Crops and Livestock Research Centre

100 years in the making

Charlottetown research centre turns 100

When Charlie Scranton came to P.E.I. to farm, rural communities were just getting electricity, horses still worked the fields, the TransCanada highway was mud in spots and J. Artemus Clark was on the job as the first director of the Charlottetown Experimental Station.

When was that? 1925? 1930?

Scranton, 93, chuckles.

“It was 1940. Things have changed a lot since then.”

The retired farmer says even in 1940, progress in agriculture was already well underway. He credits that in part to the P.E.I. research facility and to Clark, who had already been in the director’s seat for 31 years.

“When I started farming as a 15-year-old in Nova Scotia, I learned a lot of things the hard way,” says Scranton, who now lives in Stratford.

“When I came here, I learned a lot from the research centre, and it was the easier way. It helped me develop one of the best Hereford herds in the country.”

This year, Agriculture and Agri-Food Canada marks 100 years of agricultural research on Prince Edward Island.

Established on August 14, 1909, the Charlottetown Experimental Station was Canada’s ninth federal agricultural research facility.

At the time, Anne of Green Gables was still new in the bookstores, horsepower was on four ------ and the family business was likely to be a farm.

Like agriculture, a lot has changed at the facility since then.

While telling a cab driver you want to go to the experimental farm will still get you to the right place, the official name is now the Crops and Livestock Research Centre.

The original 12-hectare experimental farm has expanded to 65 hectares of land in Charlottetown. Another 330 hectares of field research takes place at the Harrington Research Farm, outside the city.

A lab and office complex was opened in 1972 and the department has added new lab space at the Regis and Joan Duffy Research Building at the University of P.E.I.

The centre is part of an Agriculture and Agri-Food Canada research network that now includes 19 research centres and 21 satellite research farms. The network is linked to universities and research institutes across Canada and around the world.

Since 2006, the federal government has invested more than $8 million to expand the research centre’s lab space, purchase equipment and upgrade lab facilities.

That includes a recent announcement of $5.4 million for a new state-of-the-art greenhouse complex at the Harrington Research Farm.

Over its first 100 years, the Crops and Livestock Research Centre has had a hand in the development of almost every agricultural commodity grown on the Island.

Research subjects have included corn, sugar beets, turnips, carrots, strawberries, grains, forages, poultry and eggs, foxes and mink, dairy cattle, goats, sheep and potatoes.

Until the 1950s, the area along Allen Street was an apple orchard and bee hives were stacked near Mount Edward Road.

“I don’t think we would have the amount of agriculture we have in the province today without the research centre,” says Ernie Mutch, president of the P.E.I. Federation of Agriculture.

“You look at what farmers are growing and how they are growing it and you can trace a lot of it back to their scientists and technicians.”

“It works both ways,” says Manon Proulx, the current director of the Crops and Livestock Research Centre.

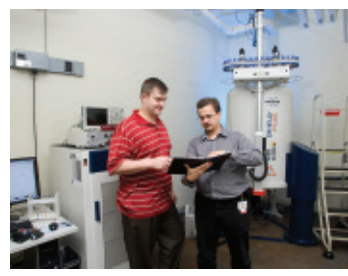
“Farmers have been part of the research program here from the beginning and they are still a key partner,” she says. “What we develop in the labs and in the research fields doesn’t mean anything unless it can work for them.”

“The scope and complexity of agriculture is changing. The solutions we are looking for today involve more people inside and outside agriculture.”

Retired farmer Charlie Scranton

► continued on page 3

Inside

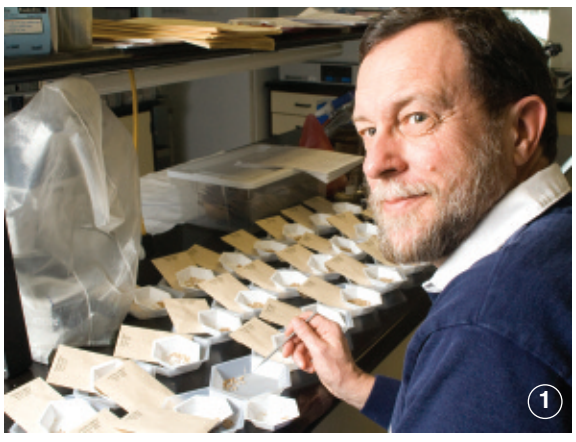


Agriculture and Agri-Food Canada
Agriculture et Agroalimentaire
Canada

New varieties have created opportunities for agriculture

At first glance, it looks like Dr. Richard Martin has ordered take-out – a lot of it.

The lab table in front of him is covered with shallow cardboard containers. But the containers contain wheat seed, not fast food, and Martin is giving the seed a last inspection.



From top to bottom: 1. Dr. Richard Martin does a last inspection of seed before it is planted in the 2009 spring wheat breeding program. **2**. Shelley Adams harvests carrots at Harrington Research Farm in 2008. **3**. Armed with a sickle, Ronnie Matters cuts barley lines obtained from the Canadian Gene Bank to evaluate for disease resistance. **4.** Dave Younker and Ken Kennedy sort potatoes following 2008 field trials.

"We are always looking for new varieties that could benefit growers," he says, checking the content of his spring wheat breeding program.

"We're preparing for what I think will be our biggest cross program for spring wheat in 20 years. We've got about 125 crosses of spring wheat in the greenhouse."

Martin's work is the latest chapter in 100 years of variety development and evaluation that has involved just about every crop grown on P.E.I..

The work has led to better yields, longer growing and grazing seasons and more health benefits.

Over the years, almost every commodity grown on the Island has attracted the attention of Charlottetown researchers, from potatoes and turnips to dairy cattle and goats to apples and strawberries.

The Charlottetown Experimental Station was established to help re-invigorate Island agriculture. The industry was at a low ebb in the early 1900s after years of intensive farming. Crop yields were dropping with the rapid loss of soil fertility.

Scientists used test plots to demonstrate the value of better farming practices, including rotating crops so that the same crop wasn't grown in the same patch of earth two years in a row.

They also looked for better crop alternatives for P.E.I.'s growing conditions.

An early success was Charlottetown 80, a barley variety developed by the research centre's first director, Artemus Clark. Dubbed "the farmer's barley" by one seed grower at the time, Charlottetown 80 became an industry favorite for the livestock industry as an animal feed.

"If you look at what that started, there have been 19 varieties of barley developed at the research centre, most of them by scientists Dick Sterling and Alak Choo," says Martin.

"They came up with barley varieties that offered livestock producers better feed for their herds.

"Better quality and grade feed and larger kernel barley meant livestock grew more quickly and provided better returns for farmers," he says.

Livestock breeding was not originally part of the centre's research. Animals on the site were simply used to eat surplus cereal and garden crops grown by the researchers.

That changed in 1911 when lambs were bought by the centre for breeding research. That was followed by dairy cattle, goats and poultry.

Charlottetown is still actively involved in cereal breeding on a provincial and national level. Other types of breeding – crops and livestock – are carried out at Agriculture and Agri-Food Canada's other research centres.

But researchers here continue to evaluate new varieties of traditional and alternative crops for human and animal feed to determine if they can create economic opportunities for farmers.

Research on what is now the province's largest crop, potatoes, was already underway at the research centre in 1915.

Three years later, it opened a new seed inspection service that led to the first international sale of Canadian seed potatoes.

Walter Arsenault has been working with potato growers since 1987, a time of continued expansion in commercial potato production that has fed a growing processing sector.

Working with Agriculture and Agri-Food Canada's potato breeding facilities in Fredericton, New Brunswick and Lethbridge, Alberta, Arsenault looks for varieties that will be more profitable for farmers and that reduce the crop's impact on the environment.

One of the bigger successes was the introduction of the Shepody potato developed by Agriculture and Agri-Food Canada in Fredericton, which has become the second-most popular french fry potato variety in the world.

Arsenault works closely with colleagues at the centre and throughout the department's research network specializing in potato pests and diseases.

"I think we've contributed with potato varieties that are more disease resistant and have larger yields," says Arsenault.

"We also developed production techniques to grow these new varieties successfully."

Boyd Rose, chair of the P.E.I. Potato Board, agrees.

"Over the years, it has certainly been beneficial to our industry to have these trials on disease resistance and the effectiveness of insecticides and herbicides, as well as variety trials for potatoes and the crops you can grow in rotation with potatoes."

Charlottetown is also a testing site for strawberries and raspberries varieties developed at the department's research centre in Kentville and new vegetable varieties from a number of different centres.

