

Les productions scientifiques : 2000-2009

1-Comparison of xanthine oxidase levels in synovial fluid from patients with rheumatoid arthritis and other joint inflammations

By: Hanachi, Nadjet; Charef, Noureddine; Baghiani, Abderrahmane; et al.

SAUDI MEDICAL JOURNAL Volume: 30 Issue: 11 Pages: 1422-1425 Published: NOV 2009

Objectives: To search whether xanthine oxido-reductase (XOR) present in the synovium is also liberated, to determine its activity in synovial fluid and to establish a possible relationship between XOR levels in rheumatoid arthritis (RA) and non-RA patients.

Methods: This study was carried out in the Laboratory of Immunology, University Ferhat Abbas, Setif, Algeria from 2001-2008. This study is a retrospective controlled study matching cases with RA to non rheumatoid joint inflammations. Synovial fluid (SF) samples were collected with consent of the patients, at Setif University Hospital, from adults suffering from RA (n=36) or only with joint inflammations (n=52). After its detection in SF with indirect enzyme-linked immunosorbent assay (ELISA) and dot-immunobinding, using anti-bovine XOR as first antibodies, XOR was assayed with capture ELISA.

Results: Xanthine oxidoreductase is found in all studied SE Capture ELISA showed levels up to 0.762 and 0.143 mg/mL in SF of RA and other joint inflammations patients, respectively. In most cases, more than 50% of synovial XOR is present as oxidase form. Positive correlation was observed between enzyme level and the disease severity since RA patients had a significantly high enzyme amount compared to patients with other less severe arthritic pathologies.

Conclusion: These results suggest that the enzyme could well be involved in joint inflammation probably by producing reactive oxygen species.

2-The Prevalence of Methylenetetrahydrofolate Reductase 677 C-T, Factor V 1691 G-A, and Prothrombin 20210 G-A Mutations in Healthy Populations in Setif, Algeria

By: Bourouba, Romya; Houcher, Bakhouch; Djabi, Farida; et al.

CLINICAL AND APPLIED THROMBOSIS-HEMOSTASIS Volume: 15 Issue: 5 Pages: 529-534 Published: SEP-OCT 2009

The polymorphic mutation 677 C-T in the methylenetetrahydrofolate reductase (MTHFR) gene presents a heterogeneous worldwide distribution and is associated with different disorders such as cardiovascular disease. Its frequency shows great ethnic and geographic variations. The aim of this work is to determine the frequency of MTHFR 677 C-T and coexistence of MTHFR 677 C-T with 2 other common, hereditary thrombophilia causes- namely, factor V 1691 G-A and prothrombin (PT) 20210 G-A mutation-in the Setif region of Algeria. The study involved 147 apparently healthy participants (82 men and 65 women). Genotyping was carried out by a real-time polymerase chain reaction. The MTHFR 677T carrier frequency was found to be 54.4% (80/147); 59 individuals were heterozygous (40.1%), and 21 were homozygous (14.3%). The frequency of MTHFR 677T was found to be 34.3%. Among the 147 individuals, 3 (2.0%) had factor V Leiden, and 5 (3.4%) had PT 202 10 A

mutation. Of the 80 participants with MTHFR 677T mutation, 2 had heterozygote factor V 1691 G-A gene mutation, and 4 had heterozygote PT 20210 G-A gene mutation. The results showed that MTHFR 677T prevalence is quite high: an allelic frequency of 34.3% with a genotype frequency of 14.3%. Factor V 1691 G-A and PT 20210 G-A gene Mutations are rare in the healthy population of the Setif region of Algeria.

3- Mega-Environment Identification for Barley Based on Twenty-Seven Years of Global Grain Yield Data

By: Hernandez-Segundo, Eduardo; Capettini, Flavio; Trethowan, Richard; et al.
CROP SCIENCE Volume: 49 Issue: 5 Pages: 1705-1718 Published: SEP-OCT 2009

Knowledge of target environments in breeding programs is important to better direct the development of germplasm. The objectives of this study were to identify associations among barley (*Hordeum vulgare* L.) growing environments to identify mega-environments to select the best locations to breed barley. Twenty-seven years of grain yield data from the International Barley Yield Trial (IBYT) conducted by the ICARDA-CIMMYT Barley Breeding Program, consisting of 750 grain yield trials of two replications representing 235 locations in 75 countries, were analyzed using pattern analysis to group sites across years that represent similar selection environments. The shifted multiplicative model (SHMM) was employed to group sites within each year. Environments clustered into three main groups and squared Euclidean distances were used to identify a representative location within each cluster. Group 1 locations were characterized as being cool with intermediate precipitation; Group 2 locations were warmer and drier; and Group 3 sites were generally cool and had the highest average precipitation. The respective representative key locations for each of the three groups were Leida, Spain; Boulifa, Tunisia; and Setif, Algeria. All three key locations are located in the Northern Hemisphere between 36 degrees and 41 degrees latitude. The results of this study show that the global adaptation of barley is possible and can be improved by breeding and selection for adaptation within the three main mega-environments identified.

4-JOURNEYING IDENTITIES: MID-NINETEENTH-CENTURY WOMEN'S TRAVEL WRITING IN FRENCH COLONIAL ALGERIA

By: Loth, Laura
SYMPOSIUM-A QUARTERLY JOURNAL IN MODERN LITERATURES Volume: 63 Issue: 2 Pages: 107-126 Published: SUM 2009

French women travel writers in colonial Algeria occupy all ambiguous place both in the genre of the *recit de voyage* and in colonial space. Two travel texts written by French women in Algeria in the middle of the nineteenth century, Anais Dutertre's *Voyage de Vermont-sur-Orne a Constantine-sur-l'oued-Rummel; Setif, Bougie, et Alger par une femme* (1866) and Octavie Lagrange's *Souvenirs de voyage: Algerie et Tunisie* (1868), show that the intersection of visual knowledge and colonial space becomes the site that affords the female travel writer an opportunity to represent herself by means that are at once legitimated by the genre and pregnant with possibility for challenging gender norms. Informed by Foucault's notion of heterotopia and feminist re-readings of the psychoanalytic mirror stage, the author argues that Dutertre's and Lagrange's texts highlight the problematic possibilities of colonial space by questioning prescribed feminine identities in mid-nineteenth-century France.

5- Land degradation and vegetation distribution in Chott El Beida wetland, Algeria

By: Khaznadar, M.; Vogiatzakis, I. N.; Griffiths, G. H.

JOURNAL OF ARID ENVIRONMENTS Volume: 73 Issue: 3 Pages: 369-377 Published: MAR 2009

The aim of this study is to explore the environmental factors that determine plant Community distribution in northeast Algeria. This paper provides a quantitative analysis of the vegetation-environment relationships for a study site in the Cholt El Beida wetland, a RAMSAR site in Setif, Algeria. Sixty vegetation plots were sampled and analysed using TWINSpan and Detrended Correspondence Analysis (DCA) in order to identify the principal vegetation communities and determine the environmental gradients associated with these. 127 species belonging to 41 families and 114 genera were recorded. Six of the recorded species were endemic representing 4.7% of the total species. The richest families were Compositae, Gramineae, Cruciferae and Chenopodiaceae. Therophytes and hemicryptophytes were the most frequent life forms. the Mediterranean floristic element is dominant and is represented by 39 species. The samples were classified into four main community types. The principal DCA axes represent gradients of soil salinity, moisture and anthropogenic pressure. The use of classification in combination with ordination techniques resulted in a good discrimination between plant communities and a greater understanding of controlling environmental factors. The methodology adopted can be employed for improving baseline information on plant community ecology and distribution in often critically endangered Mediterranean wetland areas. (C) 2008 Elsevier Ltd. All rights reserved.

