# GCIRC News

Global Council for Innovation in Rapeseed and Canola

*"Building a world community for innovation on rapeseed/canola"*

***June 18, 2019***

# Editorial : GCIRC has a new name

*The Extraordinary General Assembly of GCIRC, held in Berlin at the end of day 1 of the International Rapeseed Congress, adopted a series of proposals coming from the GCIRC board reflections from a couple of years.*

*Among them, a new name and a motto. The GCIRC acronym has been kept as a reminder of a long-lasting history from the beginning of rapeseed/canola development in the world, and the first meeting to build this association, in 1974, preceding its foundation in 1977, when GCIRC had three official languages: French, German and English. As the international language of science and technologies English was adopted as the sole official language for the GCIRC at the occasion of the General Assembly in Saskatoon (2015).*

*The new name is now consistent with this decision and fully reflects the mission of the Association: ¨**Global Council for Innovation in Rapeseed and Canola**¨. We do hope it will facilitate the development of the associations awareness all over the world.*

*The motto reflects the ambition of the association: **"Building a world community for innovation on rapeseed/canola**"*

*The logo will be adapted accordingly in the near future.*

*The Extraordinary General Assembly also took important decisions regarding the governance of the association, notably the option to open widely the GCIRC to new members, in order to increase its impact, and to encourage application for membership through lower membership fees and better identified benefits for GCIRC members.*

*These decisions contain renewed challenges for the association in developing coordination activities for international research and attracting new generations of scientists.*

*The future of GCIRC in developing innovations for rapeseed/canola depends on us.*

*Prof Wolfgang Friedt, GCIRC President*

*Etienne Pilorgé, GCIRC Secretary-Treasurer*

# Activity/ News of the association

## Opening of the 15th International Rapeseed Congress, Berlin, June 17th, 2019

The 15th International Rapeseed Congress was opened with welcoming speeches of the organizers of the Congress, by Prof Wolfgang Friedt, President of GCIRC (see edito), Wolfgang Vogel, Chairman of UFOP and Vice-President of German Farmers' Association, and Michael Stuebgen, Parliamentary State Secretary of the Federal Ministry of Food and Agriculture of Germany.

Prof Wolfgang Friedt reminded that this Congress, which welcomed 842 participants from 43 countries, takes place 45 years after the 4th IRC in Germany, in 1974 in Giessen, the last one in Europe held in Prague in 2011.

*Prof. Wolfgang Friedt – GCIRC President's speech for 15th IRC opening ceremony*

Today, oilseed rape/canola is one of the major sources of edible oil in the world. It is actually no. 2 of global oilseed crops. Key regions of production are Canada, China, Europe and Australia. The total acreage amounts to nearly 34 million hectares where more than 70 million tons are produced every year. Half-a-century ago, rapeseed was a minor crop for feeding and industrial uses only.

There is no doubt that the enormous extension of rapeseed cultivation during the last de-cades would not have come true without the intense research on rapeseed quality leading to canola (00 type) cultivars. This was accompanied by the foundation of the Groupe Consultatif International de Recherche sur le Colza (GCIRC). This International Group, an association supported by institutions interested in technical advance made in the production and processing of oilseed rape (OSR) was initially founded by a small group of experts aiming at the promotion of OSR/canola. In order to achieve this goal, major improvements of seed quality were needed: i) the reduction of unhealthy erucic acid in the seed oil and ii) the reduction of glucosinolates in the rapeseed meal and cake. These two quality steps were iniated in the 1970ies and first achieved by scientists in Canada and rapidly adopted in Europe and elsewhere. Today, there is a continuing interest in additional oil types like HOLL (High Oleic, low-sat). Since the 1990s genetic research led to the development of OSR hybrids. Nowadays, a large part of the production is based on hybrid cultivars. In addition, GM traits, e.g. new hybrid system and HR resistance, have been introduced in many parts of the world except Europe. Last but not least, the use of "biodiesel" as fuel has meanwhile gained importance.