As the Crops and Livestock Research Centre enters its second century, scientists are looking at a new generation of crops that could extend the reach of agriculture into potentially lucrative new markets.

The work is being driven by a growing ability to identify individual genes in plants and animals and how they function.

"It's a case of very good timing," says Jason McCallum, who joined the Centre last year.

"Our ability to identify new components in plants and animals that have potential health, environmental and economic benefits is coming on stream at a time when the world is struggling with challenges in these areas." ■

Charlottetown research centre turns 100

continued from the cover

Today, the centre's 13 scientists and staff of 80 focus on grain breeding, evaluating potential new fruit, vegetable and oilseed crops for the region, soil and water research, organic production and reducing the environmental impact of farm chemicals.

The centre is also at the forefront of agricultural research known as bioscience.

Dr. Chris Kirby is using the equivalent of a hospital MRI machine to probe the properties of plants at the molecular level.

In the process, Kirby and a scientific team from Agriculture and Agri-Food Canada, the National Research Council Institute for Nutrisciences and Health and the University of P.E.I. are identifying new opportunities to improve and protect health and the environment and generate income for farmers.

The organizations are also part of a larger team in Prince Edward Island using cutting-edge technology that is combining science and commerce to explore new opportunities for resource industries like agriculture.

The Prince Edward Island BioAlliance was created in 2005 by community leaders to coordinate efforts and establish bioscience as a new pillar of the P.E.I. economy. Partners from business, research, academia and federal and provincial government institutions have a shared vision for discovery, innovation and commercialization.

P.E.I. BioAlliance Executive Director Rory Francis says the P.E.I. bioscience cluster is developing "next generation prosperity."

According to a provincial economic strategy released in 2008, the BioAlliance and its partners expect that private sector revenues will quadruple to $300 million by 2014 and provide 2,000 jobs in the province.

"Prince Edward Island is in a good position to take advantage of this coming together of bioscience and agricultural technology," he says.

"Bioscience-based research and development conducted by organizations like Agriculture and Agri-Food Canada is creating new economic opportunity along the value chain, from primary products to value-added products for global markets."

"This is a very exciting time in agricultural research," agrees Kirby. "We have technologies that can make agriculture the solution to a lot of the challenges we face today."

While scientists solve present-day issues and look to the potential of the future, research centre librarian Barrie Stanfield preserves past contributions.

With a turn of a mobile shelving crank, he opens up the centre's 100-year history.

The book shelves wheel apart to reveal books and scientific reports dating back generations.

"It's very rewarding to manage a library that supports the work of people who have dedicated whole careers to agriculture," says Stanfield, who has been the librarian for 37 years. "It makes me proud to work here."

As the research centre celebrates its 100th anniversary this year, new chapters continue to be written, both in research and farming. ■

Health-driven research opening door to new varieties in P.E.I.

Rosehips. High-bush blueberries. Calendula. Ground hemlock.

They are not the first things to come to mind when you think about P.E.I. agriculture.

Introducing new crops and varieties to P.E.I. is nothing new for the Crops and Livestock Research Centre. Test fields of new cereal varieties were already growing in 1910.

But a growing body of scientific knowledge which is uncovering why many plants are good for you is starting to broaden the definition of a farm crop.

The science is linking chemicals and compounds in the plants called bio-actives to improved health and disease prevention.

Fruit and vegetable researcher Kevin Sanderson says the world-wide surge in popularity of blueberries and cranberries is a case in point.

"There is a tremendous future in native berries which were being used 100 years ago for their health properties," says Sanderson, who is leading small fruit variety evaluations at the Crops and Livestock Research Centre.

"The research is showing us just how powerful wild blueberries, elderberries, rosehips and other native small fruit can be as natural medicine chests."

Rosehips are the fruit that form on the wild rose in late summer. Like blueberries and cranberries, they are rich in vitamin C and antioxidants.

Antioxidants have the ability to slow down cell damage and have been associated with disease prevention and stronger immune systems.

Sanderson can see the day when fields of wild roses are being grown in plantations to tap into the same market.

"We have several selections from P.E.I.'s wild rose populations with excellent bioactive content and we are working out the best way to grow them commercially," he says.

"I think this has real potential as a viable new crop for farmers."

The Harrington Research Farm is a regional test site for the evaluation of strawberry and raspberry selections developed at Agriculture and Agri-Food Canada's Atlantic Food and Horticulture Research Centre in Kentville, Nova Scotia.

Yellow-flowered calendula is one of a number of oilseed crops that will be grown on P.E.I. farms this year under a contract with a company that is selling the oil to manufacturers with products as diverse as cosmetics and infant formula.

Other oilseed varieties that will be adding colour to the Island landscape include crambe (white flower), borage (blue flower), meadowfoam (yellow flower) and poppies (red flower).

Researchers have been growing ground hemlock, or Canada yew, at the Harrington Research Farm to determine if it can be grown commercially in a plantation.

Normally found in the woods of P.E.I. and eastern Canada, ground hemlock has a substance in it that cancer researchers are using in the fight against cancer and other diseases.

At the research centre's lab facilities at the Regis and Joan Duffy Research Building at the University of P.E.I., Sanderson's colleagues are fine-tuning their ability to identify the healthy bioactive compounds of these new crops.

"At the end of the day, we want to make sure farmers are able to share in the new markets that will be created by this research,"says Sanderson.

David Mol, president of the Island Grain and Protein Council, knows first-hand that today's "new crops" can become tomorrow's agricultural stalwarts.

"We brought some winter wheat lines with us from Ontario when we moved to P.E.I. in the 1960s," says Mol.

"They were new in P.E.I. at the time and the research centre conducted their winter wheat trials on our farm. They used our farm for trials for the next 20 years."

"Those varieties turned into a good opportunity for us and for the industry." ■

David Mol, President of the Island Grain and Protein Council, knows first-hand that that new crops can become established ones.

New wheat variety pays tribute to the late Dr. Hans Nass

When Dr. Hans Nass passed away in 2005, he left behind a Maritime grain industry strengthened by many of the varieties he developed over a 34-year career with the Crops and Livestock Research Centre.

That contribution is now being recognized in a very fitting way.

A variety of wheat that he developed is now entering the market carrying his name.

The Nass spring wheat variety grows well in P.E.I. and has increased resistance to wheat's most costly disease Fusarium head blight.

"It is an excellent variety and well worth naming after him," says acting research manager Dr. Richard Martin.

It was also the last variety released prior to his death.

"We actually renamed the variety in honour of Hans before it hit the marketplace," said Martin.

David Mol is one of the farmers growing the Nass wheat variety.

Mol, president of the Island Grain and Protein Council, says Nass played a major role in improving the wheat crop on the Island.

"We seed growers were always closely monitoring new varieties worked on by the scientists and breeders," says Mol, whose association with the research centre dates back to the 1960s.

"I got to know Dr. Nass as a young cereal breeder who shared my interest in winter wheat. For about 20 years, the research centre's winter wheat trials were conducted on our farm."

Today, three of the four varieties of wheat Mol grows were developed by Nass.

Starting with the Vernon variety in 1977, Dr. Nass developed 16 spring and winter wheat varieties.

Dr. Nass gave many of his varieties Island names AC Wilmot, AC Grandview, AC Milton, AC Borden, AC Helena and AC Brookfield.

Martin says the legacy left by Nass can be measured in the wheat fields.

"The fact that many of these varieties are still being regularly grown is a testament to the value and importance of Dr. Nass's breeding work." ■

Dr. Hans Nass in a field of one of the grain varieties he developed. Dr. Hans Nass in 1984.

Research helps keep vegetable farmer ahead of the curve

Vegetable grower Eddie Dykerman only has to look at the price of fertilizer to realize how important agricultural research has been to his business.

Dykerman farms just west of Charlottetown with his brother Gerald, growing close to 120 hectares of carrots, lettuce, cauliflower and broccoli.

"We work hand in hand with the research centre and in recent years it seems the research has really been ahead of the curve."

"Their work on crop fertility, especially in carrots, has been good news for us. We have cut our nitrogen use from 100 pounds to the acre to 25 pounds without a loss in yield."

"You can't do much about the price of fertilizer but you can use it more efficiently, which they proved to us. That has been very good for our bottom line because the price of fertilizer has nearly quadrupled in the past five years."

Dykerman adds that researcher Kevin Sanderson also showed them how to decrease problem nematodes by planting crops like pearl millet in rotation with carrots and how to reduce costly carrot mould by trimming back the canopy of carrot tops.