6- Hemoglobin Variants in Cyprus

By: Kyrri, Andreani R.; Felekis, Xenia; Kalogerou, Eleni; et al.

HEMOGLOBIN Volume: 33 Issue: 2 Pages: 81-94 Article Number: PII 910492497 Published: 2009

Cyprus, located at the eastern end of the Mediterranean region, has been a place of eastern and western civilizations, and the presence of various hemoglobin (Hb) variants can be considered a testimony to past colonizations of the island. In this study, we report the structural Hb variants identified in the Cypriot population (Greek Cypriots, Maronites, Armenians, and Latinos) during the thalassemia screening of 248,000 subjects carried out at the Thalassaemia Centre, Nicosia, Cyprus, over a period of 26 years. A sample population of 65,668 people was used to determine the frequency and localization of several of the variants identified in Cyprus. The localization of some of the variants in regions where the presence of foreign people was most prevalent provides important clues to the origin of the variants. Twelve structural variants have been identified by DNA sequencing, nine concerning the α -globin gene and three concerning the β -globin gene. The most common α -globin variants identified were Hb S (0.2%), Hb D-Punjab (0.02%), and Hb Lepore-Washington-Boston (Hb Lepore-WB) (0.03%); the most common β -globin variant was Hb Setif (0.1%). The presence of some of these variants is likely to be directly linked to the history of Cyprus, as archeological monuments have been found throughout the island which signify the presence for many years of the Greeks, Syrians, Persians, Arabs, Byzantines, Franks, Venetians, and Turks.

7- Polymorphisms of 5,10-Methylenetetrahydrofolate Reductase and Cystathionine beta-Synthase Genes as a Risk Factor for Neural Tube Defects in Setif, Algeria

By: Houcher, Bakhouch; Bourouba, Romya; Djabi, Farida; et al.

PEDIATRIC NEUROSURGERY Volume: 45 Issue: 6 Pages: 472-477 Published: 2009

Background: Neural tube defects (NTD) are severe congenital malformations due to a failure in neural tube formation at the beginning of pregnancy. The etiology of NTD is multifactorial, with environmental and genetic determinants. We suggest a study of gene-gene interactions regarding the possible association of NTD with specific mutations of 5,10-methylenetetrahydrofolate reductase (MTHFR) and cystathionine beta-synthase (CBS) genes. Patients and Methods: The genetic analysis of the MTHFR C677T polymorphism was performed by real-time polymerase chain reaction (PCR) on a Light Cycler, the CBS genotype was analyzed by PCR in a thermal cycler. Ninety-two mothers who had conceived NTD children and 48 fathers were investigated. A group of 147 adults, including 82 apparently healthy women, was used as control. Results: Among control mothers, 35 (43%) were heterozygous for the C677T variant and 14 (17%) were TT homozygous. Among the cases, 25 (52%) out of 48 mothers and 22 (46%) out of 48 fathers carried the T allele; 9 mothers (19%) and 5 fathers (10%) had the TT genotype. A homozygous C677T mutation was not an NTD risk factor in this preliminary study in an Algerian population; a possible gene-gene interaction between the MTHFR C677T polymorphism and the CBS 844ins68 has also been examined in relation to NTD, but no such association has been shown. There was a statistically significant difference between the heterozygosity genotype frequency of CBS polymorphisms in mothers with a previous child with NTD compared with the mother controls (odds ratio: 3.72; 95% CI: 1.59-8.73). Conclusion: Our results with Algerian NTD mothers did not show a significant association for any group, suggesting that the thermolabile variant C677T in the MTHFR gene is not a risk factor for a mother to have NTD offspring; rather, folic acid supplementation or fortification should become mandatory for all women of reproductive age in Algeria. Copyright (C) 2010 S. Karger AG, Basel

8- Polymorphisms of 5,10-Methylenetetrahydrofolate Reductase and Cystathionine beta-Synthase Genes as a Risk Factor for Neural Tube Defects in Setif, Algeria

By: George, Timothy M.

PEDIATRIC NEUROSURGERY Volume: 45 Issue: 6 Pages: 478-478 Published: 2009

9- Recrystallization behavior of a low carbon steel wire

By: Larouk, Z.; Bouhalais, H.

Edited by: Cheikhrouhou, A

Conference: 11th Maghreb Days Conference on Materials Science/JMSM 2008 Location: Mahdia, TUNISIA Date: NOV 04-08, 2008

PROCEEDINGS OF THE JMSM 2008 CONFERENCE Book Series: Physics Procedia Volume: 2 Issue: 3 Pages: 1223-1229 Published: 2009

The primary recrystallization of a steel containing 0.05 (wt%) carbon is examined. The present material is produced by Trifisoud- Setif -Algeria and received as wires of 4, 3.18,

2.45mm diameters. The samples are subjected to annealing treatments at 480-520 degrees C. The recrystallization temperature is determined and found to be lower for the wire with higher wire drawing area reduction ($\tau(w)$). The two parameters (k and n) in Avrami law are calculated. A relationship between $\tau(w)$ and recrystallized grain size (d_{rec}) is established. The recrystallization activation energy is estimated. The obtained results are compared with other material results. (C) 2009 Elsevier B.V. All rights reserved

10- Evaluation of the sustainability of cattle agropastoral systems in the semi-arid region of Setif (Algerie)

By: Yakhelf, Hacene; Far, Zahir; Ghoulane, Faissal; et al.

NEW MEDIT Volume: 7 Issue: 4 Pages: 36-39 Published: DEC 2008

The IDEA diagnostic method was used in this study to evaluate the sustainability of dairy cattle agropastoral systems in the context of the semi-arid region of Setif (Algeria). Moreover, surveys carried out in 60 dairy holdings made it possible to appreciate the pertinence of the indicators of the tree scales investigated: the agro-ecological, the socio-territorial and the economic scales. The sustainability analysis shows that the total trend is the same in all holdings: they are sustainable on the agro-ecological level, less sustainable on the economic level and quite unsustainable on the socio-territorial level. The use of this self-diagnostic tool in the dairy cattle holdings in the semi-arid highlands has a disputable adaptation level. Indeed, if several indicators prove to be relevant, others seem completely incompatible with the local conditions, and others appear very subjective.

11- Molecular and hematologic analysis of hemoglobin Q-Iran and hemoglobin Setif in Iranian families

By: Rahimi, Zohreh; Rezaei, Mansour; Nagel, Ronald L.; et al.

