

2^{ème} Congrès International de la Biodiversité Végétale
2nd International Conference of Plant Biodiversity

RECUEIL DES RÉSUMÉS

PROCEEDINGS



Jardin Majorelle-Marrakech

Marrakech 27 - 29 March 2014



taux de croissance varie entre 1.61 à 0.99 a_w et 3.44 mm/jour à 0.90 a_w. Pour réduire le taux de croissance et par là le risque de production de l'OTA par cette souche, une réduction de la T° s'avère indispensable. La réduction de l'activité de l'eau, technique utilisée pour la préservation des denrées alimentaires, ne mène pas toujours à une diminution de la croissance d'isolats ochratoxinogènes. **Mots clés** : *A. niger*, taux de croissance, température, activité de l'eau

Endophytes de plantes halophytes pour la modulation du stress salin chez les Solanacées
DIF Guendouz, BELAOUNI Hadj Ahmed, TOUMATIA Omrane, ZITOUNI Abdelghani, SABAOU Nasreddine. Labo biologie des systèmes microbiens, Kouba, Alger shoobir14@gmail.com

50 endophytic isolates from spontaneous plants of saline areas of Algeria were studied for their potential to promote plant growth by focusing on the characterization of PGPR direct mechanisms at first, that is: production of auxin-type phytohormones (Indole acetic acid, AIA), afterward, indirect PGPR mechanisms as antagonist activity against phytopathogens (5 target germs), the production of antifungal enzymes, while interested in their ability to grow in a medium mimicking poor soil conditions (LB 1/10 supplemented with soil extract). These matters, made subsequently the subject of a phylogenetic study to investigate their taxonomic positions, focusing on the sequence of the 16S rDNA of each strain, confirming their mainly membership to the Bacillaceae family whose species have already been described for their effectiveness on field as inoculums for crop yields improving. The results suggests the strains B2, B40 and B45 as interesting bacterial candidates for a future use as biofertilizers.

Keywords: PGPR; endophytic, AIA, antagonistic activity, 16S rDNA, biofertilizers

Towards identification of novel legume species of potential interest as cover crops and living mulches for the North Africa region

UDUPA Sripada M¹, ELHADDOURY J², KRIMI BENCHEQROUN S², THAMI-ALAMI I³, HENKRAR F¹, EL HANAFI Samira^{1,3}, BARESEL JP⁴ & FINCKH MR⁵

¹International Center for Agricultural Research in the Dry Areas (ICARDA) Rabat, Morocco

²Institut Nationale de la Recherche Agronomique, Settat, Morocco

³Institut Nat. Recherche Agronomique Rabat, Morocco

⁴Technische Universität München, Depart. Pflanzenwissenschaften, Lehrstuhl für Pflanzenernährung, Emil-Rahmann- Freising, Germany

⁵Ecological Plant Protection, Faculty of Organic Agricultural Sciences, University of Kassel, Witzenhausen, Germany s.udupa@cgiar.org

Subsidiary crops (SC) grown either as cover crops (CC) preceding or following the main crops, or as living mulches (LM) together with the main crops can deliver multiple ecological services within farming systems. These include increasing the duration of soil cover in the rotation, increasing plant and microbial diversity,

improving plant health, soil health and fertility, minimizing the use of tillage and agrochemicals, enhancing biological N fixation and soil C content, and reducing water demand in dry climates. However, species available for growing as SC for dry areas are limited. To identify species of potential interest to CC and LM, we screened 197 accessions from the ICARDA genebank, belonging to 142 species/sub-species at Rabat, Morocco in one square meter plots. The preliminary assessments based on visual observations enabled us to identify: (1) 21 accessions belonging to *Medicago* and *Trifolium* species with prostrate growth habit, early maturity and senescence, determinate growth cycle and good potential for seed production, as potentially suitable for LM; and (2) 28 accessions belonging to *Vicia*, *Lathyrus*, *Medicago* and *Trifolium* species with high biomass and competitive ability, and also good potential for seed production, as potentially suitable for CC or green manure crops. Further evaluations in replicated trials are in progress. The selected accessions have been planted in the field during autumn 2013 at Sidi El Aidi.

Key words: Subsidiary crops, cover crops, living mulches

Improving a Moroccan wheat cultivar 'Aguilal' for resistance to leaf and yellow rust and quality

EL HANAFI Samira^{1,2,3}, HENKRAR Fatima^{1,2,3,4}, ELHADDOURY Jamal², BENDAOU Najib³, M. UDUPA Sripada^{1,4}

¹Biotechnology Unit, National Center for Agronomical Research Rabat (INRA-²Biotechnology Labo, Regional Center for Agronomical Research Settat,

³Biology Dep., Faculty of Sciences, Rabat, Morocco.

⁴International Center for Agricultural Research in the Dry Areas (ICARDA), Rabat,

elhanafi.samira@gmail.com; elhaddoury24@yahoo.fr

There are several markers linked to the agronomic traits of interest in wheat. Utilization of these markers in marker assisted selection (MAS) can greatly enhances the genetic improvement. Moroccan cultivar Aguilal is very well adapted to semi-arid regions and has resistance to the Hessian fly and stem rust. However, it is susceptible to leaf and yellow rusts. In order to improve leaf and yellow rust resistance and quality traits of Aguilal, it was crossed with Australian line 'Annuello' having resistance to leaf and yellow rusts and good quality. The resulting F1 were grown under greenhouse condition and haploids were produced using anther culture and maize hybridization techniques. These haploids were screened with molecular markers linked to leaf (Lr34, Lr24) and yellow rust (Yr18) resistance, stem rust resistance (Sr2, Sr24), the Hessian fly resistance (H22), quality traits (GluA3). The selected plants were diploidized using colchicine. The selected double haploids are being multiplied for seed increase and will be screened under field condition for validation.

Keywords: Wheat, double haploid, MAS, quality, rust resistance, single cross