

# Publications

ABODEELY, E.F., II, BUXTON, D.R. AND CARLSON, I.T. 1996. Near infrared reflectance spectroscopy (NIRS) predictions of forage quality in orchardgrass. Agron. Abstracts. p. 6. (Abstract)

BACH, A., YOON, I.K., STERN, M.D., JUNG, H.G. AND CHESTER-JONES, H. 1996. Effects of type of energy supplementation for lush pasture on microbial fermentation in continuous cultures. ASAS, Midwest Sect. p. 88. (Abstract)

BLAND, W.L., KANNEGANTI, V.R. AND UNDERSANDER, D.J. 1996. Weather and alfalfa quality in Wisconsin. Agron. Abstr., Am. Soc. of Agronomy, Madison, WI. p. 156. (Abstract)

BLUMENTHAL, J.M. 1996. Nitrogen economy of alfalfa. Ph.D. dissertation. Univ of Minnesota, St. Paul. (with M.P. RUSSELLE). 106 pp. (Thesis)

BLUMENTHAL, J.M. AND RUSSELLE, M.P. 1996. Subsoil nitrate uptake and symbiotic dinitrogen fixation by alfalfa. Agron. J. 88:909-915.

BLUMENTHAL, J.M., VANCE, C.P. AND RUSSELLE, M.P. 1996. Nitrogenase activity and nodule amino acid pools are independent of the amount of N<sub>2</sub> fixed. Plant Physiol. Suppl. 111(2):37.

BOND, D.R. AND RUSSELL, J.B. 1996. A role of fructose 1,6 diphosphate in the ATPase-mediated energy-spilling reaction of *Streptococcus bovis*. Appl. Environ. Microbiol. 62:2095-2099.

BOND, D.R. AND RUSSELL, J.B. 1996. Effect of potassium on futile proton flux in *Streptococcus bovis*. #K31 Ann. Mtg. Amer. Soc. for Microbiol., New Orleans, LA, (May 19-23). (Abstract)

BRODERICK, G.A. 1996. Conference Introduction: Altering ruminal nitrogen metabolism to improve protein utilization. J. Nutr. 126:1234S-1325S.

BRODERICK, G.A. AND CLAYTON, M.K. 1996. Effect of animal nutritional factors on the relationship between milk urea N and blood urea N in lactating cows. J. Dairy Sci. 79(Suppl.1):210. (Abstract)

BUXTON, D.R. 1996. Quality-related characteristics of forages as influenced by plant environment and agronomic factors. Anim. Feed Sci. Tech. 59:37-49.

BUXTON, D.R., MERTENS, D.R. AND FISHER, D.S. 1996. Forage quality and ruminant utilization. pp. 229-266. IN: L.E. Moser, D.R. Buxton, and M.D. Casler (eds.) Cool-season forage grasses, Agron. Monogr. 34, ASA, CSSA, and SSSA, Madison, WI. (Book Chapter)

BUXTON, D.R., REDFEARN, D.D., JUNG, H.G. AND MERTENS, D.R. 1996. Improving forage quality-related characteristics of maize. pp. 23-28. IN: Proc. With Dairy and Forage Industries. U.S. Dairy Forage Research Center, Madison, WI., (Proc.)

DARMOSARKORO, W., BUXTON, D.R., MOORE, K.J., DEVINE, T.E. AND REDFEARN, D.D. 1996. Quality of soybean lines developed for forage. Agron. Abstracts. p. 159. (Abstract)

DEETZ, D.A. 1996. Cell wall lignification: constraints to bacterial fermentation and enzymatic hydrolysis of forage fiber. Ph.D. Dissertation (with H.G. JUNG). 179 pp. (Thesis)

DEETZ, D.A., JUNG, H.G. AND BUXTON, D.R. 1996. Water-deficit effects on cell-wall composition and in vitro degradability of structural polysaccharides from alfalfa stems. Crop Sci. 36(2):383-388.

