The Pinot noir grape is a variety with origin in the French Burgundy with excellent qualities, with medium vigor, with early maturation, not very fertile and lying down, it is very sensitive to fungal diseases, sensitive to mildew and oidium, very sensitive to botrytis, cluster moth, scarring and mites. Pinot noir is implanted in vineyards with incipient grape production and winemaking in the province of San Luis, which has generated demand for information on this variety. In San Luis, the wine industry is developing with special interest, which establishes a need to generate information of a scientific nature on the differences between varieties in relation to vegetative and enological production, health, agronomic behavior, influence of terroir, etc. The plant material was obtained from vineyards of the Sol Puntano, in San Luis city. The objective of this study was to select the best substrate to propagate Pinot noir vine branches, where it could develop a good amount of roots and aerial shots. For this, 100 vine branches with 7 buds were kept cold until their treatment. Under laboratory conditions, they were disinfected with 15% sodium hypochlorite solution and immersed in commercial rooting solution for 15 min. In plastic containers, containing three types of substrate: 1- sand, 2- perlite, and 3- 1: 1 mixture of sand:perlite, the vine branches were placed with three buried buds. They were irrigated with running water and placed in an incubation chamber, at a temperature of 25º ± 2ºC and cycles of 16 h / 8h of light / dark. Root and shoot number data were recorded weekly during three month. The number of roots for vine branches was 15 in sand, 23 in perlite and 21 in sand:perlite. The average number of leaves was 4.5 for all substrates. For the analysis of vine branches rooting, first the descriptive tests of the different levels of rooting were performed for each of the substrates. Subsequently, the normality tests (Kolgomorov-Smirnov $p < 0.05$) and homocedasticity (Levene test $p < 0.05$) were performed, resulting in none of the assumptions being fulfilled, so a Kruskal-Wallis was performed for each of the two variables (sprouted and rooted) at the second week, resulting that the differences were not significant ($p > 0.1$) in relation to the substrates used. The relevance of the passage of time ($p < 0.05$) was confirmed by a Cochran Q test that resulted in $p < 0.05$; and a Wilcoxon test $p<0.05$ in relation to number of roots and shoots. In conclusion, it should be noted that although better performance of the vine branches, was observed in the 2-perlite substrate, the differences were not statistically significant. The first stage of mass production of vine branches takes in nursery has been completed. It has been proven that the substrate used is indistinct for the mass production of rooted and sprouted vine branches.

212. ANALYSIS OF PATHOGENICITY, FUNGICIDE RESISTANCE AND PATULIN PRODUCTION IN STRAINS OF BLUE ROT PRODUCER *Penicillium* sp

Lambrese Y, Cáceres M, Yamanouchi P, Sansone G, Sanz Ferramola MI, Calvente V
Área de Tecnología Química y Biotecnología, Universidad Nacional de San Luis, Facultad de Química, Bioquímica y Farmacia
yesicalambrese@gmail.com

The blue rot produced by *Penicillium expansum* is a post-harvest disease that causes significant economic losses in fruits and vegetables. The application of fungicides is the main way to combat this disease. However, there are strains resistant to them and added to this, public demand for reducing the use of pesticides has grown. On the other hand this fungus is a producer of patulin. This compound is a mycotoxin that causes acute and chronic diseases. The goal of this work was to analyze *Penicillium* sp strains in terms of their ability to produce blue rot in apples, resistance to fungicides and patulin production. In addition to select the best candidates for future studies using different control methods. We worked with 10 strains of *Penicillium sp* isolated of pear and apple rot from Alto Valle de Río Negro, 1 isolated from San Luis and 2 from references. The pathogenicity tests were performed on commercial *Red delicious* apples washed and then wounded to inoculate them with 20 □L of a suspension of 10^6 conidia/mL. Apples were stored 7 days at 25°C and the diameter of the rots was measured (mm). The fungicide resistance at the doses recommended for standard postharvest treatments was evaluated "in vitro". A suspension of spores of the fungus was dispersed in plates with PDA. Then, holes were made, and there were inoculated with 5 fungicides Captan, Tecto (Thiabendazole), Carbendazim, Scholar (Fludioxonil), Penbotec (Pirymethanil) or water. Development or not of fungus was observed at 3 and 7 days of incubation at 25°C. Patulin determinations were performed by culturing the strains in PDA medium 7 days at 25°C. Then, the toxin was extracted and determined in HPLC-UV according to the modified AOAC technique. Regarding pathogenicity, INTA-1, INTA-2, INTA-6, INTA-10 strains developed rot diameters between 39-36 mm. On the other hand, the rest of the strains presented diameters smaller than 33mm. All the strains tested were resistant to Captan fungicide. Also, INTA-6 and INTA-10 strains showed total resistance to Tecto and Carbendazim and partial resistance to Penbotec and Scholar. On the other hand, the strain isolated in San Luis presented total resistance to Tecto, Carbendazim, Penbotec, and Captan. INTA-10 strain presented the highest production of patulin of 119.78µg/g PDA. However, the rest of the strains presented production below 45 µg/g PDA. From the results obtained, it is observed that all strains showed resistance at least one fungicide, several strain to 2 or 3 of them. The longer the fungicide was present, the greater resistance was observed. Strains also presented different capacities to generate blue rot in apples and to produce patulin. In addition, it was concluded that the INTA-10 strain is the best candidate to continue studying different control methods. It is highly pathogenic, resistant to fungicides and has the highest production of patulin.

213. *IN VITRO* INHIBITION OF *Phytophthora capsici, Fusarium oxisporum* AND *Verticillium dalhiae* BY NATIVE PLANT GROWTH PROMOTION RHIZOBACTERIA STRAINS FROM MENDOZA

Lobato M.A[1]; Pérez-Rodriguez M.M[1]; Ortiz R[1]; Lucero G[1]; Cohen A.C[1]
[1]IBAM-Universidad Nacional de Cuyo, Facultad de Ciencias Agrarias (CONICET-UNCUYO).
acohen@fca.uncu.edu.ar, miguelobatoureche@gmail.com

Rapid growth of the human population and their need of food has impulse to extensive use of chemical fertilizers and pesticides to increase yield crop. These practices are costs and increase environmental pollution. In the last years, appear needs for novel agricultural practices that do not harm natural ecosystems. Different plant growth promotion Rhizobacteria (PGPR) have been studied and