

AIM Europe Study Tour 2024 Trip Report

by Ryan Barrett, Research & Agronomy Specialist

From November 23-30th, 2024, members of the AIM Science & Technology Working Group and Soil Improvement Working Group travelled to Belgium for the Interpom potato technology expo, followed by a number of visits to farms, research institutes and equipment manufacturers. The travel group consisted of:

- Ryan Barrett, PEIPB Research & Agronomy Specialist
- Chad Mooney, Science & Tech WG
- Patrick Murray, Science & Tech WG
- Brandon MacPhail, Soil WG
- Troy Rennie, Soil WG
- Hans Roets, Science & Tech WG

Additionally, Albert MacMurdo of Heritage Farms, Evan MacDonald of Atlantic Agritech (and the Science & Tech WG) and Steve Watts of Genesis Crop Systems accompanied the group at their own expense.

Interpom 2024:

Most of the first three days were spent at the Interpom potato technology expo, the largest global potato expo. Seven large exhibition halls full of exhibitors required multiple days to explore. All facets of the potato industry were represented among the companies present, including breeders, crop protection companies, processors, farm equipment manufacturers, grading/processing equipment manufacturers, storage systems, farm associations, service providers, and more. Two PEI companies (Allan Equipment and Bluefield Seeding Solutions) had booths present at Interpom.

It is difficult to highlight everything that was on offer at the show, but some general observations with applicability to PEI include:

- There were multiple companies providing **on-farm weather stations and soil moisture sensors**. At least two companies (Sencrop and CropX) provide not only weather stations (for purchase or lease) but also site-specific weather forecasting using both international weather predictions but also farm-specific climate data. Both companies have a dense network of sensors in NW Europe, and both are open to providing services in Canada. These weather prediction services also include some level of decision support tools, particularly for late blight forecasting.
- **Late blight** is a large issue facing growers in NW Europe. A lack of fungicides (including multi-site products such as mancozeb and chlorothalonil), combined with significant over-wintering of inoculum and new fungicide resistant strains, has led to considerable late blight infection in some years. Growers are increasingly using late blight decision support tools to assist with crop protection. Some of these tools are provided by

- weather sensor companies (see above), while others are provided by regional service providers or associations, such as Viaverda (Flanders) or FIWAP (Wallonia).
- There is a large **diversity of processors** present in Belgium and the rest of NW Europe. North American processors such as McCain and Lamb-Weston have a presence, as do largely family-owned processors such as Agristo, Clarehout, Farm Frites, Lutosa, and more.
 - **Equipment manufacturers** such as Dewulf, Grimme and AVR are continuing to innovate their offerings for planters and harvesters, with a strong focus on self-propelled harvesters. More on this later in the report.
 - As in Canada, there are several new “biostimulant” products being marketed in NW Europe. These come from a variety of source materials and often have limited 3rd party efficacy data available.
 - Chemical companies (Bayer, Syngenta, Corteva, BASF, etc) are increasingly pursuing **biopesticides** rather than new chemistry due to the regulatory environment in the EU. Most chemicals being promoted by the companies at Interpom are available in Canada, often with a different trade name.
 - One product not yet registered in Canada but with potential use is Argos, an **orange oil sprout inhibitor** from UPL. In discussions with industry people in Belgium, Argos and DMN are the two most widely used (and most effective) sprout inhibitors following the deregistration of CIPC. Other products include ethylene (Restrain) and mint oil (Biox-M), both registered in Canada.
 - There are a few breeding companies with varieties listed as resistant to Pathotype 6 of potato wart (which is present in PEI). More investigation is needed to see if there are plans to market/register these varieties in Canada.



Dewulf stand at Interpom 2024

SELECTRON

ENJOY THE SILENCE! THE ELECTRIC ROGUING CART WITHOUT CONCESSIONS!