DHIMAN, T.R., ANAND, G.R., SATTER, L.D. AND PARIZA, M. 1996. Conjugated linoleic acid content of milk from cows fed different diets. J. Dairy Sci. 79(Suppl.1):137. (Abstract)

DHIMAN, T.R., ANAND, G.R., SATTER, L.D. AND PARIZA, M. 1996. Dietary effects on conjugated linoleic acid content of cow's milk. 87<sup>th</sup> AOCS Annual Meeting and Expo. Indianapolis, IN, April 28-May 1. P. 29-30. (Abstract)

DHIMAN, T.R., HOOGENDIJK, B., WALGENBACH, R.P. AND SATTER, L.D. 1996. Feeding high oil corn to lactating dairy cows. J. Dairy Sci. 79(Suppl.1):136. (Abstract)

DHIMAN, T.R., KOREVAAR, A.C. AND SATTER, L.D. 1996. Particle size of heated soybeans and its effect on milk production of dairy cows. J. Animal Sci. 74(Suppl.1):76. (Abstract)

DIEZ-GONZALEZ, F. AND RUSSELL, J.B. 1996. The regulation of thiometylgalactoside transport in *Clostridium acetobutylicum* P262 by inducer exclusion and inducer expulsion mechanisms. FEMS Microbiol. Lett. 136:123-127.

DIEZ-GONZALEZ, F., RUSSELL, J.B. AND HUNTER, J.B. 1996. Potassium-dependent transport of lactate across the cell membrane of *Clostridium acetobutylicum* P262. #K33 Ann. Mtg. Amer. Soc. for Microbiol., New Orleans, LA, (May 19-23). (Abstract)

DURLING, J.C., HESTERMAN, O.B. AND ROTZ, C.A. 1996. Corn silage following first-cut alfalfa: a forage production alternative? pp. 193-196. IN: 1996 American Forage and Grassland Council Proceedings, Am. Forage Grassl. Council, Georgetown, TX, (Proc.)

EDE, R.M. AND RALPH, J. 1996. Assignment of 2D TOCSY spectra of lignins: the role of lignin model compounds. Magnetic Resonance in Chem. 34:261-268.

EDE, R.M., RALPH, J., TORR, K.M. AND DAWSON, B.S. 1996. An NMR investigation of the heterogeneity of distribution of darylpropane structures in extracted *Pinus radiata* lignins. Holzforschung 50(2):161-164.

GARDNER, R.G., RUSSELL, J.B., WILSON, D.B., WANG, G-R. AND SHOEMAKER, N.B. 1996. Use of modified *Bacteroides-Prevotella* shuttle vector to transfer a reconstructed  $\beta$ -1,4-D-endoglucanase gene into *Bacteroides uniformis* and *Prevotella ruminicola* B14. Appl. Environ. Microbiol. 62:196-202.

GEORGE, J.R., HINTZ, R.L., BUXTON, D.R., BARNHART, S.K. AND MOORE, K.J. 1996. Warm-season grazing management research. p. 85. IN: E. Morical (ed.) Management of Intensive Grazing Symposium. Feb. 7-8, Iowa State Univ., Des Moines, IA, (Abstract)

GEORGE, J.R., HINTZ, R.L., MOORE, K.J., BARNHART, S.K. AND BUXTON, D.R. 1996. Steer response to rotational or continuous grazing on switchgrass and big bluestem pastures. pp. 150-154. IN: Proc. Amer. Forage Grassland Conf., June 13-15, Vancouver B.C., Canada, American Forage and Grassland Council, Georgetown, TX. (Proc.)

GETTLE, R.M., GEORGE, J.R., BLANCHET, K.M., BUXTON, D.R. AND MOORE, K.J. 1996. Frost-seeding legumes into established switchgrass: establishment, density, persistence, and sward composition. Agron. J. 88(1):98-103.

GETTLE, R.M., GEORGE, J.R., BLANCHET, K.M., BUXTON, D.R. AND MOORE, K.J. 1996. Frost-seeding legumes into switchgrass; yield and botanical composition in the stratified canopy. Agron. J. 88:555-560.

GOINS, G.D. AND RUSSELLE, M.P. 1996. Fine root demography in alfalfa (*Medicago sativa* L.). Plant Soil. 185:281-291.

