

# GREEN HOUSE

 facebook.com/UofAALES

 @UofAALES

www.ales.ualberta.ca

## EAT HEALTHIER!

It's easier than you think. ALES nutrition researchers show you how

PAGE 39

## CLIMATE CHANGE

The surprisingly slow release of carbon from a thawing Arctic

PAGE 12

## CAUGHT IN THE MIDDLE

Workplaces slowly adapt to the needs of the Sandwich Generation

ALES  
**100**   
1915-2015  
years



# A CENTURY OF SOLUTIONS:

The history of the Faculty of Agricultural, Life & Environmental Science's first century

WRITTEN BY AWARD-WINNING AUTHOR CURTIS GILLESPIE

Curtis Gillespie weaves a very readable and interesting tale about the Faculty of ALES' first 100 years by focussing on the people that shaped it.

**ORDER YOUR COPY TODAY**

\$20.00 plus shipping and handling  
[www.ales.ualberta.ca](http://www.ales.ualberta.ca)



# Old Country FAIR

ALES  
100  
years  
1915-2015

IN CONCERT

## Blake Reid

September 25, 2015  
4:30 p.m.

A Free Alumni  
Weekend Event  
South Campus

Limited seating!

Pre-registration required  
at [www.ales100.ualberta.ca](http://www.ales100.ualberta.ca)



# GREENHOUSE

**GREENHOUSE** is published twice a year by the Faculty of Agricultural, Life & Environmental Sciences. It is distributed to alumni and friends of the faculty.

#### Dean

Stan Blade

#### Editor

Michel Proulx

#### Development Team

Ken Crocker  
Katherine Irwin

#### Graphic Design

Plumbheavy Design Co.

#### Contributing Writers

Connie Bryson, Jennifer Cockrall-King, Alexandria Daum, Helen Metella, Michel Proulx

#### Contributing Photographers

Anne Bissonnette, Curtis Comeau, Amanda Gallant, Amanda Hayden, Patrick Ndlovu, Michel Proulx, Richard Siemens, John Ulan

#### Contributing Illustrators

Edwin Jang, Tara Langlois

#### Send your comments to:

The Editor

#### GREENHOUSE

2-06 Agriculture/Forestry Centre  
University of Alberta  
Edmonton, AB, Canada T6G 2P5  
Tel.: 780-492-8127  
Fax: 780-492-8524  
Email: [greenhouse@ales.ualberta.ca](mailto:greenhouse@ales.ualberta.ca)  
Website: [www.ales.ualberta.ca](http://www.ales.ualberta.ca)

Publications Mail Agreement No.  
42038516

#### Return undeliverable Canadian addresses to:

2-06 Agriculture/Forestry Centre  
University of Alberta  
Edmonton, AB T6G 2P5

# Features

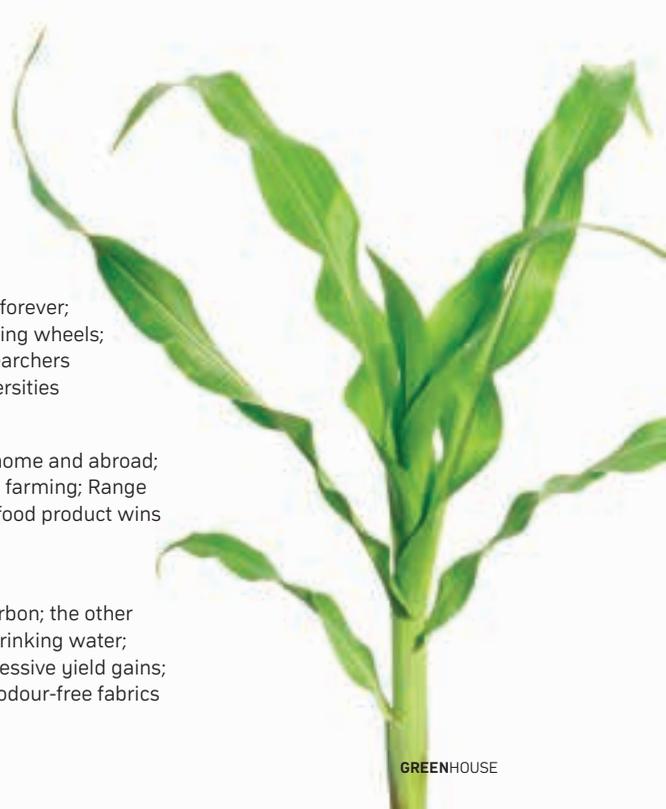


## The Canola Wizards

In the late 1980s, when blackleg was threatening to literally wipe out the canola industry, ALES breeder Gary Stringam developed a variety that was resistant to the disease. Since then, work has continued in the faculty to develop lines that are ever more resistant, higher yielding and take less time to grow.

## HAPPENINGS

- 6 ALES CENTENNIAL**  
A great kickoff to the faculty's centennial celebrations
- 8 FACULTY NEWS**  
Preserving the Mattheis Ranch forever; spinoff company takes off training wheels; what stitches reveal; ALES researchers team up with top Chinese universities
- 10 STUDENT EXPERIENCE**  
Sharpening lecture lessons at home and abroad; the ALES book club talks urban farming; Range Team beats archrival; Creative food product wins student competition
- 12 DISCOVERIES**  
The slow release of thawing carbon; the other side of sanitation and treated drinking water; conservation agriculture's impressive yield gains; the need to be skeptical about odour-free fabrics



# 22

## Accommodating the Sandwich Generation

Taking care of an elderly parent, relative or friend is costing the Canadian economy more than \$1 billion every year. ALES researcher Janet Fast's work is providing insights to employers as to how to best accommodate these workers' needs while mitigating the impact on the bottom line.



# 28



## Waste Not, Want Rot

Always wanted to compost but weren't sure how to start? ALES professor emeritus Jerry Leonard explains it all and takes us step-by-step to create the perfect compost.

## THE ALUMNI CLUB

- 36 KEN ESHPETER**  
Farmer leads community effort to take matters into its own hands
- 37 ROB SAIK**  
Setting the record straight about GMOs
- 38 RON MCCULLOUGH**  
Alumnus remembers where he came from
- 44 IN MEMORIAM**  
Remembering beloved nutrition professor Betty Donald
- 46 AFTERGRAD**  
How being 'weird' paid off  
By Matthew Pyper, '09 MSc



**THE QUEEN OF HUGS:** Do the shirt and skirt look familiar? It was often worn by Lois Hole and is one of many treasures in ALES' Clothing and Textiles Collection.

### INSIDE ALES

- 39 SAY WHAT?**  
A look at ALES researchers' quotes in the media
- 40 STAN BLADE**  
Get to know the new guy
- 41 ALES' GUIDE TO HEALTHY EATING**  
The Pure Prairie Eating Plan
- 42 ALBERTA'S BIGGEST AND BEST CLOSET**  
The Clothing & Textiles Collection

# 42

ALES CENTENNIAL

## CELEBRATING A CENTURY'S WORTH OF EDUCATION AND DISCOVERY

Former Prime Minister Kim Campbell stepped on stage at the Myer Horowitz Theatre last October to tell the more than 400 people gathered that "ALES is where it's at! Our lives are affected by all of the issues this faculty deals with, as consumers, as citizens."

It was part of the opening event of the Faculty of ALES centennial, kicking off a yearlong celebration that has also featured lectures by controversial food economist Jayson Lusk, popular environmental writer Richard Louv and quilt expert Carolyn Ducey.

Next up is ALES 100 Day at the Devonian Botanic Garden on June 26, and an Old Country Fair on South Campus during Alumni Weekend. Visit [www.ALES100.ualberta.ca](http://www.ALES100.ualberta.ca) and click on 'ALES 100 Events' for more information.

If you missed the opening celebrations, fear not, you can watch it on YouTube. Simply type in "Faculty of ALES" on the YouTube homepage and click on our channel. You'll be able to watch only those parts of the opening celebrations you wish.

Videos include the panel discussion moderated by Kim Campbell and featuring former premier Ed Stelmach, Enjoy Centre owner and ALES alumnus Jim Hole, and ALES professors Janet Fast and William Shotyk, the ALES 100 song too (well worth your time), the funny and informative ALES 100 skit, Dean Blade articulating his vision for the faculty and welcoming remarks by the university president and elected officials. 🍷

*Proulx*





RANGELAND

# Mattheis Ranch to be preserved forever

The deer and the antelope, along with 30 other species listed as endangered or at risk, will be able to play on the Faculty of ALES' sprawling 5,000-hectare Mattheis Ranch forever. The faculty signed a conservation easement with Western Sky Land Trust, ensuring development will never occur on the ranch. As compensation, ALES received \$3.8 million from Western Sky Land Trust, made possible through funding by Alberta Environment and Sustainable

Resource Development's Land Trust Grant program.

The money, for which ALES must raise an equal amount within the next three years, was used to create an endowment in order to provide stable, secure funding for the faculty's Rangeland Research Institute. Established in 2010, when Edwin and Ruth Mattheis donated the ranch to the University, the RRI manages a comprehensive research program to develop innovative best

management practices capable of balancing socio-economic considerations with the ongoing maintenance of environmental goods and services.

"The research enables us to become better managers of the land," said Edward Bork, director of the RRI, "and ensure that the way we use the land and grow our food will continue to respond to changing times and circumstances, including climate change." *Proulx*

RESEARCH COLLABORATION

## FACULTY ESTABLISHES TWO JOINT RESEARCH CENTRES WITH TOP CHINESE UNIVERSITIES

ALES agricultural researchers are teaming up with renowned Chinese counterparts on two vital fronts to establish joint research centres.

Developing crops that can resist climate change is the focus of the Agriculture and Food Innovation Joint Research Centre, while improving the quality of pork meat is the mandate of the Swine Genomics Excellence Centre.

The crop science research will be conducted with Northwest Agriculture & Forestry University. A foremost

agriculture and forestry institution, it houses several of China's most important laboratories. About a dozen ALES researchers are planning to visit NWAUFU this summer.

Swine research will be conducted with China Agricultural University near Beijing, where an animal breeding and genetics group is pioneering research in statistical and molecular genomics. The first objective of the new joint centre is to identify genes that explain susceptibility to disease. *Metella*





SUPPLIED

#### COMMERCIALIZATION

### SPINOFF COMPANY GROWS UP

Delta Genomics, the commercialization arm of ALES' Livestock Gentec program, celebrated the end of its government funding earlier this year and became a full-fledged, independent company.

Canada's first DNA lab for livestock, Delta Genomics helps identify desirable traits of cattle and other livestock with greater precision through DNA analysis, enabling breeders to make more informed breeding decisions to produce healthier and more efficient livestock. *■ Praulx*