ARCHIVES OF IRANIAN MEDICINE Volume: 11 Issue: 4 Pages: 382-386 Published: JUL 2008

Background: Single nucleotide mutations in alpha 1 or alpha 2 genes produce abnormal α -chain hemoglobins. Hemoglobin Q disorders including hemoglobin Q-Iran, hemoglobin Q-Thailand, and hemoglobin Q-India are important hemoglobin variants. Herein, we report on the presence and hematologic and molecular features of hemoglobin Q-Iran [α 75 (EF4) Asp \rightarrow His] in 20 members of 11 families including nine children and hemoglobin Setif [α 94 (G1) Asp \rightarrow Tyr] in 10 individuals from five families consisting of five children and their affected parents living in western Iran.

Methods: A polymerase chain reaction-RFLP procedure using Ava II restriction enzyme was designed to confirm the presence of two α -chain variants. To find the coinheritance with α -thalassemia, the presence of deletions of $-\alpha$ 3.7, $-\alpha$ 20.5, $--MED$, $--SEA$, and nondeletion defects of IVSI (-5 bp) and hemoglobin CS was examined using polymerase chain reaction-based approaches.

Results: The mean \pm SD level of hemoglobin Q-Iran was 20.4 \pm 4.4%. Three out of 18 individuals with hemoglobin Q-Iran were heterozygous for $-\alpha$ 3.7 deletion ($-0.7/\alpha$ α). The coinheritance of hemoglobin Q-Iran and $-\alpha$ 3.7 deletion resulted in significantly ($P=0.002$) higher levels of hemoglobin Q-Iran (26.7 \pm 3.8 %). In those heterozygous for hemoglobin Setif, the level of this hemoglobin was 17.8 \pm 5.6 %.

Conclusion: The polymerase chain reaction-RFLP method described here is a simple, rapid, and inexpensive procedure for the diagnosis of abnormal alpha-chains in developing countries.

12- Evolution of cancer incidence in wilaya de Setif; Algeria 1986-2005

By: Zaidi, Z.; Hamdicherif, M.; Mehnane, A.; et al.

BULLETIN DU CANCER Volume: 95 Issue: 6 Pages: 640-640 Meeting Abstract: 101 Published: JUN 2008

13- Anti-xanthine oxidase antibodies in sera and synovial fluid of patients with rheumatoid arthritis and other joint inflammations

By: Arrar, Lekhmici; Hanachi, Nadjet; Rouba, Khaled; et al.

SAUDI MEDICAL JOURNAL Volume: 29 Issue: 6 Pages: 803-807 Published: JUN 2008

Objectives: To study anti-bovine milk xanthine oxidoreductase (XOR) antibody levels in synovial fluid as well as in serum of patients suffering from rheumatoid affections to assess a possible correlation between antibody titres and severity of disease.

Methods: Sera and synovial fluids were collected from volunteer donors at Setif University Hospital, Setif, Algeria from 2001-2007 with the consent of patients. Human IgG and IgM levels of free and bound anti-bovine milk XOR antibodies were determined using bovine XOR as antigen, with enzyme-linked immunosorbent assay (ELISA).

Results: Serum IgG anti-(bovine milk XOR) titres in 30 healthy normal subjects (2.74 ± 2.31 μ g/mL) are in agreement with that reported in the literature. Immunoglobulin G and IgM anti-(bovine milk XOR) antibody titres were found to be significantly higher in serum from patients with rheumatoid arthritis (RA), and latex positives subjects. Synovial IgM antibody titres to bovine XOR were found to be significantly higher in rheumatoid arthritis patients compared to patients with other joint inflammations.

Conclusion: In rheumatoid arthritis patients, high concentrations of antibodies against XOR were noticed. These antibodies may play a major role in RA by inhibiting both xanthine and NADH oxidase activities of XOR. They may also play a key role in eliminating XOR from serum and synovial fluid (positive role) but unfortunately, immune complex formation could also activate complement and participate in self maintenance of inflammation.

14- Application of chemometric tools to compare Algerian olive oils produced in different locations

By: Benabid, Hamida; Naamoune, Hacene; Nocairi, Hicham; et al.

JOURNAL OF FOOD AGRICULTURE & ENVIRONMENT Volume: 6 Issue: 2 Pages: 43-51 Published: APR 2008

The aim of this study was to determine whether the chemical characteristics of olive oils collected from five areas in Algeria (El Milia, Constantine, Tizi Ouzou, Setif and Skikda) could be used to discriminate their geographical origin. Little recent data is available concerning the composition of Algerian olive oils. These compositional parameters were

statistically analysed using three chemometrical methods, Principal Components Analysis (PCA), Canonical Discriminant Analysis (CDA) and Direct Orthogonalisation (DO). The first Principal Component (PC I) was dominated by the following variables: acidity, alpha- and gamma-tocopherols, extinction coefficient at 232 nm (K-232) as well as the iodine index and the saponification index. The second Principal Component (PC2) reflects essentially the opposition between the extinction coefficient at 270 nm (K-270), the difference in the absorption coefficients at wavelengths around 270 nm (Delta K), peroxide index and the iodine and saponification indexes. CDA shows that a good separation of the groups of samples is to be had in the plane of the first two Canonical Discriminant Functions. Region 2 (Constantine) is characterised by higher levels of K-270 and Delta K; Region 3 (Tizi Ouzou) by high peroxide index and Region 4 (Setif) by high gamma-tocopherol, peroxide and iodine indexes. The separation of the groups after subtracting one orthogonal component by DO, did not improve the results obtained with the CDA. The results obtained show that it is possible to discriminate different Algerian oils, using easily performed chemical and chemometric techniques. It is therefore feasible to proceed with the large-scale collection of compositional data on olive oils in order to establish a databank to serve to characterise their quality and geographical authenticity.

15- The prevalence of neural tube defects in Setif University Maternity Hospital, Algeria-3 years review (2004-2006)

By: Houcher, Bakhouche; Bourouba, Romya; Djabi, Farida; et al.

Conference: 27th International Winter Workshop on Clinical, Chemical and Biochemical Aspects of Pteridines Location: St Christoph, AUSTRIA Date: MAR 02-09, 2008
Sponsor(s): Int Soc Peridinol; Austrian Soc Lab Med & Clin Chem
PTERIDINES Volume: 19 Issue: 1 Pages: 12-18 Published: MAR 2008

Neural tube defects (NTDs) including spina bifida, anencephaly and encephalocele are among the most common birth defects, with high associated mortality and morbidity. There are no data concerning the incidence, associated anomalies, treatment and outcome of NTDs in Algeria. The objective of this study is to analyse data on NTD cases from 2004-2006 at Setif Hospital, a hospital with 8,000-10,000 deliveries annually. A retrospective chart review of patients with NTDs was performed, who were born at Setif Hospital 2004-2006. During the 3 year period we examined, there were 215 patients with NTDs treated in the Setif Hospital. The incidence of NTD is 7.5 per 1,000 births. The sex distribution was not equal among NTD cases, 126 (58.6%) females, 88 (40.9%) males and one (0.5%) unidentified sex. Among all NTD cases, there were 122 (56.7%) with spina bifida, 69 (32.1%) with anencephaly, 1 (0.5%) with encephalocele and 23 (10.7%) with anencephaly and spina bifida. Hundred and seventeen (54.4%) cases died in utero and 4 cases (1.9%) unknown. The rate of consanguinity among all NTD cases was 13% (28/215). The rate of affected newborns was highest in mothers aged 31-35 years (21.9%). The peak prevalence was in June (15.8%). A half of NTDs were spina bifida and there was a high rate of mortality. This study demonstrates that NTD represents a significant public health problem in Algeria. In Algeria there were no population-wide educational campaigns about folic acid or its association with the prevention of birth defects. Public health interventions aimed at increasing the preconceptional consumption of folic acid should be implemented or enhanced to reduce the incidence of NTDs in Algeria.

