Charles E. Clément, PhD

Objective

Improve the use of underutilized lumber species, small-log timber, process analysis, and ergonomics to make the best use of available resources. Developing new products, or alternate ways of making existing products, will help create stronger economic development.

Summary

Disciplined in strategic thinking and low-cost, tactical implementations in an entrepreneurial environment. Flexible, resourceful, intuitive, and hands-on with strong training in R&D and QC. Fluent verbal, written, and presentation skills in English and French.

Currently, private consultant hired to offer technical assistance to foreign governments on how to best use resources to target developing markets. Was Wood Technologist for the Texas Forest Service, hired to improve use of hardwood lumber in East Texas and aide value-added wood products industry. Involved knowledge of current technology, communication skills, and marketing insight. Occupied research-oriented positions in better understanding of lumber drying though the use of CAT scans of lumber and microwave technology. Three years (PhD) analyzing use of alternate lumber species for use in value-added wood products, and process control for implementing use of said lumber. Three years (MS) analyzing drying technology to improve drying efficiency while reducing lumber degrade. Four years (BS) studying Wood Science, with particular interest in wood drying and preservatives.

Education

PhD Forest Products & Industrial Engineering, Purdue University, 2002.
Dissertation: Understanding rough mill yield through the interaction between lumber characteristics and processing parameters.
Co-Advisors: Rado Gazo and Robert Beauregard.

- M.S. Wood Science, Laval University, 2001. Advisor: Yves Fortin.
- B.S. Wood Science, Laval University, 1996.

Experience

Extension Specialist (August 2007 – Present)	Louisiana State University AgCenter, Forest Products Development Center. Develop a value-added wood products extension program focusing on technology transfer of research in utilization of wood products and innovative new products and processes to the Louisiana industry.
Industry Consultant (July 2006 – Present)	Advise foreign governments on how to best use their resources to target developing markets. Offer technical assistance to forest products companies looking to improve their processing by examining throughput, bottlenecks, inventory and return on investment.

Wood Technologist (July 2004 – July 2006)	Texas Forest Service, Sustainable Forestry & Economic Development. Extension work in hardwood sawmilling and lumber drying, focusing on adding value to raw material and increasing desirability of East Texas lumber.
Research Associate (January 2002- July 2004)	University of Tennessee, Tennessee Forest Products Center Extension work in hardwood sawmilling and lumber drying, focusing on improving drying quality and reducing drying time.
Research Assistant (January 1999- January 2002)	Purdue University, Department of Forest Products Research in Value Added wood products focusing on yield optimization and process control.
Research Assistant (August 1996 – Dec.1998)	Laval University, Department of Wood and Forest Sciences Research on vacuum lumber drying, focussing on impact on intrinsic properties of hardwood lumber.
Intern (May 1995 - June 1995)	Forintek Canada Corp., Drying Responsible for a research project on the simulation of the sawmilling process in the context of the softwood lumber industry.
Intern (June 1993 - August 1993)	Chantiers de Chibougamau, Quality Control Maintained sawmill and kiln quality control by verifying target dimensions, final MC, and visual quality of finished lumber. Verified softwood lumber grading by manually restacking sample bundles. Wood chip quality – target size and spread – for pulp and paper industry.

Publications

- 1) Refereed Journal Articles
 - 1. Clément C., R. Gazo, R. Beauregard, and T. Lihra. 2006. The effect of manufacturing defects on yield. Forest Products J. 56(1):60-65.
 - 2. Clément C., and B. Bond. 2005. The effects of lumber width on part yields in gang-rip-first rough mills. Forest Prod. J. 55(6):90-96.
 - 3. Clément C., R. Beauregard, R. Gazo, and T. Lihra. 2005. Comparison of rough mill yield for white birch lumber between a conventional and a short-log sawmill. Forest Prod. J. 55(3):71-80.
 - 4. Clément C., R. Gazo, R. Beauregard, and T. Lihra. 2004. Correspondence analysis as a tool towards optimizing the use of white birch in the panel industry. Wood Fiber Sci. 36(4):598-610.
- 2) Articles submitted to Refereed Journals
 - 1. Xu, W., and C.E. Clément. 2006. Prevention of drying defects and drying degrade in hardwood lumber by pre-drying treatment. Forest Prod. J.
 - 2. Clément C.E., and W. Xu. 2006. Change in hardwood lumber sapwood color caused by enzymatic discoloration. Wood Material Science and Engineering.

