

## Publications

### Papers

**Zejda JE, Dosman JA.** Respiratory disorders in agriculture. *Tubercle and Lung Disease* 74:74-86, 1993.

**Zejda JE, Hurst TS, Barber E, Rhodes C, Dosman JA.** Respiratory health status in swine producers using respiratory protective devices. *Am J Ind Medicine* 23:743-750, 1993.

**Semchuk KM, Love EJ, Lee RG.** Parkinson's disease: A test of the multifactorial etiologic hypothesis. *Neurology* 1993;43:1173-1180.

**Senthilselvan A, Dosman JA, Chen Y.** Relationship between pulmonary test variables and asthma and wheezing: A validation of self-report of asthma. *J of Asthma* 30:185-193, 1993.

**To T, Wacker K, Dosman JA.** A pilot study of farm accidental injuries in Aberdeen, Saskatchewan. *Can J Pub Health* 84:153-154, 1993.

**Senthilselvan A, Chen Y, Dosman JA.** Predictors of asthma and wheezing in adults: Grain farming, sex, and smoking. *Am Rev Resp Dis* 148:667-670, 1993.

**Chen Y, Horne SL, Dosman JA.** Influence of smoking cessation on body weight may be temporary. *Am J Public Health* 1993;83:1330-1332.

**Chen Y, Horne SL, Dosman JA.** Body weight and weight gain related to pulmonary function decline in adults: A six year follow-up study. *Thorax* 1993;48:375-380.

**Zejda JE, Barber E, Dosman JA, Olenchock S, McDuffie HH, Rhodes C, Hurst T.** Respiratory health status in swine producers relates to endotoxin exposure in the presence of low dust levels. *J Occup Med* 1994;36:49-56.

### Abstracts and Presentations

**McDuffie HH.** Residential radon exposure and lung cancer in women. Presented at *American Association for Cancer Research Annual Meeting*, May, 1993, Orlando, Florida.

**Semchuk KM, Love EJ, Lee RG.** Parkinson's disease: A test of the multifactorial etiologic hypothesis. *Clinical Digest Series: Parkinson's/Alzheimer's Digest*.

**Semchuk KM, Love EJ, Lee RG.** Effects of surrogate-provided environmental exposure data on relative risk estimates in a case-control study of Parkinson's disease. Presented at *Conference 93, Canadian Society for Epidemiology and Biostatistics, Third National Conference*, Quebec City, June 2-4, 1993.

**Semchuk KM, McDuffie HH.** A historical cohort study of neurologic dysfunction and disease in grain farmers, grain workers, and other selected Saskatchewan residents. Presented at *Conference 93, Canadian Society for Epidemiology and Biostatistics, Third National Conference*, Quebec City, June 2-4, 1993.

**Pahwa P, Senthilselvan A, McDuffie HH, Dosman JA.** A longitudinal analysis of respiratory symptoms of Canadian grain elevator workers. Presented at *Conference 93, Canadian Society for Epidemiology and Biostatistics*, June 2-4, 1993, Quebec City.

**McDuffie HH, Pahwa P, Robertson B.** Lung cancer in women. Presented at *Conference 93, Canadian Society for Epidemiology and Biostatistics*, June 2-4, 1993, Quebec City.

**McDuffie HH, Pahwa P, White D.** Drinking water: A necessity and a risk factor. Presented at *Conference 93, Canadian Society for Epidemiology and Biostatistics*, June, 1993, Quebec City.

**McDuffie HH, Pahwa P.** Smoking, occupational, biological and familial factors contributing to respiratory cancer risk in women. *International Conference on Women's Health: Occupation and Cancer*, November 1-2, 1993, Baltimore, Maryland.

**McDuffie HH.** Cancer risks for women in agriculture. *International Conference on Women's Health: Occupation and Cancer*, November 1-2, 1993, Baltimore, Maryland.

**Pahwa P, Raja M, Hagel E, Robson D, McDuffie HH.** Breast cancer in younger women: oral contraceptive use and family history. *American Association of Central Cancer Registries*, April 27-29, 1994.

**McDuffie HH, Dosman JA, McLaughlin J, Theriault G, Pahwa P, Choi NW, Fincham S, Robson D, Spinelli J, Skinnider L, White D.** Non-Hodgkin's lymphoma and pesticide exposure: Canada. *American Association for Cancer Research*, April 10-13, 1994, San Francisco.