Both moves have had created financial and environmental benefits.

"Kevin Sanderson is always asking us about our growing problems," Dykerman says. "We sit down and try to come up with possible solutions and he will test them out."

"It's an excellent working relationship." ■

Vegetable grower Eddie Dykerman checks over some of his plants with researcher Kevin Sanderson.

Charlottetown leads national study on Fusarium in potatoes

The fungus samples in Dr. Rick Peters' petri dishes are not the white or blue-green fuzz you might see on forgotten bread or cheese. The starburst patterns of purple, pink and blue fuzz look like tie-dyed art.

But this fungus has potato farmers in Canada and around the world seeing red.

It's called Fusarium and while it usually makes headlines as a wheat disease, it can be a problem for most crops.

The fungus can leave potatoes decaying in the ground before they can sprout and harvested potatoes rotting in storage.

Worse, it's hard to diagnose and its five major strains and up to a dozen minor ones are becoming increasingly resistant to the fungicides farmers are using to control it.

Peters, a scientist at the Crops and Livestock Research Centre, is leading a Canadian study to identify the strains of Fusarium that are present in potato fields across the country and to try to come up with a test to diagnose it.

It's the latest chapter in plant disease research that goes back to the earliest days of the research centre.

There are hundreds of plant diseases that can attack Prince Edward Island crops.

"Every crop has its diseases and they have always been a challenge for farmers," says Peters.

"We are continually looking for crop varieties that are resistant to disease. "When we don't have those varieties, we look for effective ways to control the damage caused by disease."

In the case of Fusarium, Peters' national study will gauge the extent of the problem for Island and Canadian potato farmers.

"We want to see what's out there and get a better handle on the fungicide resistance issues that farmers are facing," says Peters.

Peters hopes to develop a test that can quickly identify the strain of Fusarium fungus in potato seed or stored potatoes, allowing farmers to choose management methods that control the particular strains they are dealing with. ■

Photo by Dylan Riley
Rick Peters is leading a Canadian study to identify the strains of Fusarium that are present in potato fields across the country. Fusarium is a fungus that can cause potato seed to rot in the ground before it sprouts and harvested potatoes to rot in storage.

A photo history of the research farm

A premier's home becomes home to agricultural research

In 1909, $5,700 was enough to buy a property that could be turned into a federal experimental research farm.

That's what the Province of P.E.I. paid for 11.9 hectares and a stately but rundown 10-room mansion called Ravenwood, once owned by P.E.I.'s first premier, J.C. Pope.

The province leased the property to the Dominion Department of Agriculture and on August 10, 1909, the Charlottetown Experimental Station was established.

At the time, the property was swampy and overgrown with trees. Workers cleared the land and drained the swamp through the fall and spring. The land was ready for planting in 1910.

The home was used for office space and living quarters for the station director until 1990. Ravenwood is now the office of Island Nature Trust. ■

Staff in 1955

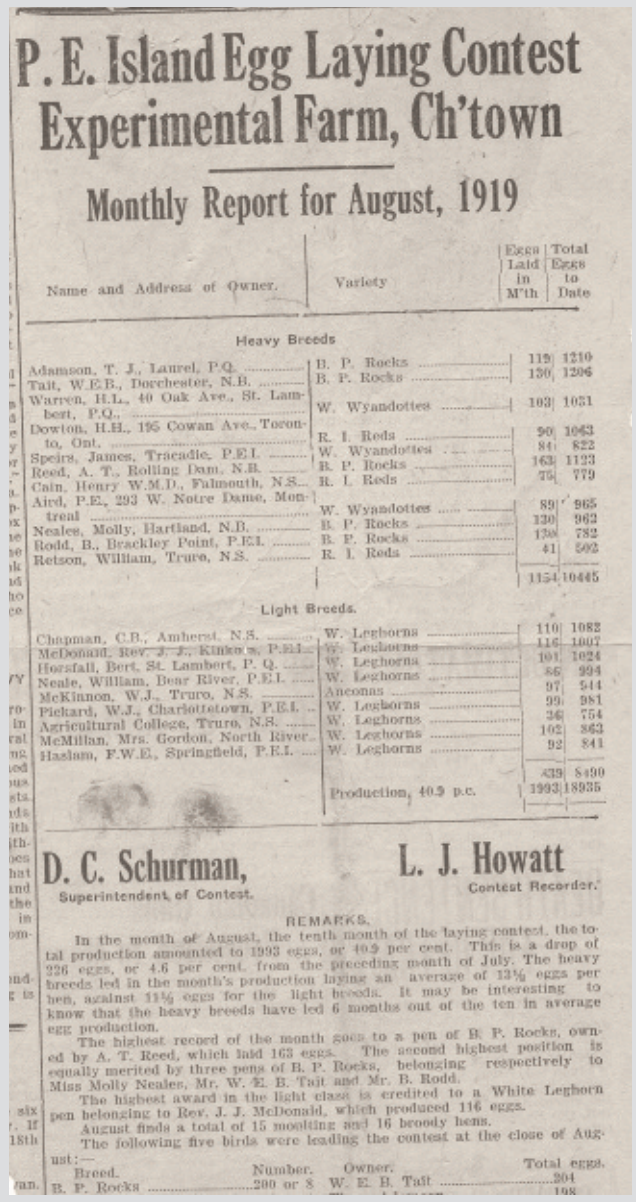
Corn was one of the first crops grown by researchers in 1910.

The centre purchased its first tractor in 1920, a Moline Universal D. Horses were still used on the research farm well into the 1930s.

The research centre was once a popular train stop. The rail line is now the Confederation trail.

Ravenwood

Some Charlottetown Experimental Station staff in 1910. Left to right - John Trainor, Assistant Supervisor Narcisse Savoie, Superintendant Artemus Clark, Foreman Bagnall, unidentified, unidentified, Henry Callbeck and Billie Hynes.



P. E. Island Egg Laying Contest
Experimental Farm, Ch'town

Monthly Report for August, 1919

Name and Address of Owner.	Variety	Eggs Laid in M'th	Total Eggs to Date
Heavy Breeds			
Adamson, T. J., Laurel, P.Q.	B. P. Rocks	119	1210
Tait, W.E.B., Dorchester, N.B.	B. P. Rocks	130	1206
Warren, H.L., 40 Oak Ave., St. Lambert, P.Q.,	W. Wyandottes	103	1031
Dowton, H.H., 195 Cowan Ave., Toronto, Ont.	R. I. Reds	90	1063
Speirs, James, Tracadie, P.E.I.	W. Wyandottes	84	822
Reed, A. T., Rolling Dam, N.B.	B. P. Rocks	163	1123
Cain, Henry W.M.D., Falmouth, N.S.	R. I. Reds	75	779
Aird, P.E., 293 W. Notre Dame, Montreal	W. Wyandottes	89	965
Neales, Molly, Hartland, N.B.	B. P. Rocks	120	962
Rodd, B., Brackley Point, P.E.I.	B. P. Rocks	138	782
Retson, William, Truro, N.S.	R. I. Reds	41	502
		1154	10445
Light Breeds.			
Chapman, C.B., Amherst, N.S.	W. Leghorns	110	1082
McDonald, Rev. J. J., Kinkora, P.E.I.	W. Leghorns	116	1007
Horsfall, Bert, St. Lambert, P. Q.	W. Leghorns	101	1024
Neale, William, Bear River, P.E.I.	W. Leghorns	85	994
McKinnon, W.J., Truro, N.S.	Anconas	97	944
Pickard, W.J., Charlottetown, P.E.I.	W. Leghorns	99	981
Agricultural College, Truro, N.S.	W. Leghorns	36	754
McMillan, Mrs. Gordon, North River	W. Leghorns	105	863
Haslam, F.W.E., Springfield, P.E.I.	W. Leghorns	92	841
		839	8490
	Production, 40.9 p.c.	1993	18935

D. C. Schurman,
Superintendent of Contest.

L. J. Howatt
Contest Recorder.

REMARKS.

In the month of August, the tenth month of the laying contest, the total production amounted to 1993 eggs, or 40.9 per cent. This is a drop of 226 eggs, or 4.6 per cent. from the preceding month of July. The heavy breeds led in the month's production laying an average of 13⅓ eggs per hen, against 11⅓ eggs for the light breeds. It may be interesting to know that the heavy breeds have led 6 months out of the ten in average egg production.

The highest record of the month goes to a pen of B. P. Rocks, owned by A. T. Reed, which laid 163 eggs. The second highest position is equally merited by three pens of B. P. Rocks, belonging respectively to Miss Molly Neales, Mr. W. E. B. Tait and Mr. B. Rodd.

