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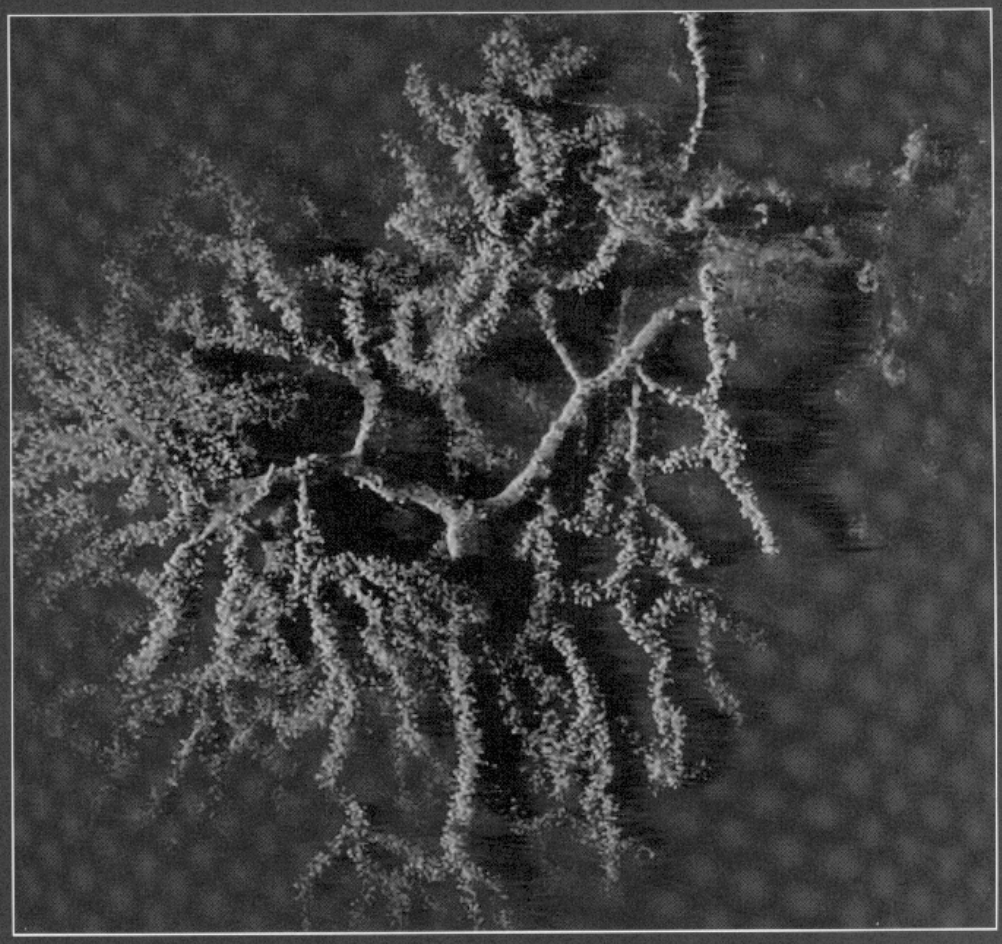

173.

ABSCISIC ACID LEVELS IN SALINIZED SEEDLINGS OF *PROSOPIS STROMBULIFERA*

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In glycophytes, stress tolerance is increased with high concentrations of ABA, whereas in halophytes the ABA role in not yet known. Thus, endogenous levels of ABA in leaves and roots of salinized plants of the halophyte P. strombulifera were determined. Seedling were grown hidroponically in Hoagland solutions with addition of 50 mmol/l NaCl for NaCl treatment, 38 mmol/l Na_2SO_4 for Na_2SO_4 treatment and their isoosmotic mixture for bisaline treatment, every 48 h until final $\Psi o = -1$, -1,88, and –2,6 MPa were reached. Control plants were grown in Hoagland 25%. ABA levels were determined by HPLC-GC-MS at 6, 12 and 24 hours after the salt pulse. ABA levels differed with the type of salt, the concentration, the analyzed organ and the plant age. A remarkably higher ABA content was found in leaves in comparison with roots, maybe due to its protective role, and a rapid biosynthesis and distribution from roots, where higher levels were detected at the beginning of treatments. Sulfate treated leaves showed the highest ABA levels, in coincidence with toxicity symptoms showing up. Dynamics of ABA levels from 6 to 24 h in the different treatments would indicate that ABA would act like a triggering signal for adaptive biochemical and molecular mechanisms for the plant survival to salinity.