**McLaughlin JR, Dosman JA, Theriault G, Pahwa P, Choi NW, Fincham S, Robson D, Spinelli J, Skinnider LF, White D, McDuffie HH.** Farming and non-Hodgkin's lymphoma in six Canadian provinces. *American Association for Cancer Research*, April 10-13, 1994, San Francisco.

**Chen Y.** Relationship between artificial feeding and hospitalization for gastroenteritis in Shanghai. *Proceedings of the 121st American Public Health Association Annual Meeting*, San Francisco, October 24-28, 1993.

**Chen Y, Dosman JA.** Asthma as a risk factor for lung function decline in women. *Clin Invest Med* 1993;16(suppl):B129.

**Chen Y, Reeder B, Joffers M, Young TK, MacDonald S, Gelskey D.** Cardiovascular risk factors in rural and urban residents of the Canadian prairies. *Proceedings of the 3rd International Conference on Preventive Cardiology*, Oslo, Norway, June 27-July 1, 1993.

**Chen Y, Horne SL, Dosman JA.** Body weight and weight gain related to pulmonary function decline in adults: A six year follow-up study. *Respiratory Diseases Digest* 1993;8:31-32.

**Chen Y, Horne SL, Dosman JA.** Rapid decrease in delta MMFR helium and air with increasing age in women. *Am Rev Resp Dis* 1993;147 (suppl):A862.

**Chen Y, Horne SL, Dosman JA.** Increased influence of passive smoking on hospitalization for respiratory disease in low birthweight infants. *Am Rev Resp Dis* 1993;147(suppl):A213.

**Senthilselvan A, Dosman JA, Habbick BF.** Trends and rural-urban differential in asthma hospitalizations among children in Saskatchewan - 1970-1989. Submitted to *American Thoracic Society Annual Meeting*, San Francisco, May, 1993. *Am Rev Resp Dis* 147(4):A800, April, 1993.

**Senthilselvan A, Dosman JA.** Predictors of asthma and wheeze in an adult population sample: Association with grain farming, sex and smoking. *American Thoracic Society Annual Meeting*, San Francisco, May, 1993. *Am Rev Resp Dis* 147(3):A379, April, 1993.

**Barber EM, Dosman JA, Rhodes CS, Christison AI, Hurst TS.** Carbon dioxide as an indicator of air quality in swine buildings. *Fourth International Livestock Environment Symposium*, Coventry, England, July 6-9, 1993.

**Barber E, Dosman JA, Rhodes CS, Christison AI, Hurst TS.** Cross-sectional study of respiratory health in swine producers in Saskatchewan. *Fourth International Livestock Environment Symposium*, Coventry, England, July 6-9, 1993.

**Zejda J, Barber E, Dosman JA, Olenchock S, McDuffie H, Rhodes C, Hurst T.** Respiratory health status relates to endotoxin exposure in presence of low dust levels. *Clinical and Investigative Medicine* 16(4):760, August, 1993.

### Technical Reports

**Dosman JA, McDuffie HH.** "Toward Human Sustainability in Agriculture: Policy Strategies for Agricultural Safety and Rural Health in Canada" This report summarizes the results of discussions organized by the Centre for Agricultural Medicine leading to recommendations for a National program in Canada.

**Pahwa P, Wang P, Senthilselvan A, Dosman JA, McDuffie HH.** Statistical analysis of the environmental and medical surveillance program in the grain industry. Cycle IV (1987-1990). *Labour Canada Report*, January, 1994.

