Komoditas : Kelapa

Record 1
AU: Oropeza,-M.; Marcano,-A.K.; Garcia,-E.-de.
TI: Proteins related with embryogenic potential in callus and cell suspensions of sugarcane (Saccharum sp.).
SO: In-vitro-cell-dev-biol,-Plant. Largo, MD : Society for In Vitro Biology. Mar/Apr 2001. v. 37 (2) p. 211-216.

Record 2
AU: Lorenzo,-J.C.; Ojeda,-E.; Espinosa,-A.; Borroto,-C.
TI: Field performance of temporary immersion bioreactor-derived sugarcane plants.
SO: In-vitro-cell-dev-biol,-Plant. Largo, MD : Society for In Vitro Biology. Nov/Dec 2001. v. 37 (6) p. 803-806.

Record 3
AU: Chengalrayan,-K.; Gallo-Meagher,-M.
TI: Effect of various growth regulators on shoot regeneration of sugarcane.
SO: In-vitro-cell-dev-biol,-Plant. Largo, MD : Society for In Vitro Biology. July/Aug 2001. v. 37 (4) p. 434-439.

Record 4
AU: Lauziere,-I.; Legaspi,-J.; Legaspi,-B.-Jr.; Saldana,-R.
TI: Field release of Lydella jalisco Woodley (Diptera: Tachinidae) in sugarcane and other gramineous crops for biological control of Eoreuma loflini (Dyar) (Lepidoptera: Pyralidae) in Texas.
SO: Subtrop-plant-sci. [Weslaco, Texas] : Rio Grande Valley Horticultural Society. 2001. v. 53 p. 34-39.

Record 5
AU: Silva,-P.H.A.; Nobrega,-I.
TI: Physical-chemical characterization of commercial brands of Brazilian sugar cane spirit.
SO: Tech-q-Master-Brew-Assoc-Am. Wauwatosa, Wis. : The Association. 2001. v. 38 (3) p. 163-166.

Record 6
AU: Hossain,-M.A.; Kuramochi,-H.; Ishimine,-Y.; Akamine,-H.
TI: Application timing of asulam for torpedograss (Panicum repens L.) control in sugarcane in Okinawa island.
SO: Weed-biol-manag. Carlton, Vic., Australia : Blackwell Science Asia, c2001-. 2001. v. 1 (2) p. 108-114.

Record 7
AU: Rodriguez,-L.M.; Ottea,-J.A.; Reagan,-T.E.
TI: Selection, egg viability, and fecundity of the sugarcane borer (Lepidoptera: Crambidae) with tebufenozide.
SO: J-econ-entomol. Lanham, Md. : Entomological Society of America, 1908-. Dec 2001. v. 94 (6) p. 1553-1557.
AB: Two separate attempts to select the sugarcane borer, Diatraea saccharalis (F.), for resistance to tebufenozide were unsuccessful. Both selected colonies were lost after the fourth generation due to a lack of oviposition. Differences were not detected in fecundity or percent egg viability for 5-d-old third instars exposed to concentrations (EC5, EC15, and EC30) of tebufenozide for 7 d. Decreases (P less than or equal to 0.01) in mean female pupal weights were detected in larvae exposed to EC15 and EC30 concentrations. An ovicidal impact using serial dilutions of tebufenozide (10, 100, and 200 ppm) also was detected. Percent viability was reduced from 98% for untreated eggs to 61% for eggs dipped in 10 ppm and below 6% for eggs dipped in greater than or equal to 100 ppm. Eggs treated with 200 ppm did not hatch. Though some embryonic development was

observed on eggs treated with the high concentrations (100 and 200 ppm), sclerotization of head capsule was not apparent. The ovicidal property of tebufenozide may enhance its effectiveness in controlling populations of the D. saccharalis on an area-wide basis. Fecundity and egg viability were affected in later generations of selection; however, separate studies assessing individuals that were exposed to sublethal concentration (EC5, EC15, and EC30) of tebufenozide as third instars for 7 d in one generation did not detect differences.

Record 8
AU: Rodriguez,-L.M.; Reagan,-T.E.; Ottea,-J.A.
TI: Susceptibility of Diatraea saccharalis (Lepidoptera: Crambidae) to tebufenozide.
SO: J-econ-entomol. Lanham, Md. : Entomological Society of America, 1908-. Dec 2001. v. 94 (6) p. 1464-1470.
AB: Dosage-mortality baselines were determined for first and newly molted third instars of the sugarcane borer, Diatraea saccharalis (F.), with tebufenozide incorporated into an artificial diet. Using death as an endpoint for these assays, LC50 and LC90 values were estimated to be 0.17 and 0.41 ppm for the first and 0.87 and 3.67 ppm for third instars, respectively. Developmental effects also were observed and were defined to include mortality as well as physical impairment and retarded or prolonged development with absence of feeding. Concentrations causing developmental effects in treated larvae (EC50 and EC90) were 5.8- and 3.8-fold lower than the LC50 and LC90, respectively. The critical time of exposure to tebufenozide was determined for developmentally synchronous third instars to be less than 12 h postecdysis. Mortality through adult emergence significantly decreased from 92% (treatment at 0 h postecdysis) to 30% (treatment at 12 h postecdysis), when exposed to tebufenozide at the EC50. For surviving larvae, length of development time until pupation was significantly increased and female pupal weight significantly decreased when larvae were treated at 0 h postecdysis into the third instar. In addition, to modifying the traditional ways of assessing mortality 0-3 d postapplication, this study points out the value of using other approaches to pesticide assessment, especially where insect growth regulators are involved.

Record 9
AU: Qudsieh,-H.Y.M.; Yusof,-S.; Osman,-A.; Rahman,-R.A.
TI: Physico-chemical changes in sugarcane (Saccharum officinarum var yellow cane) and the extracted juice at different portions of the stem during development and maturation.
SO: Food-chem. Oxford : Elsevier Science Limited. Nov 2001. v. 75 (2) p. 131-137.
AB: A study was conducted to determine the physicochemical differences between portions (top, middle, and bottom) of sugarcane at different maturation stages (between 3 and 10 months from planting). The variety used was Saccharum officinarum var. Yellow cane. The parameters analysed were weight, diameter, yield, total soluble solids (TSS), pH, titratable acidity, sugar content (sucrose, glucose, fructose). The weight, diameter, total soluble solids (TSS) and sucrose content increased significantly ($P < 0.01$) in all portions (top, middle and bottom) up to the end of maturity. On the other hand, titratable acidity (TA), pH, juice yield, glucose and fructose contents decreased significantly ($P < 0.01$) during maturation. However, significant differences were also detected in weight, diameter, TSS, sugar content, pH, TA and juice yield between the different portions during maturation. Sucrose content, juice yield and TSS were found to be the most suitable indicators of maturity, while TA, glucose and fructose contents were found to be poor maturity indicators. A suitable harvesting stage was found to be between 7 and 8 months after planting.

Record 10
AU: Mitjans,-M.; Garcia,-L.; Marrero,-E.; Vinardell,-M.P.

TI: Study of Ligmed-A, an antidiarrheal drug based on lignin, on rat small intestine enzyme activity and morphometry.
SO: J-vet-pharmacol-ther. Oxford, England : Blackwell Scientific Ltd. Oct 2001. v. 24 (5) p. 349-351.
AB: This study aimed to determine the potential toxic effect of 4-day oral treatment with a lignin-based formulation on the enzymatic activity and morphology of the small intestine of rat. Ligmed-A is collected from sugarcane and is used to treat diarrhea in weaning pigs. The compound is about 90% lignin, an insoluble polyphenolic constituent of plants and a component of dietary fiber. The duodenal, jejunal and ileal mucosa of control rats and those receiving 2 g/kg Ligmed-A showed similar protein contents of about 100 mg/g. The sucrase and alkaline phosphatase activities of the three intestinal segments were unaltered after administration of the compound. Nonhistological alterations were observed after treatment. Our results, together with those of previous studies which found no toxicological effects, indicate that Ligmed-A could provide a potent antidiarrheal treatment in the veterinary area. However, further studies are required to examine its use in humans.

Record 11
AU: White,-W.H.; Miller,-J.D.; Milligan,-S.B.; Burner,-D.M.; Legendre,-B.L.
TI: Inheritance of sugarcane borer resistance in sugarcane derived from two measures of insect damage.
SO: Crop-sci. Madison, Wis. : Crop Science Society of America, 1961-. Nov/Dec 2001. v. 41 (6) p. 1706-1710.
AB: The sugarcane borer [Diatraea saccharalis (Fabricius)] is an important insect pest of sugarcane grown in the Americas. Environmental and economic concerns are driving these sugarcane industries to consider alternatives to insecticides for controlling damaging infestations of the borer. Breeding for resistance is a viable option; however, little is known of the inheritance of sugarcane borer resistance. The inheritance of sugarcane borer resistance in sugarcane (Saccharum spp. L.) was investigated in a field study conducted in 1990, 1992, and 1993. We measured resistance by both plant damage response ratings and mean percent internodes damaged. Seedling progeny (F1 plants generated from seed) from 21 to 27 crosses were evaluated each year. These progeny originated from a mating design with females nested within males. Parental genotypes were randomly selected for borer resistance, but were elite cultivars adapted to Louisiana. Data were collected from progeny infested with artificially introduced sugarcane borers. Narrow-sense heritability on a single-plot basis (36 plants measured per plot) for damage ratings (h2 = 0.73) and for percent damaged internodes (h2 = 0.76) were high and of comparable magnitude. For both traits, we detected neither dominance nor additive x year interaction; however, dominance x year interaction variance existed. The potential for genetic advance (GA) from direct selection against percent damaged internodes (GA = 33.9% of mean bored internode) was higher than that from direct selection for lower damage rating (13.5% of mean rating). The much greater resources needed to effect selection for percent bored internodes (approx. 24 times that for rating) suggested.
direct selection for damage rating may be more efficient. Because the traits were highly correlated (r(A) = 0.94) and their heritabilities high, correlated gains in percent damaged internodes by direct selection for damage rating were nearly as high as direct selection for percent damaged internodes (31% indirect vs. 33.9% direct).

Record 12
AU: Kaizu,-Y.; Okamoto,-T.; Imou,-K.
TI: System for automatic separation of ex vitro micropropagated sugarcane.
SO: CIGR-ejournal. Bonn, Germany : The Commission, 1999-. 2001. v. 3 p. N/A.

Record 13
AU: Medjo-Eko,-R.; Riskowski,-G.L.

TI: A procedure for processing mixtures of soil, cement, and sugar cane bagasse.
SO: CIGR-ejournal. Bonn, Germany : The Commission, 1999-. 2001. v. 3 p. N/A.

Record 14
AU: Zambrano,-A.Y.; Demey,-J.R.; Gonzalez-R,-V.
TI: In vitro genetic variability of sugarcane cultivars.
SO: J-agric-Univ-P-R. Rio Piedras : Agricultural Experiment Station, 1934-. Jan/Apr 2001. v. 85 (1/2) p. 49-61.

Record 15
AU: Sene,-L.; Converti,-A.; Zilli,-M.; Felipe,-M.G.A.; Silva,-S.S.
TI: Metabolic study of the adaptation of the yeast Candida guilliermondii to sugarcane bagasse hydrolysate.
SO: Appl-microbiol-biotechnol. Berlin, Germany : Springer Verlag. Dec 2001. v. 57 (5/6) p. 738-743.
AB: Batch xylitol production from concentrated sugarcane bagasse hydrolysate by Candida guilliermondii was performed by progressively adapting the cells to the medium. Samples were analyzed to monitor sugar and acetic acid consumption, xylitol, arabitol, ethanol, and carbon dioxide production, as well as cell growth. Both xylitol yield and volumetric productivity remarkably increased with the number of adaptations, demonstrating that the more adapted the cells, the better the capacity of the yeast to reduce xylose to xylitol in hemicellulose hydrolysates. Substrate and product concentrations were used in carbon material balances to study in which way the different carbon sources were utilized by this yeast under microaerobic conditions, as well as to shed light on the effect of the progressive adaptation to the medium on its fermentative activity. Such a theoretical means allowed estimation for the first time of the relative contribution of each medium component to the formation of the main products of this fermentation system.

