



ENSAYO MICORRIZAS

English Translation

OBJECTIVE:

The objective of this test are:

Analyze the influence of Mycorrhize on root and vegetative development of grapevine, with two different substratum and two different plantation technics, one is the normally used in the nursery and the other one the technic recommended by the product provider.

MATERIAL AND METHOD

The used material was Cabernet Sauvignon clone 337 one feet cuttings from Mercier Argentina.

The inoculation was done with GEN-START.

Substratum :

1. Normally used substratum in the nursery, which composition is : 60% marc, 20% black peat and 20% sand.
 2. Substratum for pot, DYNAMICS brand, which characteristics are : structure 0 – 25 mm, pH 5,5 – 6,5, fertilizing (NPK + micro elements in g/l) 1,5
- Each plot is composed by 32 vines, and the test is composed by 6 plots, in such 2 are controls, one for each substratum.

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VARIABLE TO BE MEASURED

The variable were measured twice, 50% when the pot was full of roots and 50% was replanted in 3 liters pot and the variable was measured by end of the vegetative cycle.

Variable :

- Average root number per vine.
- Average root weight per vine.
- Average vegetation weight per vine.

Firstly, the vines of each tray were separated, for each plot, between first and second choice and dead vines. Then, the measure were done on 5 vines of first choice taken by fate.

RESULTADOS / RESULTS OBSERVATION

| | | POR CENT AJES % | RAIC ES ROO TS | VAST AGO VEG ETAT ION | | | | | | |
|--|--|--------------------------|-------------------------|-----------------------------------|-----------------------|--------------------------------|---------|--------------------------------|---|--|
| SUST RAT O SUB STRA TUM | TRAT AMIE NTO TREA TME NT | 1° | 2° | DESC ARTE DEAD | N°/pl. # / vine | Gram os/pl. Gr / vine | N° # | Gram os/pl. Gr / Vine | HOJ AS/ pl. Leav es / Vine | LON G. Prom edio Aver age length |
| 1 | T0 | 69% | 13% | 19% | 19,60 | 2,08 | 2,00 | 7,60 | 12,20 | 14,10 |
| 2 | T00 | 47% | 38% | 16% | 29,40 | 1,98 | 2,40 | 4,82 | 11,00 | 8,07 |
| 1 | T1 | 81% | 13% | 6% | 19,20 | 2,50 | 2,20 | 7,90 | 13,60 | 10,55 |
| 2 | T2 | 66% | 19% | 16% | 30,80 | 2,56 | 2,60 | 7,44 | 13,00 | 8,85 |
| 1 | T3 | 63% | 19% | 19% | 16,00 | 2,56 | 3,00 | 5,08 | 11,80 | 5,00 |
| 2 | T4 | 25% | 44% | 28% | 19,25 | 1,70 | 2,50 | 5,08 | 12,00 | 7,10 |

Observation were done by 12/05/06, 55 days after pot plantation.

Substratum 1 :

Making comparation inside this substratum, the micorrize influence. Inside T1 (micorrize

on the base), we have 12% more first choice vines than in the control and 18% more than in T3 (substratum blend with the micorrize). Regarding dead vines (no roots, no leaves), the lowest rate is with T1.

No valuable difference was observed in the average number of roots and their weight between T1, T3 and the control.

No difference was neither observed regarding the vegetation.

Substratum 2 :

We see that T2 (micorrize on the base) have 19% more first choice vines than the control and 15% less first choice vines than in the same treatment in substratum 1. This can be because the two substratum don't ask for the same hydric condition.

In T4 (micorrize blend with substratum), there are only a few first choice vines and the average quality of the tray is low.

Regarding roots number per vine between T2 (micorrize on the base) and T00 (control substratum 2) there is no difference but yes comparing with T4 (micorrize blend with substratum), this can be due to the bad general quality of T4.

Substratum comparison :

If we compare the controls of both substratum, we have a first choice vines difference. In the T0 (substratum 1 control), we have 22% more first choice vines than in T00 (substratum 2 control). In T00, we have 25% more second choice vines than in T0. There are no differences in the dead vines rate. This can come, as yet commented, from the water needs differences between each substratum. The vines in substratum 1 are more vigorous. Regarding rooting system, the difference is big. In T00, there is an average of 10 more roots per vines than in T0 and from the relation weight / Roots number, and his visual appreciation, the vines have more roots but thinnest.

Comparison between T3 (micorrize blend with substratum 1) and T4 (micorrize blend with substratum 2)

There are about 40% more first choice vines in T3.

OBJECTIVE

- Redo the test with the substratum 1 which is used by the nursery.
- Use only the technic which consist to blend the micorrize with the substratum,

which is the only viable technic for an industrial use.

- Put two times more product.

The test progress would be:

T0 : control

T1 : Blend of substratum with one tea spoon of GEN-START

T2 : Blend of substratum with two tea spoon of GEN-START

The test would be of three plots with two repetition of 32 vines each.

Comment from Bruce:

Christobol Sola of Mercier Nursery in Mendoza Argentina performed this application in December of 2006. The methods that were use were consistent with the times in which they were performed. However since 2006 Genesis Soils has developed Rhizo-Gen Soluble formulation which is applied through water. Either applied in the nursery through a soil drench or applied directly through existing drip irrigation systems. The level of infection improved from mixing Genesis Rhizo-Gen in the soil to placing the inoculum directly at the point of rooting as evidenced by this trial information. We have since progressed to the point of complete soil profile inoculation with our liquid product. This enables the plants roots to access the inoculum in 100% of the soil profile and rooting zone.

The differences are continuing to show significant improvement in the methodology of application, leading to greater infection for optimum mycorrhizal hyphal mycellium activity.

Sincerely,

Bruce Coulthard

Genesis Soils

www.genesis-soils.com