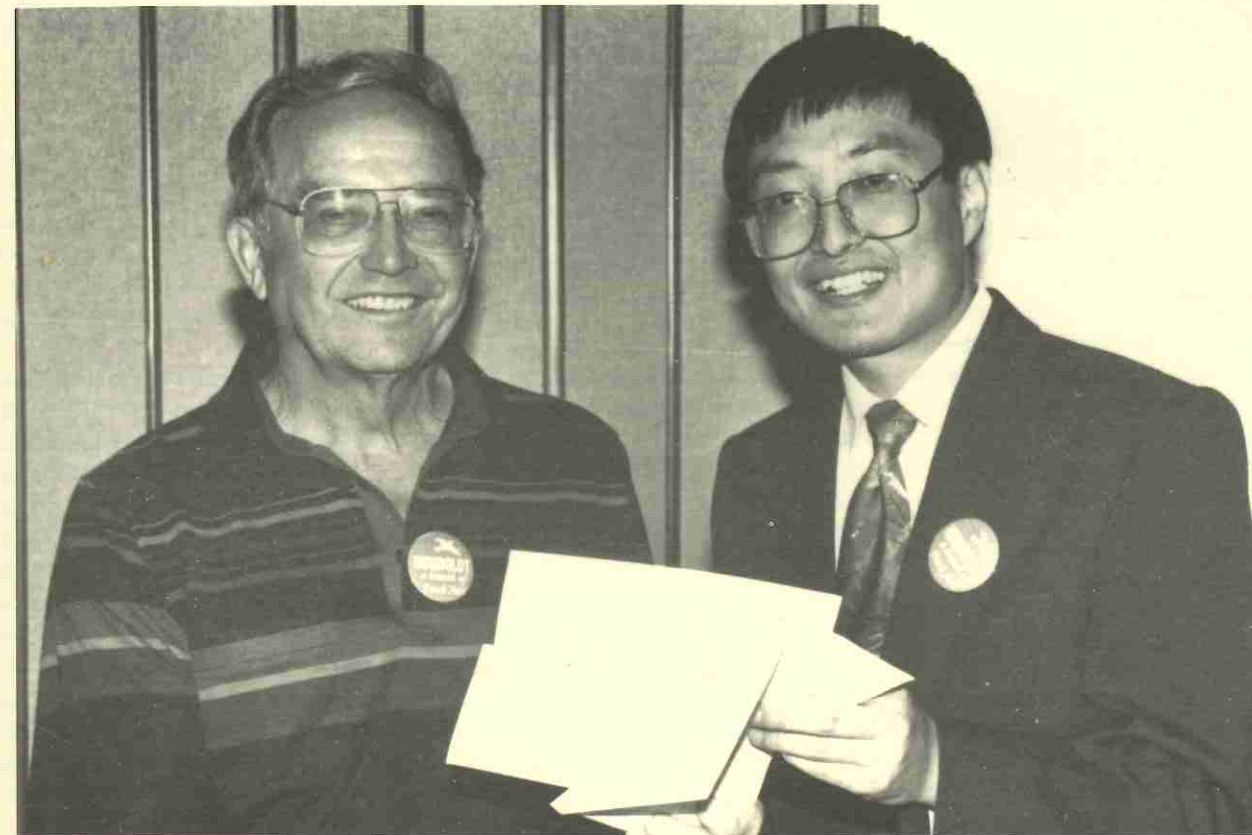
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# CENTRE REPORT '93 - '94

## ANNUAL REPORT AND SUMMARY OF ACTIVITIES

CENTRE FOR AGRICULTURAL MEDICINE, UNIVERSITY OF SASKATCHEWAN



Walter Germann, Co-Chair of the Local Organizing Committee, and Dr. Yue Chen, Project Director, Third Humboldt Lung Study, June, 1993 (*Humboldt Journal photo*)

### Message from the Chair

As Chair of the Board of Directors, I am pleased to present the 8th Annual Report of our Centre for Agricultural Medicine. Our accomplishments this year include scientific achievement, completion of the Founding Chairs Development Trust, the development of leadership on the National scene, and a proposed preventive program for accidents among children in Saskatchewan.

On the scientific front, the number of peer-reviewed scientific publications listed, primarily in the world's leading scientific journals for their areas, the number of peer-reviewed scientific grants received and the large number of abstracts and presentations, represent the final common pathway in what is a major research program devoted to people involved in agriculture and its related industries.

Our Centre Faculty organized a National Conference entitled "Towards a Common Agenda" in which the multiple suggestions of farmers from the 1992 Regina farmers' input conference entitled "Our Future," were critiqued and evaluated for public policy formation. The subsequent national report, "Toward Human Sustainability in Agriculture," originating in our Centre, with the approval of the new Canadian Coalition for Agricultural Safety and Rural Health and the Saskatchewan Alliance for Agricultural Safety and Rural Health, promises to be the blueprint for research, prevention, and reform in agricultural safety and rural health delivery in Canada.

The completion of the Founding Chairs Development Trust assists in providing another piece of the stability and creativity that is and will be essential to our scientific excellence. The second meeting of the Founding Chairs Development Council with President J. W. G. Ivany provided an exciting opportunity for our supporters to hear of our work.

The theme for our Agricultural Health and Safety Network - "Farm Safety Walkabout for Children" - will prepare the way for an adult farm safety audit during the 1994-95 year. This program has had inquiries and compliments from across Canada.

In summary, when the Centre for Agricultural Medicine at the University of Saskatchewan was established in 1986, the question was posed, "Can a multidisciplinary research centre devoted primarily to agricultural safety and rural health issues be successful in the current economic climate?" The answer appears to be an overwhelming "Yes!" However, the diligence of our Faculty, staff, and students, and the continued interest of our many supporters, are vital ingredients for success. Thank you to all!

