes suffers from black stem and this risk is increased by using certain rootstock such as S04.

## Sensitivity to diseases and pests

Cabernet-Sauvignon N is less susceptible to grey rot. On the other hand, it is very susceptible to wood disease (eutypiosis, esca) and powdery mildew.

## Technological potential

The grape clusters and berries are small. Cabernet-Sauvignon N makes wines with very interesting tannic structure with a sustained color when it has reached maturity. These wines are generally suitable for ageing and maturing in wood. This vine variety passes from vegetal aromas to much more pleasant and complex aromas once the wine has reached a proper maturity. On the other hand, when vinified alone as a single variety, Cabernet-Sauvignon N oftentimes lacks body and roundness.

## Clonal selection in France

The twenty approved Cabernet-Sauvignon N clones carry the numbers 15, 169, 170, 191, 216, 217, 218, 219, 267, 269, 337, 338, 339, 341, 410, 411, 412, 685, 1124 and 1125. A collection-conservatory planted in the Bordeaux vineyards includes more than 250 clones derived from surveys carried out between 1966 and 1988.


## Bibliographic references

- Catalogue des variétés et clones de vigne cultivés en France. Collectif, 2007, Ed. IFV, Le Grau-du-Roi.
- Documentation interne du Domaine de Vassal. 1949-2011, INRA, Marseillan-plage.
- Cépages et vignobles de France, tome 2. P. Galet, 1990, Ed. Dehan, Montpellier.
- Ampélographie. P. Viala et V. Vermorel, 1902-1910, Ed. Masson, Paris.

## Description of clones approved in France

| Clone number | Identity and availability   |                                     | Agronomic data          |                         | Technical data                |                       |
|--------------|---|-------------------------------------|-------------------------|-------------------------|-------------------------------|-----------------------|
|              | Origin  | Selection                           | Fertility               | Production level        | Sugar content                 | Potential color       |
| 15           | Year approved   | Agronomic references                | Weight of grape bunches | Vigor                   | Total acidity                 | Tannic structure      |
|              | Growing surface area  |                                     | Size of berries         | Sensitivity to Botrytis | Aromatic intensity            | Oenological aptitudes |
|              | Gironde   | ENTAV                               | high                    | high                    | medium                        | medium                |
| 1971         | Bordelais<br>Languedoc<br>Provence, Sud-Ouest   | medium to high                      | medium                  | medium                  | medium                        |                       |
| 39.07 ha     |   | medium to high                      |                         |                         | balanced and structured wines |                       |
| 169          | Gironde   | ENTAV                               | low to medium           | medium                  | high                          | medium to high        |
|              | 1972  | Bordelais<br>Languedoc<br>Sud-Ouest | low to medium           |                         | medium                        | medium to high        |
|              | ENTAV INRA® Clone appreciated in the south of France; good compromise between production level and harvest quality provided that the yield is managed and sufficient maturity ensured |                                     |                         |                         |                               |                       |


| Clone number | Identity and availability |                      | Agronomic data          |                         | Technical data  |                       |
|--------------|---------------------------|----------------------|-------------------------|-------------------------|---|-----------------------|
|              | Origin                    | Selection            | Fertility               | Production level        | Sugar content   | Potential color       |
|              | Year approved             | Agronomic references | Weight of grape bunches | Vigor                   | Total acidity   | Tannic structure      |
|              | Growing surface area      |                      | Size of berries         | Sensitivity to Botrytis | Aromatic intensity                                    | Oenological aptitudes |
| 46.38 ha     |                           | low to medium        |                         |                         | balanced and well-structured wines with round tannins |                       |

ENTAV  INRA<sup>®</sup> Clone appreciated for its agronomic characteristics and its capacity for producing wines with good ageing potential.


|     |              |  |        |        |        |  |
|-----|--------------|--|--------|--------|--------|--|
| 170 | Val-de-Loire | ENTAV  | medium | medium | medium | medium   |
|     | 1972         | Bordelais<br>Languedoc, Provence<br>Val-de-Loire | medium |        | medium | medium   |
|     | 5.39 ha      |  | medium |        |        | balanced and distinctive of the vine variety wines |

ENTAV  INRA<sup>®</sup> Clone typical of the vine variety


|     |          |   |               |        |        |                              |
|-----|----------|---|---------------|--------|--------|------------------------------|
| 191 | Gironde  | INRA  | low to medium | low    | high   | high                         |
|     | 1973     | Bordelais, Sud-Ouest<br>Languedoc, Provence<br>Val-de-Loire | low           | medium | medium | high                         |
|     | 14.04 ha |   | low to medium |        |        | colorful and well structured |