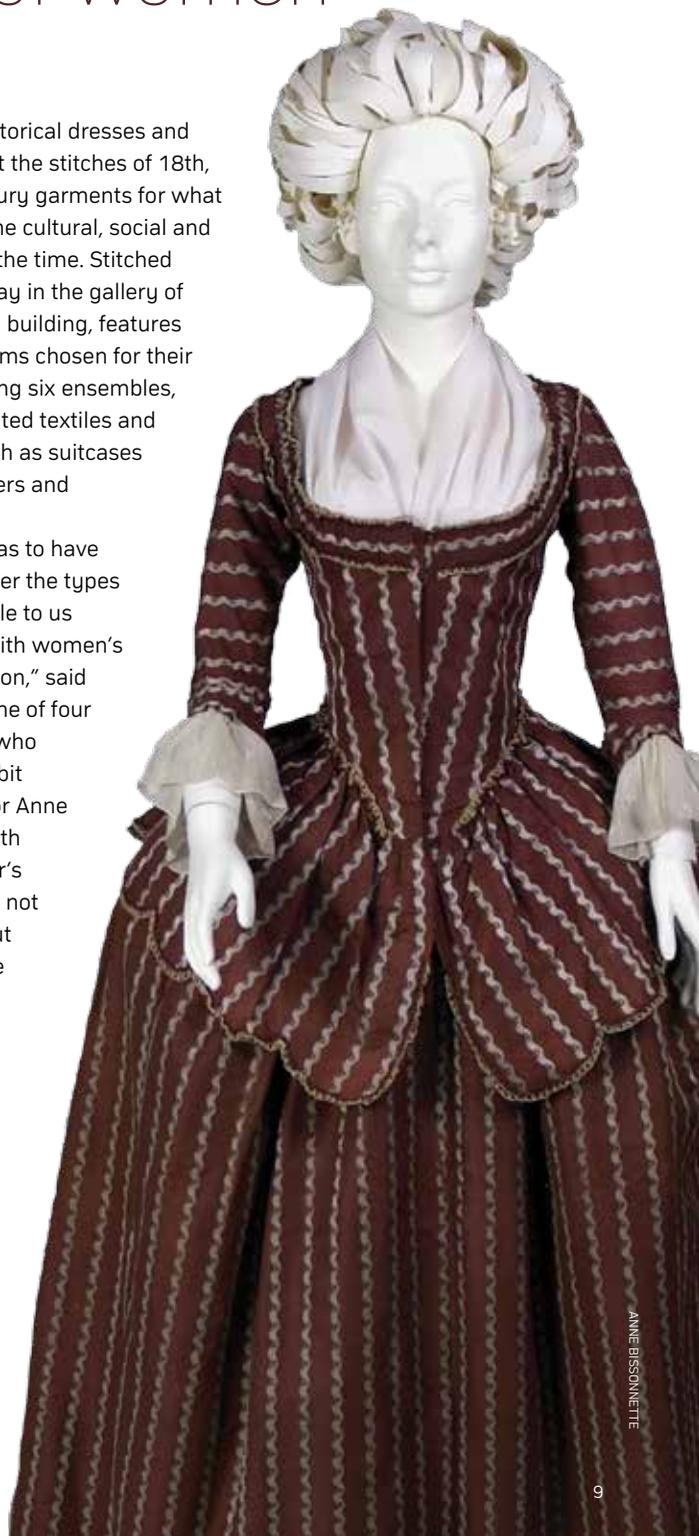
#### ON DISPLAY

## Exhibit provides historical insight into roles of women

BY HELEN METELLA

A new exhibit of historical dresses and accessories looks at the stitches of 18th, 19th and 20th century garments for what they reveal about the cultural, social and historical record of the time. Stitched Narratives, on display in the gallery of the Human Ecology building, features a dozen stitched items chosen for their uniqueness, including six ensembles, several corsets, quilted textiles and auxiliary pieces such as suitcases featuring sewn covers and appliqued initials.

"Our objective was to have the viewer reconsider the types of language available to us when it has to do with women's labour and production," said Sarah Woodyard, one of four graduate students who co-curated the exhibit along with Professor Anne Bissonnette. "An 18th century dressmaker's life experience may not be written down, but you can see it in the production of her trade. Running stitches point to industrial levels of skill, trade and apprenticeship. They're quick, fast and may not look perfect, but that doesn't discount the speed, accuracy and skill (of the seamstress)." *■*



ANNE BISSONNETTE



## EXPERIENTIAL LEARNING

## Students' trips sharpen lecture lessons

BY HELEN METELLA

As she watched slight boys easily dig holes for trees that her group had been struggling to plant, third-year Nutrition and Food Science student Moni Holowach realized she wasn't actually in India during Reading Week to volunteer. Her role was to see what you can't from a classroom, such as how those boys' families were displaced from their tribal life in the forest by the construction of a reservoir.

"I learned about the interconnected nature of so many areas of my degree and how they play together, from food science, to community nutrition, to food policy," said Holowach.

The India visit was one of three Alternative Reading Week co-curricular trips organized by ALES to expose students to situations that connect their studies to real-life issues. Eleven

students visited southern India with Pipal Tree, a non-profit organization focused on sustainable development.

Another 20 students visited Cienfuegos in southern Cuba, to learn about urban agriculture, food security and environmental conservation by visiting farms, gardens and small communities.

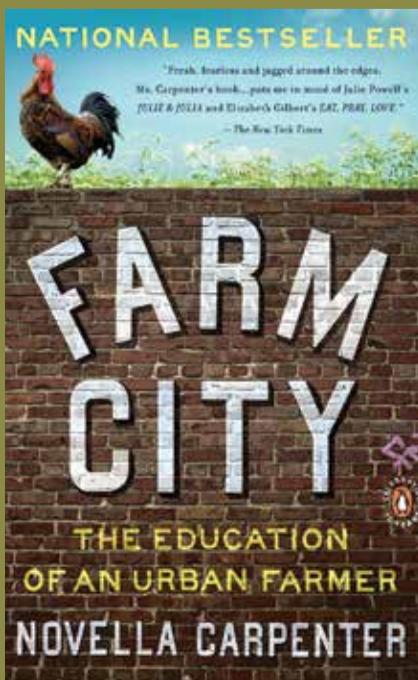
"The most important thing I learned from this trip is that efforts toward sustainability are directly influenced by social and cultural values," said Rannee Liu, a second-year Environmental and Conservation Sciences student. "The Cubans have a close relationship with their land and food. They understand where their sustenance comes from, and work collectively to ensure that it is secured for the long term."

In Edmonton, six students spent

three days and two nights in the inner city with the Mustard Seed social service agency to acquire a deeper understanding of the challenges and services available to homeless citizens. They were evicted from the shelter at 7:00 a.m. and sought to stay warm while searching for agencies offering free meals.

Sandra Gosling, a first-year Human Ecology student, was struck by the difficulty of finding services, the prejudice and the sheer boredom the homeless endure.

"We considered the toll it must take on people who live like that every day, just trying to waste the day until the shelters open," she said, adding that the experience showed her where she could put her education to work making change. ♣



**BOOK CLUB**

## Reading Program prompts urban farming discussions

More than 300 members of the ALES community took part in the faculty's first Common Reading Program, centered around a *Farm City: The education of an urban farmer*, a lively memoir by Novella that chronicles her experience turning a derelict city lot into a micro-farm.

Three events, including a book club chat and a panel discussion with professional local urban farmers, plus an essay contest for students, revolved around the book. The highlight, however, was an appearance by the author herself, who shared insights on

urban farming tactics to avoid and to cultivate.

Feedback on the reading program praised the events' quality of conversation. Students especially liked interacting with faculty and with peers from different academic streams, said Katherine Zwicker, the student engagement co-ordinator who organized the program.

"It was that interdisciplinary engagement that made this program really worthwhile," she said of the one-time initiative that was sponsored by Monsanto Canada. *Metella*



**FOOD DEVELOPMENT**

### ALES STUDENTS HAVE WINNING 'PULSE'

A bite-sized lemon tart with a crust made of beans and peas earned ALES food science students the top prize at a regional food development competition.

Kaixing Tang, Andrea Roman and Minghua Yu created the peamon tart, which has a traditional sour-sweet filling with a gluten-free shell made from a mixture of canned pulses: red kidney beans, chickpeas, romano beans and great northern white beans.

"There are a limited variety of gluten-free desserts in the market and we wanted to create a tasty and relatively healthier gluten-free dessert to meet market demands," said Tang.

Two other teams of ALES students

participated in Mission ImpULSEible, an annual competition staged by Pulse Canada and the Alberta Pulse Growers to promote the benefits of pulses. They created a chickpea nugget and a pulscosti spread, a gluten-free, nut-free and dairy-free cookie butter made from chickpea flour.

With the win under their belt, the Peamon Tart team advances to the national finals of Mission ImpULSEible, occurring in Calgary in June. Last year's national winning team was also from ALES. It won the \$2,500 grand prize with Pulse Pops, a frozen treat consisting of chickpeas, pea butter and soy nuts, wrapped with black bean and cacao and rolled in chocolate and coconut. *Metella*

**PLANT COMPETITION**

### RANGE TEAM TOPPLES ARCHRIVAL

The 2015 Range Team beat the perennial champions from Mexico, taking first place in the Plant Identification contest at the Society for Range Management's student competitions last February.

The only other time the team from Mexico didn't win in the last two decades was also against ALES, back in 2001.

Overall, the ALES Range Team won three first-place finishes, equalling last year's haul of 10 awards at the competition.

Some 200 undergraduates, representing 22 schools from Canada, the U.S. and Mexico, competed in the annual event. *Metella*

CLIMATE CHANGE

# Carbon's surprisingly slow release

Thawing of permafrost soils in the Arctic and subarctic will release greenhouse gases much more gradually than had been previously feared.

**David Olefeldt**, an ALES researcher and CAIP Chair in Watershed Management and Wetland Restoration, was one of a group of researchers from around the world who reviewed current knowledge about permafrost thaw in a new study.

They found that it will take decades and centuries as opposed to a single decade for thawing to release carbon

that has been stored in these soils.

“Taking into account the full body of evidence published over the last decade allows us to largely rule out catastrophic scenarios of runaway climate change in response to Arctic permafrost thaw,” said Olefeldt.

However, even the more moderate rate of greenhouse gas emissions associated with this organic carbon release will still make climate change happen faster than we would expect based on human activities alone. ♣

*Metella*



SUPPLIED

HEALTH

# More than just a gut feeling

The good sanitation and treated drinking water we take for granted may also be reducing the diversity of beneficial bacteria in our gastrointestinal tract that contributes to the development of the immune system.

ALES researcher **Jens Walter** led a study that found adults from the U.S. lacked approximately 50 bacterial types that were key members of the gut microbiota found in adults of two rural, non-industrialized regions of Papua New Guinea.

“Scientists ... have hypothesized for some time now that modern lifestyle might deplete the human gut microbiota, and by doing this, might predispose us to the chronic lifestyle diseases

like obesity and type-1 diabetes that are increasing in westernized societies.”

However, research clearly shows that non-industrialized societies have a high incidence of infectious diseases, including life-threatening diarrhea. More research is

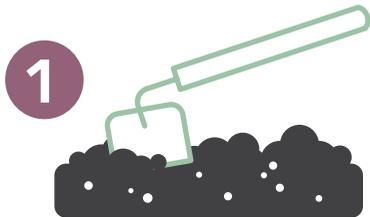
required to determine how to prevent the negative impact of westernization on our microbiome while preserving its benefits. ♣ *Metella*



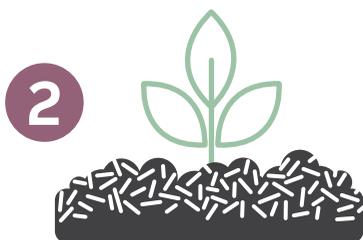
SUPPLIED



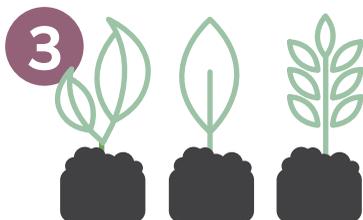
### THREE PRINCIPLES OF CONSERVATION AGRICULTURE



Minimal soil disturbance



Permanent soil cover



Crop rotation

### CONSERVATION AG

## BIG YIELD GAINS IN MAIZE PRODUCED WITH CONSERVATION AGRICULTURE

Conservation agriculture can lead to impressive yield gains, new research reveals.

In a study of small-holder farming households in Zimbabwe, ALES researcher **Henry An** and graduate student **Patrick Ndlovu** found that farmers produced 39 per cent more maize using conservation agriculture methods than by conventional farming techniques.

The study's findings are particularly important to a food insecure country such as Zimbabwe, where maize yields have significantly declined over the years due to a combination of land degradation, drought and challenges in availability and affordability of seed and fertilizer.

Despite the introduction of conservation agriculture relief programs, it's difficult to convince farmers of the virtues of conservation agriculture, which advocates disturbing land as little as possible through less tillage. Conventional



**BIGGER YIELD:** Using conservation agriculture techniques, a corn field in Zimbabwe increased its yield by 39 per cent.

farming in Zimbabwe involves ox-drawn plows that till relatively large farming plots.

Plus, previous studies of conservation agriculture showed lower yields, or at best, the same yield as conventional practices.

"We show you can be more optimistic than that," said An. ▀

Metella

### TEXTILE SCIENCES

## BE SKEPTICAL OF ANTI-ODOUR CLOTHING CLAIMS, ADVISES RESEARCHER

Anti-odour clothing may not be living up to its promise and it could all be a matter of how the product was tested, says ALES textile scientist **Rachel McQueen**.

In separate experiments, McQueen and her team found that some antimicrobial textiles were far more effective at performing their advertised tasks in the lab than on people. She analyzed the effectiveness of three different textiles treated with antimicrobial compounds, in the lab and on human subjects, and found the results quite different.