Record 16
AU: Bohorova,-N.; Frutos,-R.; Royer,-M.; Estanol,-P.; Pacheco,-M.; Rascon,-Q.; McLean,-S.; Hoisington,-D.
TI: Novel synthetic Bacillus thuringiensis cry1B gene and the cry1B-cry1Ab translational fusion confer resistance to southwestern corn borer, sugarcane borer and fall armyworm in transgenic tropical maize.
SO: Theor-appl-genet. Berlin; Springer-Verlag. Nov 2001. v. 103 (6/7) p. 817-826.
AB: In order to develop a resistance management strategy to control tropical pests based on the co-expression of different toxins, a fully modified Bacillus thuringiensis cry1B gene and the translational fusion cry1B-cry1Ab gene have been developed. Both constructs were cloned under the control of a maize ubiquitin-1 or a rice actin-1 promoter and linked to the bar gene driven by the CaMV 35S promoter. Immature embryos from the tropical lines CML72, CML216, and their hybrids, were used as the target for transformation by microprojectile bombardment. Twenty five percent of the transformed maize plants with cry1B expressed a protein that is active against southwestern corn borer and sugarcane borer. Ten percent of the transgenic maize expressed single fusion proteins from the translational fusion gene cry1B-1Ab and showed resistance to these two pests as well as to the fall armyworm. Transgenic maize plants that carried the cry1B gene in T1 to T3 progenies transmitted trangenes with expected Mendelian segregation and conferred resistance to the two target insects. Molecular analyses confirmed the cry genes integration, the copy number, the size of protein(s) expressed in maize plants, the transmission, and the inheritance of the introduced cry gene. These new transgenic products will provide another recourse for reducing the build-up of resistance in pest populations.

Record 17
AU: Nonato,-R.V.; Mantelatto,-P.E.; Rossell,-C.E.V.
TI: Integrated production of biodegradable plastic, sugar and ethanol.

SO: Appl-microbiol-biotechnol. Berlin, Germany : Springer Verlag. Oct 2001. v. 57 (1/2) p. 1-5.
AB: Poly 3-hydroxybutyric acid (PHB) and related copolymers can be advantageously produced when integrated into a sugarcane mill. In this favorable scenario, the energy necessary for the production process is provided by biomass. Carbon dioxide emissions to the environment are photosynthetically assimilated by the sugarcane crop and wastes are recycled to the cane fields. The polymer can be produced at low cost considering the availability of a low-price carbon source and energy.

Record 18
AU: Massadeh,-M.I.; Yusoff,-W.M.W.; Omar,-O.; Kader,-J.
TI: Synergism of cellulase enzymes in mixed culture solid substrate fermentation.
SO: Biotechnol-lett. Dordrecht : Kluwer Academic Publishers. Nov 2001. v. 23 (21) p. 1771-1774.
AB: Sugar cane bagasse was subjected to a mixed culture, solid substrate fermentation with Trichoderma reesei QM9414 and Aspergillus terreus SUK-1 to produce cellulase and reducing sugars. The highest cellulase activity and reducing sugar amount were obtained in mixed culture. The percentage of substrate degradation achieved employing mixed culture was 26% compared to 50% using separate cultures of the two molds. This suggests that the synergism of enzymes in mixed culture solid substrate fermentation have lower synergism than in pure culture.

Record 19
AU: Larsen,-K.
TI: Molecular cloning and analysis of a cDNA coding for nucleoside diphosphate kinase from ryegrass.
SO: J-plant-physiol. Stuttgart ; New York : G. Fischer,. Feb 2001. v. 158 (2) p. 267-272.
AB: A full-length cDNA, LpNDPK, encoding ryegrass nucleoside diphosphate kinase (EC 2.7.4.6) has been cloned and sequenced. The nucleotide sequence of the clone contains an open reading frame of 450 nucleotides encoding a protein of 150 amino acid residues with a calculated molecular mass of 16.5 kDa and a P(i) of 6.62. The LpNDPK encoded protein possesses substantial homology with nucleoside diphosphate kinases (NDPKs) isolated and cloned form other sources; the highest identity (86%) was observed with NDPK from sugarcane (Saccharum officinarum). Amino acid comparisons with other NDPKs show that the presented ryegrass NDPK sequence also contains several motifs and specific residues crucial for catalytic activity which are highly conserved among other NDPKs. RT-PCR expression analysis using primers covering the coding region of LpNDPK revealed that the ryegrass NDPK gene is equally expressed in stem, leaf, and flower tissue.

Record 20
AU: Vijayendra,-S.V.N.; Bansal,-D.; Prasad,-M.S.; Nand,-K.
TI: Jaggery: a novel substrate for pullulan production by Aureobasidium pullulans CFR-77.
SO: Process-biochem. Kidlington, Oxford, UK : Elsevier Science Ltd. Dec 10, 2001. v. 37 (4) p. 359-364.

Record 21
AU: Mallawaarachchi,-T.; Quiggin,-J.
TI: Modelling socially optimal land allocations for sugar cane growing in North Queensland: a linked mathematical programming and choice modelling study.
SO: Aust-j-agric-resour-econ. Oxford, U.K. ; Malden, Mass. : Blackwell, 1997-. Sept 2001. v. 45 (3) p. 383-409.

Record 22

AU: Mirza,-M.S.; Ahmad,-W.; Latif,-F.; Haurat,-J.; Bally,-R.; Normand,-P.; Malik,-K.A.
TI: Isolation, partial characterization, and the effect of plant growth-promoting bacteria (PGPB) on micro-propagated sugarcane in vitro.
SO: Plant-soil. Dordrecht, The Netherlands : Kluwer Academic Publishers. Nov 2001. v. 237 (1) p. 47-54.

Record 23
AU: Ramos,-J.; Gonzalez,-M.; Ramirez,-F.; Young,-R.; Zuniga,-V.
TI: Biomechanical and biochemical pulping of sugarcane bagasse with Ceriporiopsis subvermispora fungal and xylanase pretreatments.
SO: J-agric-food-chem. Washington, D.C. : American Chemical Society. Mar 2001. v. 49 (3) p. 1180-1186.
AB: Sugarcane bagasse was pretreated with both the white-rot fungus, Ceriporiopsis subvermispora, and xylanase enzyme for 2 weeks before soda chemithermomechanical (CTMP) and soda chemical (CP) cooking. For fungi-CTMP (BCTMP) and enzyme-fungi-CTMP (EBCTMP), the bagasse, after bio-pretreatment, was cooked with 5% sodium hydroxide, at 130 degrees C for 20 min. For the chemical pulping (CP), after fungi pretreatment (BCP) or after xylanase and fungal pretreatment (EBCP), the bagasse was cooked with 14.5% sodium hydroxide. With the BCTMP, the Klason lignin was reduced, all of the pulp strength properties were increased, and a 28% savings in refining energy consumption was obtained, but the brightness was reduced 5 points compared to the control. With the EBCTMP, the brightness losses were overcome but with a mild reduction in the pulp strength properties compared to the BCTMP. The energy savings were 5% greater than from BCTMP and 33% over the control. The BCP treatment increases somewhat the pulp strength properties, reduces the energy consumption 23%, and reduces the brightness by 9 points compared to the control; however, the kappa no. was 5.5 points higher than the control. EBCP treatment reduces brightness losses and increases the pulp yield 2% compared to the control, but with some reduction in the strength properties compared to BCP.

Record 24
AU: Paya,-J.; Monzo,-J.; Borrachero,-M.V.; Diaz-Pinzon,-L.; Ordonez,-L.M.
TI: Sugar-cane bagasse ash (SCBA): studies on its properties for reusing in concrete production.
SO: J-chem-technol-biotechnol. Chichester, West Sussex, U.K. : John Wiley & Sons, Ltd. Mar 2002. v. 77 (3) p. 321-325.

Record 25
AU: Ram,-B.; Sreenivasan,-T.V.; Sahi,-B.K.; Singh,-N.
TI: Introgression of low temperature tolerance and red rot resistance from Erianthus in sugarcane.
SO: Euphytica. Dordrecht : Kluwer Academic Publishers. 2001. v. 122 (1) p. 145-153.

Record 26
AU: Nonato,-E.A.; Carazza,-F.; Silva,-F.C.; Carvalho,-C.R.; Cardeal,-Z.-de-L.
TI: A headspace solid-phase microextraction method for the determination of some secondary compounds of Brazilian sugar cane spirits by gas chromatography.
SO: J-agric-food-chem. Washington, D.C. : American Chemical Society. Aug 2001. v. 49 (8) p. 3533-3539.
AB: A headspace solid-phase microextraction (SPME) method was developed for the determination of secondary compounds from Brazilian sugar cane spirits, or cachaca, by GC-FID. An SPME holder with an 85 micrometer polyacrylate coating was utilized. The novel method is compared with an optimized method: liquid-liquid extraction (LLE). Both methods showed good linearity, but the repeatability for analyses done with the SPME technique (%RSD = 1.8-3.9) was better than for those done with LLE (%RSD = 10.3-11.7). The concentrations of the analytes obtained in the analysis of 12 cachaca samples with the SPME technique were higher than those obtained with LLE. In the SPME method the

extraction wastes are smaller. Cachaca samples were qualitatively analyzed for GC-MS.

Record 27
AU: Chatenet,-M.; Delage,-C.; Ripolles,-M.; Irey,-M.; Lockhart,-B.E.L.; Rott,-P.
TI: Detection of Sugarcane yellow leaf virus in quarantine and production of virus-free sugarcane by apical meristem culture.
SO: Plant-dis. [St. Paul, Minn., American Phytopathological Society]. Nov 2001. v. 85 (11) p. 1177-1180.
AB: Sugarcane yellow leaf virus (SCYLV) was detected for the first time in 1996 in the Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD) sugarcane quarantine at Montpellier by reverse transcription-polymerase chain reaction (RT-PCR) in varieties from Brazil, Florida, Mauritius, and Reunion. Between 1997 and 2000, the virus was found by RT-PCR and/or tissue-blot immunoassay (TBIA) in additional varieties from Barbados, Cuba, Guadeloupe, Indonesia, Malaysia, Philippines, Puerto Rico, and Taiwan, suggesting a worldwide distribution of the pathogen. An excellent correlation was observed between results obtained for the two diagnostic techniques. However, even though only a few false negative results were obtained by either technique, both are now used to detect SCYLV in CIRAD's sugarcane quarantine in Montpellier. The pathogen was detected by TBIA or RT-PCR in all leaves of sugarcane foliage, but the highest percentage of infected vascular bundles was found in the top leaves. The long hot water treatment (soaking of cuttings in water at 25 degrees C for 2 days and then at 50 degrees C for 3 h) was ineffective in eliminating SCYLV from infected plants. Sugarcane varieties from various origins were grown in vitro by apical bud culture and apical meristem culture, and the latter proved to be the most effective method for producing SCYLV-free plants.

Record 28
AU: Mthiyane,-D.M.N.; Nsahlai,-I.V.; Bonsi,-M.L.K.
TI: The nutritional composition, fermentation characteristics, in sacco degradation and fungal pathogen dynamics of sugarcane tops ensiled with broiler litter with or without water.
SO: Anim-feed-sci-technol. Amsterdam, The Netherlands : Elsevier Science B.V. Dec 13, 2001. v. 94 (3/4) p. 171-185.

Record 29
AU: Shanker,-K.M.; Mohan,-C.V.
TI: The potential of biofilm in aquaculture.
SO: World-aquac. [Baton Rouge, La. : World Aquaculture Society,. June 2001. v. 32 (2) p. 62-63, 67.

Record 30
AU: Fitch,-M.M.M.; Lehrer,-A.T.; Komor,-E.; Moore,-P.H.
TI: Elimination of sugarcane yellow leaf virus from infected sugarcane plants by meristem tip culture visualized by tissue blot immunoassay.
SO: Plant-pathol. Edinburgh : Blackwell Science Ltd. Dec 2001. v. 50 (6) p. 676-680.

Record 31
AU: Dominguez,-M.; Mejia,-A.; Revah,-S.; Barrios-Gonzalez,-J.
TI: Optimization of bagasse, nutrients and initial moisture ratios on the yield of penicillin in solid-state fermentation.
SO: World-j-microbiol-biotechnol. Dordrecht, The Netherlands : Kluwer Academic Publishers. Oct 2001. v. 17 (7) p. 751-756.

Record 32
AU: Varavinit,-S.; Chaokasem,-N.; Shobsngob,-S.
TI: Covalent immobilization of a glucoamylase to bagasse dialdehyde cellulose.

SO: World-j-microbiol-biotechnol. Dordrecht, The Netherlands : Kluwer Academic Publishers. Oct 2001. v. 17 (7) p. 721-725.

Record 33
AU: Sparovek,-G.; Schnug,-E.
TI: Temporal erosion-induced soil degradation and yield loss.
SO: Soil-Sci-Soc-Am-j. [Madison, Wis.] Soil Science Society of America. Sept/Oct 2001. v. 65 (5) p. 1479-1486.
AB: Intensification of tropical agricultural systems by increasing fertilizer input and technology is a current trend in developing regions. Under intensive management, erosion impacts on crop productivity may not be detected in the short term. However, long-term impacts are expected because erosion rates in tropical agroecosystems are usually greater than the rate of soil formation. A temporal function of soil-depth change was defined and named life time. Conceptually, soil's life time is the time until a minimum soil depth needed for sustaining crop production is reached. The life-time function was applied to the Ceveiro watershed (1990 ha) located at the Southeastern part of Brazil, and compared with sugarcane (Saccharum officinarum L.) yield loss estimations. Soil erosion prediction was made employing the Water Erosion Prediction Project. The mean soil erosion rate for the area was 15 Mg ha(-1) yr(-1), and sugarcane showed the highest mean value of 31 Mg ha(-1) yr(-1). The half life time of the watershed, i.e., the time until 50% of the area reach the minimum soil depth, was estimated to +563 yr in relation to present time. The estimated time for sugarcane's productivity to be reduced to 50% of the present value (half yield life time) was +361 yr. The life-time function was similar to the estimated long-term impacts of soil erosion on crop productivity. Therefore, the life-time function was considered as an integrative indictor for agricultural sustainability, useful for land-use planning and for the definition of tolerable soil erosion.

