SUPPLEMENTARY DATA
Tardif, M., Amri, A., Keresztes, B., Deshayes, A., Martin, D., Greven, M., & Da Costa, J.-P. (2022). Two-stage automatic diagnosis of Flavescence Dorée based on proximal imaging and artificial intelligence: a multi-year and multi-variety experimental study. *OENO One, 56*(3).
https://doi.org/10.20870/oeno-one.2022.56.3.5460

Supplemental Material

TABLE 1 SD. Summary of acquisition campaigns.

Year	City (department)	Appellation	Variety	Training method	Inter-row (m)	GPS coordinates	Distance, height of camera (m)
2020	Réparsac (16)	Charentais	*Ugni blanc*	High arch	3	45°34'13.1"N 0°02'01.5"E	1,1
	La Reole (33)	Entre deux Mers	*Cabernet Sauvignon*		2.5	44°36'43.7"N 0°02'18.6"W	1,1
	Saint Maixant (33)	Bordeaux	*Cabernet Sauvignon*		2	44°34'28.7"N 0°14'49.4"W	1,1
	Fossés-et-Baleyssac (33)	Entre deux Mers	*Cabernet Sauvignon*		3	44°35'42.3"N 0°03'08.3"E	1,1
2021	Réparsac (16)	Charentais	*Ugni blanc*	High arch	3	45°35'59.6"N 0°15'24.3"W	1,1
	Saint Laurent des Combes (16)	Charentais	*Ugni blanc*	Cordon	3	45°34'13.1"N 0°02'01.5"E	1,1
	Langoiran (33)	Bordeaux	*Sauvignon*		2	44°41'54.3"N 0°23'28.8"W	1,1
	Rions (33)	Bordeaux	*Cabernet Franc*		2	44°40'11.0"N 0°21'24.4"W	1,1
	Rions (33)	Bordeaux	*Merlot*		2	44°40'19.0"N 0°21'44.8"W	1,1
	Saint Martin de Sescas (33)	Bordeaux	*Cabernet Sauvignon*		3	44°34'16.9"N 0°10'10.6"W	1.5,1

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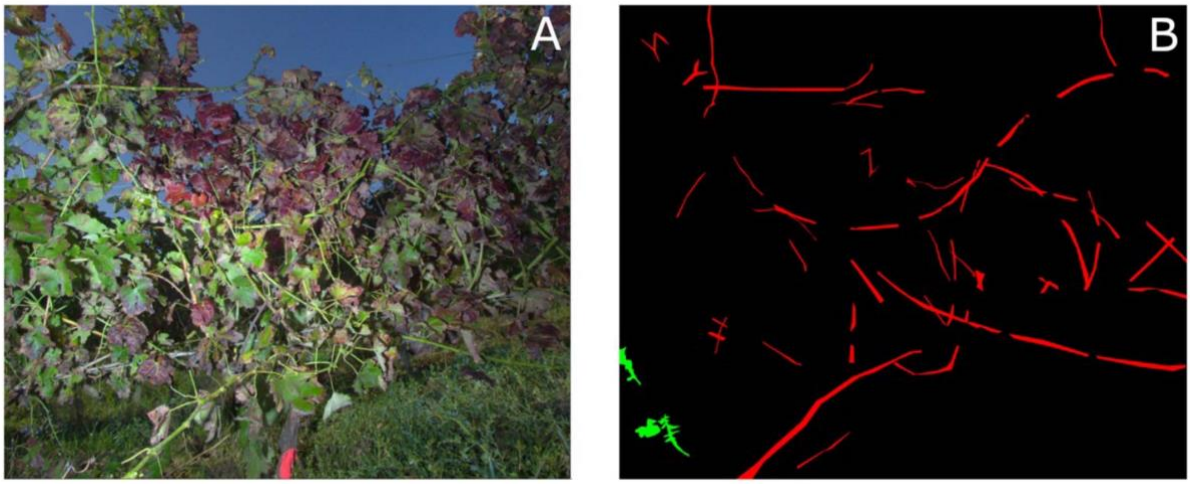

FIGURE 1SD. Example of a segmentation mask.

(A): Original image of Cabernet Sauvignon variety affected by FD. (B): Associated segmentation mask: symptomatic shoot pixels are put in red, symptomatic bunch pixels in green and all other pixels in black.