- 1. Xu, W. C.E. Clément. 2005. Prevention of Sapwood Discoloration in Hardwood. Texas Forest Service. College Station, TX. 32p.
- 3) Published Research Abstracts
 - 1. Clément C.E., and W. Xu. 2005. Elder Process: Prevention of discoloration in hardwood lumber sapwood. Forest Products Society 59th International Convention, Québec, Canada. Abstracts p.47.
 - 2. Clément C.E., and W.W. Moschler. 2004. Wood Moisture Content Determinations from Medical CAT Scan Data. Forest Products Society 58th Annual Meeting, Grand Rapids MI. Abstracts p.5.
 - 3. Eckelman Clément C., and W.W. Moschler. 2003. The importance of meeting cutting bill requirements in analysis of rough mill simulations. Forest Products Society 57th Annual Meeting, Seattle WA. Abstracts p.10.
 - 4. Eckelman Clément C., and W.W. Moschler. 2003. The use of computer-aided tomography to determine the critical points during lumber drying. Forest Products Society 57th Annual Meeting, Seattle WA. Abstracts p.41.
 - 5. Gazo, R., Beauregard, R., Lihra, T. and C.Clément. 2003. Evaluating the remanufacturing potential of underutilized wood species : The case of white birch (Betula papyrifera). IUFRO All Division 5 Conference.Rotorua, New Zealand. Proceedings p.176.
 - 6. Clément C., R. Gazo, and R. Beauregard. 2002. The effect of manufacturing defects on rough mill yield. Forest Products Society 56th Annual Meeting, Madison WI. Abstracts p. 8.
 - 7. Clément C., and B.H. Bond. 2002. The effects of lumber width on part yield in gang-rip-first rough mills. Forest Products Society 56th Annual Meeting, Madison WI. Abstracts p. 41.
 - 8. Bond, B.H., and C. Clément. 2002. Comparison of steam and atomized water for conditioning of hardwood lumber. Forest Products Society 56th Annual Meeting, Madison WI. Abstracts p. 39.
 - Clément C., Gazo, R., Beauregard, R., and T. Lihra. 2001. Roughmill Yield for Conventional- and Short Length White Birch Lumber. Forest Products Society 55th Annual Meeting, Baltimore, MD. Abstracts p. 20.
 - Clément C., Gazo, R., Beauregard, R., and T. Lihra. 2001. Short-Length Lumber: Can it be used in Value-Added Products? Forest Products Society 55th Annual Meeting, Baltimore, MD. Abstracts p. 44.
 - 11. Clément C., Y. Fortin, and A. Cloutier. 2000. Super Heated Vacuum Drying of Lumber. Forest Products Society 54th Annual Meeting, Lake Tahoe NV. Abstracts p.5.
 - 12. Clément C., H. Quesada, R. Gazo, and R. Beauregard. 2000. Digitized White Birch Database: Its Creation and Use. Forest Products Society 54th Annual Meeting, Lake Tahoe NV. Abstracts p. 38.
 - 13. Clément, C., Quesada, H., Gazo, R., and R. Beauregard. 2000. Digitized White Birch Database, Potential Use in the Furniture Industry. Forest Products Society 54th Annual Meeting, South Lake Tahoe, NV. Abstracts p. 48.
 - Clément, C., Quesada, H., Gazo, R., and R. Beauregard. 2000. Digitized White Birch Database. Forestry and Natural Resources Research Symposium. Purdue University, West Lafayette, IN. Abstracts p. 3.
 - 15. Clément, C., Gazo, R., and R. Beauregard. 1999. Can White Birch be used in Value-Added Products? Forest Products Society 53rd. Annual Meeting, Boise, ID. Abstracts p. 52.

- 16. Clément C. 1998. Le séchage sous vide survol [Vacuum drying overview (in French)]. CONFOR 98; Forêt Montmorency, QC. Abstract available.
- 17. Clément C., and Y. Fortin 1996. Calcul de la consommation énergetique au cours du séchage du bois [Total energy consumption while dry-kilning lumber (in French)]. Ateliers Conférences sur le sechage, Deuxième édition; AMBSQ; Québec, QC. Proceedings p.1.
- Riedl, B., Y. Ngangue Hseke, C. Clément, and A. Béliveau. 1996. Recycled Plastic Fibre Wood Particleboard. Composites '96 and Oriented Polymers Symposium; Industrial Materials Institute, National Research Council Canada; Québec, QC. Proceedings p. 478.

Lectures and talks

Courses Taught

- 1. Clément, C. 2007. Wood Science and Forest Products Secondary Manufacturing. Louisiana State University AgCenter.
- 2. Clément, C. 2007. Texas Forestry CEU Training Course Inorganic Arsenicals. Texas Structural Pest Control Board. Lufkin, TX.
- 3. Clément, C. 2006. Texas Forestry CEU Training Course Inorganic Arsenicals. Texas Structural Pest Control Board. Lufkin, TX.
- 4. Clément, C. 1998. Wood Physics and Mechanics Laboratory. Université Laval. Québec, Canada.

Seminars

1. Clément, C. 2007. Integrating Value-Added Wood Products Extension into the School of Renewable Natural Resources. LSU AgCenter

Guest Speaker

- 1. Clément, C. 2004. Current and Future Forest Products. American Society of Agricultural Engineers, Texas Section, 2004 Annual Meeting. Huntsville, TX.
- 2. Clément, C. 2003. Improving plant efficiency. 2003 Pallet Summit and Exposition, National Wooden Pallet and Container Association. Memphis, TN.

Other

- Member of the Forest Products Society (U.S.A.) [1996 –]
- Secretary/Treasurer Forest Products Society, Mid-South [2007 -]
- Trustee (Texas) Forest Products Society, Mid-South [2005-2007]
- Review papers for Forest Products Journal [2004 -]
- Member of the Society of Wood Science and Technology (U.S.A.) [1996 -]
- Member of the Society of American Foresters (U.S.A.) [2004 -]
- Member of the Texas Foresty Association (U.S.A.) [2004-2006]
- Member of the Louisiana Foresty Association (U.S.A.) [2007 –]
- Marketing Committee member, Texas Foresty Association [2005 2006]
- President FPS Student Chapter, Pudue University [1999 2000]
- Speaks and writes fluently in English and French
- Familiar with simulation software (AweSim, ROMI), and optimization through algebraic modeling
- Certified Forester (OIFQ Québec) [1996 2001]
- Softwood lumber grading (AMBSQ Québec) [1994]