"Anything from sweat to the proteins in the human body can disrupt the antimicrobial properties of a fabric," she said. "When an antimicrobial compound gets put on a textile... it may not have the same level of effectiveness as the ones the manufacturers studied."

McQueen suggests that people who are looking for clothes that are less likely to smell choose natural fabrics such as cotton or wool as opposed to synthetic fabric, like polyester. ▀

Proulx



**SWEATING THE SMALL STUFF:** Rachel McQueen tested the anti-odour claims of clothing manufacturers.

MICHEL PROULX



# SECURE YOUR FUTURE

with a Charitable Gift Annuity  
at the University of Alberta

If you are 65 years or older,  
would like a steady cash flow,  
and want to make a gift to the  
University of Alberta, you may  
wish to consider a charitable  
gift annuity.

A charitable gift annuity allows  
residents of Canada to make a  
gift now, receive immediate tax  
savings, and earn a guaranteed  
income for the rest of your life.

To learn more about the investment  
that gives back, please contact us:

780-492-2394 | [giving@ualberta.ca](mailto:giving@ualberta.ca)



JOIN US FOR THE  
UNIVERSITY OF ALBERTA'S

# MATTHEIS RANCH FIELD DAY



**FRIDAY, JULY 10, 2015**  
**NEWELL COUNTY, AB**

## **FIELD TOURS & RESEARCH UPDATES**

Soil Health | Ecological Services | Beef Production | Prairie Reclamation

## **GUIDED HIKES TO NEARBY PALEONTOLOGICAL SITE**

## **BBQ LUNCH**

## **"STONES AND BONES"**

To register and for more information visit [rri.ualberta.ca](http://rri.ualberta.ca)

# THE CANONICAL WIZ



# A WARDS

Canola is a \$12-billion industry in Canada that was almost wiped out in the late 1980s. **Connie Bryson** takes an in-depth look at how an ALES researcher came to the rescue and what's been done in the faculty since then to protect and enhance the industry.

EDWIN JANG





Flashback to the late 1980s: the mood in Alberta was upbeat. World oil prices appeared to have stabilized, free trade promised to open up U.S. markets, and the

Oilers-Flames rivalry was at its peak. But the situation for canola farmers across the Prairies was far from rosy. Blackleg, a fungus disease of canola, was threatening to wipe out the crop. At the time, most canola cultivars were highly susceptible to the disease and crop losses were severe. To make matters worse, some of the spores produced by the blackleg fungus were airborne which meant the disease was spreading rapidly from field to field.

Enter Gary Stringam, a canola breeder who joined the Faculty of Agricultural, Life & Environmental Sciences in 1988. At ALES, Stringam developed Quantum, a top-yielding canola cultivar resistant to blackleg. It not only saved the canola industry from disaster, it boosted yields significantly.

"Canola is a Cinderella crop for farmers in western Canada; it's our number one cash crop," says Guy Anderson, who grows over 400 hectares of canola on his farm near Camrose, Alberta. He says that in the late 1980s/early 1990s he would be happy with 25 bushels per acre. "Then Quantum came in and all of a sudden guys were growing 40-bushel crops. Now, if you grow less than 40 bushels per acre, people feel sorry for you." Anderson is harvesting 60-bushel canola this year.

Stringam's work on canola is part of the U of A's legacy to canola development in Canada. It began with Zen Kondra, the scientist who established the canola breeding program in ALES, and continues with current canola breeder Habibur Rahman. While the players have changed over the years, the focus remains the same: to conduct research that makes a difference on the farm.

When Gary Stringam began his career, canola wasn't on his radar. Shortly after finishing postdoctoral work, he joined Agriculture Canada's research station in Saskatoon in 1967. He had gone there to work on alfalfa but proximity to Keith Downey, the plant breeder known as "the father of canola", changed the course of his research.

"In agriculture, your career is shaped by where you are located," says Stringam. "The crops that are important in your area are the ones you focus on if you want to do useful work that makes a difference." That's exactly what he did — devoting his career to developing canola cultivars, both in Saskatoon and at the University of Alberta.

Canola breeders like Stringam have played a key role in turning canola into a true Canadian success story. Breeding programs begun in the 1950s eventually transformed rapeseed into canola, a term that reflects the improved quality of seed, oil and meal. The first canola variety was released in 1974. Since then, the market demand for canola oil for human consumption and meal for livestock feed has driven prices up and farmers have responded by planting more acres. Canola is now Canada's most valuable crop, generating one quarter of all farm cash receipts. A study by the Canola Council of Canada, released in 2011, shows Canadian-grown canola contributes \$15.4 billion to the Canadian economy each year, including more than 228,000 Canadian jobs and \$8.2 billion in wages.

Canola breeding began at the U of A in 1969 with Zen Kondra, whose mandate was to develop regionally adapted varieties. "Alberta has unique geographies which translate into a variety of regional growing conditions," explains Ward Toma, general manager of the Alberta Canola Producers Commission. "Growers rely on university research to develop canola with traits that are

relevant to their area. The work of the University of Alberta has been absolutely vital in this regard."

For Toma, another key aspect of university research is independence. "Canola is big in Canada, but as a relative share of the global market, it's tiny. Consequently, the needs of canola farmers aren't priorities for the big companies. But universities like the U of A take a longer view because they're not making decisions based on return on investment. University researchers can tackle problems relevant to canola farms. Like Gary Stringam did with blackleg resistance — saving farmers on the prairies millions of dollars — and what Habibur Rahman (ALES canola breeder since 2003) is doing now with clubroot resistance and cultivars with a shorter growing season. Their work is valuable to the industry."

When Stringam arrived at the U of A, he was interested in using a tissue culture technique to speed up cultivar development. The doubled-haploid process creates a true-breeding (no variation in its progeny) plant which, when self-fertilized, only produces offspring of the same type. It became the foundation of Stringam's breeding program.

"The haploid technique was developed in the 1980s but was never applied in a commercial way," explains Stringam. "I saw its potential to significantly speed up variety development. Our process took about four years compared to the normal eight to 10 years. People came to our lab from a number of countries to learn the technique."

The doubled-haploid process was used to develop his most famous variety, Quantum, which had a combination of highly desirable traits, including high yield, resistance to blackleg and lodging resistance. A partnership was created between the U of A and the Alberta Wheat Pool, wherein the pool contributed to Stringam's research program and in return received exclusive rights



SUPPLIED



SUPPLIED

*“I used a tissue culture approach and produced a new commercial variety — something that was of real value to farmers. To me, that’s the most important thing a researcher can do.”*

Canola breeder **Gary Stringam**

**THE WIZARDS:** Canola breeder *Habibur Rahman* and plant pathologist *Stephen Strelkov* often collaborate on canola research.  
**INSET:** *Gary Stringam*, who developed *Quantum* canola, the first line resistant to blackleg.

to varieties. “The involvement of the Wheat Pool made a big difference to the success of *Quantum*,” he says. “They were a large company with many contacts and a lot of marketing expertise.”

Royalties from the sale of *Quantum* brought in about \$7 million. At one time, the *Quantum* royalties accounted for the bulk of revenue from research conducted at the U of A. The university also had commercial agreements with private plant breeders to use Stringam’s germplasm as a source for hybrids. Those royalties continued to flow to the university as late as 2012.

Looking back on his career, Stringam says he is most proud of taking basic science and applying it in a way that was relevant to agriculture. “I used a tissue culture approach and produced a new commercial variety — something

that was of real value to farmers. To me, that’s the most important thing a researcher can do.”

The same focus on the end user is evident in Habibur Rahman’s current canola breeding program in ALES. “People ask me all the time, ‘what is the most important thing in canola breeding?’ The answer is that there is no ‘one’ thing. It’s a basket of traits including yield, early flowering and maturity, lodging resistance, disease resistance, oil content, fatty acid profile, and so on. As a breeder, you have to deliver the package. A single trait is easy, it’s just a few genes. But we are working with hundreds of genes, shuffling and reshuffling them, and trying to get four aces together. It’s very challenging. When you develop a line that has the basket of traits farmers need, there’s a real feeling of accomplishment.”

Where do those good traits come

from? Rahman is looking at genes from a wide variety of crops, work initially supported by the Alberta Canola Producers and currently supported by \$3.1 million in funding from Viterra Inc. and the Natural Sciences and Engineering Research Council. His goal is to broaden genetic diversity in canola, leading to the creation of canola hybrids that have better yield, improved agronomic traits and better resistance to disease. Because canola is genetically related to other species of the genus *Brassica*, it is possible for breeders to cross canola with brassica species such as cabbage, cauliflower, kohlrabi, and turnip. "Many of these species have good genes that are lacking in canola," explains Rahman. "Of course they also have genes we don't want. And when you introduce the good genes, some bad ones invariably come along. I eliminate the bad ones through breeding. The work involves a lot of crossing in order to develop an elite canola line that has all the good traits or genes."

Rahman also uses molecular marker tools in his breeding and research program. The information

gleaned from techniques such as gene mapping and gene sequencing is put to use in the breeding program. These technologies were not available in Kondra's day and were only beginning to be used in Stringam's time. "Now they are an important part of a breeder's tool kit because they give you precision and speed," says Rahman. "We also need the tools because we are training the next generation of plant breeders. ALES has a duty to ensure that our students are up-to-date."

While Stringam's Quantum variety was resistant to blackleg, resistance doesn't last forever because pathogens adapt to the manipulation of the host. Rahman continues to work on blackleg resistance as well as canola's new threat: clubroot. This soil-borne disease causes premature death of the plant and has been a problem in brassica vegetable crops like broccoli and cabbage for a number of years. The first report of this disease in a commercial canola field in western Canada occurred near Edmonton in 2003. Since then the disease has spread significantly in central Alberta.

Concerned by the spectre of devastation of canola crops, the federal government committed \$3.6 million of the Growing Forward fund to the Clubroot Risk Mitigation Initiative in 2009. It brought researchers together to collaborate on projects jointly administered by the Canola Council of Canada and Agriculture and Agri-Food Canada. The three-year program, which ended in 2013, concentrated on basic biology, disease management, and breeding for clubroot resistance.

"Initially we didn't know much about clubroot," says Steve Strelkov, a plant pathologist in ALES. "Because of the collaborative work done under this initiative, we've been able to minimize the impact of clubroot by being proactive. We've developed an integrated strategy with genetic resistance as the backbone, bolstered by practices such as good sanitation, minimizing erosion from fields, and spot treatments with fungicide." Of critical importance is Rahman's success in identifying clubroot resistant germplasm; private companies have used this information to develop resistant varieties.



*"We've been able to minimize the impact of clubroot by being proactive. We've developed an integrated strategy with genetic resistance as the backbone, bolstered by practices such as good sanitation, minimizing erosion from fields and spots treatments with fungicide."*

Plant pathologist **Stephen Strelkov**

**HEALTHY CANOLA:** Habibur Rahman and two graduate students inspect an experimental canola crop on South Campus. Rahman is constantly trying to breed a line that has superior agronomic traits.

The team that worked on the Clubroot Risk Mitigation Initiative is now developing a program to continue its research, which marked a significant change in the way crop diseases are studied. “We’ve pioneered a holistic approach,” says Strelkov. “Plant breeding is one of the most important tools we have but the development of resistant varieties and how we deploy them can’t be done in isolation. It must be linked to what the pathogen is doing, how it’s behaving, and what strains there are. Collaboration is at the heart of this integrated strategy. With this kind of framework, even the most basic research can have practical application.”

The agreement with Alberta Wheat Pool for the development and marketing of Stringam’s Quantum canola was an early foray into public/private partnerships for the U of A. These arrangements are now much more common — Rahman’s genetic diversity program and the clubroot initiative are just two examples — and often include government agencies and industry organizations as well as the university and private companies. As canola breeding has become more complex with herbicide tolerance and hybrid platforms, university breeders like Rahman are much less likely to develop their own cultivars. Instead, the germplasm (living tissue from which new plants can be grown) they develop is used in industry breeding programs.

“We partner with the U of A because they have a successful history of breeding open-pollinated cultivars that with further breeding could ultimately become lines in a hybrid program,” says Bruce Harrison, director, research and development at Viterro, one of the funders of the canola genetic diversity program.