ENTAV  INRA<sup>®</sup> Clone carrier of leaf roll virus2. Increasingly bronze budding and young leaves. Risk of blocking ripening if water stress is too great. Clone appreciated for its agronomic characteristics and its capacity for producing wines with good ageing potential


|     |              |                                     |        |      |               |                                       |
|-----|--------------|-------------------------------------|--------|------|---------------|---------------------------------------|
| 216 | Val-de-Loire | ENTAV                               | high   | high | low to medium |                                       |
|     | 1973         | Languedoc, Provence<br>Val-de-Loire | medium |      | medium        |                                       |
|     | 0.30 ha      |                                     |        |      |               | distinctive wines of the vine variety |

ENTAV  INRA<sup>®</sup>


|     |              |                                     |        |      |        |                                       |
|-----|--------------|-------------------------------------|--------|------|--------|---------------------------------------|
| 217 | Val-de-Loire | ENTAV                               | medium | high | medium |                                       |
|     | 1973         | Languedoc, Provence<br>Val-de-Loire | medium |      | medium |                                       |
|     | 1.16 ha      |                                     |        |      |        | distinctive wines of the vine variety |

ENTAV  INRA<sup>®</sup>


|     |         |           |                |                |        |                                       |
|-----|---------|-----------|----------------|----------------|--------|---------------------------------------|
| 218 | Gironde | ENTAV     | medium to high | medium to high | medium |                                       |
|     | 1973    | Bordelais | medium         |                |        |                                       |
|     |         |           |                |                |        | distinctive wines of the vine variety |

ENTAV  INRA<sup>®</sup>


|     |              |                           |        |        |               |                                       |
|-----|--------------|---------------------------|--------|--------|---------------|---------------------------------------|
| 219 | Val-de-Loire | ENTAV                     | medium | medium | low to medium |                                       |
|     | 1973         | Languedoc<br>Val-de-Loire | medium |        | medium        |                                       |
|     | 0.42 ha      |                           |        |        |               | distinctive wines of the vine variety |

ENTAV  INRA<sup>®</sup>


|     |         |              |                |      |               |                                       |
|-----|---------|--------------|----------------|------|---------------|---------------------------------------|
| 267 | Gironde | ENTAV        | medium to high | high | low to medium |                                       |
|     | 1973    | Val-de-Loire | medium to high |      | low to medium |                                       |
|     |         |              |                |      |               | distinctive wines of the vine variety |

ENTAV  INRA<sup>®</sup>

|     |         |              |        |      |        |                                       |
|-----|---------|--------------|--------|------|--------|---------------------------------------|
| 269 | Gironde | ENTAV        | high   | high | medium |                                       |
|     | 1973    | Val-de-Loire | medium |      | medium |                                       |
|     |         |              |        |      |        | distinctive wines of the vine variety |

ENTAV  INRA<sup>®</sup>

|     |          |           |        |        |                |                           |
|-----|----------|-----------|--------|--------|----------------|---------------------------|
| 337 | Gironde  | INRA      | medium | medium | medium to high | medium to high            |
|     | 1975     | Bordelais | medium |        | medium         | medium to high            |
|     | 28.39 ha |           | medium |        |                | rich and structured wines |

ENTAV  INRA<sup>®</sup> Clone carrier of leaf roll virus2. Slightly shorter plant cycle. Clone appreciated for its agronomic characteristics and its capacity for producing wines with good ageing potential

|     |         |                        |                |        |        |  |
|-----|---------|------------------------|----------------|--------|--------|--|
| 338 | Gironde | INRA                   | medium         | medium | medium | medium to high                                     |
|     | 1975    | Bordelais<br>Languedoc | medium to high |        | medium | medium to high                                     |
|     | 9.68 ha |                        | medium         |        |        | balanced and distinctive of the vine variety wines |