The highest award in the light class is credited to a White Leghorn pen belonging to Rev. J. J. McDonald, which produced 116 eggs.

August finds a total of 15 moulting and 16 broody hens.

The following five birds were leading the contest at the close of August:—

Breed.	Number.	Owner.	Total eggs.
B. P. Rocks	280 or 8	W. E. B. Tait	204

In 1919, Superintendent Artemus Clark and poultryman Dave Schurman encouraged Island farmers to take part in the national monthly competitions as a way of developing the poultry and egg industries on P.E.I.

The centre bought its first car in 1921. The Model T Ford gave the research superintendent Artemus Clark a new way to visit farms around the Island.

High school girls stepped in to fill the shortage of farm labourers who went off to fight in World War 1. They were nicknamed “farmerettes”.

Royal roots

Regal visits remembered in Royal Forest

When it comes to royal pedigree, the Crops and Livestock Research Centre may have some of the deepest roots in Canada.

Edward, the Prince of Wales and a future king, planted an English oak at the Centre in 1912.

His niece, Elizabeth, a princess and a future queen, planted a seedling from her uncle’s oak tree in 1951. And Queen Elizabeth’s son Charles, accompanied by his wife Diana, planted another English oak in 1983.

The trees are part of what has been nicknamed the “Royal Forest” in front of Ravenwood, the former director’s residence, on the east side of the Charlottetown research grounds.

The forest is the result of a ceremonial tree planting ceremony started by the research centre’s first superintendent in 1912.

Since then, 27 trees have been planted by visiting royalty, governors general, dukes, lords and earls.

Lady Byng, who is now best known for the National Hockey League trophy named in her honour, planted a tree in 1923.

Dr. Lloyd MacLeod, was the research centre director in 1983 when Prince Charles and Lady Diana became the third generation of the royal family to plant a tree on the site.

“It was a great day and a huge crowd came out for it,” MacLeod recalls.“The prince and princess viewed our research exhibits and the prince was very interested in seeing the tree planted by his mother, which was quite large by then.”

MacLeod says the excitement generated by the tree plantings helped generate public interest in the centre’s work.

It has also given the centre a lasting, living tribute.

“It’s a lovely area to walk through,” he says, a sentiment echoed by many who use the area on a regular basis. ■

Edward, Prince of Wales, planted an English Oak in 1912

Princess Elizabeth plants a tree in the Royal Forest in 1951.

Henry Callbeck operates a horse-drawn hay mower in 1930, cutting hay for dairy cattle. By this time, the centre had a dairy research herd of Ayshire cattle for 15 years.

Crop spraying in the 1930s.

A field day at a farm demonstration in 1926 in Rustico. Superintendent Artemus Clark and staff member John Fixter introduced “illustration stations” – farms visible from the highway that let the public see the research that was going on.

Pitching hay at research farm in 1947. Left to right: Cy Pickard, John Hanna, Gus Wise and Douglas MacLeod.

An apple orchard was part of the Charlottetown research site for 50 years. The orchard is gone now but apple variety trials continue in the province.

Beehives at the research centre. The bees were used for crop pollination.

◄ Artemus Clark, the first director of the research centre, examines the barley variety he developed, Charlottetown 80, while his successor, Robert Parent, looks on.

Dr. Federal Minister of Agriculture H.A. (Bud) Olson places the cornerstone at the research centre’s new facility in Charlottetown in 1972. He was joined by Premier Alec Campbell, centre, and P.E.I. Minister of Agriculture D.A MacDonald. ►

A cereal production field day in 1970.

In 1909, swampland was drained at the Experimental Research Station to allow research crops to be planted. The wetlands returned to the Charlottetown site in 2008 with a joint project between the federal and provincial governments, Ducks Unlimited Canada and the North American Waterfowl Management Plan. Wetland restoration creates wildlife habitat while providing on-farm benefits.

Crops and Livestock Research Centre today.

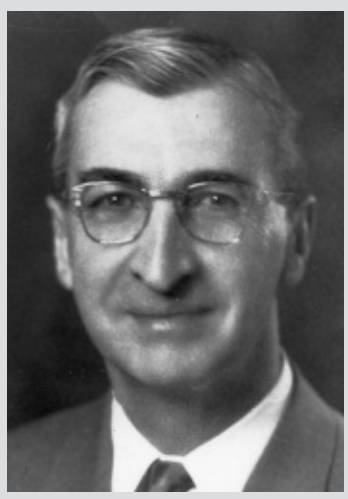
An aerial view of Harrington Research Farm. The land was bought in 1983 to expand field research.

Lloyd Kerry tests samples at the Regis and Joan Duffy Research Building on the University of P.E.I. The facility opened in 2008 and is now home to a research team that includes scientists from the Crops and Livestock Research, the National Research Council Institute for Nutrisciences and Health and the university.

Potato specialist Wally Arsenault talks to Chinese farmers during a 2007 Canada-China agricultural exchange. The exchange also included humanitarian work as Arsenault showed impoverished farm families how to improve their small potato fields.

The directors

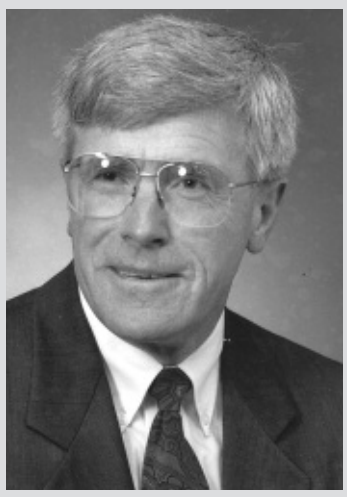
Artemus Clark
1909-1947



Robert Parent
1947-1966

Dr. Glen Russell
1966-1970

Dr. Lloyd MacLeod
1970-1990



Dr. Carl Willis
1991-1996

Dr. David Bailey
1996-1998

Dr. Christiane Deslauriers
1999-2005

Manon Proulx
2005-present

A new way of looking at plants is changing the future of agriculture

Dr. Chris Kirby holds up a long glass tube filled with a purple liquid in it. "This is a potato," he tells the group of people who are here to learn about his work.

"I know," he says in response to the questioning looks. "It sounds crazy but this is a sample of a purple potato variety that we want to analyze for its antioxidant level."

The mention of antioxidants gets some knowing nods. Antioxidants have been linked to health benefits such as stronger immune systems and disease prevention.

He places the glass tube in a holding clip attached to a metal halo above a smooth, white six-foot barrel. Inside the barrel is a magnet with the equivalent magnetic field of 20,000 fridge magnets.

A mechanical arm reaches forward and grabs the tube and lowers it inside the barrel.

"And there we go," he says, pointing to a series of coloured dots that are appearing on a nearby computer screen. "We have just taken a look at the molecules in this sample."

Welcome to the new world of nuclear magnetic resonance, or NMR for short.

"Essentially, it's an MRI machine that hospitals use except that it's on its side and it's got an opening just big enough for a test tube sample," says Kirby. It's the newest piece of technology at Agriculture and Agri-Food Canada's Crops and Livestock Research Centre.

The $750,000 NMR unit is the focal point of pioneering research on plant molecules that is opening the door for improvements in human and animal health and creating new opportunities for farmers.

Housed at the Regis and Joan Duffy Research Building at the University of P.E.I., the NMR is shared by scientists from the Crops and Livestock Research Centre, the National Research Council, the University of P.E.I. and the bio-tech industry on P.E.I.

Like an MRI, the NMR uses magnetic and radio waves to identify and analyze plant molecules.

"I like to compare the NMR to a radio station," Kirby says. "We play the test sample a song and then listen to how the sample plays the song back."

The differences in how that song is played back are captured in the computer where it can be analyzed.

"It is powerful technology. We are looking at these plant molecules in action and learning what they are capable of doing."

Kirby and fellow Crops and Livestock Research Centre scientists Dr. Jason McCallum and Dr. Bourlaye Fofana have been putting the NMR through its paces since last July, analyzing molecules from soybeans, flax, rosehips, berries and other commodities.

"We are looking for something positive in the plant that can lead to a better crop, or to a new use for that crop, and in the process help farmers make a better profit."

Fofana is re-examining the potential of flax with health markets in mind.

"We are currently sorting through various flax varieties to see which ones will grow best in our conditions and promise the best in antioxidants and omega-3," he says.