“ALES has a strong germplasm base in canola and Habib is an experienced breeder who works in an academic setting but also has solid



**PAYING THE BILLS:** While canola is an excellent crop for its return on investment, farmers like Will Pattison (70 MSc (Ag)) are also always concerned about the staying ahead of new diseases.

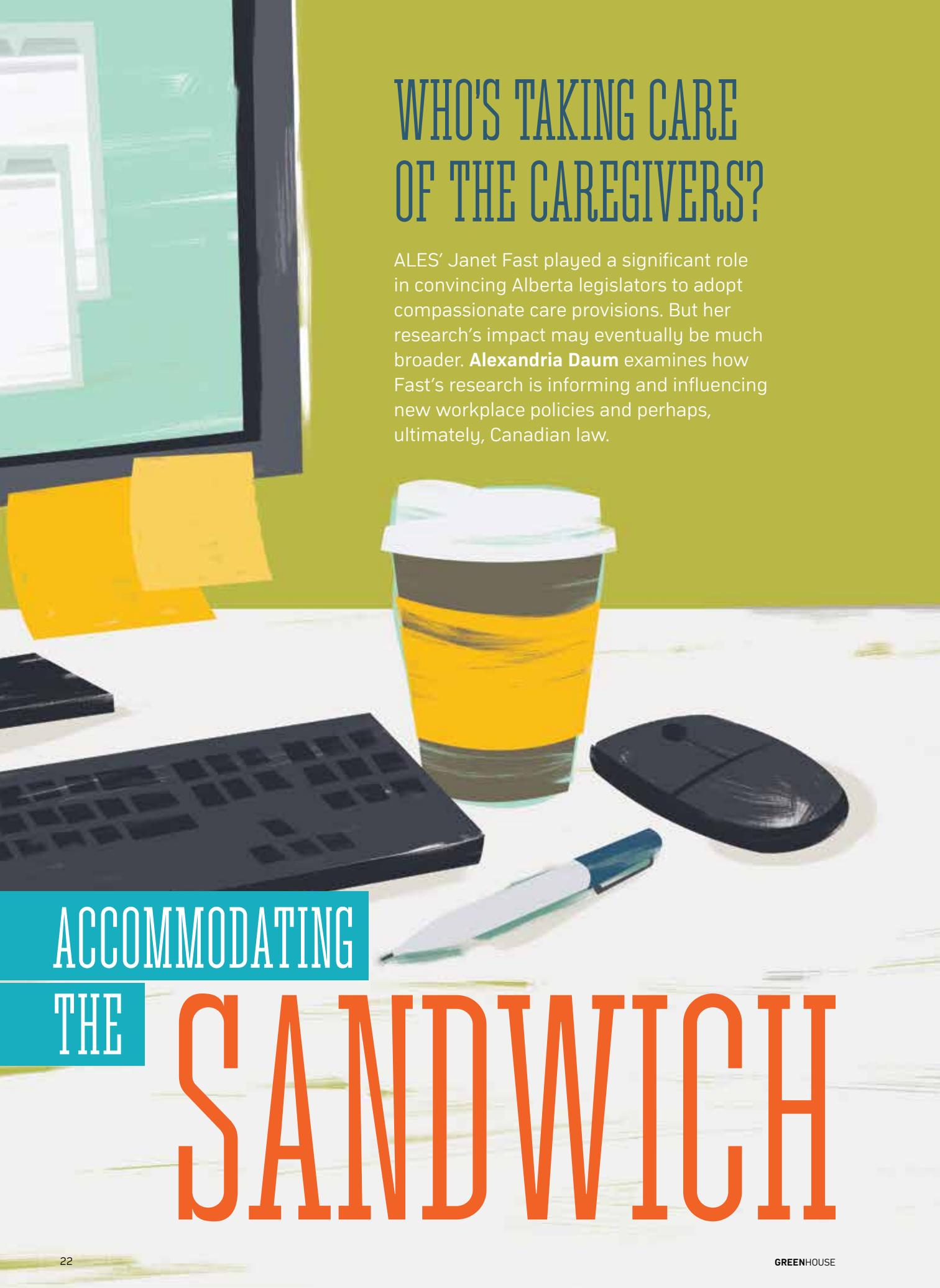
industry experience and understands the needs of commercial plant breeding organizations,” he adds.

While Viterro might do some of this work on its own, it doesn’t have a program devoted solely to building long-term genetic diversity. Harrison says that Rahman’s work provides Viterro “with a pipeline that will help us be competitive in the mid to long term. By working together, we can create higher yielding hybrids that ultimately have a significant impact at the farm gate across western Canada.”

But success brings its own challenges. “The demand for canola on world markets has driven up the price so that for the last 10 to 15 years, canola has been basically the only crop paying the bills for farmers on the Prairies,” says Will Pattison, “70 MSc (Ag Econ), who grows 140 hectares of canola on a mixed farm north of Camrose. “There’s a tremendous incentive to shorten rotations and we’ve all done that. But shorter

rotations open the door for diseases and weeds to become serious issues. So far, the breeders have been able to jump ahead and get us new varieties to cope with these challenges. But we’re on a competitive treadmill and I think there are very few farmers who are not somewhat concerned about this.”

Just as Quantum saved the industry in the early 1990s, improved varieties are critical to ensuring the continued success of Canadian canola. The ALES canola breeding program, working in partnership with companies, government agencies and industry organizations, remains a key player in work that addresses the needs of canola farmers, be they disease resistance, higher yield or any one of a wide range of agronomic characteristics. It’s all part of keeping an ear to the ground and providing solutions of value to farmers — the focus of the faculty since it was created in 1915. 🍀



# WHO'S TAKING CARE OF THE CAREGIVERS?

ALES' Janet Fast played a significant role in convincing Alberta legislators to adopt compassionate care provisions. But her research's impact may eventually be much broader. **Alexandria Daum** examines how Fast's research is informing and influencing new workplace policies and perhaps, ultimately, Canadian law.

ACCOMMODATING

THE

SANDWICH



TARA LANGLOIS



# GENERATION



JOHN NHOE

**PAYOFF:** Janet Fast has been examining the impact of caregiving for the elderly, including parents, relatives and friends, for many years.

"The evidence suggests that 80 to 90 per cent of all of the care that dependent adults receive is from family members and friends, not from formal care processes."

Janet Fast

**W**hen Matt Jeneroux started his working life after graduating from the University of Alberta, he found himself in a predicament. His grandmother, who lived in Ontario, was sick and deteriorating, but his employer didn't provide any type of leave for Jeneroux to go and spend time with her during her final days. He had to make the decision to go or stay in his job.

"I made the decision — and I regret it to this day — that I stayed at my job," Jeneroux says. His grandmother passed away and while he was able to go to the funeral, he regrets that he "never really had the chance to say goodbye to her."

Jeneroux was elected as an MLA for Edmonton-South West in spring 2012, and what he discovered when he was door-knocking during that election campaign was that he wasn't alone in the experience he'd faced with his grandmother. In fact, he realized that his experience was part of a much broader issue facing literally millions of Canadians: how do you balance work life with caring for an elderly parent, relative or friend?

It's an issue Janet Fast has been examining and trying to bring to public

attention for years. A researcher with the faculty's Department of Human Ecology, Fast is also a co-director of the Research on Aging, Policies, and Practice initiative.

She says Jeneroux's experience is no different than that of literally millions of other Canadians, many of whom have been dubbed members of the "sandwich generation." They are parents who work, take care of their kids, and have the added task of taking care of their own parents, or elderly relative or close friend.

The additional caregiving responsibilities have a significant impact on the work lives of individuals and, by extension, on employers and the Canadian economy. Indeed, Fast says statistics reveal that 9.7 million workdays are missed every year in Canada by caregivers, resulting in an enormous loss of productivity, equivalent to 157,000 full-time employees annually.

While the federal government has provided a compassionate care leave and a benefit since 2004, the leave only covers employees in federally regulated industries. By the time Jeneroux was elected, every province and territory had brought in separate leave provisions to cover all the employees in their jurisdictions

— except Alberta. Albertan employees could access the compassionate care benefit, which provides partial income replacement for missed work through Employment Insurance, but without the leave, they were at risk of losing their jobs.

When Jeneroux began looking into this issue, he was directed to Fast, who along with her collaborators had provided a report to the federal government earlier this year on the economics of caregiving. Fast provided Jeneroux with the background information and evidence he needed to draft a private member's bill. "We're the only province in the country that didn't have compassionate care legislation. And after speaking with Janet, it was important that we moved this forward," says Jeneroux. In spring 2013, a bill was passed introducing eight weeks of compassionate care leave.

For Fast, this legislation represents a good start, but barely scratches the surface of what her research shows needs to be done. For years, Fast has found evidence that employees are significantly impacted by caregiving and need support in order to manage the responsibilities. The legislation introduced by Jeneroux (and the federal legislation) only provides coverage for end-of-life care, and

caregivers have to provide a doctor's certificate stating that their family member is going to pass away within six months to be eligible for the leave and benefit. "A lot of physicians are really reluctant to go there and some of the research would suggest that they're actually not very good at making those kinds of prognoses," Fast says.

Not only that, but the legislation provides no support for individuals that are caregivers for people with chronic or long-term conditions and disabilities. With an aging population, and people living longer thanks to advances in public health measures and medical care, there are more people in the population that require chronic care — and someone has to provide it.

"It's heating up," says Fast. "Providing care to family members and friends is becoming an even more common experience. The evidence suggests that 80 to 90 per cent of all of the care that dependent adults receive is from family members and friends, not from formal care providers." According to Statistics Canada, 8.1 million Canadians are providing long-term care to aging loved ones and 76 per cent of caregivers of employment age are part of the paid workforce. In fact, they represent almost a third of the Canadian workforce.

There is some indication that employers are going to be obligated to accommodate employees in these situations, as well. Fast has been consulting with the Canadian Human Rights Commission, whose Human Rights Tribunal has been hearing cases considering family caregiving obligations.

In a recent case, for example, the tribunal awarded \$35,000 in damages to Leslie Hicks, a former Government of Canada employee who was discriminated against based on family responsibilities related to care for his mother-in-law. "The courts have confirmed that family status, which is a human rights ground of

discrimination, includes childcare obligations. But we didn't have the clarity that it also included elder care, and the Hicks case clarified that," says Marcella Daye, senior policy advisor at the CHRC.

The impact of this decision could be far-reaching. It means that employers have a duty to accommodate employees who are facing a conflict between their work and substantial caregiving responsibilities they cannot resolve on their own, much as an employer would have a duty to accommodate an employee with a disability. "Employers have to do that even when it's inconvenient, even when it requires an investment of money, and even when it causes some hardship for them," Daye says. "The legislated reasons under federal human rights law to not accommodate are undue hardship due to cost, health or safety — the cost needs to be quite high or there needs to be a health or safety issue at stake."

Ultimately, this could mean that some Canadian employees have a right to request flexible working arrangements if flexibility is required due to family status and caregiving responsibilities. However, case law is developing slightly differently in the various jurisdictions in the country. Daye says that a case may eventually be brought to the Supreme Court of Canada to reconcile and clarify the responsibilities of employers across all provinces and territories.

Meanwhile, this is still an emerging issue, and there can often be confusion on the parts of employers and employees on their rights and responsibilities. The CHRC has organized workshops with employers aimed at educating them about the issue, and has published *A Guide to Balancing Work and Caregiving Obligations: Collaborative approaches for a supportive and well-performing workplace*.

David Langtry, Acting Chief Commissioner of the CHRC noted that "more and more Canadian employees

While there are no hard numbers on the economic impact of caregiving on employers and the economy as a whole, there is clear data about the impact caregiving has on the work lives of employees.

43% had to arrive late, leave early or take time during the day

40% sought a less demanding job

15% had to cut down regular weekly hours

14% reduced their hours lost some or all of their benefits

10% turned down a promotion or did not pursue advancement

SOURCE: STATISTICS CANADA, 2012

are trying to balance work with care for children, aging parents or other loved ones. This guide should help employees and employers approach his issue productively, ensuring that caregivers can continue to participate fully and meaningfully in the workforce."

Fast and her colleague, Donna Lero from the University of Guelph, delivered some earlier workshops hosted by the CHRC, engaging employers from across the country on how and why they should support employees with caregiving responsibility. While recent developments bring forth a legal argument for doing so, Fast says she's always turned to the economic argument when talking to employers. "Absenteeism and turnover are costly, we know that," she says. Often employees will leave a job if their employer does not offer the flexibility they require to balance work and caregiving. Employees that keep their jobs may miss work due to appointments for family members or other obligations related to caregiving. And presenteeism is a rising issue — employees may be sitting at their

desk, but if they're worried about someone they left at home, they're not engaged.