The significant extension of OSR/canola cultivation has been accompanied by the appearance of harmfull pathogens and pests endangering rapeseed cultivation in all major growing areas. While diseases like cylindrosporium in the 1980s and phoma in the 1990s have been overcome through genetics, other diseases and insect pests have gained importance, e.g. "clubroot" since the 2000s. At the same time environmental stresses tend to progressively compromise rapeseed production. Consequently, the improvement of resistance against biotic and abiotic stresses is one of the major challenges for OSR breeding and cultivation, as well as the need for further enhancement of oil quality as a health-promoting edible oil, and the amendment of protein content and composition for better feed and food.

The 15th International Rapeseed Congress 2019 in Berlin will provide a platform to discuss recent achievements and to identify suitable future directions and improvements of OSR/canola as a whole. GCIRC is directing and coordinating rapeseed congresses every four years as well as interim technical meetings. In order to further promote OSR/canola for future demands in agriculture and industry, GCIRC will take necessary steps to extend and intensify research on the sustainable and economic cultivation and use of OSR/canola. For this purpose, the presence of GCIRC in the scientific as well as commercial community needs to be fortified. Rapeseed congresses have always been major forums for promoting and strengthening international exchange and cooperation. With this in mind, we are looking forward to a successful IRC 2019 in Berlin.

Mr Wolfgang Vogel, Chairman of UFOP and Vice-President of German Farmers' Association (DBV) gave the German farmers' vision of the rapeseed in Germany and emphazided << that his double function underlines the successful development of rapeseed cultivation in Germany. UFOP was founded on the initiative of the German Farmers' Association and the Federal Association of German Plant Breeders with the aim of developing rapeseed into the most important leaf crop in arable farming. The driving force in the 1990s was the agricultural policy commitment to set aside land in Europe, combined with initial considerations for a European protein strategy. This is now on everyone's lips and is even the subject of an initiative by the European Commission. From the very beginning, consumers in Germany were also informed about the excellent nutritional properties of rapeseed oil.

Today, rapeseed is the leading crop in almost all areas of application. Rapeseed oil has been the number one edible oil in German kitchens for a number of years. Rapeseed oil continues to be the most important raw material in biodiesel production and thus contributes significantly to climate protection in the transport sector and - please allow me to take this opportunity to say a few words to the Federal Government - will also play an important role in a future transport strategy. After all, rapeseed meal is the number one domestic source of protein in animal nutrition.

This is also due to the breeding successes with which the product quality has been continuously improved. This has increased the economic attractiveness of rapeseed cultivation with positive effects on the income of rapeseed producers.

The International Rapeseed Congress in 1974 in Giessen laid the basis for research work and thus for breeding progress in the following decades. It focused on the question of the elimination of erucic acid and the reduction of glucosinolates.

UFOP would like to continue the positive development in the past decades, even if the challenges in breeding, cultivation and marketing have changed considerably. In my capacity as "top farmer" in the profession, I am very pleased that more than 800 international experts will meet at this congress to present and discuss the latest research results. The International Rapeseed Congress takes place every 4 years. I therefore see a parallel to the Olympic idea. The best representatives of each discipline compete here. We can see this in the large number of scientific papers submitted after our call.

For me as a representative of agriculture, the large number and high quality of the scientific contributions to the Rapeseed Congress are reassuring, because they also demonstrate the importance of the global rapeseed and canola industry.

It is also reassuring for another reason: because the challenges are increasing in view of the noticeable climate changes. The drought year 2018 was a serious warning in Europe. Research must keep pace with this development by applying the latest breeding methods, by developing innovative measures in crop protection and in production technology. At the same time, the knowledge gained must be put into practice as quick as possible.

The digitisation of agriculture will facilitate and accelerate implementation. This will require political support, i.e. financial resources. In research, financial support is known to be a "scarce commodity" worldwide. The demand for more public funding for research is only consistent, because politics and society are increasingly making higher demands on the sustainability of rapeseed cultivation and arable farming.