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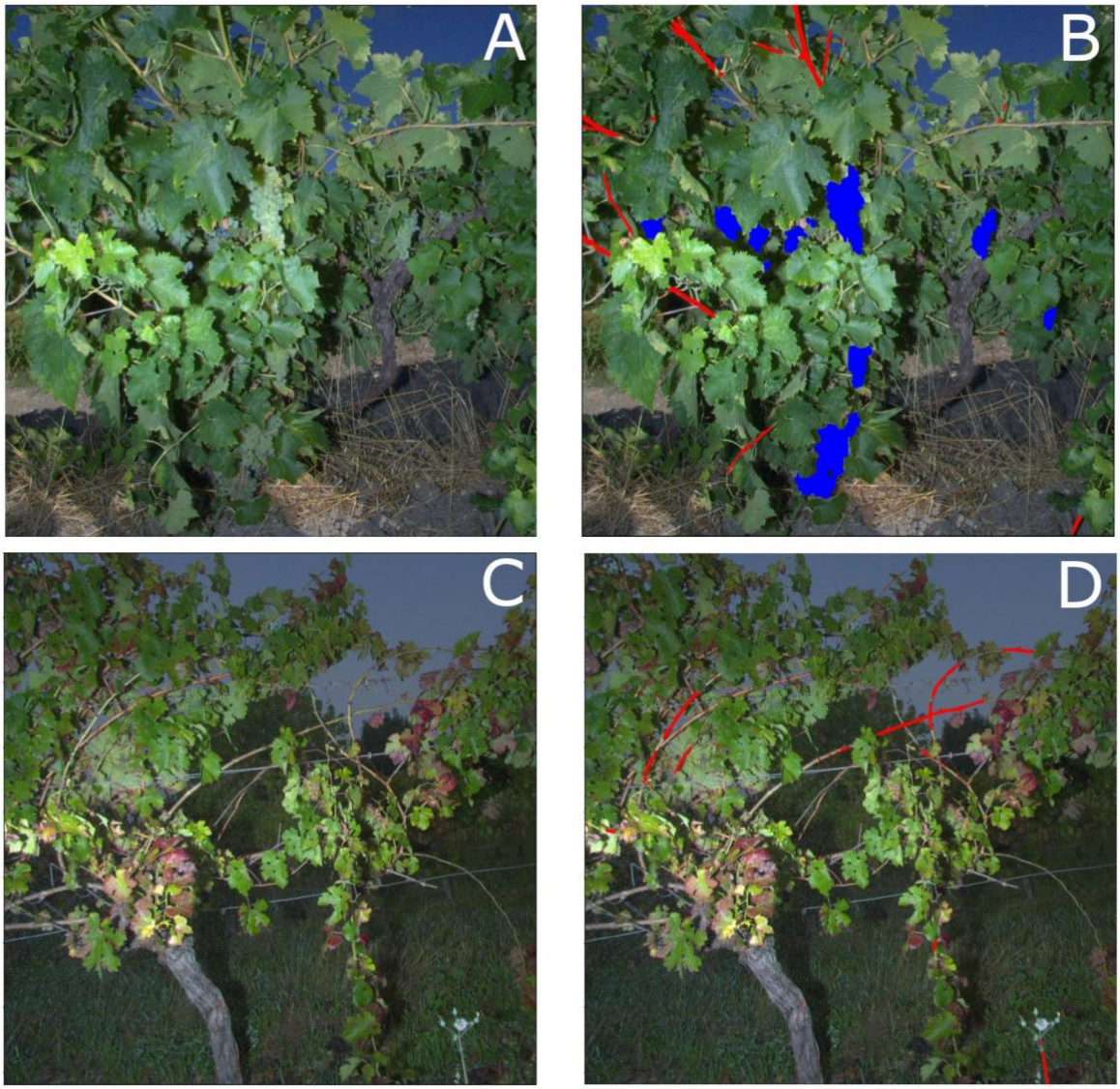

FIGURE 2SD. Examples of ResUnet results.

(A) Image of *Ugni blanc* variety. (B) Superposition of the prediction of the ResUnet algorithm and the image (A). Pixels predicted as being pixels of unlignified shoots are put in red, those of healthy bunches in blue. We can notice that some petioles were predicted as symptomatic shoots. (C) Image of *Cabernet Sauvignon* variety. (D) Superposition of the prediction of the ResUnet algorithm and the image (C). The weed stem in the lower right of the image was predicted to be an unlignified shoot. These 2 examples illustrate the difficulties in predicting unlignified shoots.

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FIGURE 1SD. Example of leaves predictions by the Yolov4 Tiny algorithm.

Image of a vine of *Cabernet Sauvignon* variety affected by leafroll. The symptoms on leaves are very confusing with those of FD. Here all symptomatic leaves of leafroll were predicted as FD symptomatic leaves (purple squares) by the algorithm. There are also roasted leaves predicted as Esca leaves (red squares). Predictions of confounding leaves of FD are put in orange squares. The confidence score of each detection is displayed next to the class prediction.

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FIGURE 4SD. Example of leaves predictions by the Yolov4 Tiny algorithm.

Image of *Cabernet Sauvignon* grape variety. All symptomatic leaves of FD are well predicted. Towards the middle of the image, 2 leaves showing discoloration are predicted as FD leaves when they are not. Two leaves from a vine in the row behind are predicted, a mistake that can happen.