The Conference Board of Canada estimated the cost of care to be \$1.28 billion to Canadian businesses in 2007, due to absenteeism and turnover. Fast hopes to do research to determine more detailed costs. "I'm actually doing a project right now where we're trying to put a dollar figure on what it costs employers if they don't accommodate their employees. What does it cost in terms of turnover, absenteeism and all that?"

Understanding these costs is key in convincing employers that not only is accommodating employees with caregiving responsibilities the right thing to do — but it also makes economic sense. "All of these things are already affecting the bottom lines of employers and when they realize and understand that these are avoidable costs, I think we'll see a little more action," Fast adds.

And there's something else employers probably don't know. "As it turns out, most of the caregivers that have work conflicts with their caregiving happen to be those 45

to 64 year-olds who are at the peak of their career, with the most firm-specific human capital, skills and corporate memory that employers want to hold on to," Fast says. That means these issues are going to become even more important as Alberta prepares to face yet another skilled labour shortage.

For now, Fast hopes that if employers are more aware of the issue, they can be pre-emptive by being flexible and working with employees to find solutions. But she realizes that employers can't bear all the responsibility for dealing with the consequences of caregiving. "I think there will be a growing demand for public policy to address this because, as a lot of the employers we talked to noted, they're willing to be part of the solution but they can't be all the solution."

Jeneroux, too, recognizes that this is a larger issue and that the compassionate care leave legislation he spearheaded is just the beginning. "I think this was the first step in the marathon to get this type of legislation in," he says. "It's awareness that was the big win that we got out of this." ■

## RELATIONSHIP OF CAREGIVER TO RECEIVER



Parent 48%



Friend or colleague 16%



Grandparent 13%



Other family member 10%



Spouse 8%



Child 5%



SOURCE: STATISTICS CANADA, 2012



# GET OUT HERE!

Open May 1 to Thanksgiving

Visit the beautiful natural surroundings of the University of Alberta Devonian Botanic Garden - 240 acres of gardens, natural areas, hiking trails and ecological preserves.

- Tours
- Special Events
- Education Courses
- Indoor Showhouses
- Butterfly House
- Extensive Outdoor Gardens
- Weddings & Photos
- Facility Rentals
- The Patio Cafe
- Gift Shop
- Nature Trails & Ecological Preserves



CANADIAN  
Botanical Garden  
of the Year



The Devonian Botanic Garden is a proud unit of the

 **UNIVERSITY OF ALBERTA**  
FACULTY OF AGRICULTURAL,  
LIFE & ENVIRONMENTAL SCIENCES

ALES  
**100**   
years  
1915-2015

celebrating its centennial in 2015.

780-987-3054 | [devonian.ualberta.ca](http://devonian.ualberta.ca)

Located in Parkland County, 5 kms north of Devon on Hwy 60, only minutes from West Edmonton



@DevonianGarden



DevonianBotanicGarden



# WASTE NOT, WANT ROT

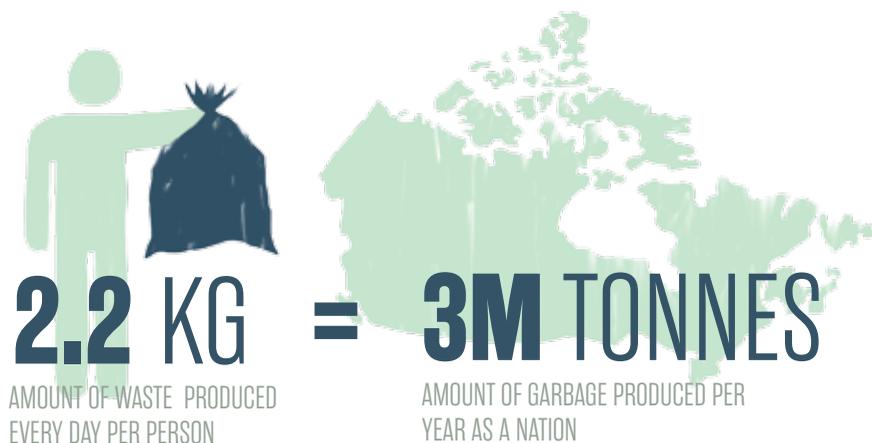
Food writer **Jennifer Cockrall-King** talks to ALES professor emeritus Jerry Leonard who provides step-by-step instructions to create the perfect compost.

Day to day, tiny bits of household food waste — potatoes that have sprouted in the pantry, a head of broccoli that went soft at the back of the fridge, leftovers no one wanted — don't seem like much. Off they go into the garbage. We measure the success of yard cleanups by the number of bags of grass, leaves, branches and tree trimmings we proudly place at the curb. Yet each spring, we go to buy bags of soil for our flowerpots and compost for the veggie beds. We buy mulch and fertilizer to spread around our trees and our yard. We toss organic matter into the garbage on one hand, and then essentially buy it back at \$5 a bag in the form of compost from the hardware and garden stores on the other hand. To paraphrase Wendell Berry, we've taken an elegant solution and created two separate problems — having to dispose of household waste and then having to purchase nutrients and organic material to replenish our gardens and yards.

There is an alternative. We could hang on to all that organic material and use it as the raw material to create nutrient-packed compost for our soil, right at home.

First of all, this would go a long way to stemming our garbage problem. Canadians have the dubious distinction of being among the most prolific producers of garbage in the world. Per person, we produce 2.2 kg of waste per day. That amounts to 30 million tonnes of garbage per year, as a nation. According to a 2013 study by the Alberta government, household food and yard waste alone accounts for 30 per cent of the municipal trash collected in the province.

And it's not just potato peels and grass clippings that can be transformed into compost. Those boxes of outdated paper files, the cardboard tubes at the end of toilet paper and paper towel rolls, even that pea-green 100 per cent wool cardigan — minus the plastic buttons — languishing in the closet can, with



the proper preparation, be composted. (See our list of compostable items in a typical household on page 33.)

In other words, we could keep almost one-third of what a typical family throws away out of the municipal waste stream while saving time and money, and have a steady, free supply of organic fertilizer to keep us in everything from arugula to azaleas, and radishes to roses, whenever we need it.

The good news is that composting is a natural-decay process, so it's mostly about creating the conditions for what comes naturally to organic biomass. The bad news is, however, that it's not as passive as many would like to think.

"People will say that composting is simply what goes on, on the forest floor. And that's just not true," says Jerry Leonard, PhD PEng, a professor

emeritus in the Faculty of Agricultural, Life & Environmental Sciences. "It's a managed process," he says, stressing "managed" in his affable Kenyan-Australian-British-Canadian accent.

Leonard knows a lot about the science and practice of creating compost. As an agricultural engineer, his teaching and research spanned control systems for machinery and intensive animal production systems to compost, and waste management. Through his knowledge of composting, he became involved with the City of Edmonton's Waste Management Branch in 1996. From 2002 to 2010, Leonard was seconded from the University of Alberta in order to set up the Edmonton Waste Management Centre of Excellence and was its long-standing executive manager.

Technically speaking, composting is "an aerobic, thermophilic process in

ACCORDING TO STATISTICS CANADA,  
OUR YEARLY PER PERSON FOOD  
WASTE AMOUNTS TO



122 KG

FRESH OR PROCESSED  
FRUITS AND VEGETABLES

18 KG

SUNDRY OILS, FATS,  
SUGAR AND SYRUP



16 KG

RED MEAT

10 KG

POULTRY



6 KG

DAIRY PRODUCTS

*Statistics Canada numbers are from Cut Waste, Grow Profit, a November 2012 report by The Value Chain Management Centre, part of the George Morris Centre, a national, independent, not-for-profit economic research institute focused exclusively on the agriculture and food industry. The Centre provides industry decision makers with critical information and analysis on issues affecting the Canadian agri-products sector. The report Cut Waste, Grow Profit can be found here <http://www.georgemorris.org/uploads/userfiles/files/cut%20waste,%20grow%20profit%20tm.pdf>. Statistics in this paragraph are from page 4 of Cut Waste, Grow Profit.*

which micro-organisms break down organic material into a stable humus-like material," says Leonard, pausing to let the densely packed definition sink in. Given the right environment, raw materials, enough moisture and oxygen, he elaborates, the beneficial micro-organisms — bacteria, fungi and actinomycetes, which create those threadlike filamentous colonies of mycelium in soil and compost — will feed on and reproduce in the organic material, breaking it down into its simplest, smallest parts. In other words, a healthy compost is a living, breathing colony of micro-organisms. When they have enough food, warmth and water, they continue to reproduce and go about breaking down solid matter into smaller, more basic units, ready for the garden.

It sounds simple on paper, but Leonard admits that it can be tricky to get "the recipe right," he chuckles. The wetter "greens" and colourful organic kitchen peelings provide the high nitrogen source important in compost. Bacteria go to work on this material right away, feasting on the sugars and starches of the simpler carbohydrates. The drier materials like woody and tough yard waste, paper, straw and cardboard — often referred to as "browns" — provide the high carbon source that is necessary for the microbial oxidation (which produces the heat, which helps keep the composting activity going, especially in cooler weather). The fungi and actinomycetes tackle the tougher job of breaking down the complex carbohydrates of cellulose and lignins of the harder, denser woodier stuff, like wood chips or even paper. For every part of dry nitrogen-rich materials, Leonard advises 25 parts dry carbon-rich organic matter. However, without a laboratory to weigh these materials out at home, some rules of thumb are useful. If there's too much nitrogen in the mix, your compost will smell of ammonia. If there's too much carbon in the pile, despite keeping it moist, it will not generate the heat it normally does.

"Start off by chopping and shredding," he advises, especially the drier "browns" to increase their surface area. But don't go overboard. The "browns" create and maintain the oxygen pockets essential to the biological activity. A too-fine shred will not allow for enough oxygen, and "you'll end up with a stinky pile," due to anaerobic activity rather than an aerobic process.

When asked about the stranger stuff that some people are now adding to their compost piles, like old clothing, hair, pet fur and even meat, Leonard wrinkles his nose somewhat. "I suppose," he says mulling the thought of an old pair of 100 per cent wool socks or a cotton T-shirt going into the mix. "Most clothing these days contains some synthetics," he warns, which wouldn't break down. Wool, fur and hair, essentially keratin proteins, need to be finely chopped to speed their decay. He notes that you can compost meat, fish and animal fats, but you run the risk of having "all sorts of critters like coyotes or cats" rummaging in the pile. You also increase the odds of generating off smells with meats and fats. In the end, he doesn't recommend getting too creative with what goes into the compost pile, especially in urban areas.

The most common mistake, says Leonard, is to maintain too small a compost pile. You'll need at least one large 100-litre yard-waste trash bin worth of material. The mass will assist in keeping the centre of the compost warm enough for optimal biological activity. "If you get the recipe right," he says, "the inside of the pile will reach 50 to 60C within a day or two." Warm compost is a sign of lots of activity, and the heat should inactivate any undesirable organisms, as well as weed seeds. The larger mass will keep the middle of the compost warm enough — above 10C and you'll still have some activity taking place — allowing you to keep your compost going year-round.