GRABBER, J.H., HATFIELD, R.D. AND RALPH, J. 1996. Altering lignin composition, structure, and cross-linking: potential impact on cell wall degradation. National Amer. Chem Soc., Paper Cell-54, New Orleans, LA, March 24-28. (Abstract)

GRABBER, J.H., RALPH, J., HATFIELD, R.D., QUIDEAU, S. AND KUSTER, T.A. 1996. Dehydrogenation polymer-cell wall complexes as a model for lignified grass cell walls. National Amer. Chem Soc., Paper Cell-20, New Orleans, LA, March 24-28. (Abstract)

GRABBER, J.H., RALPH, J., HATFIELD, R.D., QUIDEAU, S., KUSTER, T. AND PELL, A.N. 1996. Dehydrogenation polymer-cell wall complexes as a model for lignified cell walls. J. Agric. Food Chem. 44(6):1453-1459.

GRABBER, J.H., QUIDEAU, S. AND RALPH, J. 1996. *p*-Courmaroylated syringyl units in maize lignin; implications for  $\beta$ -ether cleavage by thioacidolysis. Phytochemistry. 43(6):1189-1194.

GRAU, C.R., SHARPEE, D.K. AND SMITH, R.R. 1996. Evidence of Mycoleptodiscus root rot of forages in Wisconsin. Proc. XIV Trifolium Conf. May 21-23, Lexington, KY. p. 24. (Proc.)

HARRIGAN, T.M., BICKERT, W.G. AND ROTZ, C.A. 1996. Simulation of dairy manure management and cropping systems. Appl. Engr. Agric. 12(5):563-574.

HATFIELD, R.D., ANDREWARTHA, K. AND STONE, B.A. 1996. SDS solubilized lignin complexes from alfalfa stems. Plant Physiology Suppl. 111(2):667.

HATFIELD, R.D. AND RALPH, J. 1996. Molecular modeling of dehydrodiferulates: Are intramolecular dimers feasible within grass walls? National Amer. Chem Soc., Paper Cell-55, New Orleans, LA, March 24-28. (Abstract)

HATFIELD, R.D., GRABBER, J.H. AND RALPH, J. 1996. Modeling cross-links within wall matrices: impact upon polysaccharide degradation. Keystone Symp. on the Extracellular Matrix of Plants, Poster 110, Tamarron, CO. (Proc.)

HEINTZMAN, A.K. AND RUSSELLE, M.P. 1996. Multi-site field test of CERES-Maize in the Upper Midwest. Agron. Abstracts. p. 244. (Abstract)

HINTZ, R.W., MERTENS, D.R. AND ALBRECHT, K.A. 1996. Effects of sodium sulfite on recovery and composition of detergent fiber and lignin. J.A.O.A.C. Inter. 79:16-22.

HRISTOV, A. AND BRODERICK, G.A. 1996. Synthesis of microbial protein in ruminally cannulated cows fed alfalfa silage, alfalfa hay or corn silage. J. Dairy Sci. 9:1627-1637.

HUHNKE, R.L., MUCK, R.E. AND PAYTON, M.E. 1996. Round bale silage storage losses of ryegrass and legume-grass forages. ASAE paper # 96-1030. (Proc.)

HURD, C.M., MOORE, K.J., BRUMMER, E.C., BARNHART, S.K., BUXTON, D.R. AND GEORGE, J.R. 1996. Establishing alfalfa following alfalfa with fungicides. pp. 51-54. IN: Proc. Amer. Forage Grassland Conf., June 13-15, Vancouver B.C., Canada, American Forage and Grassland Council, Georgetown, TX. (Proc.)

JUNG, H.G. 1996. Breeding for improved forage quality in alfalfa: an animal nutritionist's view. Report of the 35th North American Alfalfa Improvement Conf., Oklahoma City, OK. p. 70. (Report)

JUNG, H.G. AND CHAPPLE, C.C.S. 1996. Does lignin composition impact forage cell-wall degradability? J. Dairy Sci. 79(Suppl.1):151. (Abstract)

KAFFKA, S.R. AND KANNEGANTI, V.R. 1996. Orchardgrass response to different types, rates, and application patterns of dairy manure. Field Crops Research. 47:43-52.

KANNEGANTI, V.R., DHIMAN, T.R., WALGENBACH, R.P., MASSINGILL, L. AND SATTER, L.D. 1996. Productivity of mixed-species "natural" pastures under intensive rotational grazing. Agron. Abstr., Am. Soc. of Agron., Madison, WI. p. 157. (Abstract)

KEARNS, D.B. AND RUSSELL, J.B. 1996. Catabolite repression in a diauxic and non diauxic strain of *Streptococcus bovis*. Curr. Microbiol. 32:216-219.

