

SPACER, BRACKETS and SPACER SPRINGS

The trellis for the vegetation, which is a vertical shoot positioning, is one of the most important and critical operation in the management of any vertically trained up vines.

If done by hand it is a long work, depending on the conditions, the vigor of the vineyard and the expected final result. According to a survey by Piedmont Winegrowers (Eberle and Biondo, 1999), the time required ranges from a minimum of 36 to a maximum of 120 hours per hectare per year, according to a study by the Centre of Agricultural Mechanization of the CNR in 2002, executed on a sample vineyard, the range is between 16.50 and 73 hours per hectare, with an average of 45 hours. Always according to the CNR report the mechanical trellis, i.e. with the use of a machinery, requires instead a time between 4 and 8 hours per hectare per year.

As all growers know a very important critical point of this operation is the execution time: the sprouts grow fast and the ideal time to tie them to the wall is short: furthermore, the sprouts, while growing, fall within the row and prevent the passage of the machineries, or they allow it but with the risk of broking many shoots.

In practice this operation, more than any other in the vineyard, with the exception of the harvest, generates a peak demand of work concentrated in a few days, which often the firms find it difficult to meet.

Different solutions have been suggested to face this problem.

As it is known once in the vineyards they used the common canes (arando donax): drums served as stakes and as a scaffold of the espalier, the leaves, after soaking in water, were used as ties to ensure the sprouts to the supports. Later the iron wires have been used instead of the canes (for the first time in 1826, writes Giuseppe Sicheri), but the "green" cane leaf string is still used by many growers. To speed up the operation they were later on proposed other solutions, like the string stapler and the use of a continuous string band released by a spindle. In the first vineyards with coupled iron wires the pairs were fixed, brought on a bracket and the vegetation was threaded inside. The method was faster than the traditional one, but it had two drawbacks: the response time was very critical because if the seeds grew too much they could no longer be threaded, and the vegetation, especially for falling varieties, tended to "belly flop", that is to bend beneath the first pair of wires creating a bundling.

This is always a critical point: if the wires are closer to the vegetation it looks tidy but, by contrast, the capture of sprouts is more difficult.

A significant progress was achieved with the use of mobile wires, that can be moved during the season according to the growth of vegetation. The system requires the use of slotted poles (in metal or Palolite type) or provided with a vertical series of hooks or brackets supporting the wire.

It is advisable, for this purpose, to use wires with well-polished surface, such as stainless steel or plastic materials, because the tendrils does adhere that well. Spring terminals are sometimes used to leave a little play to the wires, reducing the risk of cracking under stress.

Hence the need to use wires spacer springs, brackets and spacers.