# COMPOSTING 101



## GREENS

1 PART NITROGEN RICH KITCHEN SCRAPS

## BROWNS

25 PARTS CARBON RICH ORGANIC MATTER



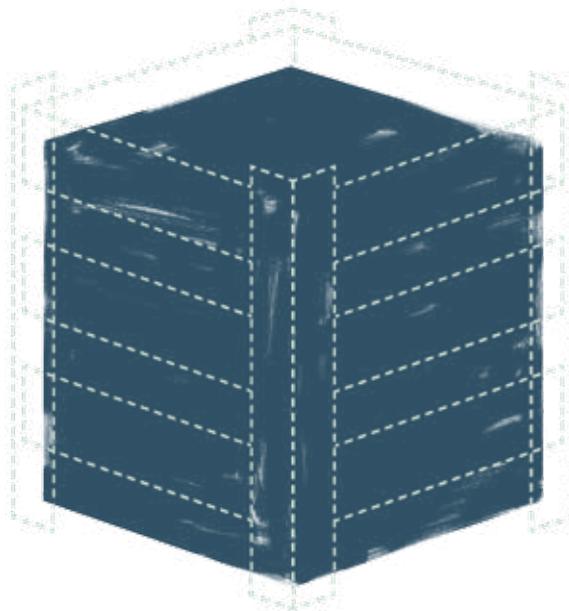
50-60C

IDEAL TEMPERATURE IN THE  
CENTRE OF THE PILE



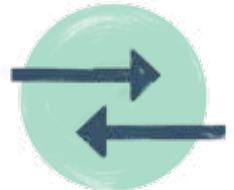
50%

HALF THE TOTAL WEIGHT  
SHOULD BE WATER



100 L

THE MINIMUM AMOUNT OF  
MATERIAL TO MAINTAIN



ADEQUATE AIRFLOW IS KEY  
TO KEEPING THE COMPOST  
OPTIMALLY ACTIVE



MANUAL TURNINGS TO MIX  
AND MAINTAIN THE ABSORBENCY  
OF THE PILE IS IMPORTANT



Making a mound out of the the raw compost materials is simplest and makes for easy turning, but some of the commercially available compost containers and elevated drum containers are useful as long as they have a large enough capacity.

Adequate airflow is another key to keeping the compost optimally active. Manual turnings to mix and maintain the absorbency of the pile are important, but Leonard suggests elevating your compost on wooden palettes or planks to allow even more fresh air to circulate through the pile.

It's especially important to make sure there's enough moisture. It's a delicate balance to maintain the moisture content of the compost. In a relatively dry climate like Edmonton's, compost can dry out quickly, effectively stopping the biological processes in their tracks. Ideally, about 50 per cent of the total weight of the compost should be water. For those of us without a laboratory to weigh this out, Leonard advises to keep the pile moist, but not wet. Given the right moisture level, and a quick turn of the materials to aerate and redistribute the "food" for the micro-organisms, compost will heat up again.

Once the food source of degradable materials is exhausted, the compost cools, signalling that the micro-organisms have either run out of air or food or the pile has dried out. "You have to get in there and stir it up," Leonard says, excitedly. Regular checks for moisture and turning will keep the activity going strong through a number of cycles. When you don't get any more heat and activity from the pile, then your compost is done. At this point, you may also get earthworms and other insects churning through the compost, eating, digesting and excreting the last bits of waste material.

In three to six months, you should have finished compost — moist dark brown and black, humus-like material that smells earthy, almost sweet, and which crumbles nicely in your hand.

Resist the temptation of planting directly into the compost, Leonard warns. "There might be too much ammonia-type nitrogen in there for the plants to handle. Or, if there was a lot of (processed) food waste in the raw materials, it could be too salty." Both conditions are going to make the compost toxic to your greenery. You absolutely need to dilute the finished

"People will say that composting is simply what goes on, on the forest floor. And that's just not true. It's a managed process, which can be tricky. You have to get the recipe right."

**JERRY LEONARD**

compost with topsoil. A three to five cm layer on top should be mixed in to existing soil to a depth of about 10 cm.

However, once you produce your first compost, Leonard says, you can just "stand back and admire the results." If for no other reason, creating a source of compost at home will turn your garden into a thing of envy in your neighbourhood. 🌱

# WHAT CAN I COMPOST?

## KEEP OUT!

**Rule of thumb:**  
*when in doubt, leave it out!*

**Rocks and minerals**

**Plastics and polystyrenes**

**Metals and foil**

**Anything with hazard, biohazard, chemical hazard or caution sign**

**Animal and human feces**

**Used personal hygiene products**

**Diseased plant material**

**Weeds and noxious plant material**

**Walnut** (includes the leaves, wood, roots, nuts, and nut shells)

**Highly processed organic materials** (rubber, latex, etc.)

**Glossy and wax-coated paper products** (magazines, catalogues, cards, most wrapping papers, etc.)

**Oily and fatty foods** (peanut butter, mayonnaise, grease, and butters, etc.)

**Meat, bones, blood and animal fats**

## THE BEST

**Fruit and vegetable scraps**

(includes tops, peelings and rinds)

**Egg shells**

**Tea leaves and bags**

**Coffee grounds**

**Spices and dried herbs**

**Toothpicks** (wood)

**Paper, paper products, and cardboard packaging\***

(no waxy or glossy coating)

**Paper plates\***

**Toilet paper and paper towelling rolls**

**Grass clippings**

**Leaves**

**Branches and twigs\***

**Yard and garden waste** (as long as it's not diseased, omit weeds that may harbour seeds)

## OKAY, BUT ...

**Pet fur, hair and nail clippings**

(these take longer to breakdown, so cut them up as much as possible)

**Breads, pasta and baking**

(in small amounts, as these are pest magnets and can increase salinity to undesirable levels)

**Organic cloth or clothing\*\***

**Rope and rug\*\***

**Dryer lint** (only if most of your clothing has natural fibres)

**\* Preferably shredded**

**\*\* Compost only the elements made from 100% organic fibre** (cotton, wool, linen, hemp, canvas, silk, feathers and bamboo). Remove any inorganic elements (ie. zippers, buttons, grommets or fasteners, latex backing on rug). Cut or shred into small pieces. Note **fur and leather** are not compostable due to the chemical treatments they require during processing.



# Old Country FAIR

ALES  
**100**  
years  
1915-2015

**South Campus,  
University of Alberta**  
An Alumni Weekend Event

**September 25 - 26, 2015**  
**10 a.m. - 4 p.m.**

- FREE family-friendly activities**
- Farmers market**
- ALES Museum**
- Tours of the research facilities**
- FREE concert by Blake Reid**
- Alumni tent & breakfast**

Environment  
Agriculture  
Human ecology  
forestry  
load  
management  
pollution



# Welcome to the **ALUMNI** CLUB

We've revamped this section of the magazine to better highlight your stories, provide you with some exclusive content, and give you a behind-the-scenes look at our faculty.

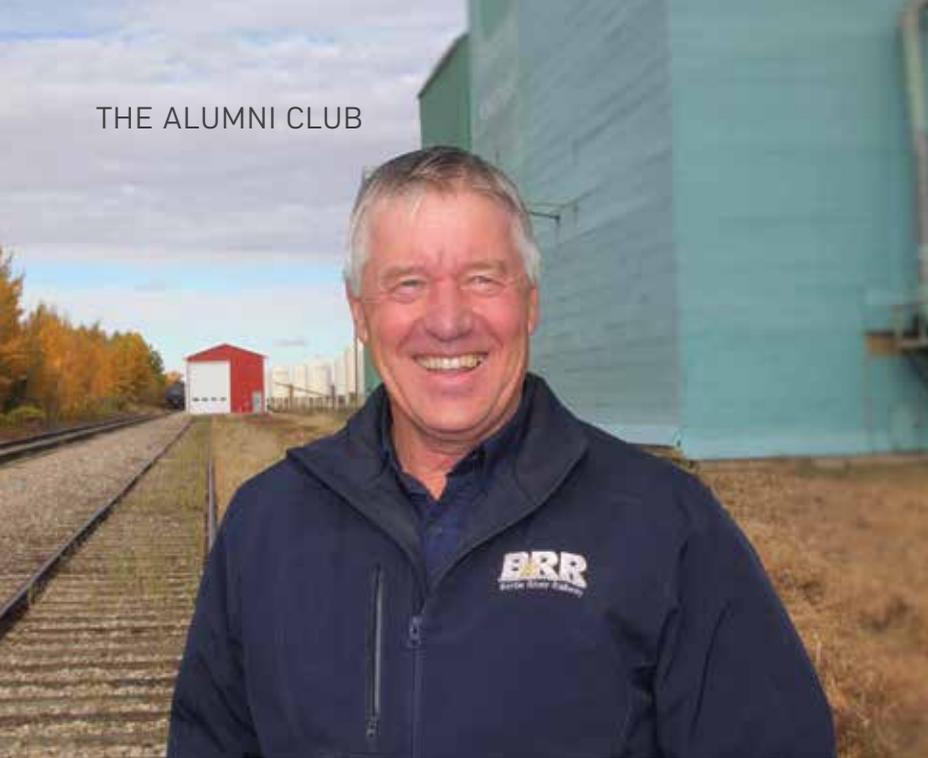
We start things off this issue by writing about three of our alumni, and fondly remembering Betty Donald, a nutrition professor well-known to many of you. We give you an insider's look at our remarkable Clothing & Textiles Collection, a 23,000-item museum that is the largest of its kind in a Canadian university. And we added a few other things for fun.

I hope you enjoy this revamped section. Let me know what you think about it, or any section of the magazine. Email me directly at [blade@ualberta.ca](mailto:blade@ualberta.ca).

I'm looking forward to meeting as many of you as possible in our upcoming ALES 100 events, celebrating our faculty's centennial. Come join us for an old fashioned Field Day at the Mattheis Ranch on July 10, and at the Breton Plots on July 30. During Alumni Weekend on September 25-26, we'll be having an Old Country Fair on South Campus. You are all cordially invited to attend what will undoubtedly be a very good time!

For more information and a complete listing of events, visit [www.ALES100.ualberta.ca](http://www.ALES100.ualberta.ca).





MICHEL PROULX

## Railway excursions offer chance to see the real rural Alberta

Friends of the Battle River Railway, a not-for-profit society, offers unique theme-based excursions year-round in a beautiful vintage passenger car. Excursions occur about every other month and offer an opportunity to celebrate the major holidays in a unique way. For more information, visit [www.friendsofbr.com](http://www.friendsofbr.com).

# Keeping on moving on

Community pulls together, avoids all-too-common fate

BY MICHEL PROULX

**Ken Eshpeter** stands on the tracks by the building that houses Battle River Railway's two locomotives and looks out on the horizon. It's been almost six years since he and a group of fellow farmers in central Alberta's Flagstaff County got together and bought the short line from CN, all 80 km of it, that runs through their communities to an interchange point in Camrose. Eshpeter is understandably proud of what they've accomplished, but in his mind, establishing Alberta's first successful short-line railway is not just about providing a sustainable and affordable transportation option for the area's farmers. "It's about so much more than moving grain..."

Like many rural communities in Alberta, those in and around Flagstaff and Camrose counties were faced with the loss of their short-line railway when CN expressed its intention to discontinue the line in 2003. It connected the various communities to grain handling facilities and an interchange point in Camrose. Losing the line meant the farmers would be

forced to move their grain by truck, a much more expensive proposition.

Eshpeter and many of his fellow farmers avoided that fate by forming a producer group and ordering fleets of 50 to 100 grain cars between 2003 and 2009, forcing CN to provide them with service. In 2009, however, CN expressed its intention to sell the line. The producer group held a meeting. It took about an hour to decide, unanimously, to buy the line.

What had been until then a loosely knit partnership of 185 producers became, after much discussion, a co-op. It's a business model they're very familiar with. "Co-ops have historically given us everything here," Eshpeter says, explaining why that business model was chosen. "We thought it was the best model to use to not only raise the \$5 million necessary to buy the line, but also to sustain its operation." The group quickly raised \$3.5 million through a share sale and borrowed the rest.

"We pulled our first train of 50 barley cars in December 2010," says Eshpeter, who was and remains the company's CEO and chair of its board of directors. Last year, the Battle River Railway pulled 2,200 cars of grain, 1,100 cars of oil and 300 cars of dry and liquid fertilizer. Farmers who invested in the railway, as well as others who use the service, are seeing value and decided to invest more. They built three new grain handling facilities along the line to go with the original one in Forestburg. "Things are going awfully well," says Eshpeter, but that's not what he's proudest of.

"We took money we had and invested it in a project that we needed locally," he explains. "Instead of investing in an RSP with some multi-national, we invested in ourselves. And we're continuing to invest in our community. Young people are coming back and they're slowly taking over. That's just great. We're not a slowly dying rural area. We invested in ourselves and we're thriving." ■

# Setting the record straight

Alum takes on anti-GMO movement

BY MICHEL PROULX

**Rob Saik** is mad. Very mad. And yes, that's right, he's not going to take it anymore.

While at a conference in Phoenix last year, he met a filmmaker who was doing an anti-vaccine and anti-GMO documentary. Great, thought Saik. The "Aggie from the U of A," as he refers to himself, offered to be interviewed to explain the benefits of genetically modified organisms, an offer the filmmaker took him up on. After all, the '83 BSc (Ag) has worked in agriculture his whole life, founding agricultural services firm Agri-Trend Group of Companies in 1997 to help farmers optimize their operations. He knows a thing or two about GMOs.