KEARNS, D.B., COOK, G.M. AND RUSSELL, J.B. 1996. Inducer expulsion is not a determinant of diauxic growth in *Streptococcus bovis*. Curr. Microbiol. 32:1-5.

KOEGEL, R.G. AND STRAUB, R.J. 1996. Fractionation of alfalfa for food, feed, biomass, and enzymes. Trans. ASAE. 39(3):769-774.

KOEGEL, R.G., KRAUS, T.J. AND STRAUB, R.J. 1996. Intensive forage conditioning: Past - Present - Future? Proc. Washington State Hay Growers 10<sup>th</sup> Annual Conf., Pasco, Jan. 23 - 24. (Proc.)

KRAUSE, D.O. AND RUSSELL, J.B. 1996. An rRNA approach for assessing the role of obligate amino acid-fermenting bacteria in ruminal amino acid degradation. *Appl. Environ. Microbiol.* 62:815-821.

KRAUSE, D.O. AND RUSSELL, J.B. 1996. How many ruminal bacteria are there? *J. Dairy Sci.* 79:1467-1475.

KRAUSE, D.O., WELLS, J.E. AND RUSSELL, J.B. 1996. Effect of starch supplementation on the relative numbers of *Streptococcus bovis* and rapidly growing lactobacilli in the rumen. #K130 Ann. Mtg. Amer. Soc. for Microbiol., New Orleans, LA (May 19-23). (Abstract)

KUEHN, C.S., LINN, J.G., HALLAND, S.K. AND JUNG, H.G. 1996. Quality measures in corn silage samples taken from two growing seasons. *J. Dairy Sci.* 79(Suppl.1):150. (Abstract)

LANA, R.P. AND RUSSELL, J.B. 1996. Use of potassium depletion to assess adaptation of ruminal bacteria to ionophores. *Appl. Environ. Microbiol.* 62:4499-4503.

LU, F. AND RALPH, J. 1996. A new lignin characterization method: derivatization/reductive cleavage as an alternative to analytical thioacidolysis. National Amer. Chem Soc., Paper Cell-110, New Orleans, LA, March 24-28. (Abstract)

LU, F. AND RALPH, J. 1996. NMR studies on a new model for selective degradation of lignins. National Amer. Chem Soc., Paper Cell-160, New Orleans, LA, March 24-28. (Abstract)

LU, F. AND RALPH, J. 1996. Reactions of lignin model β-aryl ethers with acetyl bromide. *Holzforschung.* 50(4):360-364.

LUCHINI, N.D., BRODERICK, G.A. AND COMBS, D.K. 1996. Characterization of the proteolytic activity of commercial proteases and strained ruminal fluid. *J. Anim. Sci.* 74:685-692.

LUCHINI, N.D., BRODERICK, G.A. AND COMBS, D.K. 1996. In vitro determination of ruminal protein degradation using freeze-stored ruminal microorganisms. *J. Anim. Sci.* 74:2488-2499.

LUCHINI, N.D., BRODERICK, G.A. AND COMBS, D.K. 1996. Preservation of ruminal microorganisms for in vitro determination of ruminal protein degradation. *J. Anim. Sci.* 74:1134-1143.

LUDLEY, F.H. AND RALPH, J. 1996. Improved preparations of coniferyl and sinapyl alcohols. *J. Ag. Food Chem.* 44(10):2942-2943.

LUDLEY, F.H. AND RALPH, J. 1996. Preparation of the glucosides of coniferyl and sinapyl p-coumarate. National Amer. Chem Soc., Paper Cell-156, New Orleans, LA, March 24-28. (Abstract)

MAGARIAN, D.M., LAMB, J.F.S., RUSSELLE, M.P. AND BLUMENTHAL, J.M. 1996. A new method for selecting individual alfalfa plants for N uptake. *Agron. Abstracts.* p. 76. (Abstract)

MERTENS, D.R. 1996. Methods in modeling feeding behavior and intake in herbivores. *Ann. Zootech.* 45(Suppl.1):153-164.