I therefore expect the need for research to increase even further. This is also confirmed by the critical discussion in society about the use of crop protection products and the difficult situation in the approval of new active ingredients. At the same time, more biodiversity in agriculture and an extension of the existing crop rotation systems in terms of water and climate protection are called for.

Solutions must be found to ensure that rapeseed cultivation retains its economic perspective and continues to dominate the landscape with its bright yellow spots of colour depending on the season and region. I have the impression that the International Rapeseed Congress has never been as important as it is today.

This congress is an outstanding international platform to listen to and discuss many exciting and forward-looking lectures. It also offers the opportunity to establish valuable contacts and networks. With this in mind, I call on you to make intensive use of these congress days. Agricultural practice will be very thankful for it.>>


The core team of the 15th IRC Organizing Committee: from left to right: Prof W. Friedt, Dr M. Frauen, Mr Stephan Arens.

## Rapeseed Award to Dr Wilfred Keller

Dr Wilfred Keller receiving the Rapeseed Award (from left to right, 3 eminent GCIRC Honorary Members: Dr R. Mailer (Australia), Dr W. Keller (Canada), Prof W. Friedt (Germany))

The Eminent Scientist Award, or Rapeseed Award (see http://gcirc.org/presentation/rapeseed-award.html ), created in 1983, has been given to Dr Wilfred Keller (see his personal page on GCIRC website: http://gcirc.org/members.html ). Dr Rod Mailer reminded the assembly about his lasting contribution to innovation in rapeseed/canola and his participation in the life and development of GCIRC : "Throughout his 40-year science career, Wilf Keller has led many major research initiatives including the application of genomics in canola development; the development of industrial bioproducts from vegetable oils; and the production of bioactive natural products I plants for enhanced human health and quality of life.

The development of canola as a major crop in Saskatchewan is directly attributed to the development of herbicide tolerant varieties undertaken by Dr Wilf Keller. Herbicide tolerant canola makes up about 98% of Saskatchewan canola today. Wilf collaborated very well with industry and always propagated a private-public partnership. Wilf grew up in Melville, Saskatoon. He earned a PhD in Crop Science at the University of Saskatchewan, followed by postdoctoral studies in Germany. He worked at Agriculture Canada in Ottawa from 1973-89, where he pursued research on cell genetics of selected Canadian crops. He contributed to the establishment of a plant biotechnology research program, which he chaired from 1980-89. In 1990, he accepted a position with the Plant Biotechnology Institute (PBI) of the National research Council of Canada in Saskatoon. He served as group leader for canola biotechnology and head of the Transgenic Plant Centre. In 1999, he becam research director of the Centre. In 2007, Wilf took a one-year posting as the acting director general of PBI, then served as president and CEO for Genome Prairie from 2008 to 2012. As CEO of Ag-West Bio since 2012Wilf's work focuses on how agriculture can be improved, and how to increase prosperity amongst the farming community, all

the while making it more sustainable in the face of an increasing world population. Along with his position as president and CEO of Ag-West Bio, Wilf assumed the role of Chair of Agricultural Institute of Canada since 2016. "

Dr Wilf Keller sent to the assembly a message full of optimism, reminding of the numerous changes he saw on canola crops, growing from 1Mha to 10 Mha in Canada, becoming a big industry for the country: this development has been possible with the progress which has been made in science and technologies. In 1982, Wilk Keller remembers he has the opportunity to learn new techniques in Tubingen, to speed up genetics: the use of these techniques has been very important, but even more collaboration and the collective aspects. It is why these Rapeseed Congresses are so important, each Congress representing a step. Wilf Keller mentioned a series of innovation areas and technologies for canola agriculture, like digital technologies, drones, etc… and issues: how to address sustainability and weather uncertainties, yield and performance? How to develop new products with proteins? Science base culture is needed to build in this crop and industry. Wilf Keller concluded on his optimism concerning the role of science in building a great future.

# Extraordinary General assembly

The Extraordinary General Assembly of GCIRC, held in Berlin at the end of the first day of International Rapeseed Congress, adopted a series of proposals coming from the GCIRC board reflections for two years.