16- Mycoflora and ochratoxin A producing strains of Aspergillus in Algerian wheat

By: Riba, A.; Mokrane, S.; Mathieu, F.; et al.

INTERNATIONAL JOURNAL OF FOOD MICROBIOLOGY Volume: 122 Issue: 1-2 Pages: 85-92 Published: FEB 29 2008

Wheat is a basic staple food for very large segments of the Population of Algeria. The aim of this study is to analyse ochratoxin A (OTA) producing mould and OTA-contaminated wheat. To evaluate the mycoflora and the potential for OTA production by *Aspergillus* strains, a total of 85 samples of wheat destined for human consumption were collected from two regions in Algeria (Tizi Ouzou and Setif) during the following phases: preharvest, storage in silos, and after processing. The mean value counts of fungi ranged from 275 to 1277 CFU g⁻¹. The dominant genus was *Aspergillus*, predominantly *A. flavus*, *A. niger* and *A. versicolor*. The other isolated species were *A. ochraceus*, *A. alliaceus*, *A. carbonarius*, *A. terreus*, *A. fumigatus*, *A. candidus* and *Aspergillus* spp. The occurrence and the levels of the genus *Penicillium*, *Fusarium*, *Alternaria* and *Mucor* were substantially lower than those of *Aspergillus*. The storage in silos shows high levels of *Aspergillus* (66 to 84%), especially *A. flavus*, but *A. niger* and other fungi were isolated at relatively low percentages. Equal distribution of the fungal contamination into the bran, flour and semolina fractions was observed from Flour Mill and Semolina Mill. The genus *Aspergillus* remained present at high levels at several phases of the production process. In addition, the ability to produce OTA by 135 isolates belonging to eleven species of *Aspergillus* and 23 isolates of *Penicillium* spp. was analyzed using fluorescent detection-based HPLC. Thus, it was found that 51 isolates (32.3%) were ochratoxigenic. All isolated strains of *A. ochraceus* (12) and *A. alliaceus* (6) produced OTA at concentrations ranging from 0.23 to 11.50 µg g⁻¹. Most of the *A. carbonarius* strains (80%) were OTA producers (0.01 to 9.35 µg g⁻¹), whereas *A. terreus* (50%), *A. niger* (28%), *A. fumigatus* (40%), *A. versicolor* (18%) and *Penicillium* spp. (21.7%) were low level producers (0.01 to 0.07 µg g⁻¹). The concentration of OTA was determined in 30 samples of wheat. OTA was detected in 12 (40%) of the samples at levels ranging from 0.21 to 41.55 µg kg⁻¹. (c) 2007 Elsevier B.V. All rights reserved.

17- Image-Filtering Techniques for meteorological radar

By: Raaf, O.; Adane, A.

Book Group Author(s): IEEE

Conference: IEEE International Symposium on Industrial Electronics Location: Cambridge, ENGLAND Date: JUN 30-JUL 02, 2008

Sponsor(s): IEEE

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The images collected by meteorological satellites and radars are often infected by noise due to the environment, the data acquisition devices and the transmission system used. These images carry information about weather, which must be cleared up. In general, the filtering techniques applied to scrambled images aim at giving them a better visual aspect. In the case of meteorological radar images, such techniques are usefully employed to separate the atmospheric echoes from the ground clutter. Most radars equipping the meteorological stations are non coherent and then especially designed to estimate the amount of precipitations falling in the observed region. In this paper, the images collected by 5.6 GHz non coherent radar in the region of Setif (Algeria), are processed so as to keep the rainfall echoes unchanged and eliminate the ground ones. For this purpose, two filtering techniques are utilized, which respectively consist in computing the textural features of these images and

masking the ground echoes. The textural approach is implemented by using an analysis window of 70 pixels. The radar echoes are then filtered by using either energy or homogeneity. The masking method is based on the selection of clear sky images among a sequence of radar data collected during a sufficiently long period of time. The template of the relief of the region under study is built by averaging all the clear sky images. To get only the rainfall echoes, the resulting mask is applied to each of the original radar images and the filtering is improved by removing the residual clutter with the help of median filter and shape detection. All these filters are found to be accurate enough for meteorological uses.

18- Suburban agriculture in Setif (Algeria): which future in face of urban growth?

By: Boudjenouia, Abdelmalek; Fleury, Andre; Tacherift, Abdelmalek

BIOTECHNOLOGIE AGRONOMIE SOCIETE ET ENVIRONNEMENT Volume: 12 Issue: 1 Pages: 23-30 Published: 2008

The suburban agriculture in Setif which is mainly based on the specialized agricultural activities (cereals, animal production) has an important role. Its economic and social values are regarded in terms of the hugeness of its areas, the number of its manpower and the quality of its production. It covers 75% of the municipality surface and production systems are generally organized according to the climatic conditions. However, the new, rapid and diffused urban growth greatly affects these traditional structures. It is subjected to different inconvenient factors from the nearby urban area and has difficulties in functioning due to vandalism of the cultures, neighboring conflicts often due to environmental problems such as degradation of the material, defection of irrigation network, illegal grazing, soil stamping, car traffic, etc. The conversion of agricultural lands, generally of high quality, into non-agricultural lands results mainly from the urban development at the expense of agriculture. The socio-economic needs in land have rendered the agricultural activities difficult and decreased the agriculture in suburban areas. Landscape is not considered as an essential structure by the city. Urban planning, decided only by the elected members, is somewhat inefficient in terms of agricultural land protection. Paradoxically, the laws of protection exist but are not applied. Four major considerations have been pointed out by this study: the constraints generated by the suburban agriculture in Setif, the situation of the agricultural land, the high urban pressure and its consequences, and the need to define the place of the suburban agriculture in the sustainable development of the city.

19- Effects of speed and the duration of grain filling and the accumulation of assimilates of the stem in developing the durum wheat yield (*Triticum durum* Desf.) in the culture conditions of the high plains of eastern Algeria

By: Bahlouli, Faycal; Bouzerzour, Hamenna; Benmahammed, Ammar

BIOTECHNOLOGIE AGRONOMIE SOCIETE ET ENVIRONNEMENT Volume: 12 Issue: 1 Pages: 31-39 Published: 2008

The present study was led on the experimental site of station ITGC in Setif. The objective is to determine the differences of duration and speed of filling and the contribution of the assimilates of the stems to the yield of 5 durum wheat genotypes (*Triticum durum* Desf.). The year effect is significant, what explains the fluctuation of the conditions of one growth year to another. The grain yield is associated to the great quantity of assimilates stored and

transferred from the stems to the grain filling. The Mbb genotype which has an important stem height transfers more assimilates. The genotypes ADS497 and Deraa present large standard leaves. The beginning of the active phase of the grain filling corresponds to the beginning of the foliar senescence. Mbb presents a slower foliar drying rate, the speed of drying stationary recorded by ADS497 is of -0.5957 cm(2) per day. The speed of grain filling is negatively related to the duration of filling. The participation of the assimilates coming from the stem decreases when the environment allows the expression of a better grain yield. Keywords. Wheat, assimilates, duration of filling, yield, speed of filling, Algeria.