ENTAV  INRA<sup>®</sup>

|     |         |                                  |                |      |               |  |
|-----|---------|----------------------------------|----------------|------|---------------|--|
| 339 | Gironde | INRA                             | high           | high | low to medium |  |
|     | 1975    | Bordelais<br>Languedoc, Provence | medium to high |      | medium        |  |

| Clone number  | Identity and availability   |                                  | Agronomic data                 |                                | Technical data                        |  |
|---|-----------------------------|----------------------------------|--------------------------------|--------------------------------|---------------------------------------|--|
|   | <i>Origin</i>               | <i>Selection</i>                 | <i>Fertility</i>               | <i>Production level</i>        | <i>Sugar content</i>                  | <i>Potential color</i>   |
|   | <i>Year approved</i>        | <i>Agronomic references</i>      | <i>Weight of grape bunches</i> | <i>Vigor</i>                   | <i>Total acidity</i>                  | <i>Tannic structure</i>  |
|   | <i>Growing surface area</i> |                                  | <i>Size of berries</i>         | <i>Sensitivity to Botrytis</i> | <i>Aromatic intensity</i>             | <i>Oenological aptitudes</i>   |
| 0.75 ha   |                             |                                  |                                |                                | distinctive wines of the vine variety |  |
| ENTAV INRA® Clone carrier of leaf roll virus2. More vigorous appearance, dark green leaves  |                             |                                  |                                |                                |                                       |  |
| 341   | Gironde                     | INRA                             | low to medium                  | medium                         | high                                  | medium to high   |
|   | 1975                        | Bordelais                        | low                            |                                | medium                                | medium to high   |
|   | 8.25 ha                     |                                  | medium                         |                                |                                       | balanced and structures wines  |
| ENTAV INRA® Clone carrier of leaf roll virus 2. Clone appreciated for its agronomic characteristics and its capacity for producing wines with good ageing potentiel |                             |                                  |                                |                                |                                       |  |
| 410   | Gironde                     | ENTAV                            | medium                         | medium                         | medium                                |  |
|   | 1976                        | Bordelais                        | medium                         |                                | medium                                |  |
|   |                             |                                  |                                |                                |                                       | distinctive wines of the vine variety  |
| ENTAV INRA®   |                             |                                  |                                |                                |                                       |  |
| 411   | Gironde                     | ENTAV                            | medium                         | medium                         | medium                                |  |
|   | 1976                        | Bordelais                        | medium                         |                                | medium                                |  |
|   |                             |                                  |                                |                                |                                       | distinctive wines of the vine variety  |
| ENTAV INRA®   |                             |                                  |                                |                                |                                       |  |
| 412   | Gironde                     | ENTAV                            | low to medium                  | low                            | high                                  | medium to high   |
|   | 1976                        | Bordelais<br>Languedoc, Provence | low to medium                  |                                | medium                                | medium to high   |
|   | 0.59 ha                     |                                  | low to medium                  |                                |                                       | balanced and structured wines  |
| ENTAV INRA® Clone appreciated for its agronomic characteristics and its capacity for producing wines with good ageing potential                                     |                             |                                  |                                |                                |                                       |  |
| 685   | Pyrénées-Atlantiques        | ENTAV                            | high                           | high                           | medium                                | medium   |
|   | 1980                        | Bordelais<br>Provence, Sud-Ouest | high                           |                                | medium                                | medium   |
|   | 19.68 ha                    |                                  | medium                         |                                |                                       | characteristic wines of the vine variety   |
| ENTAV INRA® More productive and more vigorous clone, slightly later maturity  |                             |                                  |                                |                                |                                       |  |
| 1124  | Gironde                     | CA 33 - IFV                      | medium                         | medium                         | medium to high                        | high   |
|   | 2009                        | Bordelais                        | medium                         | medium to high                 | medium                                | high   |
|   |                             |                                  | medium to high                 | medium                         |                                       | colourful and well structured wines  |
| ENTAV INRA® Clone derived from clone 191 disinfected by apex micrografting. Free of leafroll virus 2  |                             |                                  |                                |                                |                                       |  |
| Clone appreciated for its agronomic characteristics and its capacity for producing wines with good ageing potential   |                             |                                  |                                |                                |                                       |  |
| Greater vigor than clone 191  |                             |                                  |                                |                                |                                       |  |
| 1125  | Gironde                     | CA 33 - IFV                      | medium                         | medium                         | medium to high                        | high   |
|   | 2009                        | Bordelais                        | medium                         | medium                         | medium                                | medium to high   |
|   |                             |                                  | medium                         | medium                         |                                       | wines appreciated for their organoleptic quality, particularly with regard to balance, color and structure |
| ENTAV INRA® Clone belonging to another clone 337 sanitary family. Free of leafroll virus 2  |                             |                                  |                                |                                |                                       |  |
| Clone appreciated for its agronomic characteristics and its capacity for producing wines with good ageing potential   |                             |                                  |                                |                                |                                       |  |
| Slightly earlier maturity   |                             |                                  |                                |                                |                                       |  |



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