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TITLE OF THESIS:

Effect of canopy management practices - hedging vs curling shoot tips - on growth, yield and fruit composition of Merlot grapevines

Abstract

A study to compare the effects of hedging and curling the shoot tips (rolling) on the last wire of the trellising system was carried out in Saint Emilion (France) on Merlot grapevines in 2011. Vines were hedged or curled when shoots were 30 – 40 cm longer than the highest wire. The effects of the two canopy management strategies on vine performance, mainly vegetative growth, disease occurrence, phenology, water status, yield components and berry composition were compared.

Curled, not hedged vines presented longer main shoots, more lateral shoots and higher potassium values on the petioles. Hedged plants had a higher percentage of shaded clusters and a higher leaf layer number at the cluster zone and $\frac{3}{4}$ of the canopy.

Regarding leaf area, curled plants presented a bigger main leaf area but for lateral leaf area no differences were found. Although berries on hedged plants were prone to have a higher mass, no differences for berry composition were found.

Hedging seems to be an appropriated technique for the Sain Emilion region as it is less time consuming, less expensive, possible to be mechanized and it has no detriment regarding quality of berries.

Keywords: curling, grape composition, grapevine, hedging, leaf area, Merlot.