20- Hb Jeddah [alpha 68(E17)Asn -> His (alpha 1)]: A newly recognized a chain variant, seen in combination with Hb S [beta 6(A3)Glu -> Val], and found in three separate families of Middle Eastern origin

By: Markley, Karra M.; Elkhalfi, Mohamed; Maini, Archana; et al.
HEMOGLOBIN Volume: 32 Issue: 3 Pages: 297-302 Published: 2008

We report a previously unrecognized a chain variant identified in three families from Saudi Arabia, Yemen and Abu Dhabi. The index Patient Presented for hemoglobinopathy screening and was identified to have both this novel alpha chain variant and Hb S [beta 6(A3)Glu-->Val, GAC-->GTG]. Hb Jeddah results from a point mutation (AAC-->CAC) at codon 68 in exon 2 of the α gene. There were no apparent hematological abnormalities or clinical symptoms in the three individuals identified as heterozygotes for Hb Jeddah, as well as the index case with both Hb S and Hb Jeddah. As we have found this variant in three separate families, the incidence may be greater than currently recognized.

21- Association of Mild and Severely Unstable Chain Variants: The First Observation of a Compound Heterozygote with Hb Setif [94(G1)AspTyr (2)] and Hb Agrinio [29(B10)LeuPro (2)] in a Greek Family

By: Douna, Varvara; Papassotiriou, Ioannis; Stamoulakatou, Alexandra; et al.
HEMOGLOBIN Volume: 32 Issue: 6 Pages: 592-595 Article Number: PII 906495780 Published: 2008

Hb Setif is a relatively rare, mildly unstable 2-globin hemoglobin (Hb) variant first described in an Algerian family, and subsequently in various populations of the Mediterranean region and the Middle East. Hb Agrinio is a highly unstable variant, classified as a nondeletional -thalassemia (-thal) mutation, which, to date, has only been described in Greece and Cyprus. We report here the clinical and hematological findings in a case of Greek origin, who, following DNA analysis, was characterized with the unusual interaction of the Hb Setif 2-globin gene variant at codon 94 variant, in trans to Hb Agrinio, an 2-globin gene variant at codon 29. The compound heterozygote proband had only mild anemia with no transfusion requirements and with normal growth and development. We also report the laboratory findings in members of his family, highlighting diagnostic difficulties in the absence of molecular analysis.

22- La Compagnie genevoise of the Swiss colonies of Setif (1853-1956), a case of private colonization in Algeria

By: Taithe, Bertrand

JOURNAL OF PEASANT STUDIES Volume: 35 Issue: 2 Pages: 356-358 Published: 2008

23- Leaf senescence and carbon isotope discrimination in durum wheat (*Triticum durum* Desf.) under severe drought conditions

By: Hafsi, M.; Akhter, J.; Monneveux, P.

CEREAL RESEARCH COMMUNICATIONS Volume: 35 Issue: 1 Pages: 71-80 Published: MAR 2007

The relationships between leaf senescence, carbon isotope discrimination and yield performance were examined in durum wheat (*Triticum durum* Desf.), in the high plains of Setif, eastern Algeria. Ten CIMMYT high-yielding cultivars were grown during two cropping seasons characterized by low rainfall (217 and 162 mm, respectively), freezing temperatures at heading stage and terminal heat stress. Senescence was assessed using numerical image analysis (NIA). Carbon isotope discrimination was analyzed in flag leaves at anthesis and grain at maturity. Senescence was significantly negatively correlated to grain yield in season 1, but not in season 2. There was no relationship between Delta and grain yield in both seasons. The absence of association between Delta and grain yield is likely to be due to a strong contribution of pre-anthesis assimilates to yield together with a sink limitation of yield.

24- Geographical distribution of principal cereal weeds in setif high plains.

By: Fenni, M; Hani, M; Chaker, A N

Communications in agricultural and applied biological sciences Volume: 72 Issue: 2 Pages: 283-5 Published: 2007

The invasion of the wheat and barley cultures by weeds remains among the major problems of agriculture in Algeria considering the importance of yield losses caused by these species. The cereal yields average is less than 700 kg ha⁻¹. The main purpose of this work was to obtain informations on geographical distribution of principal cereal weeds in the setif high plains. Two bioclimatic areas may be distinguished in this region, the semi-arid in the south and the sub-humid in the north. One hundred ten fields of cereals were surveyed by stratified sampling. In each field the level of infestation was scored on a homogeneous surface. The weediness of the species was estimated on the basis of the frequency and average of abundance. The results indicate thirty four important species. This harmful flora was characterized by the prevalence of annual and broad leaved weeds. The study of the geographical distribution cards of these species shows three groups: species related to the northern zone, species related to the southern zone and species common to both zone. The knowledge of the geographical distribution of principal weeds is an essential element for any plan of integrated weed management.

25- Effects of environmental factors on kernel weight in five Algerian durum wheat populations (*Triticum durum* Desf.)

By: Aggoun, A.; Benmahammed, K.; Dekhili, M.

This study analyses the thousand kernel weight (TKW) component of grain yield in five local Algerian populations of durum wheat in the Setif area, taking into account the geographic location, the climatic conditions, and eight morphological traits related to plant development and car yield. The data analysed cover two years (1994 and 1995) and two contrasting locations. The multivariate analysis of variance (Manova) and the general linear model (GLM) are used to show the relationship existing between the TKW and the set of factors-variables considered. This approach aims at highlighting some of the genotype x environment interaction aspects in populations in a Mediterranean area. Each method demonstrates the influence of morphological traits on yield (TKW) and the variability specific to the location and year for each population.

26- Status of periurban agriculture in Setif (Algeria): Land reserve or urban project?

By: Boudjenouia, A; Fleury, A; Tacherift, A

CAHIERS AGRICULTURES Volume: 15 Issue: 2 Pages: 221-226 Published: MAR-APR 2006

Setif, a mid-sized city located on the Algerian highlands, was founded in 1847; its agriculture was soon wholly devoted to large-scale grain farming without any green belt to feed its inhabitants. Setif is growing rather quickly today and takes mainly periurban farmland for new construction. Moreover, new towns are planned to surround Setif, at 2 to 5 kms from the city limits, which ultimately threatens the ring of farmland between them and the central city. This paper analyzes the possible role of periurban agriculture in the urban policy of Setif: is the loss of farmland a problem from the city's point of view? Annual urban expansion has been about 50 ha since 1966. Government policy has sometimes been oriented towards urban planning, sometimes more market-oriented and liberal. Agriculture is still directed mainly towards the Algerian market, not only for cereals, but also for new products, Such as ornamentals; trends for the urban area are very similar to those for the entire wilaya (administrative region). Moreover, one effect of globalisation is the reduced necessity for farmland. There is thus not really any local interest in preventing construction of farmland. Until now, neither farmers, as owners as well as new city dwellers, nor urban planners have been sensitive to the urban values of agriculture (landscape, green belt, etc.). Nevertheless, some signs of other points of view are now discernible: some people seek local production for its specific qualities (especially freshness), and some families want gardens for their own consumption. At the same time, a new concept of rural amenities is emerging, as seen in oued Boussellam valley or Zenadia forest, now designed as green belt. On a larger scale, the Algerian government is again anxious to improve food security, which today depends mainly on importation. We concluded that although farmland today is considered only a land reserve for construction, local planning policies may soon take other, newer concepts into account.