Record 34
AU: Sekamatte,-B.; Latigo,-M.; Russell-Smith,-A.
TI: The potential of protein- and sugar-based baits to enhance predatory ant activity and reduce termite damage to maize in Uganda.
SO: Crop-prot. Oxford, U.K. : Elsevier Science Ltd. Sept 2001. v. 20 (8) p. 653-662.
AB: Traditional farmers' practices of using dead animals, meat bones and sugar cane husks to "poison" Macrotermes mounds were adapted to develop baits for ant species predatory on termites. The impact of sugar and protein-based baits on activity of ants in maize fields was evaluated in trials both on-station and in farmers' fields over three cropping seasons. Powdered fish, broadcast or buried with maize stalks, was compared with molasses painted onto the stems of maize plants and bagasse spread as mulch. Ants were rapidly attracted into plots of maize and fed upon the baits. The protein-based baits attracted significantly larger number of ants compared to molasses and bagasse and resulted in greater ant nesting near maize plants. In both on-station and on-farm experiments, termite damage was significantly reduced and yield of maize increased in plots with protein-based baits. These results suggest that ants could be used in an integrated management strategy for termites in smallholder maize cropping systems.

Record 35
AU: Ellis,-R.N.; Basford,-K.E.; Cooper,-M.; Leslie,-J.K.; Byth,-D.E.
TI: A methodology for analysis of sugarcane productivity trends. I. Analysis across districts.
SO: Aust-j-agric-res. Collingwood, Victoria, Australia : CSIRO. 2001. v. 52 (10) p. 1001-1009.

Record 36
AU: Lingle,-S.E.; Dyer,-J.M.
TI: Cloning and expression of sucrose synthase-1 cDNA from sugarcane.

SO: J-plant-physiol. Stuttgart ; New York : G. Fischer,. Jan 2001. v. 158 (1) p. 129-131.
AB: Sucrose synthase (SuSy, EC 2.4.1.13) is a major enzyme of sucrose metabolism in sugarcane (Saccharum spp. hybrids) internodes. Most plants have at least two differentially expressed, nonallelic SuSy genes. A cDNA of the entire coding sequence of sucrose synthase-1 was isolated from total RNA from an elongating sugarcane internode. Primers designed from published sequences of SuSy-1 from maize (Zea mays), wheat (Triticum aestivum) and rice (Oryza sativa) amplified a 627-bp product through RT-PCR. This was followed by 5'- and 3' rapid amplification of cDNA ends (RACE). The cDNA is 2717 bp long. The nucleotide sequence is similar to that of cDNAs for SuSy-1 from maize (91%), rice (89%) and barley (87%). The putative protein is 802 amino acids long, and 97% identical to the sh1 SuSy protein from maize. An antisense riboprobe of the PCR product detected SuSy-1 transcripts in Northern blots of RNA from immature and mature leaf sheaths, the apex and immature leaf roll, immature and mature internodes, sett roots, and germinating vegetative bud. Expression in mature and immature leaf lamina was slight but detectable. This is the first report of a full-length cDNA of SuSy-1 from sugarcane.

Record 37
AU: Bonnett,-G.D.; Salter,-B.; Albertson,-P.L.
TI: Biology of suckers: late formed shoots in sugarcane.
SO: Ann-appl-biol. Warwick : Association of Applied Biologists. 2001. v. 138 (1) p. 17-26.

Record 38
AU: Adeoye,-G.O.; Sridhar,-M.K.C.; Ipinmoroti,-R.R.
TI: Potassium recovery from farm wastes for crop growth.
SO: Commun-soil-sci-plant-anal. Monticello, N.Y. : Marcel Dekker Inc. 2001. v. 32 (15/16) p. 2347-2358.
AB: Potassium (K) is a scarce agricultural chemical, which is being depleted from Nigerian soils at a fast rate. There are no known resources in Nigeria and farmers depend on imported muriate of potash (KCl) for their needs. A study has been undertaken on the potential for resource utilization of potash from known farm wastes available in plentiful supply. Thirteen farm wastes were assessed for their K and other mineral contents. Among them, cocoa waste, plantain waste, market waste, and water hyacinth were found to be rich in their K contents. Varying levels (0, 10, 15, 20, 25, and 30 tons/ha) of these wastes in ash form along with recommended NPK fertilizer were examined in greenhouse experiments using Amaranthus cruentus L. as a test crop. The results indicated that water hyacinth and cocoa waste promoted maximum crop growth and yield when applied at 10 tons ha(-1), respectively. Crop growth and yield were significant at the 0.05% level as compared to application of conventional NPK fertilizer at K levels 10 and 20 kg ha(-1). From the soil residual K levels and plant uptake, it was observed that the K from water hyacinth seems to be more available to the plant as compared to sources from other farm wastes. Samples of potassium salt in the carbonate form were recovered and concentrated from ash of water hyacinth and cocoa waste which may prove to be economical for farmers in the country to meet K demand of their soils.

Record 39
AU: Gupta,-V.K.; Ali,-I.
TI: Removal of DDD and DDE from wastewater using bagasse fly ash, a sugar industry waste.
SO: Water-res. Oxford, U.K. : Elsevier Science Ltd. Jan 2001. v. 35 (1) p. 33-40.

Record 40
AU: Arjona,-E.; Bueno,-G.; Salazar,-L.
TI: An activity simulation model for the analysis of the harvesting and transportation systems of a sugarcane plantation.

SO: Comput-electron-agric. Amsterdam : Elsevier, 1985-. Oct 2001. v. 32 (3) p. 247-264.
AB: We developed a discrete event simulation model of the harvesting and transportation systems of a sugarcane plantation in Mexico that covers all processes from the burning of the cane to its unloading in the mill yard. The model was built to solve a problem with the amortization of machinery used in the plantation. The model was fit and validated using plantation field data collected over an entire year. With model results we showed that machinery is underutilized and found possible solutions to the problem. The solutions involve increasing the efficiency of machinery use, thereby allowing a reduction in the amount of machinery without increasing sugarcane processing times.

Record 41
AU: Aljanabi,-S.M.; Parmessur,-Y.; Moutia,-Y.; Saumtally,-S.; Dookun,-A.
TI: Further evidence of the association of a phytoplasma and a virus with yellow leaf syndrome in sugarcane.
SO: Plant-pathol. Edinburgh : Blackwell Science Ltd. Oct 2001. v. 50 (5) p. 628-636.

Record 42
AU: Cortez,-E.V.; Felipe,-M.-das-G.-de-A.; Roberto,-I.C.; Pessoa,-A.-Jr.; Vitolo,-M.
TI: Extraction by reversed micelles of the intracellular enzyme xylose reductase.
SO: Appl-biochem-biotechnol. Totowa, N.J. : Humana Press. Spring 2001. v. 91/93 p. 753-759.
AB: Xylose reductase enzyme (EC 1.1.1.21) produced by Candida guilliermondii in sugarcane bagasse was extracted by reversed micelles of N-benzyl-N-dodecyl-N-bis (2-hydroxyethyl) ammonium chloride cationic surfactant. An experimental design was employed to evaluate the influences of the following factors on the enzyme extraction: temperature, cosolvent, and surfactant concentration. A model was used to represent the enzyme recovery and fit of the experimental data. The extraction yielded a total recovery of 130%, and the purity increased 4.8-fold. This study demonstrates that liquid-liquid extraction by reversed micelles is a process able to recover and increase the enzymatic activity and purity of XR produced by C. guilliermondii.

Record 43
AU: Lemos,-J.L.S.; Fontes,-M.C.-de-A.; Pereira,-N.-Jr.
TI: Xylanase production by Aspergillus awamori in solid-state fermentation and influence of different nitrogen sources.
SO: Appl-biochem-biotechnol. Totowa, N.J. : Humana Press. Spring 2001. v. 91/93 p. 681-689.
AB: The use of purified xylan as a substrate for bioconversion into xylanases increases the cost of enzyme production. Consequently, there have been attempts to develop a bioprocess to produce such enzymes using different lignocellulosic residues. Filamentous fungi have been widely used to produce hydrolytic enzymes for industrial applications, including xylanases, whose levels in fungi are generally much higher than those in yeast and bacteria. Considering the industrial importance of xylanases, the present study evaluated the use of milled sugarcane bagasse, without any pretreatment, as a carbon source. Also, the effect of different nitrogen sources and the C:N ratio on xylanase production by Aspergillus awamori were investigated, in experiments carried out in solid-state fermentation. High extracellular xylanolytic activity was observed on cultivation of A. awamori on milled sugarcane bagasse and organic nitrogen sources (45 IU/mL for endoxylanase and 3.5 IU/mL for beta-xylosidase). Endoxylanase and beta-xylosidase activities were higher when sodium nitrate was used as the nitrogen source, when compared with peptone, urea, and ammonium sulfate at the optimized C:N ratio of 10:1. The use of yeast extract as a supplement to the these nitrogen sources resulted in considerable improvement in

the production of xylanases, showing the importance of this organic nitrogen source on A. awamori metabolism.

Record 44
AU: Sene,-L.; Felipe,-M.G.A.; Silva,-S.S.; Vitolo,-M.
TI: Preliminary kinetic characterization of xylose reductase and xylitol dehydrogenase extracted from Candida guilliermondii FTI 20037 cultivated in sugarcane bagasse hydrolysate for xylitol production.
SO: Appl-biochem-biotechnol. Totowa, N.J. : Humana Press. Spring 2001. v. 91/93 p. 671-680.
AB: Candida guilliermondii FTI 20037 was cultured in sugarcane bagasse hydrolysate supplemented with 2.0 g/L of (NH4)2SO4, 0.1 g/L of CaCl2(.)2H2O, and 20.0 g/L of rice bran at 35 degrees C; pH 4.0; agitation of 300 rpm; and aeration of 0.4, 0.6, or 0.8 vvm. The high xylitol production (20.0 g/L) and xylose reductase (XR) activity (658.8 U/mg of protein) occurred at an aeration of 0.4 vvm. Under this condition, the xylitol dehydrogenase (XD) activity was low. The apparent K(M) for XR and XD against substrates and cofactors were as follows: for XR, 6.4 x 10(-2) M (xylose) and 9.5 x 10(-3) mM (NADPH); for XD, 1.6 x 10(-1) M (xylitol) and 9.9 x 10(-2) mM (NAD+). Because XR requires about 10-fold less xylose and cofactor than XD for the condition in which the reaction rate is half of the V(max), some interference on the overall xylitol production by the yeast could be expected.

Record 45
AU: Goncalves,-A.R.; Ruzene,-D.S.
TI: Bleachability and characterization by Fourier transform infrared principal component analysis of Acetosolv pulps obtained from sugarcane bagasse.
SO: Appl-biochem-biotechnol. Totowa, N.J. : Humana Press. Spring 2001. v. 91/93 p. 63-70.
AB: Sugarcane bagasse Acetosolv pulps were bleached by xylanase and the pulps classified by using Fourier transform infrared (FTIR) spectroscopy and principal component analysis (PCA). Pulp was treated with xylanase for 4-8 h with stirring at 30 degrees C. Some samples were further extracted with NaOH for 1 h at 65 degrees C. FTIR spectra were recorded directly from the dried pulp samples by using the diffuse reflectance technique. Reduction in kappa number of 69% was obtained after sequence xylanase (4 h)-alkaline extraction. During bleaching the viscosity decreased only 12%. FTIR-PCA showed that the first three principal components (PCs) explained more than 90% of the total variance of the pulp spectra. PC2 x PC1 plot showed that the points related to pulps from sequence xylanase (4 h)-alkaline extraction are different from the other. This group is enlarged by plotting PC3 x PC1 or PC3x PC2 containing all pulps submitted to alkaline extraction. PC2 and PC3 are the principal factor for differentiation of the pulps. These PCs suffer influence of the ester bands (1740 and 1244 cm(-1)). On the other hand, the pulps bleached only with xylanase could not be differentiated from the nonbleached pulps.

Record 46
AU: Aranda,-E.; Mendoza,-G.D.; Garcia-Bojalil,-C.; Castrejon,-F.
TI: Growth of heifers grazing stargrass complemented with sugar cane, urea and a protein supplement.
SO: Livest-prod-sci. Amsterdam, The Netherlands : Elsevier Science. Oct 2001. v. 71 (2/3) p. 201-206.