McCallum is hoping to use the NMR to analyze new grape varieties that could grow in P.E.I.'s cooler climate, creating the potential to expand the province's wine industry.

There are also plans to analyze native P.E.I. plants to see how they compare with the ingredients found in traditional medicinal plants and herbs which could lead to locally grown medicinal plants and products for domestic and export markets.

The NMR unit is already providing analysis for a fee for private companies looking to support health claims made by food product manufacturers.

This year, the unit is collaborating with a company that has contracted a number of Island farmers to grow oilseed crops such as calendula and borage.

If the crops grow well on the Island and the analysis of the oil is favorable, it could generate new alternative crops for farmers. The oil is used to make such things as cosmetics, environmentally friendly paint and infant formulas.

It could even offer field-grown replacements for fish oil that could take the pressure off endangered marine species.

"We are at the beginning of something very big," says Kirby. "We are in for some very exciting times in agriculture." ■

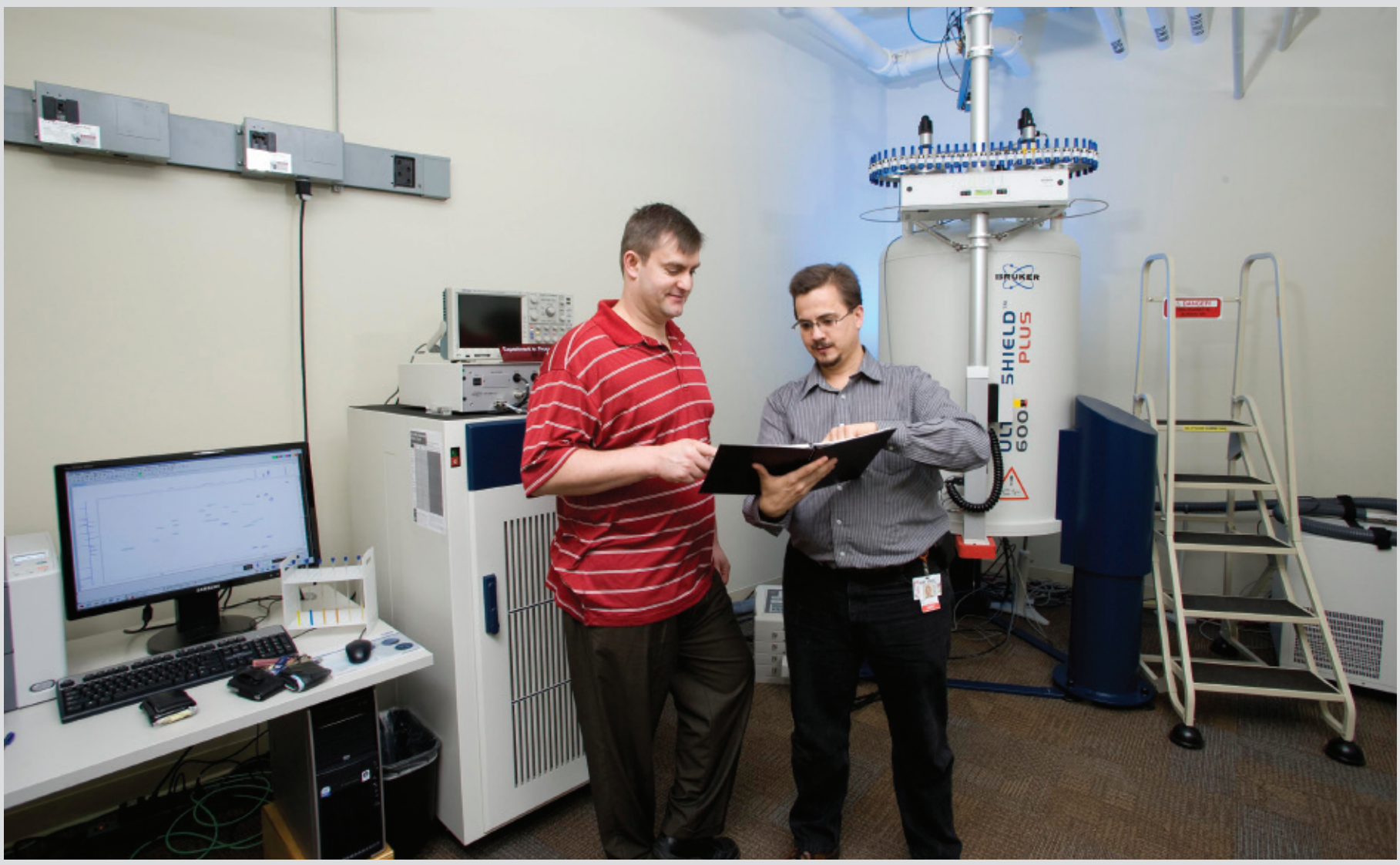


Photo: National Research Council Canada
Bob Chapman, left, and Dr. Chris Kirby go over results in the Nuclear Magnetic Resonance Unit.

Roller and haircuts.

Researchers find innovative ways to make agriculture greener

When Dr. Christine Noronha developed an environmentally friendly way to control a major crop pest, her work ended up in an American farm magazine for inventors and do-it-yourselfers.

Noronha is an insect scientist at the Crops and Livestock Research Centre with a flair for mechanical innovation.

It was her nuts-and-bolts solution to the European corn borer that caught the attention of American Farm Show Magazine.

The corn borer is a destructive pest in corn and potato crops that lives as larvae in the stems of harvested potato plants over the winter, ready to emerge as moths the following spring.

Noronha invented a corn borer crusher for potato harvesters. The crusher is a metal version of the old-fashioned washing machine rollers. As the potatoes are picked up on a conveyor belt, the stems run through the rollers below and the larvae are crushed.

The crushed stems drop back on the ground and help protect the soil against erosion over the winter.

"Farmers have shown a lot of interest in the crusher," says Noronha. "Tests show that between 80 to 90 per cent of the larvae are crushed and that's pretty effective."

That means a double saving for farmers – less crop lost to the insect and less money spent on insecticide.

The mechanical side of innovation has been part of the centre's work since 1920, when staff modified the centre's first tractor to make it work better in P.E.I.'s conditions.

Increasingly, researchers are focusing on mechanical alternatives to chemicals to control insects, plant diseases and weeds. The alternatives reduce the impact on the environment and reduce costs for farmers.

Fruit and vegetable researcher Kevin Sanderson has sparked international interest for his invention, a carrot trimmer.

P.E.I. grows about 300 hectares of carrots. The crop's green canopy of carrot tops can get so thick that it traps humidity, creating a breeding ground for mould and disease.

Sanderson created a series of cutting blades run by a tractor than runs over the rows and cuts out the canopy in between the rows to let the air in.

The "haircut" can reduce mold in carrot rows by up to 80 per cent.

The invention is getting attention from carrot growers and processors in Canada, Europe and the United States where many units are now in use. ■

Christine Noronha demonstrates corn borer crusher.

Weeding out the troublemakers in agriculture

In a career that has spanned more than a third of the Crops and Livestock Research Centre's 100 year history, Dr. Jerry Ivany has written the book on weed control – literally.

"You won't see it on the bestseller list," Ivany laughs, "but Weed Management in Transition is the product of years of research identifying weed issues that are a problem in agriculture and how weed management is changing."

"It allowed us to focus on the ones we needed to worry about, reducing herbicide use and the cost for farmers that goes with that."

Ivany began his work at the research centre in 1971 when the federal agriculture department was modernizing its research to keep pace with industry expansion as part of the P.E.I. Comprehensive Development Plan.