MERTENS, D.R. 1996. Using fiber and carbohydrate analyses to formulate dairy rations. Proc. of the Dairy Forage Research Center Conference with Dairy and Forage Industries, Sept. 16-19, Madison, WI. pp. 81-92. (Proc.)

MEYERS, L.L., RUSSELLE, M.P. AND LAMB, J.F.S. 1996. Fluridone reveals root elongation differences in alfalfa germplasms. Agron. J. 88:67-72.

MOSER, L.E., BUXTON, D.R., AND M.D. CASLER (EDS). 1996. Cool-season forage grasses. Agron. Monogr. 34. ASA, CSSA, and SSSA, Madison, WI. 841 pp. (Book Editor)

MUCK, R.E. 1996. Inoculation of silage and its effects on silage quality. pp. 43-51. IN: Proc. of the Dairy Forage Research Center Conference with Dairy and Forage Industries, US Dairy Forage Res. Ctr, Madison, WI, (Proc.)

MUCK, R.E. AND HINTZ, R.W. 1996. Effects of quality on lucerne ensilability. pp. 168-169. IN: D.I.H. Jones, R. Jones, R. Dewhurst, R. Merry and P.M. Haigh (eds.) Proc. of the XIth International Silage Conf., Univ. of Wales, Aberystwyth, Wales, UK, (Proc.)

MUCK, R.E., MERTENS, D.R. AND WALGENBACH, R.P. 1996. Proteolysis in different forage silages. ASAE paper # 96-1031. (Proc.)

MUCK, R.E. AND ROTZ, C.A. 1996. Bunker silo unloaders: an economic comparison. Appl. Engr. Agric. 12(3):273-280.

MUCK, R.E., WEINBERG, Z.G., ROUSE, D.I. AND IGL, B.R. 1996. Ensiling of potato vines. pp. 170-171. IN: D.I.H. Jones, R. Jones, R. Dewhurst, R. Merry and P.M. Haigh (eds.) Proc. of the XIth International Silage Conf., Univ. of Wales, Aberystwyth, Wales, UK, (Proc.)

NADEAU, E.M.G., BUXTON, D.R., LINDGREN, E. AND LINGVALL, P. 1996. Kinetics of cell-wall digestion of orchardgrass and alfalfa silages treated with cellulase and formic acid. J. Dairy Sci. 79:2207-2216.

PELTEKOVA, V.D. AND BRODERICK, G.A. 1996. In vitro ruminal degradation and synthesis of protein on fractions extracted from alfalfa hay and silage. J. Dairy Sci. 9:612-619.

RALPH, J. 1996. An unusual lignin from Kenaf. J. Natural Products. 59(4):341-342.

RALPH, J. 1996. Cell wall cross-linking in grasses: the importance of understanding plant chemistry and biochemistry. Proc. of the Dairy Forage Research Center Conference with Dairy and Forage Industries. pp. 1-8. (Proc.)

RALPH, J. 1996. NMR of synthetic lignins with NMR-invisible methoxyl groups. The NMR Newsletter. 452:13-14. (Newsletter)

RALPH, J. 1996. The advantage of fully digital NMR and pulsed field gradients. The NMR Newsletter. 452:11-12. (Newsletter)

RALPH, J. AND GRABBER, J.H. 1996. Dimeric  $\beta$ -ether thioacidolysis products resulting from incomplete ether cleavage. *Holzforschung*. 50(5):425-428.

RALPH, J., HATFIELD, R.D., GRABBER, J.H., QUIDEAU, S. AND HELM, R.F. 1996. Mechanisms of polysaccharide-polysaccharide and polysaccharide-lignin cross-linking in grasses. National Amer. Chem Soc., Paper Cell-51, New Orleans, LA, March 24-28. (Absrtact)

RALPH, J., HATFIELD, R.D., QUIDEAU, S., HELM, R.F. AND GRABBER, J.H. 1996. Cell-wall cross-linking in grasses by ferulates and dehydrodiferulates. Keystone Symp. on the Extracellular Matrix of Plants, Paper 012, Tamarron, CO. (Abstract)

RALPH, J., HATFIELD, R.D., QUIDEAU, S., HELM, R.F. AND GRABBER, J.H. 1996. Cell-wall cross-linking in grasses by ferulates and dehydrodiferulates. Keystone Symp. on the Extracellular Matrix of Plants, Poster 124, Tamarron, CO. (Abstract)