Among them, a new name and a motto:

***Global Council for Innovation in Rapeseed and Canola - "Building a world community for innovation on rapeseed/canola"***

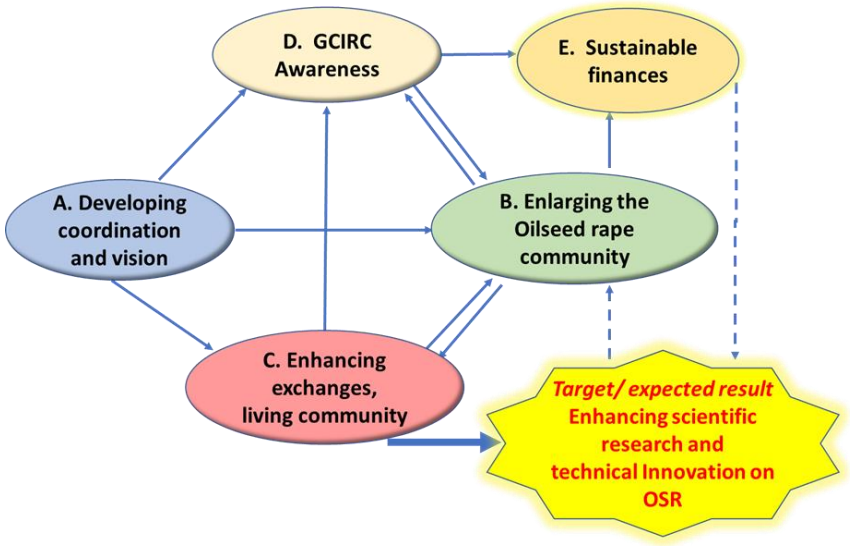
The GCIRC Extraordinary General Assembly also adopted a series of amendments to the constitution and articles of the association. The principles of these evolutions are explained hereunder.

The GCIRC has been founded more than 50 years ago by a group of experts, representatives of national institutions interested in rapeseed development and research, most of them holding the collective preoccupations of the national rapeseed economic sectors. Their main objective was « to develop scientific and technical research as well as studies and experiments concerning the improvement of rapeseed and its processed products from an agronomic, technological and food perspective, and to ensure close links between researchers on this subject ». For this, they focus on the coordination of the International Rapeseed Congress, usually once every 4 years, with the support of a limited number of co-opted members, organized in thematic committees, and carefully chosen to keep balances between countries and scientific disciplines. At that time the 3 pillars of GCIRC were a) its members and committees, meeting once every 4 years at the occasion of the « technical meeting » whose target was sharing information and vision within the community, b) the International Rapeseed Congress (IRC), totally open to share information at a wider level, and c) the regular publication of the GCIRC Bulletin, gathering scientific papers mostly on rapeseed.

The major function of GCIRC is still to stimulate research on Oilseed Rape (OSR)/Canola, which is largely grown all over the world but does not benefit from very strong research efforts as in major crops like wheat, corn, rice or soybean

Since our last General Assembly in 2017 in Alnarp, Sweden (report on the members' space on the website), the Executive Board with the Committees Chairs discussed in order to prepare proposals for the GCIRC future, for presentation and decisions during the General Assembly in Berlin, on June 17.

These proposals aim at reorganizing the GCIRC to reinforce its sustainability, considering the context of evolutions. The challenge is to find consistent options ensuring further development of the OSR/Canola world community, a better efficacy of the association and better services to its members, and sustainable finances.




**Governance: Developing coordination and vision**

From its origins, the GCIRC is at the crossroad of the interests of the OSR/Canola economic sector and of researchers: this point is fundamental and must be maintained in future. The effective participation of these two groups is a key element to develop a global vision.

The board of GCIRC is in charge of the general orientations and finances with a key mission for the organisation of the congress, and the research committee in charge of the scientific and technical topical issues.

The main orientations:

- extend the maximum number of board members to 18 in the perspective of future adhesions and keep the principle of one board member per country, relying on representative institutions.