174.

FIELD EVALUATION OF COMPONENT TRAITS OF BIOMASS PRODUCTION FOR THE IDENTIFICATION OF SOMACLONAL VARIANTS OF BUFFEL GRASS

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Fresh weight (PF) and dry weight (PS) are main traits of biomass production, of agronomic interest to evaluate of new genotypes. In order to determinate the utility of these morphological traits to discriminate somaclonal variants of Buffel grass, PF, PS and PF-(PS/PF) were compared to the control. The plant material used was offsprings of plants obtained from embryogenic calli (CE) exposed to different concentrations of NaCl (S) and ethylmethanesulphonate (M). After two consecutive years in the field, S progenies showed PS and PF higher than the control lines. M progenies had lower PF, although, this difference was not significant respect to the control. M progenies showed significant differences in relationship PF-(PS/PF) respect to control lines, whereas not statistically significant diference were observed in S progenies. Since, PF, PS and its relationship not allowed to discriminate between M, S offsprings and control lines, they do not constitute, by themselves, good discriminant markers. Summing up, PF, PS and PF-(PS/PF) should be used all together to evaluate somaclonal variants in Buffel grass.

175.

EFFECT OF SALINITY ON GERMINATION OF *Caesalpinia paraguariense*s (D:Parodi) Burkart

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Adaptation of plants to salinity during germination and early states of seedling is crucial for their stablishment. With the aim of determining the effect of salt over germination of *Caesalpinia paraguariense*s in chaquenian woods, this specie was exposed to different ClNa and polietilenglicol concentrations. The treatments were: 0, 0.2, 0.25, and 0.3 molal of ClNa and its equivalent value in osmotic pressure of polietilenglicol. Four repetitions of 25 seeds each one, were putted in incubator at 25°C with a 12 hours fhotoperiod. The Germination speed index was determined (IVG) and also the mediun time of germination (TMG). The treatments were compared using analysis of variance. There were significant differencies in IVG and in TMG between the tester and all of the treatments. The IVG diminished more than 50% in treatments with ClNa (5,87%) according to tester (18,41%). The negative effect caused by PEG increased when concentrations were superior. TMG doubled with ClNa (12 days) treatment and with the two smaller concentrations of PEG. With 0.3 molal of PEG there was no germination. This data confirm that salinity produces primary injury and secondary stress damage on germination of these specie.

176.

SELECTION AND IDENTIFICATION OF ESTERASE-PRODUCING MICROORGANISMS

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One of the most efficient and successful means of finding new microbial enzymes is to screen a large number of microorganisms, because of their diversity and versatility. The capability of *Bacillus* strains to produce and to secrete enzymes has placed them among the most important industrial enzyme producers. Esterases, one of them, have important biotechnology applications, such as drug synthesis. The aim of the present study was to select and to characterize good esterase producing bacteria. Esterase-producing colonies were selected by their ability to hydrolyze α-naphthylacetate on LB plates. The selected strains were characterized with molecular and biochemical methods. Five of fifty isolated were selected because of their high levels of extracellular and cell-bound esterases production. On the basis of their biochemical and molecular properties the strains A14 y A55 appear to belong to *B. pumilus*, A60 y A62 to *B. subtilis* and M2 to *B. cereus*. The nucleotide sequences of the 16S rDNA are available in GenBank under the following accession numbers A14 EF462914, A55 638794, A60 EF513611, A62 EF513612 y M2 EF 513610. This characterization will provide tools for designing new enzymatic processes.
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