RALPH, J., LU, F. AND GRABBER, J. 1996. Structural characterization of lignins: analytical thioacidolysis and a new alternative. National Amer. Chem Soc., Paper Cell-21, New Orleans, LA, March 24-28. pp. 24-28. (Abstract)

RALPH, S.A., RALPH, J., LANDUCCI, W.L. AND LANDUCCI, L.L. 1996. NMR database of lignin and cell wall model compounds. Available over Internet at <http://www.dfrc.wisc.edu/software.html>, or send E-mail to [jralph@facstaff.wisc.edu](mailto:jralph@facstaff.wisc.edu). (Database)

RALPH, J., ZHANG, Y. AND EDE, R.M. 1996. Preparation of synthetic lignins with superior NMR characteristics. National Amer. Chem Soc., Paper Cell-157, New Orleans, LA, March 24-28. pp. 24-28. (Abstract)

REDFEARN, D.D., BUXTON, D.R., HALLAUEER, A.R. AND GEORGE, J.R. 1996. Performance of maize hybrids developed from inbred lines selected for high or low forage quality. Agron. Abstracts. p. 155. (Abstract)

ROTZ, C.A. 1996. A comparison of forages, harvesting and storage systems. pp. 32-43. IN: Proc. Midwest Dairy Management Conf., Aug. 28-29, Minneapolis, MN. (Proc.)

ROTZ, C.A. 1996. Economics of grazing alfalfa on Michigan dairy farms. pp. 72-81. IN: Proc. 26th National Alfalfa Sym. Certified Alfalfa Seed Council, Inc., Davis, CA 95617-1017. (Proc.)

ROTZ, C.A. AND GUPTA, U.S. 1996. DAFOSYM for Windows, a teaching aid in biosystems engineering. Paper #96-3058. ASAE, St. Joseph, MI. (Proc.)

ROTZ, C.A. AND GUPTA, U.S. 1996. DAFOSYM for Windows, version 1. [<http://www.dfrc.wisc.edu>]. (Software)

ROTZ, C.A. AND GUPTA, U.S. 1996. DAFOSYM for Windows: a teaching aid in forage system management. pp. 182-186. IN: 1996 American Forage and Grassland Council Proceedings, Am. Forage Grassl. Council, Georgetown, TX. (Proc.)

RUSSELL, J.B. 1996. Inhibition of hyperactive amino acid-degrading ruminal bacteria and the potential for decreasing wasteful ammonia production. Proc. of the Conf. with Dairy and Forage Industries. U.S. Dairy Forage Res. Cte., Madison, WI. pp. 61-62. (Proc.)

RUSSELL, J.B., BOND, D.R. AND COOK, G.M. 1996. The fructose diphosphate/phosphate regulation of carbohydrate metabolism in low G + C gram-positive anaerobes. Res. Microbiol. pp. 528-535.

RUSSELL, J.B. AND WILSON, D.B. 1996. Why are ruminal cellulolytic bacteria unable to digest cellulose at low pH? J. Dairy Sci. 79:1503-1509.

RUSSELLE, M.P. 1996. Nitrogen cycling in pasture systems. pp. 125-166. IN: R.E. Joost and C.A. Roberts (eds.). Nutrient cycling in forage systems, PPI-FAR, Manhattan, KS. (Book Chapter)

SATTER, L.D. AND DHIMAN, T.R. 1996. Formulating dairy diets: Enhancing profitability and reducing environmental impact. Proc. of the Dairy Forage Research Center Conf. with Dairy and Forage Industries. pp. 93-101. (Proc.)

SATTER, L.D. and DHIMAN, T.R. 1996. Use of heat processed soybeans in dairy rations. Proc. of the Second International Fullfat Soya Conference. August 21-24. Budapest, Hungary. pp. 369-381. (Proc.)

