SPEZIA

TECNOVICT

LEAF-STRIPPER
MOD. 111 GPS VRT

SFOGLIATRICE GPS
MOD. 111 VRT
SISTEMA INTEGRATO
DI GESTIONE PER
VITICOLTURA DI
PRECISIONE

NOVITÀ TECNICA
2010

www.tecnovict.com
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TECNOVICT

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This is the first machine in the world to be created to work on the vineyard canopy at a variable rate. The 111 VRT leaf-stripper has been devised to enable controlled working in the vineyard, not removing leaves in a uniform way, as with all the previous equipment, but controlled depending on the higher or lower presence of vegetation in different parts of the same vineyard. The process we are putting forward uses a telemeasuring system to create index maps of vegetation, to be used as a guide to identify areas for high or medium levels of leaf removal, as well as a total lack of leaf removal for areas with low vegetative vigour. It is a revolutionary machine that primarily brings its job closer to the manual one, where the worker (with an expenditure of 40-80 hours/ha against 2-3 hours/ha for the work done mechanically) chooses the leaves to be removed according to the more or less excessive covering of the bunches. Together with the machine and the tractor with the ISOBUS virtual terminal, there is a supply packet of telemeasured data, index maps and management software. The term ISOBUS refers to the ISO 11783 standard "tractors and machinery for agriculture and forestry: serial control and communications data network."

Our leaf-stripper is a revolutionary machine that primarily brings its job closer to the manual one, where the worker chooses the leaves to be removed according to the more or less excessive covering of the bunches. The vineyard has been charted from a plane or satellite flight and a vigour map in NDVI (Normalized Differential Vegetation Index) has been reconstructed, from which the prescription map has been made in terms of kg/ha of leaves removed. It is a geo-referenced map where the winery's technician has indicated the level of leaf removal to be done. Maximum levels of leaf removal have been assigned to the most vigorous area, medium intensity of leaf removal (with respect to the maximum) to the intermediate area, while for the least vigorous area (which normally tends to lose leaves spontaneously during more advanced phenological stages) it was established that there should be no leaf removal. These maps are managed by the ISOBUS electronics and by appropriate actuators, enabling us to carry out high levels of leaf removal where there is high vigour, moderate leaf removal in the intermediate areas, arriving at a total absence of leaf removal in areas of low vegetative vigour. As the tractor reaches the different prescription areas, recognised according to the geographical position picked up by the GPS antenna, the way the machine works changes, coming closer to how an expert operator would work when manually removing leaves.

Two years tests conducted by CNR IMAMOTER of Torino has show a level till to 780 kg/ha of leafs removed from both side of rows at the maximum rate of stripping, while the medium rate has attained about 330 kg/ha.

In the subsequent images you can see the effects of this technique:
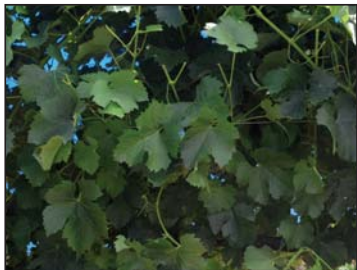
1: canopy in the high vigour area before leaf removal.
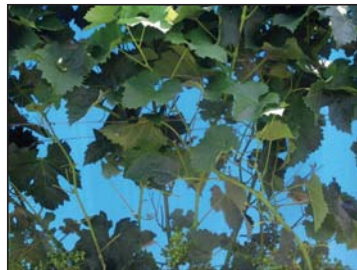
2: canopy in the high vigour area after high-intensity leaf removal.

3: canopy in the medium vigour area after medium-intense leaf removal.

4: canopy in the low vigour area after passage of the machine, no leaf removal

TECHNICAL FEATURES

- Working width: 0,45 m. or 0,55 m.
- Oil flow: from 30 to 45 l/min
- Weight: 150 Kg.
- Vertical hydraulic regulation: 500 mm.
- Horizontal hydraulic regulation: 300 mm.
- Hydraulic tilt: +/-35°.
- Electrohydraulics controls
- Ausiliary unit with heat exchanger

This revolutionary technique sees to it that the work of the machine emulates man's wisdom and enables it to intervene in the vineyard while respecting it at the same time, distinguishing its site-specific needs and treating them individually. This makes it the first machine ever created to work on the canopy, endowed with geographical intelligence.

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