

WATER, A PRECIOUS TREASURE...for the vine

Water is indispensable at each step of the growth of the vine. (growth of the vine stock, of the leaves, of the grapes) even if the vine is less sensitive to draught than any other plant as it has long roots that can go down very deep into the soil.



For a wine-maker, knowing how much water supply is necessary for his plots enable him to estimate the vine's reaction to hydric stress.

How is hydric stress measured?

The vine's hydric state is influenced by:

- Rainfall
- The vine's evapotranspiration
- The necessary water stock

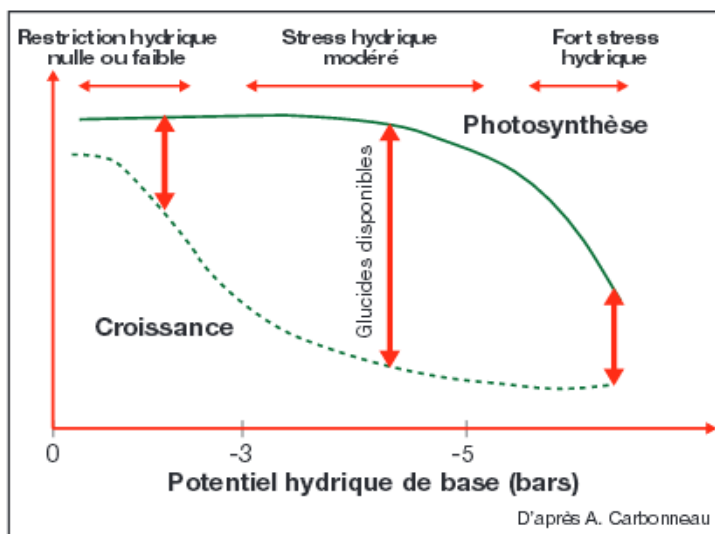
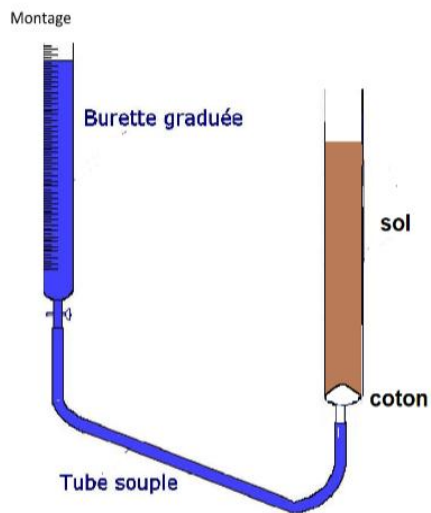


Fig. 1. Alimentation en eau et irrigation de la vigne. Photosynthèse, croissance végétative et glucides de réserve disponibles en fonction d'une contrainte hydrique croissante.

Expérience :



- Fill in the burette with water
- Put 50 ml of soil that has been steamed in a graduated burette
- Fill in the column with 50 ml of soil.
- Open up the burette's tap so that the water will seep up into the soil through capillarity. When the water reaches the top of the soil, close the tap and read how much water has flown and filled in all the gaps in the soil. Note down this volume (V_1)
- Take out the column and let the water drop into a graduated test tube (it's called gravity water). Note down its volume (V_2)
- Le volume of water that can be used by the plant is $V = V_1 - V_2$

CONCLUSION :

The soil is acidic

It contains limestone

The wine makers need to know how much water supply the vine has to assess its hydric stress