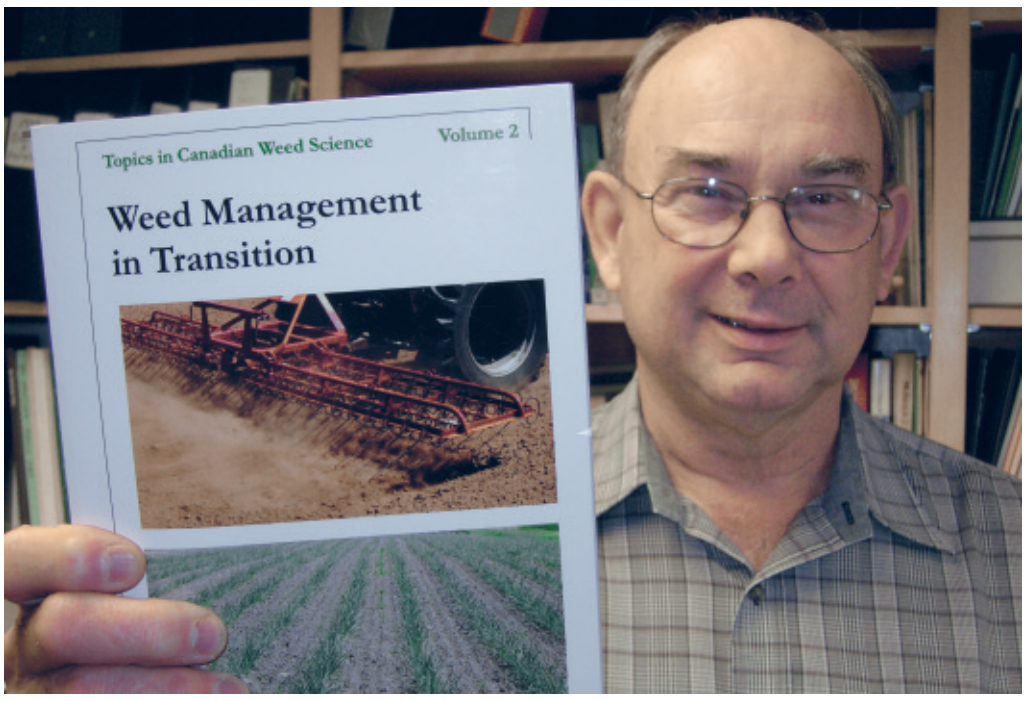
Weed control was identified as a problem area for vegetable crop production.

Working with a team of scientists, Ivany tested various herbicides and spraying schedules to determine the most effective and environmentally friendly methods of getting weeds under control.

"We were able to reduce the amount of some herbicides by 75 per cent, while providing the same level of weed control."

His biggest challenge and greatest triumph was developing a control for quackgrass, a perennial weed that was reducing potato yields by up to 60 per cent.

"Given the size of the industry that was an important step forward," he says. ■



Dr. Jerry Ivany

Ground-breaking (and ground-healing) research

P.E.I.'s red soil is so famous that tourists are willing to buy T-shirts stained with it.

But if the soil is a selling point for tourism, it is literally pay dirt for the province's largest industry: agriculture.

Dr. Linnell Edwards and Dr. Martin Carter are soil scientists who have been working at Agriculture and Agri-Food Canada's Crops and Livestock Research Centre since the early 1980s.

Dr. Linnell Edwards

They say the objectives for their work are pretty straightforward – keep the soil where it is and keep it healthy.

Still, it's a tall order. P.E.I.'s sandy loam soil is light, without a lot of organic matter. It's prone to erosion from the driving rain and high winds that whip the Island.

On top of that, the soil supports an agricultural industry that is the biggest economic generator in the province and is home to Canada's largest supplier of potatoes.

It was the jump in the size of the Island's potato crop in the 1970s and early 1980s that brought Edwards to the research centre. He was hired to provide research on soil management and soil erosion.

"Large scale potato production can be hard on the soil," Edwards explains. "It weakens the soil's structure and fertility."

"We have worked with farmers to reduce that impact, with farming techniques that are easier on the soil and that can revitalize it."

The techniques have included planting potato crops only once every three years on the same piece of land, adding more organic matter to the soil, and making more precise measurements of the soil's nutrient and mineral needs.

Carter joined the research centre at a time when Island fields were being heavily cultivated.

"The soil was vulnerable to erosion and we were seeing topsoil being blown or washed off the fields."

"All that tillage work was also a drain on farmers. It was taking a lot of time and adding up to a lot of fuel costs."

Carter experimented with conservation tillage practices which minimize soil cultivation. In some techniques with cereals, there is no cultivation at all. Seeds are simply pushed into the soil.

Conservation tillage also leaves more plant stubble and residue on the surface and in the soil.

"While there is nothing wrong with plowing, much of it is performed in the fall and the soil is left bare over the winter," says Carter. "Rain, snow, ice and wind can move the soil into streams and rivers."

"We showed that you can shift all your tillage operations to the spring and reduce the amount of cultivating you are doing and still get a good crop."

The research centre began collecting and analyzing soil samples from farms across the province in 1920.

The introduction of a soil analysis service in the 1940s helped farmers pinpoint deficiencies in nutrients and minerals.

In the 1970s, the centre created a soil fertility team.

Edwards says more precise testing today is giving researchers a better picture of soil health.

"Farmers can now be much more effective in replenishing the soil with minerals, nutrients and organic matter," he says.

He adds the data is also underlining the importance of soil as the foundation of the agriculture and agri-food industry.

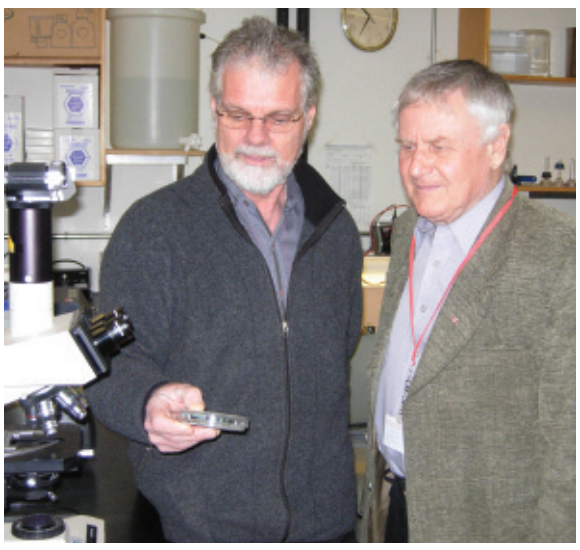
"I think there is much more awareness of the value in maintaining soil health over the long run." ■

A wild gene offers hope against the fungus behind Irish potato famine

Dr. H.W. (Bud) Platt and Agriculture and his Agri-Food Canada colleagues have some wild ideas on how to solve the problem of potato late blight.

Late blight is the fungus-like organism behind the infamous Irish potato famines of the mid-1800s. It continues to damage potato crops around the world, including on P.E.I.

It annually costs Canadian farmers millions of dollars in lost crops and in chemicals used to prevent the damage.



Dr. H.W. Platt and Dr. Alexey Fillipov

The solution may lie in the wild potato varieties of South America which are the ancestors of the modern potato.

"We are seeing some very promising results in late blight resistance using genes from these wild potato varieties," says Platt, who has been investigating late blight and potato diseases at the Crops and Livestock Research Centre since1978.

Science is going back to the origins of the potato with powerful new technology that is opening the door to the genetic world of the spud.

Researchers are decoding potato DNA, allowing them to pinpoint beneficial genes that can be targeted in traditional plant breeding.

Platt is working with Qin Chen, a research scientist Agriculture and Agri-Food Canada's Lethbridge Research Centre in Alberta. Chen has spent the last eight years trying to breed a potato that is naturally resistant to blight.

Chen is combining the cells of wild potatoes resistant to blight with those of cultivated potatoes to produce new resistant varieties.

Those varieties are then cross-pollinated with varieties suited for the Canadian climate and production needs.

Platt says the technology is coming on stream at a time when scientists and farmers are trying, sometimes without success, to stay one step ahead of the fungus.

"The problem is that we are seeing mutations of late blight that are more aggressive and more likely to change and some of our control measures are no longer working as well."

Platt is also working on the late blight puzzle with one of Russia's foremost potato specialists, Alexey Filippov, and a 15-member research team of Russians and Canadians.

In addition, he is co-leading an international team involved in the Global Initiative on Late Blight. The effort is being conducted through the Potato Research Centre in Lima, Peru. The team is helping developing nations cope with late blight through disease resistance and management strategies.

"There are benefits to farmers in all countries when we share our experiences in fighting something like potato blight," Platt says. "We can and do learn a lot from each other." ■

The clear benefits of water research

With measurements sometimes smaller than one part per billion, water quality is an exact science.

Just getting containers clean enough to test he water is a chore in itself.

“We use a cleaning solution of acid and de-ionized water,” says Mark Grimmett from his lab at the Crops and Livestock Research Centre. “If you wash them in the sink like dishes, you just end up with readings affected by the components of the dish detergent.”

The micro-measurements are giving water chemists like Grimmett new insights into the surprising complexity of water and better ideas on how to protect it.

The centre is the leading federal testing facility in Atlantic Canada looking at the relationship between agriculture and water quality.

In the first half of the research centre’s 100 year history, the focus on water had more to do with supply than composition.

But the growth of environmental science and powerful analyzing technologies have put new emphasis on water quality.