2/ Reinforce the role of the research committees regarding the scientific issues,

The proposition is to extend to 6:

- Breeding

- Agronomy
- Crop protection
- Analyses, processing and uses
- Economy and markets
- Mustard and other cruciferous oilseed crops

A pending question for developing the collective vision is how to build a dialogue with the companies and get their input. Perhaps a possible way could be to create a permanent "foresight group" involving representatives of companies from different links of the value chain.

The technical meetings (TM) should be the time to put things into perspective, through brainstorming sessions and debates too develop and share a vision of the major challenges.

**In order to enlarge the OSR/Canola community, associating mustards through a specific committee (other cruciferous oilseed species) is proposed: the development of other brassicas as crops and** of genomics gives a specific interest to a focus on these species.

Until today, GCIRC remains a confidential association with less than 80 members, with tight rules to join the association. Increasing the number of members is necessary to develop the capacities and the impact of GCIRC.it is proposed to develop institutional membership, for public and private institutions, To create a category of beneficent membership, associated to sponsoring of the association's activities, to create a category of "friends", with partial access to the website information, and to favour the key category of "individual active members" with lower fees than today.

Making GCIRC a living community means developing the interest of its members in interactions. Especially for researchers, the GCIRC should provide more than what they can find in disciplinary forums: multidisciplinary exchanges and interactions with the actors of transfer, development and economy may be of noticeable interest for researchers to set socio-economic arguments for their research choices, and to set priorities in research tracks. For this, the GCIRC should develop its vision at the crossroad of sectorial socio-economic issues and of research dynamics/challenges resulting in the choice of "hot topics" and coordination of exchanges on these topics. To support this process, GCIRC could implement tools, services and methods, such as website, newsletters and working groups.

**Working groups and hot topics could be organized, not needing** necessarily to be active worldwide: however, if problems are of great importance in one or several regions of the world, they are certainly worth to be considered within GCIRC. Working groups should be at the crossroad of scientific challenges and socio-economic issues, and deal with "hot topics", which are generally transversal to several disciplines.

Suggestions have been expressed at the occasion of the GCIRC survey, including pan-genomics, genomic technologies, nutrition studies, heat tolerance, integration of canola with other crops, insects' resistance to insecticides, etc…

For awareness purposes, especially on internet and considering that the main language used in the scientific community is English, the name and acronym of GCIRC should correspond to English terms.

In this perspective, the GCIRC General Assembly decided its name into “Global Council for Innovation in Rapeseed and Canola.

# Scientific news

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# Value chains and regional news

**1) US**

Canola acreage and yields continue to gradually climb in the southern U.S. In AgWeb, farmers make the case for canola in Arkansas, Kentucky and Tennessee. Though canola plantings in these states are currently low (1,500 acres / 600ha), production is high with an average of 50-70 bushels per acre (3.4 to 4.7 t/ha). "We know wheat acres are down about 90 percent since 2013 in this region, so there is big need for a substitute crop," says Duane Dunlap of Archer Daniels Midland. "Certainly, canola may bring a better return than wheat." (source *: Canola Quick Bytes, by US Canola Association, June 3, 2019. See [http://www.uscanola.com/news-center/](http://www.uscanola.com/news-center/) )*

**2) High-Oleic Canola Oil Eligible for Heart-Healthy Claim**

On Nov. 19, 2018, the U.S. Food and Drug Administration (FDA) authorized a qualified health claim that consuming the monounsaturated fat oleic acid in edible oils, such as high-oleic canola oil, may reduce the risk of coronary heart disease. *Source: US Canola Association post on 26 Nov 2018: read more on [http://www.uscanola.com/site/epage/166110_956.htm](http://www.uscanola.com/site/epage/166110_956.htm)*

**3) Europe**

According to the crop monitoring Bulletin for Europe, OSR yield at European scale in 2019 should be slightly below the 5 years average, but much better than in 2018, which was very poor.