27- Cities and territories: Mutations and current stakes - International seminar - Setif (Algeria) November 2005

By: Ribau, P

PENSEE Issue: 345 Pages: 117-119 Published: JAN-MAR 2006

28- Identification and filtering of rainfall and ground radar echoes using textural features

By: Haddad, B; Adane, A; Sauvageot, H; et al.

INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 25 Issue: 21 Pages: 4641-4656 Published: NOV 10 2004

This study deals with the identification of precipitation and ground echoes in radar images using their textural features. The images were collected by meteorological radars in the regions of Setif (Algeria) and Bordeaux (France). Two kinds of texture-based techniques have been considered, consisting in calculating either the histograms of grey levels or the histograms of their sum and difference. Hence, the first-order probability distributions were found to be sufficient to account for the textural features of radar images. Energy is found to be the textural parameter that clearly distinguishes between precipitation and ground echoes. With both methods, fixed ground echoes and anaprops are efficiently rejected, whereas precipitation echoes are kept almost unchanged. These methods have the advantages of effectiveness and simplicity. The threshold of discrimination is independent of the geographical and climatic conditions in the regions under study. Because the computation time needed by these techniques is small, the radar images can be processed in real-time.

29- Emile Aubry (Setif 1880-Voutenay-sur-Cure 1964). La 'voix de Pan'. Around 1936.

By: Ambroise, G

REVUE DES MUSEES DE FRANCE-REVUE DU LOUVRE Issue: 4 Pages: 105-105 Published: OCT 2004

30- Thymus fontanesii Boiss. & Reut. - A potential source of thymol-rich essential oil in North Africa

By: Ghannadi, A; Sajjadi, SE; Kabouche, A; et al.

ZEITSCHRIFT FUR NATURFORSCHUNG C-A JOURNAL OF BIOSCIENCES Volume: 59 Issue: 3-4 Pages: 187-189 Published: MAR-APR 2004

The waterdistilled essential oil from dried aerial parts of one of the Algerian thymes, *Thymus fontanesii* Boiss. & Reut. grown in Setif province, Algeria, was analyzed by GC/MS. Fifteen components were characterized representing 99.4% of the total components detected. The major components of the oil were thymol (67.8%), gamma-terpinene (15.9%) and p-cymene (13.0%).

31- Antifungal properties of *Origanum glandulosum* Desf. extracts

By: Belhattab, Rachid; Larous, Larbi; Kalantzakis, Georgios; et al.

JOURNAL OF FOOD AGRICULTURE & ENVIRONMENT Volume: 2 Issue: 1 Pages: 69-73 Published: JAN 2004

Hexane extracts, decoctions and the essential oil obtained from *Origanum glandulosum* Desf., an oregano species grown wild in North Africa and used as a herb tea or a medicine, were checked for their inhibitory effect on various fungi and yeasts isolated at the Central University Hospital of Setif, Algeria. The microorganisms *Aspergillus flavus*, *Aspergillus niger*, *Aspergillus fumigatus*, *Penicillium expansum*, *Fusarium solani*, *Ulocladium* sp., *Trichophyton rubrum*, *Microsporum canis*, *Pityrosporum orbicular* and *Candida albicans* were tested using the disk diffusion assay and macrodilution test. Additionally, Thin Layer Chromatography and Nuclear Magnetic Resonance spectroscopy were used to detect the presence of important phytochemical antioxidants, such as hydroxycinnamic acids and flavonols. All the extracts and the essential oils showed an inhibitory effect on yeasts and fungi. In the test with saprophytic fungi the highest activity was observed with the essential oil on *P. expansum* and the hexane extract and chloroform extract of the decoction on *P. expansum* and *F. solani*. Polyphenol content of the water and acetone extracts expressed as caffeic acid was 118 and 261 g kg⁻¹ of extract respectively. TLC chromatography and colour reactions indicated the presence of caffeic acid and rosmarinic acid, bound forms of 3- and 5-hydroxylated flavonoids and free flavonoids. NMR spectroscopy confirmed the presence of quercetin.

32- Unraveling the Photosystem I reaction center: a history, or the sum of many efforts

By: Fromme, P; Mathis, P

PHOTOSYNTHESIS RESEARCH Volume: 80 Issue: 1-3 Pages: 109-124 Published: 2004

33- Nutritional assessment of folate status in a population of Setif, Algeria

By: Houcher, B; De Courcy, GP; Candito, M; et al.

Conference: Free Moroccan Congress on Vitamines and Microelements Location: RABAT, MOROCCO Date: OCT 28-31, 2002

PTERIDINES Volume: 14 Issue: 4 Pages: 138-142 Published: DEC 2003

The present study evaluates the folate status in a selected group of men and women living in Setif, Algeria. Eighty-three subjects (55 males, 28 females), aged 18 - 63 years, participated as random volunteers in an original study. There appeared to be significant effect of gender on the dietary intake of folate. However, examination of data for individual subjects indicated that, with exception of folate in females, a great percentage of males had intake of folate below the 67(th) percentile of the Reference Nutrient Intake (RNI). Analysis by two methods, the Canadian RNI and the Dietary Reference Values for folate in the U.K., revealed a large proportion of subjects presenting with less than the RNI (84% of males and 57% of females) and (71% of males and 69% of females), respectively. The study clearly indicates that, although mean values for dietary intakes of folate may be adequate, analysis of individual data allows to identify an appreciable proportion of the study population at risk of deficiency.

34- Hb Setif [α 94(G1)Asp -> Tyr (α 2)] detected in a Turkish family

By: Dincol, G; Elam, D; Kutlar, A; et al.

HEMOGLOBIN Volume: 27 Issue: 4 Pages: 249-252 Published: 2003

35- A new strategy for water resource management in Algeria. The "Setif-Hodna" water transfer project.

By: Lahreche, N; Hamoul, A; Abbas, S; et al.

Conference: 3rd world Forum on Water Location: KYOTO, JAPAN Date: MAR 16-23, 2003
HOUILLE BLANCHE-REVUE INTERNATIONALE DE L EAU Issue: 3 Pages: 86-91 Published: 2003

Composed of two independent water transfer systems, the purpose of the "Setif-Hodna" project, located in Algeria, is to take the waters from two existing reservoirs which have been operated for several decades for power generation, and to transfer them by pumping, from North to South, to satisfy the water needs of the high semi-arid plateaux of the Setif region. Optimization studies have shown that more than 300 millions m³ could be transferred annually, 22% for drinking water purposes and 78% for the irrigation of 40,000 hectares of agricultural land. Globally, this project represents an investment of 1.35 billion Euros. The economics analysis shows that the profitability of the investment can only be ensured if the State bears a significant part of the cost of the infrastructures.