“I am measuring samples now with a million times more sensitivity than was possible even 20 years ago,” Grimmett says.

P.E.I. is unique among provinces when it comes to its water supply. All of its drinking water comes from underground sources.

The few lakes and rivers do not have an adequate water supply to feed taps.

Photo by Dylan Riley
Provincial water specialist George Somers and Mark Grimmett take water samples.

In fact, the Island is more like a giant sponge, with groundwater being stored in, and flowing through, small spaces and cracks in the rock underground.

What the land drinks in on the surface percolates through the soil and finds its way to the water table below.

The chemical make-up of the water is determined by the material it comes into contact with on its journey through the soil and underlying rock.

Another interesting feature about the water table is that it is not flat like the surface of a lake.

“The water table actually follows pretty closely the rolling topography of the land,” says Grimmett.

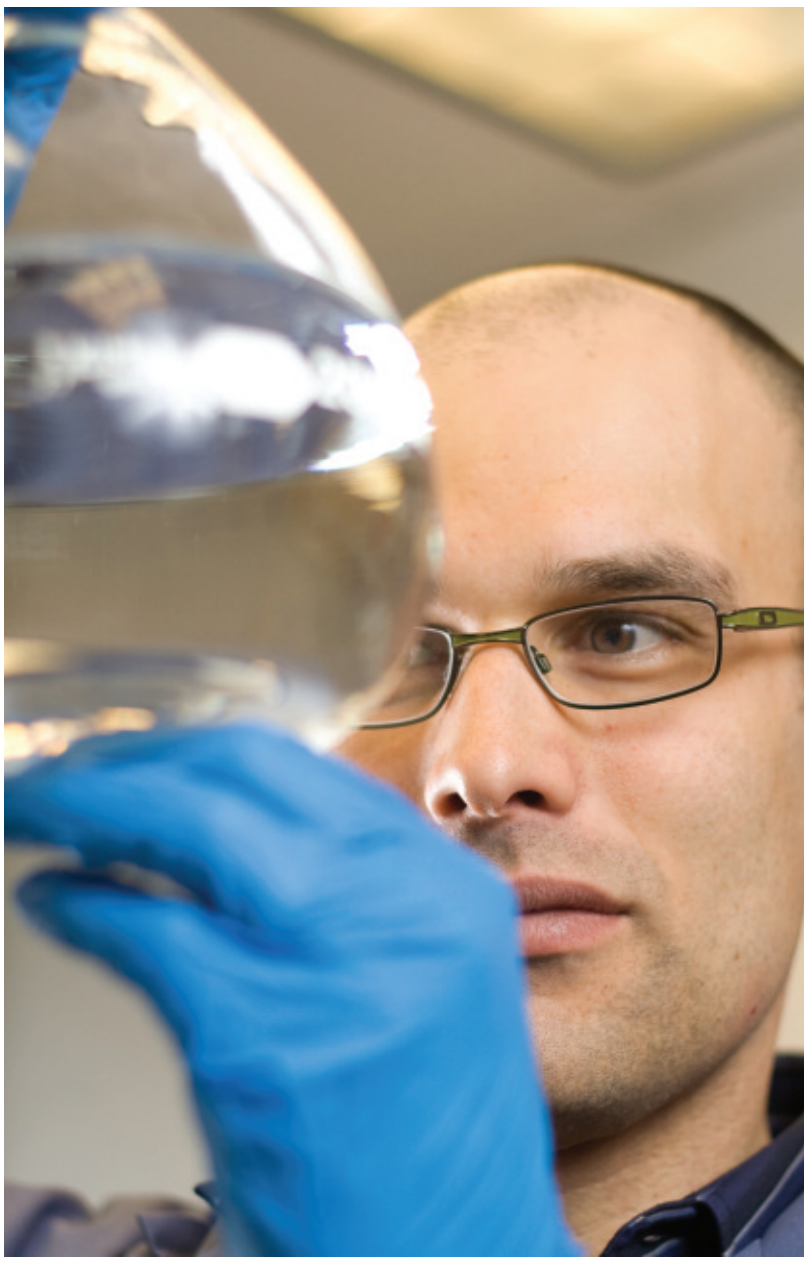


Photo by Dylan Riley
Mark Grimmett

Water flows slowly through the ground, discharging into streams at low points on the Island.

Typically, the groundwater is close to the surface near streams and the shore. In upland areas of the province, the water table may be 20 metres or more below the surface.

Because groundwater’s composition is affected by what is on the land surface and how the water moves through the ground, resource industries like agriculture tend to come under the microscope when it comes to water quality.

The lab is particularly focused on the level of nitrate in groundwater. P.E.I.’s crops, particularly the potato crop, require an ample source of nitrogen to grow well.

In agriculture, fertilizer and manure contribute to the amount of nitrogen in the soil.

When excess nitrogen is not taken up by the plants’ root system, the nitrogen, often in the form of nitrate, can be flushed through the soil to the water table.

Excess nitrate can cause health problems. Also, nitrate carried by groundwater to streams can cause problems for plants, fish and other organisms.

“People really starting taking notice of nitrate levels in the late 1980s and early 1990s as more detailed measurements became possible,” says Grimmett.

“We have a better understanding of the water system now. The unfortunate thing with nitrate is that there is a lag between doing something to reduce the levels and actually seeing the reduction.”

At the Harrington Research Farm, tile drainage lines and sample collection systems lie beneath research plots where a number of crops are grown.

They are capturing water leaving the root zones of the plants, giving scientists samples that will tell them how much fertilizer, manure and farm chemicals are taken up by the crop and how much may be filtering through the soil.

Samples are also taken from the water table at depths between 15 and 25 metres.

The research centre’s water quality data has helped shaped the development of federal and provincial environment policies and programs in agriculture, first under the Agricultural Policy Framework and now under Growing Forward.

Grimmett says research is identifying possible solutions and stimulating environmental action on the farm.

“Our role is to demonstrate how farmers can reduce their environmental impact and still get a decent, marketable yield from their crop.”

Grimmett says it’s exciting to work on projects that look at real-life local issues.

“I feel like we are making a difference.” ■

When it comes to insect pests, researchers are finding new ways to get the bugs out of the system

Dr. Christine Noronha has sympathy for Charlottetown researchers who were trying to help farmers deal with insect pests 100 years ago.

Their toughest job was sometimes just trying to identify what pest they were up against.

"I'm sure they did all they could but they didn't have the vast amount of information on insects and the technology that we have now," says Noronha, an entomologist who has been conducting insect research at the Crops and Livestock Research Centre since 2000.

Today, entomologists like Noronha can not only quickly identify insects by sight, they also have a pretty good idea of their behavior.

That knowledge has improved the odds of controlling the close to 100 species of pests actively trying to eat their way through P.E.I. crops.

Janet McIsaac, left, and Jillian Connolly look for insect eggs in a potato field.

For farmers, the cost of insect damage can be staggering. The Colorado potato beetle, for example, can cut the yield of a potato field in half.

For early researchers, insect control was about trying to find the one thing that worked. Often, it turned out to be manual – literally picking insects off plants.

But as farms grew in size, so too did the need to find better alternatives.

For answers, Charlottetown researchers turned their attention in the 1950s to the behavior of the insects, an area of study that is now a key component of pest control.

"We know now, for example, that the potato beetle flies out of the potato fields and over-winters in the soil in hedgerows," says Noronha. "We know they survive the winter by burying themselves deep in the ground."

"That's information we can use to control the beetle."

Knowledge has allowed the industry to move away from broad spectrum pesticides that killed many different insects to more targeted and environmentally friendly insecticides and non-chemical control methods.

"We know now that using a variety of techniques to control pests, what we call integrated pest management, is the best approach," she says.

That can include using insect-resistant varieties, pesticides, mechanical barriers and predator insects.

While researchers have a better understanding of insect behavior, Noronha admits that some insects are changing their habits and creating new problems for farmers.

"Right now, we have a worldwide increase in wireworm populations, including here in P.E.I. It's something we are focusing on," she says. "Wireworms will eat anything – potatoes, wheat corn, carrots – and that makes it a particularly destructive pest."

Another pest, the European corn borer, has decided not to be limited by its name and has become a serious potato pest.

Noronha says the best solutions continue to be those developed by researchers and farmers working together.

This year, several Island farms are volunteering their fields for her insect research.

"Farmers are vital to our work because they tell us whether suggestions we propose are feasible or not," she says.

"I am looking at a solution from the perspective of a scientist. They tell me if they can actually make the idea work on the farm."