Record 47
AU: Samson,-P.R.
TI: Effect of feeding by larvae of Inopus rubriceps (Diptera: Stratiomyidae) on development and growth of sugarcane.
SO: J-econ-entomol. Lanham, Md. : Entomological Society of America, 1908-. Oct 2001. v. 94 (5) p. 1097-1103.
AB: Pot experiments were used to investigate the effect of root-feeding larvae of the soldier fly Inopus rubriceps (Macquart) on shoot production from

sugarcane planting pieces (setts) and on growth and ratooning of sugarcane plants. Shoot elongation was inhibited while setts were exposed to larvae, and it resumed when larvae were removed. Infested setts produced a greater weight of roots than uninfested setts. Similar symptoms were induced by mechanical root pruning, suggesting that the effect of soldier fly larvae on setts may be a redirection of growth from the shoot to roots due to root damage. Larvae had a greater effect on shoot production at lower temperature, particularly in cultivar 'Q151', which had a higher temperature threshold than 'CP44-101'. Temperature and cultivar may influence the harmful effect of soldier fly larvae on sett germination by changing the differential rates of plant growth and larval feeding. When growing plants were exposed to larvae, the infested plants were slightly smaller at harvest and subsequently produced many fewer ratoon shoots from underground buds than uninfested plants. Shoot elongation from buds was also inhibited in setts cut from the above-ground stalks of infested plants. Analysis of nutrient levels in plants did not indicate the mechanism for ratooning inhibition, because levels of the 10 elements analyzed were at least as high or higher in infested plants. Infestation was associated with an increased level of sucrose and a reduced level of fructose in stalks. The inhibitory effect of larval feeding on ratooning was not reversed when larvae were removed from pots 10 wk before harvest. However, new stubble produced from. infested plants then ratooned normally after a second harvest, provided the new roots were not attacked. The symptoms of larval feeding in growing plants are unexplained, but may be caused by the prolonged withdrawal of sap from roots or the injection of some inhibitory substance by larvae.

Record 48
AU: Piccoli-Valle,-R.H.; Brandi,-I.V.; Silva,-D.O.; Passos,-F.J.V.
TI: Pectin lyase production by Penicillium griseoroseum grown in sugar cane juice in repeated batch cultures.
SO: World-j-microbiol-biotechnol. Dordrecht, The Netherlands : Kluwer Academic Publishers. July 2001. v. 17 (5) p. 433-437.

Record 49
AU: Grimm,-C.
TI: Economic feasibility of a small-scale production plant for entomopathogenic fungi in Nicaragua.
SO: Crop-prot. Oxford, U.K. : Elsevier Science Ltd. Aug 2001. v. 20 (7) p. 623-630.
AB: Natural insecticides based on the entomopathogenic fungi Beauveria bassiana and Metarhizium anisopliae have been produced on an experimental scale in Nicaragua with a 6-month output for insect control on 1100 ha. Main target insects are the coffee berry borer Hypothenemus hampei, the diamond-backed moth Plutella xylostella, and spittlebugs (Aeneolamia spp. and Prosapia spp.) in sugarcane. The production process involves three life cycles of the fungus, first on solid culture medium, then on rice in Erlenmeyer flasks from which a liquid inoculum is obtained and finally on rice in polypropylene bags. The economic feasibility of scaling up the conidia production for an annual output to cover mycopesticide applications on 20,000 ha is calculated. Total investment for a complete new construction of facilities amounts to US$264,000. The estimated shelf prices of the products range from US$8.00 to US$12.00/ha. A net profit is obtained as soon as the output reaches 75% of full capacity, which is targeted for the third year. In the final year of the planning horizon of 10 years, at which time the debt has been serviced, the break-even ratio is reached at 56% of nominal capacity. The internal rate of return on the total investment is 12.7%. The production is economically sustainable if initial capital is provided below market interest rates via a research or development co-operation treaty.

Record 50
AU: Thompson,-N.; Randles,-J.W.

TI: The genome organisation and taxonomy of Sugarcane striate mosaic associated virus.
SO: Arch-virol. Wien, Austria : Springer-Verlag. 2001. v. 146 (8) p. 1441-1451.

Record 51
AU: Stafne,-E.T.; Brown,-J.S.; Shine,-J.M.-Jr.
TI: A relational database for agronomic and genealogical sugarcane data: an adaptable prototype.
SO: Agron-j. Madison, Wis. : American Society of Agronomy, [1949-. July/Aug 2001. v. 93 (4) p. 923-928.
AB: A comprehensive relational database has been created at the USDA-ARS Canal Point Sugarcane Field Station to facilitate the entry and retrieval of data for the breeding program using Microsoft Access 2000. This software is readily available and easily adaptable to a wide variety of breeding programs. A relational database provides an efficient and powerful way to store, retrieve, manipulate, query, and report data in a multiuser environment. Data entry is performed through a series of self-explanatory forms. Once entered, data can be accessed and queried through a local area network (LAN). Data from the seedling stage (true seed planting), Stage I and Stage II (the first two clonally propagated selection stages at Canal Point), and Stage IV (the final selection stage before cultivar release) of the breeding program have currently been included in the database. The database also includes the Canal Point clonal collection inventory, crossing information, seed (fuzz) inventory, and pedigree tracking. Future plans include incorporation of data from Stage III (the next to last clonally propagated selection stage), pathology data, and access through the Canal Point Internet web site (www.canalpoint.sugarcane.usda.gov).

Record 52
AU: Engelke,-J.; Sherrard,-J.; Plunkett,-G.; Triglone,-T.
TI: Improving irrigation for Ord sugarcane.
SO: J-agric. South Perth, W.A. : Dept. of Agriculture, 1972-. 2000/2001. v. 42 p. 45-50.

Record 53
AU: Tsai,-W.T.; Chang,-C.Y.; Lin,-M.C.; Chien,-S.F.; Sun,-H.F.; Hsieh,-M.F.
TI: Adsorption of acid dye onto activated carbons prepared from agricultural waste bagasse by ZnCl(2) activation.
SO: Chemosphere. Kidlington, Oxford, U.K. : Elsevier Science Ltd. Oct 2001. v. 45 (1) p. 51-58.

Record 54
AU: White,-W.H.; Reagan,-T.E.; Hall,-D.G.
TI: Melanaphis sacchari (Homoptera: Aphididae), a sugarcane pest new to Louisiana.
SO: Fla-entomol. Lutz, Fla. : Florida Entomological Society. Sept 2001. v. 84 (3) p. 435-436.

Record 55
AU: Pan,-B.; Vessey,-J.K.
TI: Response of the endophytic diazotroph Gluconacetobacter diazotrophicus on solid media to changes in atmospheric partial O2 pressure.
SO: Appl-environ-microbiol. Washington : American Society for Microbiology. Oct 2001. v. 67 (10) p. 4694-4700.
AB: Gluconacetobacter diazotrophicus is an N2-fixing endophyte isolated from sugarcane. G. diazotrophicus was grown on solid medium at atmospheric partial O2 pressures (pO2) of 10, 20, and 30 kPa for 5 to 6 days. Using a flowthrough gas exchange system, nitrogenase activity and respiration rate were then measured at a range of atmospheric pO2 (5 to 60 kPa). Nitrogenase activity was measured by H2 evolution in N2-O2 and in Ar-O2, and respiration rate was measured by CO2 evolution in N2-O2. To validate the use of H2 production as an assay for nitrogenase activity, a non-N2-fixing (Nif(-)) mutant of G. diazotrophicus was

tested and found to have a low rate of uptake hydrogenase (Hup(+)) activity (0.016 +/- 0.009 micromol of H2 10(10) cells(-1) h(-1)) when incubated in an atmosphere enriched in H2. However, Hup(+) activity was not detectable under the normal assay conditions used in our experiments. G. diazotrophicus fixed nitrogen at all atmospheric pO2 tested. However, when the assay atmospheric pO2 was below the level at which the colonies had been grown, nitrogenase activity was decreased. Optimal atmospheric pO2 for nitrogenase activity was 0 to 20 kPa above the pO2 at which the bacteria had been grown. As atmospheric pO2 was increased in 10-kPa steps to the highest levels (40 to 60 kPa), nitrogenase activity decreased in a stepwise manner. Despite the decrease in nitrogenase activity as atmospheric pO2 was increased, respiration rate increased marginally. A large single-step increase in atmospheric pO2 from 20 to 60 kPa caused a rapid 84% decrease in nitrogenase activity. However, upon returning to 20 kPa of O2, 80% of nitrogenase activity was recovered within 10 min, indicating a.

"switch-off/switch-on" O2 protection mechanism of nitrogenase activity. Our study demonstrates that colonies of G. diazotrophicus can fix N2 at a wide range of atmospheric pO2 and can adapt to maintain nitrogenase activity in response to both long-term and short-term changes in atmospheric pO2.

Record 56
AU: Chen,-W.M.; Lee,-T.M.
TI: Genetic and phenotypic diversity of rhizobial isolates from sugarcane-Sesbania cannabina-rotation fields.
SO: Biol-fertil-soils. Berlin, Germany : Springer-Verlag. July 2001. v. 34 (1) p. 14-20.
AB: Eighteen rhizobial isolates nodulating Sesbania cannabina were isolated from sugarcane-S. cannabina-rotation fields in southern Taiwan. The taxonomy of these isolates was investigated using a polyphasic approach, including phenotypic characteristics, banding patterns of total proteins from sodium dodecyl sulphate-polyacrylamide gel electrophoresis, genomic fingerprint patterns from pulsed-field gel electrophoresis analysis, amplified 16S rDNA restriction analysis (ARDRA), 16S rRNA gene sequencing, and nifH gene sequencing. Based on the results of protein-banding patterns, ARDRA, and phenotypic characters, four distinct groups of these isolates were identified and assigned to groups I-IV. Of these isolates, seven isolates belonging to groups I, II and IV fitted the Sinorhizobium lineage based on the phylogenetic analysis. Eleven isolates were classified as group III, and they belong to the Agrobacterium-Rhizobium galegae phylum and were more closely related to Rhizobium huautlense. We conclude that great variation exists among Sesbania cannabina-nodulating rhizobia.

Record 57
AU: Ortega,-E.; Rodes,-R.; Fuente,-E.-de-la.; Fernandez,-L.
TI: Does the routine heat treatment of sugarcane stem pieces for xylem pathogen control affect the nitrogenase activity of an N2-fixing endophyte in the cane.
SO: Aust-j-plant-physiol. Collingwood, Vic. : CSIRO Publishing. 2001. v. 28 (9) p. 907-912.

Record 58
AU: Utset,-A.; Cid,-G.
TI: Soil penetrometer resistance spatial variability in a Ferralsol at several soil moisture conditions.
SO: Soil-tillage-res. Amsterdam, The Netherlands : Elsevier Science B.V. Sept 2001. v. 61 (3/4) p. 193-202

Record 59
AU: Hoarau,-J.Y.; Offmann,-B.; D'Hont,-A.; Risterucci,-A.M.; Roques,-D.; Glaszmann,-J.C.; Grivet,-L.
TI: Genetic dissection of a modern sugarcane cultivar (Saccharum spp.). I. Genome mapping with AFLP markers.

SO: Theor-appl-genet. Berlin; Springer-Verlag. July 2001. v. 103 (1) p. 84-97.
AB: Sugarcane cultivars are polyploid, aneuploid clones derived from interspecific hybridization between Saccharum officinarum and S. spontaneum. Their genome has recently started to be unravelled as a result of the development of molecular markers. We constructed an AFLP genetic map based on a selfing population of a specific cultivar, R570. Using 37 AFLP primer pairs, we detected 1,185 polymorphic markers of which 939 were simplex (segregated 3:1); these were used to construct the map. Of those 939, 887 were distributed on 120 co-segregation groups (CGs) based on linkages in coupling, while 52 remained unlinked. The cumulative length of all the groups was 5,849 cM, which is probably around one-third of the total genome length. Comparison with reference S. officinarum clones enabled us to assign 11 and 79 CGs to S. spontaneum and S. officinarum, respectively, whereas 11 CGs were probably derived from recombination between chromosomes of the two ancestral species. The patchy size of the groups, which ranges from 1 to 232 cM, illustrates the difficulty to access large portions of chromosomes, particularly those inherited from S. officinarum. Repulsion phase linkages suggested a high preferential pairing for 13 CG pairs. Out of the 120 CGs, 34 could be assigned to one of the 10 homo(eo)logy groups already defined in a previous RFLP map owing to the use of a small common marker set. The genome coverage was significantly increased in the map reported here. Implications for quantitative trait loci (QTL) research and marker-assisted breeding perspectives are discussed.

