ISOLATION OF ACID TOLERANT PEANUT (*ARACHIS HYPOGAEA* L.) RHIZOBIA FROM SOILS OF CENTRAL ARGENTINA.

T. Taurian[1], A. Fabra[1], O.M. Aguilar[2]
[1]Universidad Nacional de Rio Cuarto, Córdoba, [2]IBBM, Universidad Nacional de La Plata, Argentina.

1. Introduction

Soil acidity may significantly reduce the symbiotic nitrogen fixation limiting Rhizobium survival and persistence in soils and reducing nodulation (Graham et al 1994). Recently it was determined that soils of Central Argentina (Córdoba) showed low content of organic matter and relatively low pH in all the analyzed horizons (Hammp et al 1997). Peanut is a very important crop in Argentina, since this country is the third in the world in peanut exportation. A detailed examination of composition of rhizobia peanut-nodulating native population in soils of Central Argentina has not been carried out yet. In this work, we present results on the isolation and characterization of native peanut-nodulating rhizobia from soils of Cordoba in Central Argentina.

2. Material and Methods

Peanut-rhizobia were obtained from plant nodules and soils from different field sites in Córdoba. YEMA was used for routine cultivation of rhizobia and determination of growth rate. Screening of the acid tolerance was performed in a minimal medium (Howieson 1985) buffered with MES and HEPES to adjust pH in 5.5 and 7m, respectively. nifD-PCR was done with primers O_1 y O_2 (Stolzfus et al 1997).

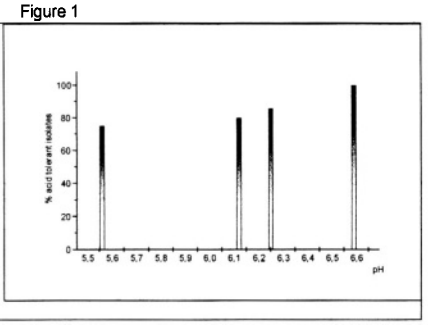
3. Results and Discussion

Table 1 shows the isolates, its origin and soil pH. Approximately 63% of the soil samples had pH below 6.5. A 70% of the isolates showed the 390 pb band of nifD-PCR and 93.5% of them were fast grower. In figure 1 we observe that there were no relationship between soil pH ant the acid tolerance of the rhizobia obtained.

Table 1

Isolates	Soil Location	Soil pH
NMA10	Malena	5.4
NLH24, NLH22, NLH22´, NLH27, NLH23, NLH23´, NLH25	Las Higueras	5.68
NCHA35A, NCHA32A, NCHA33B, NCHA30, NCHA31, NCHA22	Charras	6.25
Nale	Alejandro	6.38
NVAM22, NVAM24, NVAM32A, NVAM21	Villa Maria	6.38
NET30, NET31, NET36, NET33, NET37, NET39, NET32	Etruria	6.50
NBE24, NBE27	Bengolea	6.73
NOD31	Rio Cuarto	6.80
NTI31	Ticino	8.19

Figure 1



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