The interview lasted a good two hours. When Saik watched the documentary, he was aghast that not only did he not appear, only one side of the story, and a highly negative one at that, had been told.

"The conversation about GMOs is being dominated by an anti-science

faction that is actually causing global harm," says Saik. "We have well-intentioned, ill-informed people that intend on ripping technology away from those of us who are actually trying to grow food to feed the planet. People are picking up only one side of a distorted story. If ag is going to feed 9 billion people, we have to be able to use technology including genetic engineering. I'm not saying it's the answer to everything but if you take that out of the equation, you set agriculture back a long way."

So Saik is fighting back, hoping to provide a little more balance to the public conversation. Through The Farm & Food Care Foundation, he's three-quarters of the way to raising \$1 million to produce his own documentary highlighting the benefits of GMOs. In fact, production is already under way as the film crew, headed by Saik's filmmaking son, Nick, recently filmed in Florida, where the citrus crop is under attack from Citrus

greening disease, for which there is no known cure and which could ultimately wipe out the crop.

Plans call for filming in South America, Kenya, Uganda, India, Indonesia and the Philippines, among other places, to show how GMOs have contributed to saving crops at risk of being wiped out by disease, increasing yields and helping feed vulnerable populations. Once the documentary is finished, Saik is hoping to show it all around the world, at film festivals and with different broadcasters.

"We're hoping to create something positive."

For more information, visit [www.knowgmothemovie.com](http://www.knowgmothemovie.com) where you can also watch Saik's TEDx Talk, *Pushing Boundaries in Agriculture*, delivered earlier this year in Red Deer. ▀





MICHEL PROULX

# The Centennial Club

BY MICHEL PROULX

Sitting in a meeting with fellow alumni and ALES representatives to discuss ideas about how to celebrate the Faculty of ALES' centennial, **Ron McCullough** suddenly said, "Why don't we get 100 people to donate \$100,000 each to create an endowment fund?"

The '54 BSc (Ag) alumnus has had a varied, rich and fulfilling career, he'll tell you, and it's in no small part due to his U of A agriculture degree and the MBA he earned at the Richard Ivey School of Business. He started his career as a farm broadcaster and later got his MBA before returning to the family farm for a decade, working to develop Canada's second oldest herd of Angus cattle in the country. Afterwards, he held a variety of positions in government and private industry, all the while keeping his cattle interests.

McCullough's big idea struck a chord. People in the meeting started asking what that could look like. What would be the goal? They decided

it would be an opportunity for donors to fund projects that are near and dear to their hearts. The ALES Centennial Club was thus established.

So far, 11 people have contributed \$100,000 and become members of the Centennial Club. Projects vary (see sidebar) but they all support the mission of the faculty. There's more work to do to get to 100, says McCullough, but he's very pleased at the encouraging start. Indeed, the man who has been giving back to the Faculty of ALES and his MBA alma mater for more than 30 years put his money where his mouth is and was first in line to become a Centennial Club member.

"Every graduate was given a leg up by their education, which was 50 per cent paid for by taxpayers," he says. "It's important to give back where possible." 🍀

## Centennial Club Members

**HARVEY ANDERSON**, '64 BSc (Ag), '66 MSc (Ag)

*Supports student scholarships*

**JEAN-MICHEL CRÉPIN**, '77 BSc (Ag)

*Supports nutrition & health research*

**KATE HAWRYSH**, Friend of ALES

*Supports graduate students in Agricultural studies from Ukraine*

**MARGARET KEMP**, '56 BA, and family

*Supports Breton Plots Endowment Fund*

**BERN KOTELKO**, '76 BSc (Ag) and

**DONNA KOTELKO**, '78 BSc (SPA)

*Supports Bio-Resource Scholarship*

**WES VAN DER LEE**, '51 BSc (Ag), and

**DOROTHY VAN DER LEE**

*Supports the ALES Centennial Dutch Fund*

**LEN LESKIW**, '71 BSc (Ag)

*Supports Breton Plots Endowment, Bentley*

*Lecture Endowment, Class of '69 Bar None*

*Leadership Award, Land Reclamation*

*International Graduate School*

**JOHN LOCKHART**, '62 BSc (Ag), and

**JIM LOCKHART**, '63 BSc (Ag), '67 MSc (Ag)

*Support scholarships*

**RON MCCULLOUGH**, '54 BSc (Ag)

*Supports the ALES Centennial Dutch Fund*

**NOEL MCNAUGHTON**, '69 BSc (Ag), '91 MSc (Ag)

*Supports the Devonian Botanic Garden*

*Building Fund*

**LEIGHTON MELLESTRAND**, '62 BSc (Ag)

*Supports student scholarships in Human*

*Ecology and Agriculture*

## SAY WHAT?

*ALES researchers aren't just providing solutions to global challenges! Often, they provide expert comment, helping media put emerging issues in perspective for all of us to better understand.*

### KILL DANGERS OVERSTATED

“This is a tempest in a teapot, from a biological perspective.”

**Lee Foote**, Director, Devonian Botanic Garden  
CBC News, 01/10/2015  
*Commenting on concerns that a one-day coyote-killing tournament in Alberta poses risk to the animal population.*

### BIGGER CHICKENS NOT SCARY

“That would be comparable to saying it is more dangerous to eat bigger carrots because they're bigger.”

**Martin Zuidhof**, poultry scientist  
The Huffington Post, 10/21/2014  
*Responding to whether there's risk to eating broiler chickens that have been genetically bred to be four times bigger than they were about 60 years ago.*

### FOREST FIRE TRIGGERS

“We are having more fires because of human-caused climate change.”

**Mike Flannigan**, wildland fire scientist, The Canadian Press and Maclean's, 05/05/2015  
*Scientists believe that climate change is causing the jet stream to wobble. That meandering jet stream may cause more weather extremes and therefore a lot more fire, Flannigan said.*



### STINKY CLOTHES EXPLAINED

“From a consumer's point of view, if you're ... buying something that says it's antimicrobial, it may not be.”

**Rachel McQueen**, textile scientist  
Science Newsline, 08/26/2014  
*Spelling out research that suggests anti-odour clothing may not deliver the promised level of effectiveness because of how the product was tested by the manufacturer.*

### APPLAUSE FOR BSE WATCH

“This person should not be punished but should be congratulated, because it shows the surveillance system is working.”

**Heather Bruce**, meat scientist  
Edmonton Journal, 02/20/2015  
*Comment on the Spruce Grove-area farmer who came forward to report a cow suspected of being infected with bovine spongiform encephalopathy.*





RICHARD SIEMENS

TWENTY QUESTIONS

# Meet the new guy

Stan Blade took over as dean of the Faculty of Agricultural, Life & Environmental Sciences, last August 1.

Born and raised on a dairy and grain farm in Millet, Alberta, he earned his BSc in genetics at the U of A. To earn his PhD in crop sciences from McGill, he conducted his research at the Nigeria-based International Institute of Tropical Agriculture, where he would later work and eventually become Deputy Director General (Research). Most recently, Stan served as CEO of Alberta Innovates — BioSolutions. A passionate Albertan, he lives in Edmonton with his wife Linda and their two children, Daniel and Savanna.

**Your idea of perfect happiness?**

*Reading a newspaper in the bright sunshine with a cup of hot chocolate in hand... in the backyard, overlooking a mountain vista or on a Parisian street.*

**Your greatest fear?**

*Heights. I recently went up the Banff gondola with my family and I was the most nervous.*

**The trait you most deplore in yourself?**

*I can neither confirm nor deny what this trait might be!*

**The trait you most deplore in others?**

The inability to keep up with a fast-moving conversation or plan formulation.

**Living person you most admire?**

Stephen Lewis

**Your greatest extravagance?**

Quality timepieces.

**Your current state of mind?**

Impatiently optimistic.

**The most overrated virtue?**

Patience.

**Words or phrases you most overuse?**

*"You can work your magic..."*

**Greatest love of your life?**

Linda Felicia Blade. Why she has put up with me for 25+ years can only be an indication of her gracious nature.

**Talent would you most like to have?**

Strength to decline multi-question interviews.

**One thing you'd change about yourself if you could?**

Have a better attitude about shoveling snow.

**Your most marked characteristic?**

Relentless optimism

**What you most value in your friends?**

Willingness to endure my sense of humour.

**Your heroes in real life?**

Norman Borlaug

**About being dean... you've been on the job for about eight months now.**

**How do you describe your new job?**

Engage with ALES faculty and staff to ensure a great student experience that prepares our alumni for making a tremendous contribution to society, and work with our faculty to describe our potential so that our partners are excited to invest in the work that we do.

**Is it what you expected?**

Yes. I continue to learn so much about so many things.

**The biggest surprise?**

That I feel so comfortable relatively early in my term.

**Your favourite thing about it?**

A couple of experiences: meeting proud parents of graduating students and meeting our international alumni in their home countries, who speak so highly of their ALES and University of Alberta experience.

**Your least favourite thing about it?**

I wish I were more clever. 🐦

## Fresh food, practical menus and a healthy lifestyle

ALES nutrition researchers **Rhonda Bell** and **Cathy Chan** developed the Pure Prairie Eating Plan to make it as easy as possible for people living on the Prairies that want to eat in a healthier way. Recipes, based on the Canada Food Guide, are simple and easy to make, ingredients are easily found at your local grocery store. Here's one delicious recipe. For more, or to purchase the book, visit [www.pureprairie.ca](http://www.pureprairie.ca).

### Mixed Grain and Lentil Pilaf

#### Ingredients:

- 4 c water
- 1/2 c dried lentils (sorted and rinsed)
- 1/4 c uncooked bulgur
- 1/4 c uncooked quinoa
- 1 tbsp canola oil
- 1 c diced onions
- 1 c diced green or red bell pepper
- 4 oz sliced mushrooms
- 1/4 c sliced almonds, toasted
- 1/4 c chopped italian parsley or mint
- 1 tbsp canola oil
- 1/2 tsp salt
- 3 oz reduced fat feta, crumbled

#### Directions:

1. In a large saucepan, bring water and lentils to a boil on high heat. Reduce heat to medium-low, cover and cook for 15 minutes.
2. Stir in bulgur and quinoa. Cover and cook for 10 minutes or until lentils are just tender. Drain.
3. Meanwhile, heat 1 tbsp of canola oil in a large skillet over medium high heat. Cook onions and peppers 4 minutes or until edges begin to brown. Add the mushrooms and cook 5 minutes more, stirring occasionally.
4. Remove from heat, gently stir in lentil mixture, almonds, parsley, salt and second tbsp of canola oil.
5. Sprinkle with feta cheese and gently fold in until just combined.

Serves 8 (serving size 1 cup)

Per serving: 370 kcal, 9 g fat, 2 g saturated fat, 39 g carbohydrate, 10 g fibre, 36 g protein



ALLES 101

An insider's look at some of the faculty's treasures. In this issue, we look at the Department of Human Ecology's Clothing & Textile Collection.

# Dazzling with diversity

Faculty's Clothing & Textiles Collection one of the country's best

BY HELEN METELLA

"Welcome to the biggest closet in Alberta," is how Vlada Blinova charmingly introduces the university's Clothing & Textiles Collection.

Yet the manager of the museum is barely hinting at the wonders of this precious resource and little-known Edmonton gem. With more than 23,000 items documenting 350 years of fashion, it's the biggest collection in a Canadian university and one of the five largest ones in the country.

This collection's strength lies in women's fashion of the 19th and 20th centuries, but it holds significant pieces of men's and children's wear, and a few 18th century garments, too. There are also pre-Columbian textiles, and more than 800 quilts (most donated by retired Toronto dealer Gloria Rosenberg). Fur, leather, plastic and rubber items are kept in storage even colder than the collection's primary aisles, which are maintained behind computer-controlled panels at 17C.