36- The Beni-Ouertilane-Tachaouaft fault and seismotectonic aspects of the babors region (NE of Algeria)

By: Bouhadad, Y; Nour, A; Laouami, N; et al.

JOURNAL OF SEISMOLOGY Volume: 7 Issue: 1 Pages: 79-88 Published: JAN 2003

A shallow moderate ($M_s = 5.7$) but damaging earthquake shook the region of Beni-Ouertilane located about 50 km NW of Setif and 390 km NE of Algiers (Central Eastern Algeria). The main shock caused the death of 2 peoples, injured 50 and caused sustainable damage to about 3000 housing units. The main shock was preceded by 2 foreshocks and followed by many aftershocks which lasted for many days. Analysis of historical seismicity including the localisation of epicenters, the trend of isoseismal maps of some historical events, the localisation of the November 10, 2000 main shock ($M_s = 5.7$) and the November 16, 2000 aftershock ($M_s = 4.5$) as well as the shape of the area of maximum intensity of the November 10, 2000 earthquake suggest that the Tachaouaft fault of 20 km of length is the activated geological structure. Although, there is no clear surface breaks associated with this earthquake, the localisation of geological disorders, such as ground fissures, during the Beni-Ouertilane earthquake, which are remarkably located near the fault, may have a tectonic meaning. Geomorphological analysis through Digital Elevation Models (DEMs) allowed us to identify a clear fault scarp related likely to strong earthquakes occurred in the past. Among geomorphological evidences of this active fault there are the uplift and tilt of alluvial terraces on the hanging wall and the diversion of the drainage pattern. Based on the quality of constructions and field observations an intensity $I_0 = VII$ (MSK scale) is attributed to the epicentral area, which is striking NE-SW in agreement with the focal mechanism solution and the seismotectonic observations. In the other hand the amount of damage is due rather to the bad quality of constructions than to the severity of ground motion. The Tachaouaft fault with the Kherrata fault is the main source of seismic hazard in the Babors region.

37- Chemical composition and antioxidant activity of essential oils from Algerian *Origanum glandulosum* Desf.

By: Ruberto, G; Baratta, MT; Sari, M; et al.

FLAVOUR AND FRAGRANCE JOURNAL Volume: 17 Issue: 4 Pages: 251-254 Published: JUL-AUG 2002

The essential oils obtained from *Origanum glandulosum* Desf., collected in four different localities of the Setif region (north-eastern Algeria), were analysed by GC-MS and assayed for their antioxidative effectiveness. The antioxidant capacity of the oils was measured by the modified thiobarbituric acid reactive species (TBARS) assay, using egg yolk as oxidizable substrate in presence of the radical inducer 2,2'-azobis(2-amidinopropane) dihydrochloride (ABAP). The activity was compared with those of alpha-tocopherol and 2,6-ditertbutyl-4-methyl phenol (BHT, butylated hydroxy toluene). The four oils were also endowed with a high degree of activity at the lowest concentration (100 ppm). This activity is to be ascribed to the high content of phenol components, viz. thymol and carvacrol, which strongly characterize the composition of these oils. Copyright (C) 2002 John Wiley Sons, Ltd.

38- Analysis of vehicular pollution in the road tunnel of Kherrata (Algeria)

By: Ourtirane, K; Alkama, R

Edited by: Brebbia, CA; MartinDuque, JF

Conference: 10th International Conference on Modelling Monitoring and Management of Air Pollution Location: SEGOVIA, SPAIN Date: JUL, 2002

Sponsor(s): Wessex Inst Technol; Computense Univ Madrid, Dept Geodyanam

AIR POLLUTION X Book Series: ADVANCES IN AIR POLLUTION SERIES Volume: 11 Pages: 773-782 Published: 2002

The aim of the study is to analyse the amount of atmospheric pollution emitted by vehicular traffic in the road tunnel of Kherrata which is situated between the towns of Bejaia (36degrees45'N,05degrees06'E) and Setif (36degrees11'N,05degrees15'E) in Algeria. The geometric characteristics of the tunnel are: the length (5865.25 in), the height (6.5 m) and the mean slope (5.1%).

Captors of particulate pollution were installed, they permit the measurement of the suspended particles concentrations at any time. Moreover, we installed a wash system operating by remote control in order to count the number of vehicles crossing the tunnel during the same period.

The vehicles crossing the tunnel were classified according to the following characteristics: type (bus, lorry, car), fuel (diesel, essence) and direction (descendant, climbing).

In order to find possible relationships between atmospheric pollutants and the sources (road traffic), taking into account the type, the fuel and the direction, we applied the statistic methods of correlation-regression and principal component analysis.

To estimate the amount of pollution at the emission (exhaust pipe), we use a mathematical model of pollution dispersion: the box model.

We find that the number of vehicles is related significantly and linearly to increase of atmospheric pollutants in the tunnel, the vehicles using diesel as fuel emit more pollutants. Taking into account the slope parameter, we remark that the descendant vehicles emit less pollutants than the others. With the help of box model, we find a significant correlation

($R=0.827$) between the pollutants measured and the pollutants estimated in emission (exhaust pipe).

39- Prevalence of type 2 diabetes mellitus and glucose intolerance in the Setif area (Algeria).

By: Malek, R; Belateche, F; Laouamri, S; et al.

DIABETES & METABOLISM Volume: 27 Issue: 2 Pages: 164-171 Part: 1 Published: APR 2001

Objective: Diabetes mellitus stands as a major public health issue in Algeria and has an important socioeconomical impact. Our study involved a representative sample of 1457 subjects and aimed at assessing the prevalence of type 2 diabetes and glucose intolerance in the population of Setif Wilaya, aged between 30 and 64 years old.

Material and Methods: Diagnosis was based on oral glucose tolerance test, according to World Health Organisation criteria.

Results: Diabetes prevalence was 8.2% (CI: 95%: 6.8% to 9.6%). It increased with age, while 50% of cases were undiagnosed, without any difference according to sex nor urban (7.3%)/rural (9.7%) distribution. Glucose intolerance prevalence was 7.1 (CI 95%: 5.8% to 8.4%). Age-standardized prevalence, according to world population data provided by WHO, was 9.08% for diabetes and 7.5% for glucose intolerance. When the new American Diabetes Association Criteria were used, prevalence of type 2 diabetes was 8.8 (CI: 95%: 7.3% to 10.2%) and that of fasting hyperglycemia was 6.9% (CI: 95%: 5.6 to 8.2). According to these new criteria, among the 66 cases with undiagnosed diabetes, 79% presented with a fasting blood glucose greater than or equal to 126 mg/dl.

Conclusion: This relatively high diabetes prevalence calls for an appropriate management and health education, particularly focused on high risk subjects. These results bring the the first detailed prevalence data in an Algerian population.

40- Dietary risk factors of nasopharyngeal carcinoma in the Setif area in Algeria

By: Laouamri, S; Hamdi-Cherif, M; Sekfali, N; et al.