SAULNIER, L., CHANLIAUD, E., CREPEAU, M.-J., THIBAULT, J.-F., GRABBER, J.H. AND RALPH, J. 1996. Structure of cell wall polysaccharides in maize bran. Plant Polysaccharides Symp., Nantes, France. (Abstract)

SHI, Y. 1996. Competition for energy sources among three predominant ruminal cellulolytic bacteria. Ph.D. Thesis, University of Wisconsin - Madison (with P.J. WEIMER). (Thesis)

SHI, Y. AND WEIMER, P.J. 1996. Utilization of cellobextrins by three predominant ruminal cellulolytic bacteria. Appl. Environ. Microbiol. 62:1084-1088.

SMITH, R.R. 1996. A two stage procedure to Sclerotinia in red clover. Agron. Abst. p. 74. (Abstract)

SMITH, R.R. 1996. Inter-regional study on establishment and production of kura clover. Proc. XIV Trifolium Conf. May 21-23, Lexington, KY. p. 7. (Proc.)

SMITH, R.R. 1996. Selecting high quality legumes: Improving pest resistance and quality while maintaining yield and persistence. Proc. of the Dairy Forage Research Center Conference with Dairy and Forage Industries, Sept. 16-19, Madison, WI. pp. 16-19. (Proc.)

THIEX, N., MERTENS, D.R. AND EVENSON, P.D. 1996. A summary of the responses to the 1995 NFTA questionnaire and discussion of factors contributing to laboratory error. Proc. 1995 NFTA Workshop, Nat. Forage Testing Assoc. pp. H1-H18. (Proc.)

TREMBLAY, G.F., BRODERICK, G.A. AND ABRAMS, S.M. 1996. Estimating ruminal protein degradation of roasted soybeans using near infrared reflectance spectroscopy. J. Dairy Sci. 79:276-282.

VAGNONI, D.B. AND BRODERICK, G.A. 1996. N utilization in alfalfa hay versus alfalfa silage by Holstein cows: milk protein secretion and microbial N flow estimated from purine derivative excretion. J. Dairy Sci. 79(Suppl.1):209. (Abstract)

VAN KESSEL, J.A.S. AND RUSSELL, J.B. 1996. The effect of pH on ruminal methanogenesis. FEMS Microbiol. Ecol. 20:205-210.

VAN KESSEL, J.S. AND RUSSELL, J.B. 1996. The effect of amino nitrogen on the energetics of ruminal bacteria and its impact on energy spilling. J. Dairy Sci. 79:1237-1243.

VENUTO, B.C., SMITH, R.R. AND GRAU, G.R. 1996. Temperature dependent reaction and selection response to red clover populations to *Fusarium* wilt. Crop Sci. 36:1477-1481.

WEBB, D.H., NUTTER, F.W., JR., F.W. AND BUXTON, D.R. 1996. Effect of acid detergent lignin concentration in alfalfa leaves on three components of resistance to alfalfa rust. Plant Disease. 80:1184-1187.

WEINBERG, Z.G. AND MUCK, R.E. 1996. New trends and opportunities in the development and use of inoculants for silage. FEMS Microbiology Reviews. 19(1):53-68.

WELLS, J.E. AND RUSSELL, J.B. 1996. The effect of growth and starvation on the lysis of the ruminal cellulolytic bacterium *Fibrobacter succinogenes*. Appl. Environ. Microbiol. 62:1342-1346.

WELLS, J.E. AND RUSSELL, J.B. 1996. Why do many ruminal bacteria die and lyse so quickly? J. Dairy Sci. 79:1487-1495.

WELLS, J.E., GARDNER, R.G., WILSON, D.B. AND RUSSELL, J.B. 1996. Identification of a *Prevotella ruminicola* operon that encodes polysaccharide-degrading enzymes. #K166 Ann. Mtg. Amer. Soc. for Microbiol., New Orleans, LA, (May 19-23). (Abstract)

WEIMER, P.J. 1996. Ruminal cellulolytic bacteria: physiology, ecology, and beyond. Proc. of the Dairy Forage Research Center Conference with Dairy and Forage Industries, US Dairy Forage Res. Ctr., Madison, WI. (Proc.)

WEIMER, P.J. 1996. Why don't ruminal bacteria digest cellulose faster? J. Dairy Sci. 79:1496-1502.

ZHU, Y., SHEAFFER, C.C., RUSSELLE, M.P. AND VANCE, C.P. 1996. Dinitrogen fixation of annual *Medicago* species. Proc. 35th North American Alfalfa Improvement Conf. p. 75. (Abstract)