



Trends in phenology of grapevine in North-Eastern Italy

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Plants are sensitive indicators of climate change and the analysis of shifts in phenological records may help in confirming trends not easily detected by instrumental observations alone.

We have analyzed a detailed phenological database for grapevine, using observations collected from 1986 to 2008 in two sites of North-Eastern Italy, on the cultivars Prosecco, Chardonnay, Merlot and Cabernet Sauvignon. Parameters of models for winter dormancy, vegetative growth, and ripening phases have been fitted and validated on a subset, yielding a consistent estimate of chilling and heat requirements.

A significant shift of flowering, veraison and harvest dates were observed, reaching almost -1 day per year in the warmer site for the earlier cultivars. While traditional breeding programs have been so far seeking for early ripening capacity, the trends we detected show the close risk of a negative impact of climate change on enological characteristics of grapes even in Northern Italy and the opportunity to look for late-ripening types.