| Crop | Yield t/ha | | | | |
|---|---|---|---|---|---|
| | Avg 5yrs | 2018 | MARS 2019 forecasts | %19/5yrs | %19/18 |
| TOTAL CEREALS | 5,55 | 5,34 | **5,62** | +1,2 | +5,3 |
| Total Wheat | 5,70 | 5,42 | **5,82** | +2,0 | +7,3 |
| *soft wheat* | 5,94 | 5,62 | **6,05** | +1,9 | +7,6 |
| *durum wheat* | 3,46 | 3,54 | **3,51** | +1,4 | -1,0 |
| Total Barley | 4,86 | 4,60 | **4,96** | +2,0 | +7,8 |
| *spring barley* | 4,16 | 3,98 | **4,20** | +1,0 | +5,5 |
| *winter barley* | 5,78 | 5,49 | **5,97** | +3,2 | +8,7 |
| Grain maize | 7,62 | 8,36 | **7,92** | +4,0 | -5,2 |
| Rye | 3,79 | 3,24 | **3,77** | -0,5 | +16 |
| Triticale | 4,13 | 3,76 | **4,17** | +1,1 | +11 |
| Rape and turnip rape | 3,24 | 2,89 | **3,13** | -3,3 | +8,5 |
| Potato | 33,6 | 30,5 | **34,6** | +2,8 | +13 |
| Sugar beet | 75,2 | 68,1 | **76,5** | +1,7 | +12 |
| Sunflower | 2,20 | 2,41 | **2,41** | +9,5 | +0,0 |

Issued: 17 May 2019

After very dry conditions during the autumn 2018, which caused a drop in OSR acreage, notably in Germany and Northern France, the spring conditions were somehow chahotic: " Large parts of northern-central Europe experienced a marked rainfall deficit since mid-March. April

was particularly dry in these regions. Winter crops are negatively affected in northern Poland, eastern and north-eastern Germany and north-western Czechia, especially those on light sandy soils. Emerging spring and summer crops were also impacted (…) The distinctly colder-than-usual conditions that occurred in large parts of Europe in early May slowed down winter crop development, but frost damage to annual crops (such as flowering rapeseed stands) was limited to local occurrences. " Read more on: *https://ec.europa.eu/jrc/en/science-update/improved-yield-outlook-southern-europe-expectations-reduced-northern-regions*

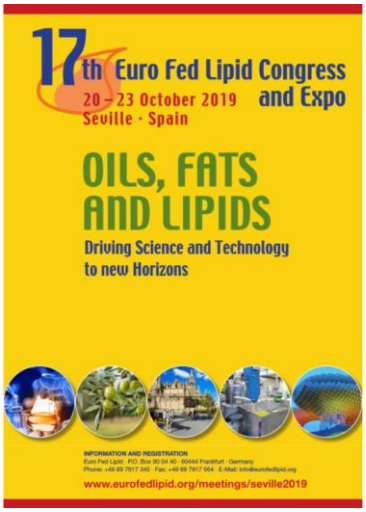
## Upcoming International and national events

**7-10 July 2019, 9th European Symposium on Plant Lipids** Marseille, France

**18-21 September 2019: European Conference on crop diversification**. Budapest, Hongrie. https://www.cropdiversification2019.net/call-for-abstracts.html

**20-23 October 2019 17th Euro Fed Lipid Congress and Expo. Sevilla, Spain**

https://veranstaltungen.gdch.de/tms/frontend/index.cfm?l=8455&sp_id=2




**4 – 5 December, 2019 Canola Week 2019. Hilton Garden Inn, 90 22 St E, Saskatoon.**

**3-5 February 2020. iCROPM2020. Crop modelling for Agriculture and Food Security under Global Change.** Montpellier, France. https://www.icropm2020.org/

**9-12 February 2020. World congress on oils and fats 2020. Sidney, Australia.** www.wcofsydney2020.com


***We invite you to share information with the rapeseed/canola community: let us know the scientific projects, events organized in your country, crop performances or any information of interest in rapeseed/canola R&D.***

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