Sincerely, David Popkin, Dean, College of Medicine; Chair, Board of Directors, Centre for Agricultural Medicine.

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## Conferences

*"Towards a Common Agenda: A National Conference on Agricultural Safety and Rural Health" - Saskatoon.*

Co-Chairs: J. Dosman and H. H. McDuffie were Organizational Co-Chairs with Verna Thompson, President of the Saskatchewan Alliance for Agricultural Safety and Rural Health, and Jack Wilkinson, President, Canadian Federation of Agriculture, being Conference Co-Chairs. Representatives from the academic and farming communities, industry and organized agriculture, and Provincial and Federal Government agencies met to consider the recommendations of the "Our Future" conference held in Regina, June 10-11, 1992. The resulting report will be used to promote agricultural safety and rural health prevention and research activities in Canada.

*"Implementation Conference: Agricultural Safety and Rural Health," November 4-5, 1993, Toronto.* This conference considered the recommendations of the "Towards a Common Agenda" conference and prepared the basis of an Action Plan for agricultural safety and rural health in Canada.

*Canadian Coalition for Agricultural Safety and Rural Health.* The Coalition was formed to represent farmers, researchers, government and industry who share a common objective - to improve the health and safety of rural Canadians. The Canadian Coalition has an administrative Council of 15 Directors from across Canada which is chaired by Dr. James Dosman. Maura Gillis-Cipywnyk serves as a resource person. The Coalition has participated with the Centre in a six-step process which will culminate in a National Action Plan on Agricultural Safety and Rural Health that is to be presented to the Ministers of Agriculture from across Canada in July, 1994.

### *Saskatchewan Alliance for Agricultural Safety and Rural Health*

The primary purposes of the Saskatchewan Alliance are networking among members, facilitating communication about programs, policies and concerns related to agricultural safety and rural health, and identifying areas of need and of duplication. The Saskatchewan Alliance, chaired by Verna Thompson of Eston, has a Board of Directors which includes farmers and representatives from farm organizations. The Centre has provided administrative support through Maura Gillis-Cipywnyk who is Secretary to the Coalition. The Coalition in cooperation with the Centre is planning a June

10, 1994 conference at the University of Saskatchewan.

The Canadian Coalition and Saskatchewan Alliance were formed at a "Coalitions Meeting" organized by the Centre in 1992.

### **Founding Chairs Development Trust.**

The Founding Chairs Development Fund has been completed with the assistance of Mr. Harold Empey and other community leaders. Mr. Vern Leland, President, Federated Co-operatives, is Chair of the Founding Chairs Management Committee.

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## Research

*Cross-Canada Study of Pesticides and Health* (Health Canada). This large project, directed from the Centre, including all Provinces from Quebec and west and funded by Health Canada, is beginning to yield exciting results. The research findings are being disseminated to our colleagues, the scientific community and the public.

*Radon Exposure and Primary Lung Cancer in Females.* (Saskatchewan Health Services and Utilization Commission). Data collection is complete and statistical analyses are proceeding.

*Breast Cancer Among Women Younger than 50.* (Dean of Medicine), Manisha Raja and Elodie Hagel, students, have completed the data collection phase in this study. The factors of interest include family history of breast cancer, reproductive status, oral contraceptive use, occupational and environmental exposures and cigarette smoking pattern.

*Humboldt Study* (Saskatchewan Health Services and Utilization Commission) We successfully completed the field work of the Third Humboldt Study of lung disease. The adult part of the study was conducted from April to June, 1993. Each eligible adult subject was asked to sign a consent and fill out a questionnaire. An appointment for a clinic assessment was made for each participant. About 2000 adults participated in the study, with a response of 85%. The child and adolescent part was conducted from September to November, 1993. About 900 young people participated in the study. Excellent community cooperation is the major reason for the success of this study.

*Swine Producers and Indoor Air Contamination* (Health Canada). This three-year project includes scientists from the Centre for Agricultural Medicine, Western College of

Veterinary Medicine, Department of Agricultural and Bioresource Engineering, Prairie Swine Centre and Division of Respiratory Medicine. Commencing in October, 1993, the purpose of the project is to determine factors contributing to suspected longitudinal decline in lung function in these workers and to devise maximum exposure levels for air contaminants in the barns.

*Labour Canada Study of Grain Workers.* The Centre continues to receive records from respiratory evaluations on grain workers from various Provinces in Canada. The project is now in the 12th year. Utilizing this information, the Centre has been able to study factors contributing to lung trouble in these workers.