Record 60
AU: Acevedo,-R.; Moreno-Diaz-de-la-Espina,-S.; Fernandez-Gomez,-M.E.; Cuadrado,-A.; Jouve,-N.; Torre,-C.-de-la.
TI: Dormancy and proliferation in Saccharum officinarum x S. spontaneum hybrids which differ in the number of the introgressed S. spontaneum chromosomes.
SO: J-exp-bot. Oxford : Oxford University Press. June 2001. v. 52 (359) p. 1203-1208.
AB: Proliferating cells remain transiently blocked at different cycle compartments until specific stressors are removed or until the cells become adapted to their presence. This paper investigates the efficiency of cycle blocks in three sugarcane hybrids with the full noble cane (Saccharum officinarum) genome (2n=8x=80) but differing in the number of introgressed S. spontaneum (2n=8x=64) chromosomes. The My5514, B42231 and C236-51 cultivars possess 20, 30 and 40 additional S. spontaneum chromosomes, respectively. Flow cytometry showed that over 90% of cells were accumulated with a 2C DNA content in their dormant primordia. The presence of S. spontaneum chromosomes decreased the low stringency of the 4C block. The greater the number of these chromosomes, the lower was the number of quiescent cells with a 4C DNA content ($P<0.05$). Shortly after stimulation of the primordia (85% relative humidity and 30 degrees C), i.e. in the 2 mm long roots, a negative correlation was found between the number of introgressed S. spontaneum chromosomes and the frequency of cells undergoing replication and mitosis. On the other hand, when roots were already proliferating under steady-state conditions (15 mm long roots) the more S. spontaneum chromosomes the cells possessed, the longer the relative time it took for all chromosomes to replicate and segregate, and the longer the relative time they spent in G2, with the 4C DNA content. The presence of S. spontaneum chromosomes seems to be recognized by these proliferating cells as a stressor which preferentially activates checkpoint pathways operating at the second half of the cycle, but not at its onset.

Record 61
AU: Zeng,-Y.; Wang,-J.; Yang,-Z.; Shen,-S.; Wu,-L.; Chen,-X.; Meng,-J.
TI: The diversity and sustainable development of crop genetic resources in the Lancang River Valley.
SO: Genet-resour-crop-evol. Dordrecht, The Netherlands : Kluwer Academic Publishers, c1992-. June 2001. v. 48 (3) p. 297-306.
AB: This paper reviews the status of crop genetic resources in Yunnan province of China from 1978 to 1999. Results are presented of same research in the field

of the diversity of cultivated and wild crop. Yunnan is one of the centre of origin or genetic diversity of more than 200 cultivated and wild crops. There are over 500 cultivated plants which account for over 80% of the total in China and more than 650 species of wild crops. In addition, there are more than 440 species of main wild flowers. According to our recently researches there are abundant species, subspecies and varieties of crop genetic resources in Yunnan Province. The Lancang River Valley is the richest genetic diversity centre of rice, maize, wheat, barley, buckwheat, legumes, ramie, sugarcane, vegetable, tea, actinidia and so on. For example, there are 59 varieties (including all varieties of Oryza sativa L. in China) in 5933 accession of Yunnan indigenous rice. The Lancang River Valley is one of the centre for genetic diversity of rice resources and a rich region for elite and rare rice resources of Yunnan, too. In order to protect the highly endangered crop genetic resources in the Lancang River Valley, it is necessary and very important to set up a collection, conservation, utilization and research system, enhancing their protection and utilization, in situ- and ex situ-conservation, farm management and sustainable production.

Record 62
AU: Tai,-P.Y.P.; Miller,-J.D.
TI: A core collection for Saccharum spontaneum L. from the world collection of sugarcane.
SO: Crop-sci. Madison, Wis. : Crop Science Society of America, 1961-. May/June 2001. v. 41 (3) p. 879-885.
AB: Vegetative maintenance of the large number of Saccharum spontaneum clones in the World Collection is extremely laborious and expensive. A core subset, chosen to represent the range of diversity of the World Collection, can enhance preservation research and exploit the potential value for breeding. A total of 342 accessions of S. spontaneum from the World Collection at the USDA-ARS National Germplasm Repository in Miami, FL, were used to evaluate various sampling strategies for choosing a core collection of this species and to designate a core collection of 75 clones using geographic origin and characterization data. Eleven sampling methods with 11 quantitative traits were used to designate the 75 clones in the core collection. The efficiency of sampling was increased by stratification by geographical grouping of accessions before a stratified random sampling procedure was carried out. Cluster analysis was used within each geographic region based on retained principal components with morphological variables, followed by random selection of entries within each cluster for designating the core collection. In addition to the efficient use of S. spontaneum, this core collection should prevent the loss of significant components of the World Collection, ensure better use of limited resources, and enhance conservation research.

Record 63
AU: Sankpal,-N.V.; Joshi,-A.P.; Kulkarni,-B.D.
TI: Citric acid production by Aspergillus niger immobilized on cellulose microfibrils: influence of morphology and fermenter conditions on productivity.
SO: Process-biochem. Kidlington, Oxford, UK : Elsevier Science Ltd. May 2001. v. 36 (11) p. 1129-1139.

Record 64
AU: Souza,-D.F.-de.; Souza,-C.G.M.-de.; Peralta,-R.M.
TI: Effect of easily metabolizable sugars in the production of xylanase by Aspergillus tamarii in solid-state fermentation.
SO: Process-biochem. Kidlington, Oxford, UK : Elsevier Science Ltd. Mar 2001. v. 36 (8/9) p. 835-838.

Record 65
AU: Avila,-R.; Arrieta,-M.C.; Villalobos,-W.; Moireira,-L.
TI: First report of Sugarcane yellow leaf virus (ScYLV) in Costa Rica.

SO: Plant-dis. [St. Paul, Minn., American Phytopathological Society]. Aug 2001. v. 85 (8) p. 919.

Record 66
AU: Kelly,-R.M.; Edwards,-D.G.; Thompson,-J.P.; Magarey,-R.C.
TI: Responses of sugarcane, maize, and soybean to phosphorus and vesicular-arbuscular mycorrhizal fungi.
SO: Aust-j-agric-res. Collingwood, Victoria, Australia : CSIRO. 2001. v. 52 (7) p. 731-743.

Record 67
AU: Sparovek,-G.; Schnug,-E.
TI: Soil tillage and precision agriculture a theoretical case study for soil erosion control in Brazilian sugar cane production.
SO: Soil-tillage-res. Amsterdam, The Netherlands : Elsevier Science B.V. Aug 2001. v. 61 (1/2) p. 47-54.

Record 68
AU: Ureta,-A.; Nordlund,-S.
TI: Glutamine synthetase from Acetobacter diazotrophicus: properties and regulation.
SO: FEMS-micro-biol-lett. Amsterdam, The Netherlands : Elsevier Science B.V. Aug 21, 2001. v. 202 (2) p. 177-180.
AB: Glutamine synthetase from Acetobacter diazotrophicus, an endophyte originally isolated from sugarcane, was studied as a step in the identification of mechanisms underlying the role of A. diazotrophicus as a major supplier of fixed nitrogen to its host plant. The enzyme was purified and partially characterized. It was also shown that the enzyme is regulated by adenylylation in response to the nitrogen source. Interestingly, there is no upregulation of the synthesis of the enzyme under diazotrophic conditions, which is in contrast to the situation in enterics, e.g. Klebsiella pneumoniae.

Record 69
AU: Linacero,-R.; Lopez-Bilbao,-M.G.; Vazquez,-A.M.
TI: Expression of different abscisic acid-responsive genes during somatic embryogenesis in sugarcane (Saccharum officinarum).
SO: Protoplasma. Wien : Springer-Verlag. 2001. v. 217 (4) p. 199-204.

Record 70
AU: Tsai,-W.T.; Chang,-C.Y.; Lin,-M.C.; Chien,-S.F.; Sun,-H.F.; Hsieh,-M.F.
TI: Characterization of activated carbons prepared from sugarcane bagasse by ZnCl2 activation.
SO: J-environ-sci-health,-Part-B,-Pestic-food-contam-agric-wastes. Monticello, NY : Marcel Dekker, Inc. 2001. v. B36 (3) p. 365-378.

Record 71
AU: Suman,-A.; Shasany,-A.K.; Singh,-M.; Shahi,-H.N.; Gaur,-A.; Khanuja,-S.P.S.
TI: Molecular assessment of diversity among endophytic diazotrophs isolated from subtropical Indian sugarcane.
SO: World-j-microbiol-biotechnol. Dordrecht, The Netherlands : Kluwer Academic Publishers. Feb 2001. v. 17 (1) p. 39-45.

Record 72
AU: Pompermayer,-P.; Lopes,-A.R.; Terra,-W.R.; Parra,-J.R.P.; Falco,-M.C.; Silva-Filho,-M.C.
TI: Effects of soybean proteinase inhibitor on development, survival and reproductive potential of the sugarcane borer, Diatraea saccharalis.
SO: Entomol-exp-appl. Dordrecht : Kluwer Academic Publishers. Apr 2001. v. 99 (1) p. 79-85.
AB: One approach that can be employed in integrated pest management is the use of proteins with antinutritional effects on insect metabolism and development.

The antimetabolic properties of soybean proteinase inhibitor (SPI) on growth of neonate larvae of the sugarcane borer, Diatraea saccharalis (Fabricius, 1794) (Lepidoptera: Crambidae) have been evaluated. When incorporated into an artificial diet at 0.5% (w/w), SPI retarded growth rate and development of larvae when compared with larvae fed on artificial diet alone. However, larval survival was not significantly affected. The purpose of our research was to calculate demographic statistics for the sugarcane borer reared on diet either with or without semi-purified extract of SPI. Net reproductive rate (R0), instantaneous rate of increase (r(m)), combined age-specific survivorship (l(x)) and age specific fecundity (m(x)) provide information about population growth potential. These parameters were measured in order to determine the effects of the proteinase inhibitor on the insect's population dynamics. The observed differences would potentially translate into large reductions in population growth, indicating a potential value of using SPI for protecting sugarcane plants against damage by the sugarcane borer.

Record 73
AU: Brown,-J.S.; Glaz,-B.
TI: Analysis of resource allocation in final stage sugarcane clonal selection.
SO: Crop-sci. Madison, Wis. : Crop Science Society of America, 1961-. Jan/Feb 2001. v. 41 (1) p. 57-62.
AB: Superior genotypes of sugarcane (interspecific hybrids of Saccharum spp.) must continue to be developed with current resources as selection criteria evolve and expand. Developing future cultivars of sugarcane for the Everglades Agricultural Area (EAA) of South Florida with high water table tolerance and increased P-uptake efficiency could be an integral part of Everglades restoration. The objective of this study was to assess the current allocation of resources in the final selection phase of cultivar (clonal) development of the Canal Point, FL, sugarcane breeding program. Variance component analyses were conducted on elite genotypes from 7 yr of trials. Variance components were used to compare relative magnitudes of sources of variation and to explore more efficient use of resources. Variation attributable to crop x location interaction was nearly always the largest relative source of variation next to the residual term. The contributions to variance due to genotype x crop and genotype x location interactions were low, though these interactions cannot be discounted in cultivar release decisions. Variance due to replications was extremely low. Four statistics were used as metrics of experimental precision when reducing the number of replications. Reducing replications from eight to four did not compromise experimental precision. Removing the second-year planting sequence compromised little, if any, useful information for effective cultivar release decisions. Better allocation of resources could be achieved by alternative experimental design scenarios. Testing for high water table tolerance or P-uptake efficiency could also be included, improving ecological compatibility of.
agriculture in the EAA.

Record 74
AU: Nieves,-N.; Martinez,-M.E.; Castilo,-R.; Blanco,-M.A.; Gonzalez-Olmedo,-J.L.
TI: Effect of abscisic acid and jasmonic acid on partial desiccation of encapsulated somatic embryos of sugarcane.
SO: Plant-cell,-tissue-organ-cult. Dordrecht, The Netherlands : Kluwer Academic Publishers. 2001. v. 65 (1) p. 15-21.
AB: Embryogenic calli of sugarcane (Saccharum sp. hybrid, clone CP52-43), with somatic embryos in the late scutelar stage, were subjected to different treatments for increasing embryo tolerance to desiccation. The medium was supplemented with abscisic acid (ABA) (3.8 micromolar), jasmonic acid (JA) (4.7 micromolar) or a combination of them. A control treatment without growth regulators was also included. The embryos were encapsulated in alginate beads and dehydrated or not in sucrose (0.5 M). Thereafter, they were further dehydrated in chambers containing silicagel until the beads reached either 60%

or 30% of water content (WC). Survival of encapsulated-dehydrated embryos was achieved only in the control and ABA treatment. ABA induced an increase in protein, polyamines, free proline levels and starch levels as a response to desiccation tolerance. JA treatment showed the lowest protein and polyamines levels and increased the starch content almost two-fold compared to the ABA treatment. The JA treatment induced high levels of 4-methylcatechol and the lowest levels of gallic acid. However, the ABA treatment increased gallic acid and p-coumaric acid content in the induction medium. Some differences were found in growth regulator free-medium in relation to the induction medium. JA is not effective in these desiccation processes. The mechanisms by which these two plant growth regulators act on the induction of tolerance to stress are presumably different.

