



**DR. KENNETH WILLIAM RICHARDS  
(10 AUG. 1946 – 17 DEC. 2019)  
AND HIS WORK FOR GENETIC  
RESOURCES FOR FOOD AND  
AGRICULTURE**

Kenneth (“Ken”) Richards, born in Lethbridge, Province Alberta, Canada, started his scientific career as crop entomologist in 1974 at Lethbridge with the Canadian Department of Agriculture (Agriculture and Agri-Food Canada, AAFC). In this position he made major contributions to using insects for pollination of alfalfa. Later he became the manager of forage crops at the Lethbridge Research Station.

In 1996 Ken Richards accepted the task to take on the leadership of the Canadian national genebank for plant genetic resources for food and

agriculture, Plant Gene Resources of Canada (PGRC), located in Saskatoon, Province Saskatchewan. As crop entomologist he was well prepared for this task by knowing many challenges associated with regenerating seed from insect pollinated forages under the environmental conditions of western Canada. PGRC had started its operation in 1970 in Ottawa (Ontario), and over the years a national genebank system with satellite stations (nodes) had evolved including a node for fruit germplasm located in Smithfield (Ontario) and later moved to Harrow (Ontario), a cereal node located at Winnipeg (Manitoba), a hardy ornamentals and special crops node at Morden (Manitoba), a potato node at Fredericton (New Brunswick), a forage node at Lethbridge (Alberta) and a crucifer node located at Saskatoon (Saskatchewan). In 1995, it was decided to transfer the main location of PGRC to the AAFC Research Centre at Saskatoon, because the facilities in Ottawa had become too small to adequately maintain a seed collection that had grown to more than 100,000 accessions.

Under the leadership of Ken Richards moving the seed germplasm physically by air and on land from Ottawa to Saskatoon in spring 1998 was achieved. At the same time, Ken Richards established a new genebank team at Saskatoon. A field program for regeneration and characterization of seed germplasm was initiated in Saskatoon in 1998, which added to the program of the already existing crucifer node activities at this location. By the end of 1998, PGRC was fully operational and had several technical staff, two database experts, a curator and a research scientist for molecular diversity assessments. Ken Richards oversaw the function of the main PGRC operation at Saskatoon.

A Canadian Expert Committee on Plant and Microbial Genetic Resources that met on an annual base from 1977 to 2005 gave advice on the genebank operation. Ken succeeded to hire scientists for PGRC for plant pathology and for native Canadian plant genetic resources in the years 2000 and 2005, respectively. The nodal system that supported PGRC over many years began to shrink and finally only the crucifer node, the potato node and the fruit germplasm node remained active.

The PGRC operation at Saskatoon had success and international cooperation with the US, Ukraine, Italy, the Nordic countries, the Russian Federation and several International Agricultural Research Centres increased under Ken Richard’s leadership.

Ken Richards initiated the collecting of native Canadian plant species fro PGRC, in which he himself also actively engaged. Being a trained entomologist and expert on pollinator insects, Ken Richards oversaw the regeneration of crop species requiring such means very closely. Ken Richards also initiated or participated in international collecting missions of PGRC to Greece, Ukraine and Italy. The scientific studies on changes in diversity of crop gene pools over time were

greatly supported by Ken Richards. As a member of various Canadian delegations attending meetings in the context of the United Nations Organization for Food and Agriculture, Ken Richards became involved in the international negotiations related to the International Treaty on Plant Genetic Resources for Food and Agriculture and the FAO Commission on Genetic Resources. Ken Richards ensured that the operation of PGRC was closely coordinated with similar activities in the US and nurtured the relationships among the United States, Mexico and Canada. He guided in 2008 the still ongoing process of depositing duplicate back-up seed samples of the PGRC seed samples at the Svalbard Global Seed Vault (Norway). Ken Richards became involved in reviewing the genebank projects of other countries, such as Chile and the US.

After PGRC had become functional, a new challenge was mastered by Ken Richards: it was decided by the Government of Canada that, in analogy to the plant genetic resources, a new program for the Canadian animal genetic resources for food and agriculture was to be established at Saskatoon in cooperation between AAFC and the University of Saskatchewan. Ken Richards had the lead on establishing this new genebank as Canadian Animal Genetic Resources Program, CAGR (today called Animal Genetic Resources of Canada (AnGRC)). Three research scientists with technical support were hired to establish the Animal Genetic Resources of Canada at Saskatoon in 2006. This new program also resulted in additional negotiations at the FAO level in which Ken Richards participated. In the last years of his professional career, Ken Richards oversaw a group of six research scientists and a large groups of associated technical persona at Saskatoon working on plant and animal genetic resources and operating the respective national Canadian genebanks for plant and animal genetic resources.