*Pulmonary Dysfunction Among Poultry Barn Workers* (Dean's Summer Project, 1993). Irene Wiens, a Third Year Medical Student, conducted a pilot study to determine if Saskatchewan poultry producers are at risk for development of respiratory symptoms and impaired lung dysfunction. For this study, 25 poultry barn workers and 25 non-exposed controls were recruited. The controls were matched with poultry workers for age, domicile and smoking behaviour. Chronic cough, phlegm production, nasal and eye irritation, and chronic bronchitis were more evident in the poultry workers and the mean pulmonary function was slightly higher among the controls.

*Prevalence Study of Asthma in Saskatchewan, 1981-1990* (Saskatchewan Health Services and Utilization Commission) Drug plan and physician claims databases of the Saskatchewan Department of Health were linked for this study. Statistical analyses of the data are progressing.

*Pesticide exposure and Genetic Instability.* Dr. Robert Nordal, postdoctoral fellow, designed and pilot tested this project in conjunction with Dr. I. Kirsch of the United States National Cancer Institute, Dr. P. Pabello, Cytogenetics Laboratory and Dr. H.H. McDuffie.

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## Service

The Centre continued to provide a Health Surveillance Program for Grain Workers across Saskatchewan, managed by Shelley Kirychuk, Respiratory Health Nurse. This program brings breathing tests and general health assessments to workers on location. This program is well received by workers as evidenced by almost 100% participation.

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## Our Prevention Program

The Agricultural Health and Safety Network had a year of exciting growth and development. This year the Network had an enrolment of 53 rural municipalities which encompassed approximately 10,000 farm families. The theme of this year's program was "Farm Safety - A Family Affair" which focused on farm child safety. Each farm family in the Network was provided with a Farm Safety Walkabout kit through their rural municipal office. The kit contained a guidebook and other materials, designed to lead a farm family through an activity which would increase awareness of hazards and hazardous practices on our family farms and provide a guide for correcting them. The Network also provided the Respiratory Health Program for Farmers in 4 Rural Municipalities and Pesticides Safety Seminars in 10 member R.M.'s. An important development this year was the election of a Municipal Steering committee from across the Province to bring the perspective of the membership to the decision-making level of the Network management. Mrs. Louise Hagel, Occupational Health Nurse, manages the Network.

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## The Senator Norman M. Paterson Visiting Professorship



Dr. George T. O'Connor of Boston University is the recipient of The Senator Norman M. Paterson Visiting Professorship for 1994. He is Assistant Professor of Medicine at Boston University and Director of the Adult Asthma Program at Boston City Hospital. He received his M.D. from Boston University and M.S. in Physiology and Respiratory Epidemiology from the Harvard School of Public Health. He presented four seminars, "Epidemiologic insights into pathogenesis of COPD," "Prospective longitudinal analysis of methacholine responsiveness and pulmonary

function decline in the Normative Aging Study," "Home environmental control measures in the treatment of asthma: how much do we really know?", and "A program to reduce asthma morbidity in Boston's low-income urban neighbourhoods."

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## Visiting Scientist

Dr. Kazuko Yoshida from the Kumamoto University School of Medicine visited the centre in October, 1993, to study environmental factors responsible for respiratory diseases in grain workers.

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## Congratulations!



A Health Canada Ph.D. Scholarship was awarded to Donna Rennie for her work on asthma in children as part of her Ph.D. research. Ms. Rennie also received a grant from the Canadian Nurses' Respiratory Diseases Association for support of her research on asthma in children in rural areas.

Dr. Helen McDuffie was a featured speaker at an International Conference on Women's Health: Occupation and Cancer held in Baltimore, Maryland, in the Fall.

Manisha Raja, a Nursing Student who has worked with us during the summers and part-time during the winters for the last three years was accepted into the College of Medicine and is now in her first year of medical studies.

Louise Hagel, our Occupational Health Nurse, was appointed to the Saskatoon and District Health Board.



Dr. Yue Chen has been awarded a National Health Research Scholar award, one of ten conferred nationally this year.

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## BSc Medicine



Mr. Clifton Lee, third year medical student, is the first student to complete a degree within the Centre. His thesis topic: Prostate Cancer: A Descriptive Study (Dean of Medicine supported). His supervisors were: Dr. H. H. McDuffie, Dr. A. Senthilselvan. Mr. Lee interviewed 50 men with newly diagnosed prostate cancer. Antecedent occupational exposures, medical history and smoking patterns were the risk factors of interest.

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