Record 75
AU: Lorenzo,-J.C.; Blanco,-M.-de-los-A.; Pelaez,-O.; Gonzalez,-A.; Cid,-M.; Iglesias,-A.; Gonzalez,-B.; Escalona,-M.; Espinosa,-P.; Borroto,-C.
TI: Sugarcane micropropagation and phenolic excretion.
SO: Plant-cell,-tissue-organ-cult. Dordrecht, The Netherlands : Kluwer Academic Publishers. 2001. v. 65 (1) p. 1-8.
AB: Sugarcane shoot formation was followed using a temporary immersion system. Plant fresh weight, plant dry weight, shoot number and phenolic excretion to the culture medium were recorded during shoot formation. Shoot number increased for 30 days of culture but formation of new shoots was greatly reduced from 31 to 40 days. Phenolic excretion also increased during the first 20 days of culture (gallic acid represented 82% total phenolics) and decreased during the last 10 days (31-40 days of culture). The most intensive period of phenolic excretion (11-20 days) preceded the most intensive period of shoot formation (21-30 days). The same relationship does not seem to exist between the accumulation of fresh and dry weights. Subculture onto fresh medium at the beginning of proliferation (10 days after culture initiation) was detrimental to shoot formation in the subsequent period (11-20 days). However, such a detrimental effect could be avoided if gallic acid was added to the medium. Addition of cysteine to the culture medium reduced both excretion of phenolics and shoot formation but not fresh weight. The use of temporary immersion systems, the increase of culture medium volume per initial explant and the addition of paclobutrazol promoted both phenolic excretion and sugarcane shoot formation. Results presented here indicate a relationship between phenolic excretion and shoot formation but not with accumulation of plant weight.

Record 76
AU: Diaz,-M.; Peralta,-E.L.; Iglesia,-A.; Carvajal,-O.; Perez,-M.P.; Giglioti,-E.A.; Gagliardi,-P.R.; Wendland,-A.; Camargo,-L.E.A.
TI: Xanthomonas albilineans haplotype B responsible for a recent sugarcane leaf scald disease outbreak in Cuba.
SO: Plant-dis. [St. Paul, Minn., American Phytopathological Society]. Mar 2001. v. 85 (3) p. 334.

Record 77
AU: Asnaghi,-C.; D'Hont,-A.; Glaszmann,-J.C.; Rott,-P.
TI: Resistance of sugarcane cultivar R 570 to Puccinia melanocephala isolates from different geographic locations.
SO: Plant-dis. [St. Paul, Minn., American Phytopathological Society]. Mar 2001. v. 85 (3) p. 282-286.
AB: Two different inoculation techniques were investigated before studying the reaction of the major rust resistance gene of sugarcane cultivar R 570 against isolates of Puccinia melanocephala from different geographic locations. Cultivar R 570 exhibited severe rust symptoms when in vitro plantlets were inoculated with a rust isolate from Reunion Island, but a good correlation with field resistance was observed when detached leaves were inoculated with the pathogen. This latter technique was then used to inoculate R 570 and a sample of its self progeny with rust isolates from Brazil, Colombia, Florida (three isolates),

Guadeloupe, Reunion Island, and Zimbabwe. R 570 was resistant to all isolates of P. melanocephala, and the segregation of resistance in the progeny did not change with the isolates, suggesting that a single gene, or a single chromosomic region, was involved in the resistance against all tested isolates. This major resistance gene has, therefore, potential value to improve resistance to rust in various geographic regions.

Record 78
AU: Schexnayder,-H.P.-Jr.; Reagan,-T.E.; Ring,-D.R.
TI: Sampling for the sugarcane borer (Lepidoptera: Crambidae) on sugarcane in Louisiana.
SO: J-econ-entomol. Lanham, Md. : Entomological Society of America, 1908-. June 2001. v. 94 (3) p. 766-771.
AB: A 3-yr study was conducted in 0.6- to 2.0-ha sugarcane fields throughout south Louisiana under varying sugarcane borer, Diatraea saccharalis (F.), density levels to determine the spatial dispersion of infestations and to develop a sequential sampling plan. Infestations of D. saccharalis were randomly dispersed. Infestation levels (percentage of stalks infested) ranged from 0.6 to 33.3%. Frequency distributions of the number of infested stalks indicated that the Poisson distribution best fit the data. Tests of other distributions (negative binomial [aggregated], binomial [uniform], geometric, and hypergeometric) resulted in poorer fits. The sequential sampling plan devised, with lower and upper D. saccharalis infestation limits of 2 and 5% and 5 and 10%, required maximum average sample numbers of 7.1 and 5.5 (20-stalk samples), respectively, to make terminating management decisions. It is our assessment that implementation of these plans would decrease sampling effort by 50-60% when compared with sampling programs currently in use for D. saccharalis management decisions in Louisiana.

Record 79
AU: Goncalves,-A.R.; Benar,-P.
TI: Hydroxymethylation and oxidation of Organosolv lignins and utilization of the products.
SO: Bioresour-technol. Oxford, U.K. : Elsevier Science Limited. Sept 2001. v. 79 (2) p. 103-111.
AB: Organosolv lignins obtained from Eucalyptus grandis, sugarcane bagasse and Picea abies by Acetosolv, Formacell and Organocell processes were characterized, fractionated and converted to hydroxymethylated and oxidized products. The reactivity of lignins with formaldehyde did not improve significantly with the fractionation. Both eucalyptus Acetosolv (EAc) and eucalyptus Formacell (EFo) lignins retained high heterogeneity in relation to the molecular weight distribution but not in relation to structural units. The temperatures of the exothermic peaks and the apparent activation energies for the cross-linking are different for hydroxymethylated lignins and phenol, with similar cure temperatures of the resols. Chemical oxidation using cobalt(II) and manganese(II) salts furnished oxidized lignins with improved chelating properties. These chelating agents can remove up to 14% of Mn present in pulps, decreasing the peroxide consumption in the bleaching process. The products obtained can be also used as oxidized phenols and controlled-release matrices. Oxidation of Acetosolv bagasse lignin with polyphenol oxidase furnishes lignins with chelating capacity 110% higher than that of original lignin.

Record 80
AU: Puga,-D.C.; Galina,-H.M.; Perez-Gil,-R.F.; Sangines,-G.L.; Aguilera,-B.A.; Haenlein,-G.F.W.
TI: Effect of a controlled-release urea supplement on rumen fermentation in sheep fed a diet of sugar cane tops (Saccharum officinarum), corn stubble (Zea mays) and King grass (Pennisetum purpureum).
SO: Small-rumin-res. Amsterdam ; New York : Elsevier,. Mar 2001. v. 39 (3) p. 269-276.

AB: Four cannulated sheep were used to study ruminal fermentation of a diet consisting of 60% sugar cane tops (Saccharum officinarum), 30% corn stubble (Zea mays), 10% King grass (Pennisetum purpureum) and 0% (control), 10, 20 or 30% controlled-release urea supplement (CRUS) (diets 1, 2, 3 and 4, respectively). Average ruminal pH did not differ among diets ($P > 0.05$), but during the first 6 h of sampling tended to be higher for CRUS diets. Ammonia concentrations were higher ($P < 0.01$) in all treatments over controls, indicating microbial protein generation. Acetic acid production (mM/1) decreased ($P < 0.05$), propionic acid increased ($P < 0.05$), while butyric acid production did not differ among CRUS diets and controls ($P > 0.05$). Total amounts of ruminal VFA were lowest ($P < 0.01$) in controls, while CRUS diets produced more of these energy sources. Supplementation of the high fiber diets with 10, 20 or 30% CRUS increasingly improved rumen fermentation, ammonia supply and VFA production. The results show that low quality forages (up to 70% DMI) can be used efficiently by sheep when conditions for ruminal microorganism are improved with a controlled-release urea supplement.

Record 81
AU: Alcarde,-A.R.; Walder,-J.M.M.
TI: Comparison between gamma radiation and Kamoran HJ in the decontamination of sugarcane must.
SO: J-food-process-preserv. Trumbull, Conn. : Food & Nutrition Press Inc. May 2001. v. 25 (2) p. 137-147.
AB: The influence of gamma radiation (doses of 2.0, 4.0. 6.0, 8.0 and 10.0 kGy) and the antimicrobial Kamoran HJ (3 ppm) on bacterial bioburden of the sugarcane must and their effects in the ethanolic fermentation by yeasts were evaluated. Both treatments reduced the bacterial load of the sugarcane must and improved the biochemical parameters of the ethanolic fermentation (decrease of total acidity, volatile acidity, pH and production of the lactic and acetic acids). The irradiation of the must also improved the microbiological parameters of the yeast added afterwards (increase of viability, replication and percentage of living replicates) whereas, on the contrary, the antimicrobial Kamoran HJ decreased these microbiological parameters of the yeast. The gamma irradiation was a better treatment to decontaminate the sugarcane must because it did not originate a harmful effect to the yeast as observed with the application of the antimicrobial Kamoran HJ.

Record 82
AU: Raghukumar,-C.; Rivonkar,-G.
TI: Decolorization of molasses spent wash by the white-rot fungus Flavodon flavus, isolated from a marine habitat.
SO: Appl-microbiol-biotechnol. Berlin, Germany : Springer Verlag. May 2001. v. 55 (4) p. 510-514.
AB: Flavodon flavus (Klotzsch) Ryvarden, a basidiomycete (NIOCC strain 312) isolated from decomposing leaves of a sea grass, decolorized pigments in molasses spent wash (MSW) by 80% after 8 days of incubation, when used at concentrations of 10% and 50%. Decolorizing activity was also present in media prepared with half-strength seawater (equivalent to 15 ppt salinity). Decolorizing activity was seen in low-nitrogen medium, nutrient-rich medium and in sugarcane bagasse medium. The percentage decolorization of MSW was highest when glucose or sucrose was used as the carbon source in the low-nitrogen medium. The production of lignin-modifying enzymes, manganese-dependent peroxidase (MNP) and laccase decreased in a medium containing MSW. MNP production and MSW decolorization were inversely correlated, suggesting no role for MNP in MSW decolorization. The decolorization of MSW was not effective when F. flavus was immobilized in calcium alginate beads. Decolorization was achieved best in oxygenated cultures. Besides color, total phenolics and chemical oxygen demand were reduced by 50% in MSW treated with F. flavus, suggesting its potential in the bioremediation of effluents.

Record 83

AU: Lopes,-S.A.; Damann,-K.E.; Hoy,-J.W.; Grisham,-M.P.
TI: Infectivity titration for assessing resistance to leaf scald among sugarcane cultivars.
SO: Plant-dis. [St. Paul, Minn., American Phytopathological Society]. June 2001. v. 85 (6) p. 592-596.
AB: Greenhouse experiments were conducted to determine potential of infectivity titration to evaluate resistance of sugarcane to leaf scald disease caused by Xanthomonas albilineans. In two experiments, single-bud cuttings were inoculated with suspensions containing 10(1), 10(5), or 10(8) CFU/ml of X. albilineans. The occurrence of symptoms was recorded every 15 days from 45 to 210 days after inoculation. At the final evaluation date, leaf vascular sap was plated onto selective medium to detect latent infections. ED50 (log10 of the bacterial concentration required to infect 50% of inoculated plants) was estimated for each cultivar based on probit analysis of cumulative infection frequency. Frequency of infected plants varied among inoculum doses and cultivars and resulted in ED50 values ranging from 3.0 to 12.3 and 3.1 to 9.8 in the first and second experiments, respectively. Good agreement between experiments was observed for ED50 values of individual cultivars. Differences in ED50 among cultivars agreed with field observations of natural disease incidence. Cultivar responses to leaf scald were compared based on the cumulative frequencies of death and recovery in symptomatic plants, and the frequencies of symptomatic plants observed at different evaluation dates for plants inoculated with 10(8) CFU/ml of X. albilineans. Good agreement between ED50 values and these responses was observed. Greenhouse inoculation tests using infectivity titration or just one inoculum concentration could provide an alternative to field tests for the assessment of sugarcane resistance to leaf scald.