REVUE D EPIDEMIOLOGIE ET DE SANTE PUBLIQUE Volume: 49 Issue: 2 Pages: 145-156 Published: APR 2001

Background: The aim of our work was to identify risk factors specific to populations in our region for primary prevention of risk behaviors, particularly eating habits.

Methods: We conducted a case-control study on dietary factors of nasopharyngeal carcinoma in the Setif area in Algeria. The study included 72 cases and 72 controls matched for age, sex and area of residence. The variables analyzed were identified by an anthropological study.

Results: Increased risk of disease was associated with consumption of traditionally preserved foods such as "harissa ", pickled fruit and vegetables and dried and salted meat. These factors were commonly found in other endemic areas. Certain products appeared to be specific to the Setif area including dried and salted far, especially after prolonged exposure. Rancid butter was related to a 4 to 7-fold increase in risk and use of pickling increased the risk of nasopharyngeal carcinoma 4 to 12-fold depending on the type of food.

Conclusions: These data point to the need for biochemical analysis of food specimens to search for the carcinogenic agents and to the importance of an immediate information and education program on food habits for the populations living in this area.

41- Comparative efficacy of five herbicides on winter cereal weeds in semi-arid region of Algeria.

By: Fenni, M; Shakir, A N; Maillet, J

Mededelingen (Rijksuniversiteit te Gent. Fakulteit van de Landbouwkundige en Toegepaste Biologische Wetenschappen) Volume: 66 Issue: 2b Pages: 791-5 Published: 2001

Field chemical control trials on cereal weeds were conducted in the Setif region (north-east of Algeria), using five herbicides. The most abundant weeds were *Fumaria densiflora* DC., *Veronica cymbalaria* Bodard, *Vaccaria pyramidata* Medik, and *Papaver rhoeas* L.. The herbicides applied at the end-tillering stage of wheat were bromoxynil + diclofop-methyl, flamprop-isopropyl + MCPA, 2,4-D ester, diclofop-methyl and tribenuron-methyl. Compared to the untreated control, they increased grain yield by 359, 294, 216, 174 and 417 kg ha⁻¹, respectively. These results showed the importance of the chemical control, which is applied in the Setif region on less than 5% of the total surface of cereals.

42- Dionysius and the Victory - Variations on an iconographic theme in Setif and Djemila (Algeria)

By: Blanchard-Lemee, M

Conference: Conference on North African Studies Location: PARIS, FRANCE Date: MAR 16, 2001

COMPTE RENDUS DES SEANCES DE L ACADEMIE DES INSCRIPTIONS & BELLES-LETTRES Issue: 1 Pages: 529-543 Published: JAN-MAR 2001

43- Effects of Sr²⁺-substitution on the reduction rates of Y-z(center dot) in PSII membranes - Evidence for concerted hydrogen-atom transfer in oxygen evolution

By: Westphal, KL; Lydakis-Simantiris, N; Cukier, RI; et al.

BIOCHEMISTRY Volume: 39 Issue: 51 Pages: 16220-16229 Published: DEC 26 2000

Several groups have recently investigated the kinetic effects of biochemical treatments, site-directed mutagenesis, or substitution of essential cofactors on the stepwise, water-oxidizing chemistry catalyzed by Photosystem II. Consistently, these studies show evidence for a slowing of the final, oxygen-releasing step, S-3 (→) S-0, of the catalytic cycle. To a degree, some of this work also shows a slowing of the earlier S-state transitions. To study these processes in more detail, we have investigated the effect of replacing Ca²⁺ with Sr²⁺ on the rates of the S-state transitions by using time-resolved electron paramagnetic resonance. The results show a slowdown of the last transition in the cycle, consistent with a report from Boussac et al. [Boussac, A., Setif, P., and Rutherford, A. W. (1992) *Biochemistry*-31, 1224-1234], and of the earlier S-state transitions as well, which suggests that a common molecular mechanism is at work and that Sr²⁺ is less effective than Ca²⁺ in supporting it. While the oxidation of Y-z by P-680(+) has been extensively studied and can be understood within the

context of nonadiabatic electron tunneling combined with rapid, non-rate-limiting proton transfer in the hole-system [Tommos, C., and Babcock, G. T. (2000) *Biochim. Biophys. Acta* 1458, 199], the reduction of Y-z(.) by the Mn cluster cannot be described effectively by a nonadiabatic electron-transfer formalism. This indicates that this reaction is rate limited by processes other than electron tunneling. We discuss our results for Y-z(.) reduction and those of others for the activation parameters (E-a, A, KIE, and rates) associated with this process, in terms of both sequential and concerted proton-coupled, electron transfer. Our analysis indicates that concerted hydrogen-atom transfer processes best explain the observed characteristics of the S-state advances.

44- Flag leaf senescence, as evaluated by numerical image analysis, and its relationship with yield under drought in durum wheat

By: Hafsi, M; Mechmeche, W; Bouamama, L; et al.

JOURNAL OF AGRONOMY AND CROP SCIENCE-ZEITSCHRIFT FUR ACKER UND PFLANZENBAU Volume: 185 Issue: 4 Pages: 275-280 Published: NOV 2000

Senescence was evaluated at different stages of the grain-filling period in eight durum wheat varieties using numerical image analysis (NIA). The varieties were grown under early, severe drought conditions on the high plains of Setif in Algeria. After flowering, three different irrigation treatments were applied. Treatment effect was small, while a genotypic effect was noted for most of the senescence parameters. Senescence correlated to biomass, while the maximal rate of senescence, V-smax, correlated to thousand-kernel weight. The potential of the method of numerical image analysis for monitoring flag leaf senescence, detecting genotypic variability and selecting genotypes with delayed senescence is discussed.

45- Nasopharyngeal carcinoma and familial cancer in Setif (Algeria)

By: Laouamri, S; Hamdi-Cherif, M

Edited by: Himmich, H

Conference: 12th Mediterranean Congress of Chemotherapy Location: MARRAKECH, MOROCCO Date: NOV 11-14, 2000

12TH MEDITERRANEAN CONGRESS OF CHEMOTHERAPY Pages: 87-97 Published: 2000

Nasopharyngeal carcinoma (NPC) has a particular geographical distribution and is particularly prevalent among 3 widely different populations, Chinese in southeast Asia, Arabs in north Africa and Eskimos in the Arctic. It represents a first E.N.T. cancer in Setif department with a standardized incidence rates of 7,4 in men and 2,8 in women for 100 000 inhabitants-year. Etiological factors that have been associated with this tumor include infection by Epstein-Barr virus and environmental and genetic factors. We report data relating to familial cases of cancer collected during two sties achieved on environmental factors for NPC in Setif department. The first step is a qualitative study of an anthropological type carried on 30 families having a case of NPC. We have found 70 case of cancer. Commonly sites are breast, cervix, stomach and gallbladder. Familial case of NPC have been observed in 5 families. The second step is a case-control study carried on 72 cases matched to 72 controls. Results shows that the average number for familial cases of cancer is significantly greater for cases (2,06) than for controls. The increased NPC risk is associated to the presence of 5

familial cases of cancer or more ($OR = 5,5$, $p < 0,02$) and to the presence of familial cases of NPC ($OR = 5,4$, $p = 0,2$).