And that kind of cooperation, she says, is the most effective way of working the (bad) bugs out of the system. ■

Back to the future: Organic agriculture making a comeback

"It's like a little bit of 'back to the future' when it comes to organic production," says Dr. Jerry Ivany, a Crops and Livestock Research Centre scientist.

"In 1909, all agriculture was organic and 100 years later we are helping some farmers make that transition back to organic methods."

But if the wheel is coming around again, it is also moving forward.

"There are modern reasons for looking at organic agriculture, from commercial to environmental," says Ivany, who is leading a national project on organic potato production.

Two years ago, a 20-hectare field was dedicated to organic research at the Harrington Research Farm.

Ivany and research colleagues Rick Peters, Christine Noronha, Harold Platt and Linnell Edwards are working on a long-term rotational study involving crops that fit into organic potato production.

This year's crops include potatoes, carrots, clover, alfalfa, soybeans, corn, buckwheat, canola, oil radish (its seeds can have an oil content of more than 40 per cent) and wheat.

"Organic growers are looking for advice to produce a better quality crop with higher value," says Peters, a plant disease specialist. "We work with them to sort through the production challenges of growing organically."

Potatoes are one of the more difficult crops to grow organically. Pests like the Colorado potato beetle and disease problems like late blight can devastate the crop.

For farmers making the switch from conventional farming to organic production, it is a challenge to maintain profits during a conversion that generally takes about four years.

The research team is using the Harrington plot to work out the best growing practices for registered organic potato production and other crops.

"We're looking at production issues, including choosing potato varieties and different rotation crops, that could help control potato diseases, improve soil fertility, reduce weeds and provide farmers with a good income during that transition period," he says.

"We've also included an economist and a food scientist on our team to examine the economic and nutritional value of potatoes using organic and conventional methods."

David Main checks over a tractor-drawn flamethrower that is one of the innovative weed control methods being tested in organic agriculture.

"We are trying to cover every aspect from production practices to the final product for a complete picture of organic potato production."

Among the practices being investigated are the use of lobster waste to control diseases and pests and a naturally occurring fungus called Beauveria that attacks the Colorado potato beetle.

Ivany has added a little fire to the mix, testing a propane flamethrower mounted on a tractor to kill weeds before the potato crop emerges. Cultivation is used to control weeds in the organic rotation crops.

In addition to local scientists, the project team includes research specialists from the department's research centres in Fredericton, New Brunswick; St. Jean-sur-Richilieu, Quebec; Guelph, Ontario and Brandon, Manitoba. ■

The 100th planting season reflects new and continuing agriculture

When the Charlottetown Experimental Station was established in 1909, it was August and the crop year was already well underway. Research crops were planted the following year.

As a result, 2009 marked the 100th annual planting by staff at the Crops and Livestock Research Centre.

The weather cooperated – barely. Between a record day of warmth and at least one frost, staff found enough good days to get in more than 300 hectares of test and demonstration crops.

In the ground this year is a diverse mix of traditional crops and potential new crops, as well as plots dedicated to improving economic return and to finding plant resistance to several critical crop diseases.

The centennial planting includes traditional crops like potatoes, spring and winter wheat, oats, barley, soybeans, edible beans, flax, strawberries, carrots, corn, buckwheat, oilseed radish, canola, sunflowers and forages like clover, alfalfa and timothy.

There are also some familiar and not so familiar crops that offer the promise of new products and new markets. These crops include oilseed crops such as calendula, crambe, borage, meadowfoam and other crops like ground hemlock and rosehips.

Researchers will be looking at yields, disease and insect resistance and techniques to help farmers grow their crops more efficiently and environmentally sustainable.

Crops from the Crops and Livestock Research Centre and the Harrington Research Farm will also be used for feed and bedding for beef research at Agriculture and Agri-food Canada's Nappan Research Farm in Nappan, Nova Scotia. ■

More than a paycheque

Summer jobs at the research centre can spark a life-long interest in agriculture

Matthew Lawless calls it his dream student job.

Photo by Dylan Riley
Dr. A.J. Campbell, left, and student Mathew Lawless plant seeds for a field trial

Fresh from his first year studies at the Nova Scotia Agriculture College, the 18-year-old from Shamrock, PEI is working at the Crops and Livestock Centre for the summer.

He joins an annual student workforce that has worked at the research centre almost since it opened in 1909.

"I look at this as a learning experience," says Lawless. "I'm studying animal science in school and I'm learning about plant science here."

The pursuit of a well-rounded agricultural education is part of his long-term objective to go into farming.

"That's my background," he says. "Our family has a 200-acre cow-calf operation with a 50-cow herd."

Lawless says being surrounded by problem-solving scientists constantly challenging the status quo is giving him the perspective he will need to farm successfully in the future.

"On the farm, you tend to slip into old habits. My father does things his way. My brother has his way. I have mine."

"This experience really teaches you to keep an open mind."

That's music to the ears of Gail Arsenault, the centre's human resources coordinator. She sees the student job program as a way of attracting young people to the industry.

"We always hope that it is not just going to be a pay cheque for the student, that they will get something more out it," she says.

"We hope students will come away with a deeper appreciation of agriculture. For some of them, maybe it will be the trigger they need to think about a career in agriculture."

That was the case for Vernon Rodd, an environmental health scientist at Agriculture and Agri-Food Canada's Nappan Research Farm in Nappan, Nova Scotia.

He was studying chemistry and biology at the University of PEI with no thought about a career in agriculture when he started his summer job at the research centre in 1976.

But three consecutive summers working with potato disease specialist Dr. Harold Platt convinced him to pursue a PhD in soil science.

"I was interested in science in high school but I was going to an urban school and nobody mentioned agriculture as a possible career, not even the guidance counselor, he says.

"I needed to be exposed to it."

Rodd now returns the favour every summer.

"Over the years, at least 30 students have worked for me. I try to give them the learning experience I was lucky enough to get." ■

Team effort behind a century of research

Science may be the business of the Crops and Livestock Research Centre but it's the people involved in every aspect of its operation who continue to make it work, says Dr. Richard Martin.

"It is and always has been a team effort," says Martin, a plant pathologist who has been with the research centre for nearly 30 years.

"There are no small jobs. Our support staff, our field crew, our technicians and our scientists all contribute to the goal, which is advancing agriculture."

Claudia Chandler, who joined the research centre last year as a material management officer, says she was struck right away by the camaraderie among staff.

"There is a good feeling about the work we are involved in and that makes for a good work environment," she says.

Since 1909, more than 300 full-time people have worked at the research centre, as well as hundreds of summer students.

In most cases, their careers in P.E.I. last for decades.

"It sounds like a cliché but I think it's true. This is more than a job for most people who have worked here over the past century.

"That's why they stay as long as they do." ■

Staff and students today

Crops and Livestock Research Centre Charlottetown, Prince Edward Island

The Crops and Livestock Research Centre (CLRC) in Charlottetown, Prince Edward Island is one of Agriculture and Agri-Food Canada's network of 19 research centres. The Centre's mandate is to develop scientific knowledge and new technologies in agriculture with the prime focus on Prince Edward Island and Atlantic Canada.

The Centre is developing innovative technologies for crop production in a way that enhances the environment and protects the natural resources of the region. The CLRC has a major collaborative program with the National Research Council and the University of Prince Edward Island in the area of bioresources and health for the discovery and development of value-added biobased products and processes from current or new crops.

In addition to its main office/laboratory in Charlottetown, there is a field research site at the Harrington Farm, north of Charlottetown, which accommodates 95 percent of the Centre's field research in potatoes, cereals, forages and soil tillage and conservation.

Facts, Figures and Facilities

- 15 research scientists and a total staff of 80
- The main office-laboratory complex has 65 hectares in Charlottetown; a field site at the Harrington Farm, located 11 kilometres north of Charlottetown, has 330 hectares and accommodates about 95 per cent of the Centre's field research
- Team of scientists and technicians involved in a collaborative program with the National Research Council and the University of Prince Edward Island in the area of bioresources and health for the discovery and development of value-added biobased products and processes from current or new crops
- Weather-monitoring station operated with Environment Canada and part of a national network
- Linkages and networking with provincial departments, universities and industry

Co-located at the Centre are:

- Prince Edward Island provincial offices for Agriculture
- Federal representatives of the Markets and Industry Services Branch, Communications and Consultations Team, Farm Financial Programs Branch, National Land and Water Information Service, Prairie Farm Rehabilitation Administration, the Pest Management Regulatory Agency of Health Canada.
- Island Nature Trust.

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