Record 84
AU: Abd-Alla,-M.H.; Omar,-S.A.
TI: Survival of rhizobia/bradyrhizobia and a rock-phosphate-solubilizing fungus Aspergillus niger on various carriers from some agro-industrial wastes and their effects on nodulation and growth of faba bean and soybean.
SO: J-plant-nutr. Monticello, N.Y. : Marcel Dekker Inc. 2001. v. 24 (2) p. 261-272.
AB: Coculturing of eight rhizobial strains (Bradyrhizobium japonicum USDA 110, USDA 3447, RCR 3407, RCR 3442, Rhizobium meliloti TAL 1372, TAL 1373, R. leguminosarum biovar viceae RCR 1001, and RCR 1044) and five rock-phosphate-solubilizing fungi (Aspergillus egyptiacus, A. flavus, A. niger, A. ochraceus, and Penicillium citrinum) was tested on yeast extract-mannitol agar. B. japonicum strains USDA 110, USDA 3447, RCR 3442, R. leguminosarum biovar viceae RCR 1001, and RCR 1044 grew successfully in cocultures with the tested fungal species in yeast extract-mannitol agar without antagonism. Among these fungi, A. niger showed the highest potentialities to solubilize rock-phosphate at all incubation temperatures examined (15, 28, 38, and 42 degrees C), and phosphate dissolution maximized at 28 degrees C. Survival of Rhizobium/Bradyrhizobium strains and the best rock-phosphate-solubilizing fungus (A. niger) was evaluated monthly in four carrier materials (Peat, wheat bran, sugarcane baggase, and wheat straw) at 28 and 38 degrees C. The number of colony-forming units recovered on agar plates for all cocultured microorganisms was the highest with peat as a carrier, followed by bran and sugarcane baggase. On the other hand, survival of cocultured microorganisms strongly reduced in wheat straw. Survival of all microorganisms was the best at 28 degrees C. Cocultures of B. japonicum USDA 3447/A. niger and R. leguminosarum RCR 1044/A. niger were the more tolerant for storage conditions whereas the number of colony-forming units in cocultures of B. japonicum USDA 110/A. niger and R. leguminosarum RCR 1001/A. niger was strongly reduced. Peat or bran inoculants of R. leguminosarum RCR 1044/A. niger and B. japonicum USDA.
3447/A. niger significantly increased dry matter yield, nitrogen (N) and phosphorus (P) contents of faba bean and soybean, respectively, when grown in alkaline soil amended with rock-phosphate.

Record 85
AU: Wang,-C.S.; Kuo,-S.Z.; Kuo-Huang,-L.L.; Wu,-J.S.B.
TI: Effect of tissue infrastructure on electric conductance of vegetable stems.
SO: J-food-sci. Chicago, Ill. : Institute of Food Technologists. Mar 2001. v. 66 (2) p. 284-288.
AB: This study measures the electric conductance and examines the microscopic structure of bamboo shoots, sugarcane, lettuce stem, and mustard stem. The electric conductance readings vary from 0.09 S/m to 0.72 S/m across the stem, and from 0.19 S/m to 0.46 S/m along the stem. The electric conductance along the stem is higher than the electric conductance across the stem in bamboo shoots and sugarcane, while the reverse is truce in lettuce stem and mustard stem. The orientation of vascular bundles and the shape of parenchyma cells are proposed to account for the different conductance readings from the same vegetable in different directions. The orientation of vascular bundles appear to influence electric conductance more than the shape of parenchyma cells when both factors are present in the same time.

Record 86
AU: Cordeiro,-G.M.; Casu,-R.; McIntyre,-C.L.; Manners,-J.M.; Henry,-R.J.
TI: Microsatellite markers from sugarcane (Saccharum spp.) ESTs cross transferable to erianthus and sorghum.
SO: Plant-sci. Oxford, UK : Elsevier Science Ltd. May 2001. v. 160 (6) p. 1115-1123.

Record 87
AU: Dugdale,-B.; Becker,-D.K.; Harding,-R.M.; Dale,-J.L.
TI: Intron-mediated enhancement of the banana bunchy top virus DNA-6 promoter in banana (Musa spp.) embryogenic cells and plants.
SO: Plant-cell-rep. Berlin : Springer-Verlag. Mar 2001. v. 20 (3) p. 220-226.
AB: Intron-containing fragments derived from the 5' untranslated regions of the maize ubi1, maize adh1, rice act1 and sugarcane rbcS genes were tested for their enhancing effects on the banana bunchy top virus DNA-6 promoter (BT6.1) in banana (Musa spp. cv. Bluggoe) embryogenic cells. The rice act1 and maize ubi1 introns provided the highest levels of intron-mediated enhancement of GUS expression, increasing native BT6.1 promoter activity by about 300-fold and 100-fold, respectively. The sugarcane rbcS intron increased expression about tenfold, whereas the adh1 intron had no significant effect. In regenerated transgenic banana plants, the ubi1 intron significantly enhanced BT6.1 promoter activity to levels similar to that of the CaMV 35 S promoter and did not appear to affect the tissue specificity of the promoter.

Record 88
AU: Yadav,-D.V.; Yaduvanshi,-N.P.S.
TI: Integration of green manure intercropping and fertilizer-N for yield and juice quality and better soil conditions in sugarcane grown after mustard and wheat in different plant arrangements.
SO: J-agric-sci. Cambridge : Cambridge University Press. Mar 2001. v. 136 (pt.2) p. 199-205.
AB: The effects of different plant arrangements (conventional single rows v. paired rows at a standard density of 55-67 thousand three-bud setts/ha) with different intercropped green manuring strategies with Sesbania aculeata (none v. ploughed in after 4 and 6 weeks) and with different amounts of nitrogen (N) fertilizers (0, 75 and 150 kg/ha) were studied in sugarcane crops planted after wheat or mustard and in its first ratoon. The yield of millable cane from the planted sugarcane was not affected by intercropped green manuring or plant arrangement but was increased by fertilizer N after both wheat and mustard. The residues from the green manuring and fertilizer N both increased the yield of the following crop of ratoon sugarcane by 9-10% with the residues increasing the numbers and length of millable canes and the fertilizer N the number, girth and weight of the millable canes. None of the treatments affected the quality of cane juice in either the planted cane or the ratoon crop. Residues from the

green manures and the N fertilizer treatments increased the organic carbon content and available N in the soils.

Record 89
AU: Boopathy,-R.; Beary,-T.; Templet,-P.J.
TI: Microbial decomposition of post-harvest sugarcane residue.
SO: Bioresour-technol. Oxford, U.K. : Elsevier Science Limited. Aug 2001. v. 79 (1) p. 29-33.
AB: A laboratory in situ composting study was conducted as a possible alternative method for the current practice of open air burning of post-harvest sugarcane residue by sugarcane farmers. In situ composting of the sugarcane residue by the indigenous bacteria and fungi was accelerated using molasses as an initial substrate. A one-time application of molasses boosted the soil microbial population, which started to decompose the ligno-cellulosic fractions of the residue. The study showed significant differences in several parameters among the control and molasses applied treatments, namely, visual decomposition of residue, bacterial and fungal population, soil pH, cellulose content, cellulase activity, and soil organic matter. Further study is needed to refine the process for the future application of this technology as a possible alternative to the current practice of open air burning of sugarcane residue by farmers.

Record 90
AU: Vogt,-J.T.; Grantham,-R.A.; Smith,-W.A.; Arnold,-D.C.
TI: Prey of the red imported fire ant (Hymenoptera: Formicidae) in Oklahoma peanuts.
SO: Environ-entomol. Lanham, Md. : Entomological Society of America. Feb 2001. v. 30 (1) p. 123-128.
AB: The red imported fire ant, Solenopsis invicta Buren, is an important predator in some cropping systems in the United States, particularly sugarcane and cotton, where it preys on key pests such as the sugarcane borer, Diatraea saccharalis (F.), and beet armyworm, Spodoptera exigua (Hubner). A study was undertaken to characterize the prey items collected by foraging S. invicta in an Oklahoma peanut field. From June to September 1999, 19 h of collecting yielded 1,276 foraged items. The largest percentage of foraged items (>20%) (other than unidentifiable fragments [39%]) were lepidopteran larvae, of which 87% were Stegasta bosqueella Chambers, the rednecked peanutworm. Overall, S. invicta collected approximately seven times more pest arthropods than beneficial arthropods. Forager success rates were approximately equal to 3.8 times higher for solids than liquids. Refuse piles in the field contained a large percentage of Coleoptera (approximately equal to 26%) and did not mirror foraged material collections. Percent damaged pods on plants growing within S. invicta mounds was significantly (approximately three times) lower than on plants not within mounds. Additional data are presented on forager success rates and foraging/temperature relations.

Record 91
AU: Gravois,-D.A.
TI: Sugar policy needs of Louisiana cane growers and processors.
SO: Proc-Agric-Outlook-Forum. Washington, D.C. : U.S. Dept. of Agriculture, World Agricultural Outlook Board,. 2001. p. n/a.

Record 92
AU: Lopes,-S.A.; Damann,-K.E.; Grelen,-L.B.
TI: Xanthomonas albilineans diversity and identification based on Rep-PCR fingerprints.
SO: Curr-microbiol. New York, N.Y. : Springer-Verlag New York, Inc. Mar 2001. v. 42 (3) p. 155-159.
AB: PCR with BOX and ERIC primers was used to analyze DNA of Xanthomonas albilineans and other bacteria associated with sugarcane. Generated fingerprints permitted clear separation of X. albilineans from other bacteria and revealed

variation within the species. Good agreement between fingerprint groups and geographic origin and serovars was observed.

Record 93
AU: Ibrahim,-M.; Franco,-M.; Pezo,-D.A.; Camero,-A.; Araya,-J.L.
TI: Promoting intake of Cratylia argentea as a dry season supplement for cattle grazing Hyparrhenia rufa in the subhumid tropics.
SO: Agrofor-syst. Dordrecht, The Netherlands : Kluwer Academic Publishers. 2001. v. 51 (2) p. 167-175.

Record 94
AU: Ponce-Noyola,-T.; Torre,-M.-de-la.
TI: Regulation of cellulases and xylanases from a derepressed mutant of Cellulomonas flavigena growing on sugar-cane bagasse in continuous culture.
SO: Bioresour-technol. Oxford, U.K. : Elsevier Science Limited. July 2001. v. 78 (3) p. 285-291.
AB: When the wild type Cellulomonas flavigena was grown on glycerol, xylose or cellobiose, it produced basal levels of carboxymethyl-cellulase (CMCase), filter-paperase (FPase) and xylanase activities. By comparison, a catabolic derepressed mutant strain of the same organism produced markedly higher levels of these enzymes when grown on the same carbon sources. Sugar-cane bagasse induced both the wild type and the mutant strain to produce three- to eight-time higher levels of FPase and xylanase than was observed with xylose or cellobiose. Continuous culture was used to determine the minimal cellobiose or glucose concentrations that repress the enzyme synthesis in both strains. 2.5 g l-1 glucose repressed FPase and xylanases from wild type, while 1.6 times more glucose was needed to repress the same activities in the PN-120 strain. In the same way, twofold more cellobiose was needed to reduce by 75% the CMCase and xylanase activities in the mutant compared to the wild type. The FPase in the presence of 4 g l-1 cellobiose did not change in the same strain. Therefore, its derepressed and feedback resistant characters of PN-120 mutant are evident. On the other hand, isoelectrofocused crude extracts of mutant and wild strains induced by sugar-cane bagasse, did not show differences in protein patterns, however, the Schiff's staining was more intense in the PN-120 than in the wild strain. These results point out that the mutational treatment did not apparently change the extracellular proteins from mutant PN-120 and this could affect their regulation sites, since derepressed and feed-back resistant enzymes may be produced.

Record 95
AU: Albertson,-P.L.; Peters,-K.F.; Grof,-C.P.L.
TI: An improved method for the measurement of cell wall invertase activity in sugarcane tissue.
SO: Aust-j-plant-physiol. Collingwood, Vic. : CSIRO Publishing. 2001. v. 28 (4) p. 323-328.

Record 96
AU: Glaz,-B.; Follis,-J.E.; Tai,-P.Y.P.; Miller,-J.D.; Comstock,-J.C.
TI: Registration of 'CP 92-1666' sugarcane.
SO: Crop-sci. Madison, Wis. : Crop Science Society of America, 1961-. Mar/Apr 2001. v. 41 (2) p. 587-588.

Record 97
AU: Miller,-J.D.; Tai,-P.Y.P.; Glaz,-B.; Follis,-J.E.; Comstock,-J.C.
TI: Registration of 'CP 92-1641' sugarcane.
SO: Crop-sci. Madison, Wis. : Crop Science Society of America, 1961-. Mar/Apr 2001. v. 41 (2) p. 587.

Record 98
AU: Tai,-P.Y.P.; Glaz,-B.; Miller,-J.D.; Follis,-J.E.; Comstock,-J.C.
TI: Registration of 'CP 92-1213' sugarcane.

SO: Crop-sci. Madison, Wis. : Crop Science Society of America, 1961-. Mar/Apr 2001. v. 41 (2) p. 586-587.

