

# Degree-days and phenological characterization of five red grapevines cultivated in a Tropical Semi-Arid region of Brazil

Rita Mércia Estigarríbia Borges<sup>1</sup>, Magna Soelma Beserra de Moura<sup>1</sup>, Patrícia Coelho de Souza Leão<sup>1</sup>, Nadja Pollyanna da Silva Gonçalves<sup>2</sup>, Elieth Oliveira Brandão<sup>2</sup>, Elaini Oliveira dos Santos Alves<sup>2</sup>, Thieres George Freire da Silva<sup>3</sup>

<sup>1</sup>Brazilian Agricultural Research Corporation, Embrapa Tropical Semi-Arid, Petrolina-PE, Brazil

<sup>2</sup>Scholarship holder from FACEPE/CNPq/Embrapa Tropical Semi-Arid, Petrolina-PE, Brazil.

<sup>3</sup>Doctor Graduate Student, DEA/UFV/Viçosa-MG, Brazil

Email: magna@cpatsa.embrapa.br

## Background and Aims

The Tropical Semi-Arid of Northeast Brazil has one important area cultivated with irrigated fruits. In this area, the mean air temperature is 26.5°C, the total annual precipitation is 540mm, and mean pan evaporation is about 2700mm, related to a negative soil water balance. Grapes are irrigated by drip, for example, using water from the Sao Francisco River, allowing a continuous vegetative development of grapevines throughout the whole year.

## Significance of Study

As this new tropical zone is starting to produce young wines, and the information about thermal demand and phenological characterization of red grapevines are required to allow an increase of irrigated vineyards area (MOURA et al, 2007). This work aimed to determine degree-days and phenological characterization of five red grapevines cultivated in Northeast Brazil. Methods: Data were obtained in an experimental vineyard located at Embrapa Tropical Semi-Arid, Bahia State. It was evaluated the number of days from pruning to harvest starting in the first and second semester of 2003 to 2007, for five red grapevines: Cabernet Sauvignon, Grenache, Petit Syrah, Petit Verdot and Tempranillo. Degree-days sum of the grapevines was determined using 10°C as base temperature. The air temperature was measured in an Agrometeorology Weather Station located in the experimental area. Results: The results evaluated through *Tukey's Test (5%)* showed that there were not statistical differences for degree-day sum and productive cycle duration between the studied varieties.

## Conclusions

The mean sums were 1815, 1950, 1963, 2154 and 2164 degree-days, related to 109, 112, 115, 129 and 117 days from the pruning to harvest, respectively for Tempranillo, Petit Verdot, Petit Syrah, Cabernet Sauvignon, and Grenache.

## References

MOURA, M.S.B.; BRANDAO, E.O.; SOARES, J.M.; DONOSO, C.D.; SILVA, T. G. F. and SOUZA, L. S. B. (2007) Exigência térmica e caracterização fenológica da videira Cabernet Sauvignon no Vale São Francisco - Brasil. Proceedings of the XI CONGRESSO LATINO AMERICANO DE VITICULTURA Y ENOLOGIA, Mendoza, Argentina. CD-Rom.