In 2007, a project oriented management system was introduced. The groups Ken Richards oversaw from then on included PGRC with its two nodes, the CAGR program, a plant virus collection at Summerland as well as fungal culture collections in Ottawa.

After his retirement from AAFC in 2012, Ken Richards continued to review US genebank projects, did seed increases of various native Canadian plant specie on his acreage close to Lethbridge, and continued to collect seed material of native Canadian plant species for PGRC. He also took up entomological studies he could not pursue while fully occupied with the genebank activities for Canada.

Ken Richards had a very sharp memory and excellent observations skills. Using these abilities, he successfully could oversee a complex operation with staff members spread across all of Canada. He travelled all over the world building relationships and networks that benefited Canada. A visit of the Ukrainian National Plant Genetic Resources Centre at Kharkiv in 2005, followed by a collecting mission in the Carpathian mountains, was a highlight and resulted in still ongoing cooperation between the national genebanks of Ukraine and Canada.

Ken Richards was always accessible to anybody of the group he worked with. He retired in January 2012 and moved back to Lethbridge, where he and his wife Linda continued to grow plants for PGRC and he returned to entomological studies in the local environment close to the Rocky Mountains. He was always interested in seeing progress and he was very supportive on any initiative and new approaches taken by the members of his group. He is missed by his family, his co-workers and many colleagues around the world.

#### Selected Publications

1. Buchwaldt L, Richards KW. 2004. Plant Gene Resources of Canada and the Canadian plant germplasm system. *Canadian Journal of Plant Pathology*. 26: 48-51.
2. Diederichsen A, Boguslavskij RL, Halan MS, Richards KW. 2007. Collecting plant genetic resources in the Eastern Carpathian Mountains within the territory of Ukraine in 2005. *Plant Genetic Resources Newsletter*. 151: 14-21.
3. Diederichsen A, Richards KW. 2003. Cultivated flax and the genus *Linum* L. – Taxonomy and germplasm conservation. In: Muir A, Westcott N, editors. *Flax, the genus Linum*. London: Taylor & Francis. p. 22-54.

4. Fu YB, Peterson GW, Scoles G, Rossnagel B, Schoen DJ, Richards KW. 2003. Allelic diversity changes in 96 Canadian oat cultivars released from 1886 to 2001. *Crop Science*. 43: 1989-1995.
5. Fu YB, Richards KW, Peterson GW. 2006. Genetic variability in multiple accessions of two Canadian heritage crop cultivars as revealed by AFLP markers. *Communications in Biometry and Crop Science*. 1: 1-10.
6. Richards KW. 1984. Alfalfa leafcutter bee management in Western Canada. Canada Department of Agriculture. [Publication no. 1495].
7. Richards KW. 1985. Detection of chalkbrood fungus, *Ascosphaera aggregata*, in larvae of the alfalfa leafcutter bee (Hymenoptera: Megachilidae) from western Canada. *Canadian Entomologist* 117: 1143-45.
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9. Richards KW. 1993. Effectiveness of the alfalfa leafcutter bee as a pollinator of legume forage crops. *Acta Horticulturae* 1991. 288: 180-184.
10. Richards KW. 1996. Comparative efficacy of bee species for pollination of legume seed crops. In: Matheson A, Buchmann SL, O'Toole C, Westrich P, Williams IH, editors. *The conservation of bees* [based on the symposium organized jointly by the International Bee Research Association and the Linnean Society of London, held in April 1995]. London: Academic Press. p. 81-103. (Linnean Society Symposium Series, 18).
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13. Richards KW. 2016. *Effectiveness of the alfalfa leafcutter bee Megachile rotundata Fab. to pollinate perennial clovers Eficacia de la abeja cortadora de hojas de alfalfa Megachile rotundata Fab. para polinizar tréboles perennes*. *Journal of Apicultural Research*. 55. 1-9. (published again in Vol. 59, 69-76).
14. Richards KW, Edwards P. 1997. Density, diversity and efficiency of pollinators of sainfoin, *Onobrychis viciaefolia* Scop. *Canadian Entomologist* 1988; 120: 1085-100.
15. Richards KW, Kevan PG. 2002. Aspects of bee biodiversity, crop pollination, and conservation in Canada. In: Kevan P., Imperatriz Fonseca V.L. (editors) *Pollinating bees. The conservation link between agriculture and nature*. Ministry of Environment, Brasília, pp.77-94.
16. Richards K.W. and Myers T.W. 1997. Commercially managed colonies of bumblebees for pollination of cicer milkvetch. *Acta Horticulturae* 437, 293-7.
17. Taylor W, Sutherland D, Richards K, Zhang H. 2015. Oleanane triterpenoid saponins of *Caragana arborescens* and their quantitative determination. *Industrial Crops and Products*. 77. 74-80.
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