Record 99
AU: Kumarasinghe,-N.C.; Wratten,-S.D.; Jepson,-P.C.
TI: Morphological basis for resistance in sugarcane to Pyrilla perpusilla Walker (Homoptera: Lophopidae).
SO: Int-j-pest-manag. London : Taylor & Francis Ltd., 1993-. Apr/June 2001. v. 47 (2) p. 127-134.

Record 100
AU: Jackson,-P.; McRae,-T.A.
TI: Selection of sugarcane clones in small plots: effects of plot size and selection criteria.
SO: Crop-sci. Madison, Wis. : Crop Science Society of America, 1961-. Mar/Apr 2001. v. 41 (2) p. 315-322.
AB: Sugarcane (Saccharum spp.) clones are frequently evaluated in one- or two-row plots in the early stages of selection in sugarcane breeding programs. This study assessed the value of performance in small plots for predicting performance under near pure stands and compared different selection methods and criteria based on measurements made in small plots. Two populations of unselected seedling clones were evaluated in different plot sizes in experiments at two sites over two and three crop-years, respectively. Commercially recoverable sugar content in cane (%), cane yield (kg/ha), sugar yield, and an estimate of relative economic value (REV, $) were determined in each plot. Cane yield was biased by competition effects in the small plots, but this was not the case for sugar content. Genetic correlations between cane yield in one-row plots and the middle two rows of the six-row plots in the same experiment and year averaged 0.49, while the equivalent correlation involving sugar content was 0.91. Measurements of sugar yield and REV were also biased in small plots because of the influence of cane yield. Measurements in small plots were considered in terms of indirect selection criteria for improving REV in large plots (the latter representing REV in pure stands). Selection based on sugar content alone in small plots gave equal or larger gains compared with other selection criteria, including REV itself in small plots. It is suggested that selection in small plots in early stages of selection in sugarcane breeding programs should be based largely on sugar content. Measuring cane yield in such trials may be inefficient and where destructive measurement via mechanical harvesting is involved, may.
unnecessarily delay progression of selected clones through to the next stages of selection.

Record 101
AU: Kebreab,-E.; Assis,-A.G.; Dijkstra,-J.; France,-J.
TI: Evaluating sugarcane diets for dairy cows using a digestion model.
SO: Trop-anim-health-prod. Dordrecht, The Netherlands : Kluwer Academic Publishers. Apr 2001. v. 33 (2) p. 127-139.

Record 102
AU: Olsen,-J.K.; Gounder,-R.K.
TI: Alternatives to polyethylene mulch film--a field assessment of transported materials in capsicum (Capsicum annuum L.).
SO: Aust-j-exp-agric. Collingwood, Vic. Australia : CSIRO Australia. 2001. v. 41 (1) p. 93-103.

Record 103
AU: Keshavanath,-P.; Gangadhar,-B.; Ramesh,-T.J.; Rooij,-J.M.-van.; Beveridge,-M.C.M.; Baird,-D.J.; Verdegem,-M.C.J.; Dam,-A.A.-van.
TI: Use of artificial substrates to enhance production of freshwater herbivorous fish in pond culture.

SO: Aquac-res. Oxford : Blackwell Science, c1995-. Mar 2001. v. 32 (3) p. 189-197.

Record 104
AU: Draye,-X.; Lin,-Y.R.; Qian,-X.Y.; Bowers,-J.E.; Burow,-G.B.; Morrell,-P.L.; Peterson,-D.G.; Presting,-G.G.; Ren,-S.X.; Wing,-R.A.
TI: Toward integration of comparative genetic, physical, diversity, and cytomolecular maps for grasses and grains, using the sorghum genome as a foundation.
SO: Plant-physiol. Rockville, MD : American Society of Plant Physiologists, 1926-. Mar 2001. v. 125 (3) p. 1325-1341.
AB: The small genome of sorghum (Sorghum bicolor L. Moench.) provides an important template for study of closely related large-genome crops such as maize (Zea mays) and sugarcane (Saccharum spp.), and is a logical complement to distantly related rice (Oryza sativa) as a "grass genome model." Using a high-density RFLP map as a framework, a robust physical map of sorghum is being assembled by integrating hybridization and fingerprint data with comparative data from related taxa such as rice and using new methods to resolve genomic duplications into locus-specific groups. By taking advantage of allelic variation revealed by heterologous probes, the positions of corresponding loci on the wheat (Triticum aestivum), rice, maize, sugarcane, and Arabidopsis genomes are being interpolated on the sorghum physical map. Bacterial artificial chromosomes for the small genome of rice are shown to close several gaps in the sorghum contigs; the emerging rice physical map and assembled sequence will further accelerate progress. An important motivation for developing genomic tools is to relate molecular level variation to phenotypic diversity. "Diversity maps," which depict the levels and patterns of variation in different gene pools, shed light on relationships of allelic diversity with chromosome organization, and suggest possible locations of genomic regions that are under selection due to major gene effects (some of which may be revealed by quantitative trait locus mapping). Both physical maps and diversity maps suggest interesting features that may be integrally related to the chromosomal context of DNA--progress in cytology promises to provide a means to elucidate such relationships. We seek to provide.
a detailed picture of the structure, function, and evolution of the genome of sorghum and its relatives, together with molecular tools such as locus-specific sequence-tagged site DNA markers and bacterial artificial chromosome contigs that will have enduring value for many aspects of genome analysis.

Record 105
AU: Sevilla,-M.; Burris,-R.; Gunapala,-N.; Kennedy,-C.
TI: Comparison of benefit to sugarcane plant growth and 15N2 incorporation following inoculation of sterile plants with Acetobacter diazotrophicus wild-type and Nif- mutant strains.
SO: Mol-plant-microb-interact. St. Paul, MN : APS Press, [c1987-. Mar 2001. v. 14 (3) p. 358-366.
AB: The ability of the nitrogen-fixing bacterial endophyte Acetobacter diazotrophicus strain PA15 to enhance the growth of sugarcane SP70-1143 was evaluated in the growth chamber, greenhouse, and field by comparing plants inoculated with wild-type and Nif- mutant MAd3A in two independent experiments. The wild-type and Nif- mutant strains colonized sugarcane plants equally and persisted in mature plants. In N-deficient conditions, sugarcane plants inoculated with A. diazotrophicus PA15 generally grew better and had a higher total N content 60 days after planting than did plants inoculated with mutant Mad3A or uninoculated plants. These results indicate that the transfer of fixed N from A. diazotrophicus to sugarcane might be a significant mechanism for plant growth promotion in this association. When N was not limiting, growth enhancement was observed in plants inoculated with either wild-type or Nif- mutants, suggesting the additional effect of a plant growth promoting factor provided by A. diazotrophicus. A 15N2 incorporation experiment demonstrated that

A. diazotrophicus wild-type strains actively fixed N2 inside sugarcane plants, whereas the Nif- mutants did not.

Record 106
AU: Abdel-Sater,-M.A.; El-Said,-A.H.M.
TI: Xylan-decomposing fungi and xylanolytic activity in agricultural and industrial wastes.
SO: Int-biodeterior-biodegrad. Oxford, U.K. : Elsevier Science Limited. Jan 2001. v. 47 (1) p. 15-21.

Record 107
AU: Grof,-C.P.L.; Campbell,-J.A.
TI: Sugarcane sucrose metabolism: scope for molecular manipulation.
SO: Aust-j-plant-physiol. Collingwood, Vic. : CSIRO Publishing. 2001. v. 28 (1) p. 1-12.

Record 108
AU: Pallett,-K.E.; Cramp,-S.M.; Little,-J.P.; Veerasekaran,-P.; Crudace,-A.J.; Slater,-A.E.
TI: Isoxaflutole: the background to its discovery and the basis of its herbicidal properties.
SO: Pest-manag-sci. West Sussex, UK : Wiley, c2000-. Feb 2001. v. 57 (2) p. 133-142.
AB: This paper reviews the discovery of isoxaflutole (IFT), focusing on the chemical and physicochemical properties which contribute to the herbicidal behaviour of this new herbicide. IFT (5-cyclopropyl-1, 2-isoxazol-4-yl alpha alpha alpha-trifluoro-2-mesyl-p-tolyl ketone) is a novel herbicide for pre-emergence control of a wide range of important broadleaf and grass weeds in corn and sugarcane. The first benzoyl isoxazole lead was synthesised in 1989 and IFT in 1990, and the herbicidal potential of the latter was identified in 1991. The decision to develop the molecule was taken after two years of field testing in North America. The biochemical target of IFT is 4-hydroxyphenylpyruvate dioxygenase (HPPD), inhibition of which leads to a characteristic bleaching of susceptible species. The inhibitor of HPPD is the diketonitrile derivative of IFT formed from opening of the isoxazole ring. The diketonitrile (DKN) is formed rapidly in plants following root and shoot uptake. The DKN is both xylem and phloem mobile leading to high systemicity. IFT also undergoes conversion to the DKN in the soil. The soil half-life of IFT ranges from 12 h to 3 days under laboratory conditions and is dependent on several factors such as soil type, pH and moisture. The log P of IFT is 2.19 and the water solubility is 6.2 mg litre(-1), whereas the corresponding values for the DKN are 0.4 and 326 mg litre(-1), respectively. These properties restrict the mobility of IFT, which is retained at the soil surface where it can be taken up by surface-germinating weed seeds. The DKN, which has a laboratory soil half-life of 20-30 days, is more mobile and is taken up by the roots. In addition to influencing the soil behaviour of IFT and.
DKN, the greater lipophilicity of IFT leads to greater uptake by seed, shoot and root tissues. In both plants and soil, the DKN is converted to the herbicidally inactive benzoic acid. This degradation is more rapid in maize than in susceptible weed species and this contributes to the mechanism of selectivity, together with the greater sowing depth of the crop.

Record 109
AU: McIntyre,-C.L.; Jackson,-P.A.
TI: Low level of selfing found in a sample of crosses in Australian sugarcane breeding programs.
SO: Euphytica. Dordrecht : Kluwer Academic Publishers. 2001. v. 117 (3) p. 245-249.

Record 110
AU: Arora,-D.S.; Gill,-P.K.

TI: Effects of various media and supplements on laccase production by some white rot fungi.
SO: Bioresour-technol. Oxford, U.K. : Elsevier Science Limited. Mar 2001. v. 77 (1) p. 89-91.
AB: White rot fungi produce three main extracellular enzymes involved in ligninolysis; laccase, lignin peroxidase and manganese peroxidase. Though all white rot fungi do not produce all three enzymes, laccase occupies an important place in ligninolysis. The present paper reports its production by some white rot fungi; Daedalea flavida, Phlebia brevispora, Phlebia radiata and Polyporus sanguineus under different nutritional conditions. Of the various basal media tested, mineral salts malt extract broth proved to be the best medium for laccase production. Sugarcane bagasse proved to be the best laccase inducer among the various supplements added to different media.

Record 111
AU: Suguimoto,-H.H.; Barbosa,-A.M.; Dekker,-R.F.H.; Castro-Gomez,-R.J.H.
TI: Veratryl alcohol stimulates fruiting body formation in the oyster mushroom, Pleurotus ostreatus.
SO: FEMS-micro-biol-lett. Amsterdam, The Netherlands : Elsevier Science B.V. Jan 15, 2001. v. 194 (2) p. 235-238.
AB: The oyster mushroom, Pleurotus ostreatus, cultivated in solid state on sugarcane bagasse-wheat bran (5:1) medium in the presence of veratryl alcohol resulted in an increased production of the fruiting body at earlier times compared to when the fungus was grown in the absence of veratryl alcohol. The results indicate a new physiological role for veratryl alcohol in stimulating fruiting body formation. Veratryl alcohol also stimulated laccase production during the mycelial growth stage. Evidence is also presented that laccases were involved in the physiological development of the fruiting body.

Record 112
AU: Verma,-R.-S.,
TI: Sugarcane production research in India, 1912-2000. 1st ed.
SO: Lucknow : International Book Distributing Co., 2001. x, 460 p.
AB: Bibliography.

Record 113
AU: Hogarth,-D.-M.
TI: International Society of Sugar Cane Technologists : proceedings of the XXIV Congress, 17-21 September 2001, Brisbane, Australia.
SO: Mackay, Australia : XXIV ISSCT Congress Organising Committee, 2001. 2 v. : ill.

Record 114
AU: Ganeshan,-Seelavarn.
TI: A guide to the insect pests of sugar cane in Mauritius.
SO: [Reduit, Mauritius] : Mauritius Sugar Industry Research Institute, 2001. 48, [1] p. : col. ill.

Record 115
AU: Nguyen,-Thi-Mui.
TI: Feeding systems for goats based on foliages and whole sugar cane.
SO: Uppsala, Sweden : Swedish University of Agricultural Sciences, 2001. 1 v. (various pagings) : ill.

Record 116
AU: Alvarez,-Jose, 1940-; Pena-Castellanos,-Lazaro.
TI: Cuba's sugar industry.
SO: Gainesville, FL: University Press of Florida, 2001. xxi, 160 p. : ill.