

## **AAFC Scientist Inducted into the Canadian Science and Engineering Hall of Fame**

Dr. Vern Burrows, an emeritus scientist at the Eastern Cereal and Oilseed Research Centre (ECORC) in Ottawa, has been inducted into the [Canadian Science and Engineering Hall of Fame](#) by the Canada Science and Technology Museum.

The induction ceremony took place on January 20, 2015, at the Canada Agriculture and Food Museum. It was a celebration of Dr. Burrows' dedication to science and how he has impacted the lives of Canadians and of those abroad by improving the development, processing and nutritional value of the oat-based foods we eat.

The Canadian Science and Engineering Hall of Fame tells the story of Canadian innovation and ingenuity, and how members' outstanding scientific or technological achievements have had long-term implications for Canadians. Dr. Burrows joins 57 other members, including cerealist Charles Saunders (1867-1937), who developed Marquis wheat at the Central Experimental Farm in Ottawa.



*Dr. Vern Burrows at the Canadian Science and Engineering Hall of Fame induction ceremony with Dr. Michèle Marcotte, Director of Research, Development and Technology at ECORC.*

### **Achievements**

Dr. Burrows' research as well as his continued emeritus and volunteer work include opening up new opportunities for Canadian oat farmers and processors in both domestic and international markets, strengthening important international friendships, and teaching the next generation about agricultural science and its benefits.



*Dr. Vern Burrows in a lab at ECORC.*

In 1958, Dr. Burrows joined AAFC as a research scientist. While most plant breeders would consider the development of 10 new varieties a great accomplishment in their career, Dr. Burrows has bred and registered an incredible 28 new oat varieties. He has bred naked oats, bald oats, forage oats, and even dwarf oats.

Perhaps one of Dr. Burrows' most significant new hullless oat varieties, AC Gehl [see AC Gehl document included below] was released 11 years after his 1997 retirement from AAFC. This variety has since revolutionized the oat industry by reducing processing, storage, and transport costs, and is known for its high energy and antioxidant content. Hullless oats contain twice the protein content, five times the iron of white rice, and 10 times the fiber that is recognized to help reduce cholesterol. As a cold season crop, it has the potential to be a locally-grown substitute to imported corn, soybeans, and rice in Canada.

### **Volunteering**

Another one of Dr. Burrows' passions is his volunteer work as a member of the professional advisory board with the Canadian Celiac Association. Here his expertise has focused on the health aspects of oats, and he has been instrumental in giving celiac patients wider food choices. People with celiac disease are unable to eat gluten, which is found in grains such as wheat, barley and rye. Dr. Burrows helped develop a system that keeps the oats pure and free from gluten contamination all along the value chain, from the seed producer, to the processor, to the consumer with celiac disease.

Dr. Burrows has also been volunteering in China for more than 15 years, researching the potential of using oats as a crop, particularly in areas where water supply is short and soils are saline.

He continues to share his knowledge and expertise with anyone interested in improving hullless oats for their nutritional and medicinal value.

## Recognition

Dr. Burrows is an internationally recognized authority on oat breeding and oat utilization. His research has helped revolutionize the production and utilization of oats through the development and introduction of a vast array of different oat types and varieties to meet the specific needs of farmers and industry.



*The bronze bust of Dr. Burrows erected by the Baicheng Academy of Agricultural Sciences in China.*

He has been recognized with numerous awards for his professional contributions and volunteer work. These include the Order of Canada in 2001 and the Gold Medal of Friendship from China in 2003. Also, to honour his oat science work in China, a bronze bust of Dr. Burrows was erected by the Baicheng Academy of Agricultural Sciences in 2012.

On January 9, less than two weeks before Dr. Burrows' induction into the Hall of Fame, the People's Republic of China's National Office for Science and Technology Awards announced, that Dr. Burrows won its 2014 International Science and Technology Cooperation Award.

Congratulations, Dr. Burrows, on your contribution to leading-edge science and innovations worthy of a Hall of Fame!

*By Janet Dowell, Public Affairs Branch, Ottawa*

## AC Gehl

AC Gehl, also known as the “naked” oat, is the first truly hull- and hair-less oat variety in the world. Released in 2006 and fully registered in 2008, AC Gehl is the result of more than 15 years of intensive research and breeding. Its benefits include reduced processing, low storage and transport costs, as well as health properties such as high energy, protein and antioxidant content. As a cold season crop, it has the potential to eventually replace imported corn, soybeans and rice in Canada. There are other exciting potential markets as well: the product has been tested in snack foods, pilafs, soups, puddings, and beer.

Because of its benefits to farmers, producers and consumers, the “naked” oat has grown new market opportunities for Canada. AC Gehl is being promoted nationally and internationally as a rice replacement (“Rice of the Prairies”), a food choice for consumers with gluten sensitivity and an animal feed for racehorses, pigs and poultry. In addition to the attention it received from the scientific community, it also raised the interest of several Canadian industry partners. AC Gehl is now owned by Semcan International Inc. of Quebec and Wedge Farms Nutrition Ltd. of Manitoba, which have renamed it “Cavena Nuda.”

Cavena Nuda cooks and tastes like rice, but the nutritional profile far exceeds rice. It has twice the protein of rice and very high levels of lysine, an amino acid key to good muscle growth. It has high beta glucan levels and anti-oxidants for lowering cholesterol, and a low glycemic index, making it an excellent option for diabetics and health conscious consumers. It is also proving to be suitable for gluten-free diets for celiac patients.



*Dr. Vern Burrows in a field of oats on the Central Experimental Farm in Ottawa.*

Hulless oats are also seen as a key nutritional weapon in the fight against hunger at home and abroad. Soup giant Campbell Canada is incorporating hulless oats in “Nourish”, a complete ready-to-serve meal. The company has launched the product in food banks across the country.

At the consumer end, chefs are taking advantage of hulless oats to enhance their menus with a fresh, new, locally-grown ingredient. It was featured at the 2010 Winter Olympics in Vancouver and served to world leaders at the G-20 Summit in Toronto in summer 2010.

Hulless oats are the latest in a long line of innovations and discoveries to come out of Agriculture and Agri-Food Canada over the 125-year history of agricultural research in Canada, leading to more varied, nutritious, sustainable and higher quality products for Canadians.

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