Even a 45-minute tour reveals the collection's depth and diversity. There are hats and spats and parasols, corsets, petticoats and



**KEEPER OF THE CLOSET:** Vlada Blinova manages the Clothing & Textiles Collection, a museum that contains 23,000 items and documents 350 years of fashion.

gowns; platform-soled boots, op-art-print flared trousers and a quilted leisure suit worthy of Austin Powers. There are Victorian men's starched collars and top hats, plus their sturdy travelling cases. Exquisite kimonos are stored in full layout. Eighteenth century treasures include an array of

tie-on pockets that afforded women a private place for possessions beneath their dress, and a cut-velvet court suit with long coat and breeches from Scotland.

The 1960s section holds paper dresses, while the 1970s racks betray the decade's fascination with shiny synthetic materials. There are so many 1950s christening gowns and wedding dresses that no more will be accepted.

The collection is also home to many priceless artifacts. One is an English stumpwork box circa 1650 to 1675. The embroidered biblical scenes covering its top and sides showcase myriad different stitches, holding as tightly as when they were created by a young girl



MICHEL PROULX

JOHN ULLMAN



**OPPOSITE:** Bound feet from China, circa 1910s  
**ABOVE:** Christian Dior suit from the 1960s  
**RIGHT** (top to bottom): A fragment of a 1960s Chloé cocktail dress; crocheted and beaded purses form the early 1900s; leather slippers, circa 1830s; children's embroidered hat from Thailand, circa 1980s.

showcasing her skills. Other historic items include looms, spindles, photographs, magazines and sewing patterns.

Still, like collectors everywhere, Blinova yearns for what's just out of reach.

"I wish we had more high-end designer garments," she said. "But people don't rush to give them."

More haute couture would reinforce the collection's renown as a versatile teaching tool that's used for studies as wide-ranging as material culture, apparel design, English literature, the Classics, and film and drama.

"Those (designer) names are recognized and they usually reflect high-end techniques and cutting-edge ideas of the time," said Blinova.

She proves that by pulling out a couple of the designer items that are present: a gorgeously minimalist Christian Dior suit of the early 1960s and a kooky Chloé dress that's decorated with plastic flowers encased in clear plastic domes.

With her interest in political textiles, Blinova would also like to add a few Afghan war rugs of the 1970s and 1980s which were infused with American motifs and images of weaponry, and also Chilean arpilleras textiles, smallish burlap-backed scenes embroidered in 3D to depict events of the Pinochet era.

As with most museums, this one recommends that donors accompany any gifted object with some financial resources to help maintain it. Not all items are accepted, but those that are must be vacuumed, fumigated, examined for mould and mildew, tagged and catalogued. Some also require custom-made mounts crafted from archival materials.

Applications from volunteers interested in helping to maintain the collection are welcome. On request, Blinova gives tours of the collection to scholars, potential donors and members of the public. ■



IN MEMORIAM

## NUTRITION PROFESSOR REMEMBERED AS 'EXCEEDINGLY' GENEROUS

BY HELEN METELLA



Elizabeth (Betty) Donald, a long-time professor of nutrition, died earlier this year. She was 88.

"She was one of our top teachers, and one of the most-loved professors in the department," said Catherine Field, a current professor of nutrition who taught a course with Donald while a grad student. "She was tough with students, but really caring."

Her passion for and understanding of nutrition was evident early, said Jack Donald, her younger brother. During the war years, "she used to try to get me to eat dandelion greens. She said they had a lot of protein."

At the U of A, her research highlights included studies linking nutrition and dentistry, and the

interrelationship of vitamin B and oral contraceptives. She also conducted one of Alberta's first nutrition surveys, which focused on the relationship of the nutrient intake of seniors to health and disease, and on the seasonal variation in their nutrient intake.

Donald is also remembered as exceedingly generous. The first in the string of scholarships she supported at the U of A was the Household Economics Class of 1949 Scholarship for students studying human nutrition.

It came about, remembered fellow classmate Sheila McLaggan, when Donald and others wanted to mark the 50th anniversary of their graduation. They met to review what

PHOTO SUPPLIED BY THE DONALD FAMILY



**CONGRATULATIONS**  
**TO THE CENTENNIAL CLASS OF 2015!**

gifts had previously been given to their department and discovered that because they were grads of the School of Household Economics (now the Nutrition and Food Science program in ALES), most gifts were silver flatware and tea sets. And all of those were in storage in the corridors between their faculty's building and another.

That settled it: "We were NOT going to give the kind of gift you could store," said McLaggan. "I wonder if that inspired her to do what she did with other scholarships."

What she did was establish several other scholarships in her name. For undergrads, these included the Dean's Citation in Human Nutrition, the Bar None Scholarship for Integrated Dietetic Internship in Rural Alberta, the Integrated Dietetic Internship Scholarship and the Elizabeth Donald Scholarship in Human Nutrition. For graduate students she set up the Dr. EA Donald MSc Fellowship in Human Nutrition and a PhD Fellowship in Human Nutrition.

"She told me she wanted to see the students get the money and meet them," said Field, who accompanied Donald to several Bar None alumni dinners to meet the recipients of her scholarships.

It's also notable that she was "the first non-Aggie to give to the Bar None Fund," said Myrna Snart, who met Donald while a member of the faculty's development team.

One of the first professors who set exact objectives in each course for students, according to Field, Donald taught at the U of A from 1969 until her retirement in 1988. She earned her BSc at the U of A, her master's from Washington State University in 1955, and her PhD in 1962 from Cornell University, where she was an associate professor for five years.

"It was the top nutrition school in the world," said Field. "U of A was lucky to get a Cornell grad. She would have been offered a job anywhere in the world." 🍀

## IN MEMORIAM

The Faculty of ALES notes with regret the passing of its following alumni:

### **ROY EDWARD MCKENZIE**

'40 BSc (Ag)  
of White Rock, BC, in January 2015

### **ISABELLA IRENE DIXON**

(MacKenzie)  
'41 BSc (HEc), '44 BEd  
of Calgary, in January 2015

### **BARBARA OLIVE PEDDLESSEN**

'41 BSc (HEc)  
of Calgary

### **HARVEY TANSLEY ALLEN**

'43 BSc (Ag), '47 MSc  
of Bashaw, AB, in December 2014

### **THERESE M. BEAUCHAMP-**

**O'HANLON** (Beauchemin)  
'43 BSc (HEc)  
of Edmonton, in February 2015

### **HELEN STUART RAMSAY**

(McDougall)  
'44 BSc (HEc)  
of Kelowna, BC, in August 2014

### **JOSEPH ALEXANDER FRASER**

'46 BSc (Ag)  
of Edmonton, in December 2014

### **ELIZABETH ANN DONALD**

'49 BSc (HEc)  
of Red Deer, in January 2015

### **FREDERICK GRANT WAGNER**

'50 BSc (Ag)  
of Regina, in November 2014

### **SYLVIA SCOTT** (Kuores)

'58 BSc (HEc),  
of Edmonton

### **DONALD WAYNE LUNTY**

'77 BSc (Ag)  
of Forestburg, AB, in January 2015

### **BRIAN HAROLD BIRCHALL**

'78 BSc (Ag)  
of Crossfield, AB, in November 2014

### **NORA MAY KNOWLES** (Kowalski)

'48 BSc (HEc)  
of Edmonton, in September 2014

### **STANLEY ERNEST BEACOM**

'49 BSc (Ag), '51 MSc,  
of Melfort, SK, in June 2014

### **LOUIS CHARLES CHAUVET**

'49 BSc (Ag),  
of Edmonton, in July 2014

### **ELIZABETH GWEN LYON**

'49 BSc (HEc),  
of Calgary, in June 2014

### **PHILIP MYCAL HALISKY**

'50 BSc (Ag),  
of Logan, UT, in May 2014

### **ELIZABETH MARILYN**

**THOMPSON** (Sears)  
'50 BSc (Ag),  
of Nanton, AB, in July 2014

### **ROBERT HIRONAKA**

'51 BSc (Ag), '53 MSc,  
of Lethbridge, in September 2014

### **JUANETTA MCCOY** (Mercer)

'52 BSc (HEc),  
of Ladner, BC, in October 2014

### **SOPHIE SKULSKY** (Tkachuk)

'52 BSc (HEc),  
of Las Vegas, NV, in July 2014

### **STUART BOWEN WILTON**

'53 BSc (Ag),  
of Olds, AB, in October 2014

### **MARY ELINOR AITKEN** (Maw)

'54 BSc (HEc),  
of Osoyoos, BC, in May 2014

### **GERHARD JACOB REGEHR**

'56 BSc (Ag),  
of Edmonton, in May 2014

### **RONALD EUGENE HRUDEY**

'73 BSc (Ag),  
of Vegreville, AB, in September 2014

### **STEVE ANDREW HOWE**

'75 BSc (Ag),  
of Camrose, AB, in July 2014

### **JACOB LENARD WILLMS**

'77 BSc (Ag),  
of Lethbridge, in June 2014

### **ROBERT JOSEPH C.C. DOOLAEGE**

'82 BSc (Ag),  
of Olds, AB, in July 2014

AFTERGRAD

## WEIRDOS WELCOME

BY MATTHEW PYPER, MSc, 2009

I was recently introduced to a colleague who called herself a “weirdo” because she was working to connect people with science. Given my wife and I had recently launched a business focused on the same thing, it made me realize I was probably a weirdo too!

I suppose I’ve always been a bit of a weirdo. Growing up on a farm, I grew a passion for environmental sustainability, but my views weren’t always welcome around the dinner table. I think my dad and brother sometimes thought I would end up chaining myself to trees for the rest of my life! It’s not because I was extreme in my views — nor that I wanted to chain myself to trees — but rather because my views were different. A little bit weird, you might say.

During my time doing a master’s degree in ALES, I had a similar experience. Although I was studying conservation biology, I took every opportunity to learn about other things like forestry operations to see the whole picture. While many of my lab mates questioned my intent, my supervisor encouraged me on my journey. So I took a course on innovation to broaden my perspective. There I was, surrounded by students developing the next widget or therapeutic drug. I was curious how I could use the same principles used to create new products to better communicate the value of sustainability. What I came to realize is that you have to be a little ‘weird’ to find creative solutions. I realized that being weird didn’t have to be weird at all if I could connect my ideas to issues of importance to decision makers.

The idea of taking new ideas and connecting them to people became a core passion of mine. Too often I



AMANDA HARTEN

saw barriers between scientists and decision makers result in new ideas being shelved in exchange for the status quo. As I embarked on my career, I was determined to try and change that. Most recently, my wife and I launched FUSE Consulting. Our focus is connecting new science to industry and government with the goal of improving sustainability. I’m convinced that being a little weird is a welcome change for our clients, because it allows us to offer them fresh, creative solutions.

While it’s easy to paint a rosy

picture about the transition from graduation to running our own business, we’ve had our share of challenges. But for us, the rationale for taking the risk was simple: we often tell our three kids to dream big and that with hard work they can do anything. I suppose this is our small way of showing them it’s not just lip service. I just hope we can instill in them that being a weirdo is welcome. 🍷

*Matthew Pyper is the owner of FUSE Consulting (fuseconsulting.ca).*

# ALES 100 Events

## **International Association for The Study of the Commons**

**15th Biennial  
Global Conference**

May 25 – 29, 2015  
Shaw Conference Centre

## **Convocation**

June 2, 2015  
3:00 p.m.  
Jubilee Auditorium

## **ALES 100 Day**

June 26, 2015  
2:00 p.m. – 6:00 p.m.  
Devonian Botanic Garden

## **Mattheis Ranch Field Day**

July 10, 2015

## **ALES 100 @ KDays**

July 17-28, 2015

## **Breton Plot**

July 30, 2015

## **Project Serv**

September 19

## **Old Country Alumni Wee**

September 25  
10:00 a.m. – 4  
South Campus  
Research Sta

## **Centennial**

**Ronald O. B.  
Food & Agri**

October 2015

## **Bar None Av Reunion Din**

November 20  
Northlands E  
Salon 301-30

Details about these events and  
more can be found on our website, visit

**[ales100.ualberta.ca](http://ales100.ualberta.ca)**

ALES  
**100**

# GREEN HOUSE

2-06 Agriculture/Forestry Centre  
University of Alberta  
Edmonton, AB, Canada T6G 2P5

# ALES 100 years

1915-2015



[ales100.ualberta.ca](http://ales100.ualberta.ca)

Providing  
solutions  
to global challenges



 UNIVERSITY OF ALBERTA  
FACULTY OF AGRICULTURAL,  
LIFE & ENVIRONMENTAL SCIENCES