STANDARD

- ✓ Powerful two-wheel drive with electronic differential lock
- ✓ Two solar panel sunroofs
- ✓ Insight into current energy consumption by means of touchscreen display
- ✓ Sensor for straight driving
- ✓ Cruisecontrol
- ✓ Stop buttons and cruise control activation on all seats
- ✓ Hydraulic height-adjustable seats
- ✓ Height-adjustable stainless steel haulm guides with break-out protection on the front wheel caps
- ✓ Large hydraulic tipping bunker with high rear wall
- ✓ Although the standard Selectron is already very complete, various options are available

SPECIFICATIONS

BATTERY TYPE	Lithium-ion
BATTERY LIFE	At least a full working day
TRACK WIDTH	1,4 m - 1,9 m
WEIGHT	1550 kg
LARGE WHEELS	8.3R24
SEATS EXTENDABLE	4.5 m, optional 6 m

Selectron

Electric roguing cart on display at Interpom



Delvano sprayer – Belgian company with up to 51 m boom width

AVR/Dewulf/Grimme:

On November 26th and 27th, the group visited nearby facilities of the three largest potato equipment manufacturers in NW Europe: AVR, Dewulf, and Grimme. AVR and Dewulf have manufacturing facilities in Roeselare in western Belgium, while Grimme has a national office in Roeselare, as most of its production is in Damme, Germany.

AVR is a family-owned company that recently celebrated its 175th anniversary. It is the 3rd largest manufacturer of potato equipment (after Grimme and Dewulf), producing a full line of potato equipment, including self-propelled harvesters, pull-type harvesters, cultivators, planters, and handling equipment. They produce 70-80 self-propelled harvesters per year, with about double that number of trailed harvesters. AVR has worked with Jacob Van Den Borne (visited on a previous tour in 2018) to develop a new yield monitoring system that integrates both imaging (for size distribution) and load cell technology for their self-propelled harvesters. This company has continued to grow, with an ever-increasing footprint at their factory location and brand new offices just newly finished. AVR does have a Canadian representative in Western Canada and some harvesters in Alberta and Quebec.

Dewulf is also a family-owned company, founded in Belgium in 1946. Dewulf largely specializes in harvesters (potato, onion, sugar beet), but purchased Miedema in 2014. A second factory in the Netherlands produces Miedema planters. A new logistics/parts center was completed in 2018, with 99% same-day shipping for parts. They employ more than 440 staff and produce about 1,000 machines per year across their whole product line. Dewulf/Miedema machines are sold in PEI through Allan Equipment. For potato harvesters, self-propeller machines are the priority, but a smaller number of trailed harvesters are also produced. Four row machines are increasingly the standard, including the Enduro (with wheels) and Kwatro (with tracks). Around 70% of machines produced are sold outside of Belgium. Brecht Petillion, responsible for sales to Canada, also provided us a presentation on their belt planter technology. Belt planters make sense for high density planting (seed, creamers) but may be less appropriate for processing acres. Both belt and cup planters are frequently seen in Belgium. Miedema planters come with ISOBUS and hydraulic drives capable of doing variable rate planting.

We also had a short visit to Grimme Belgium; however, the lack of availability of a key staff member plus a double booking with a small group from Kazakhstan meant that our visit provided more of an overview of the company and less of an exploration of available products/technology. Grimme has two manufacturing plants in Germany as well as the Spudnik facility in Idaho and another factory in China. They produce more than 100 self-propelled potato harvesters per year and more than 4000 machines per year across all product lines. Recently, they have started work in robotics/autonomous machines, including a one-row harvester. Last year they surpassed 750 million euros in gross sales. They also produce a large number of their own parts for their machines, including two additional manufacturing facilities.



Visit to AVR Factory, Roeselare, BE



Visiting a British WW1 trench system recently uncovered in an industrial park near Ypres



Touring Dewulf in Roeselare, BE

Farm Visits in France:

In the afternoon of November 27th, the group travelled to northern France for two farm visits to potato producers:

Alain Dequeker, SCEA de Marclau, Avesnes-de-Sec

- Family farm, south of Lille, not far from Belgian border
- Grow 140 ha (350 ac) of potatoes, including processing, table and seed
- Grow and store their own potatoes, but also plant/harvest/store for other smaller producers
- Grow Innovator and Markies varieties for McCain for fries
- Also grow Fontane, Edison, and other varieties
- Alain (father) farms with daughter and son (in ag school now)
- Box storage for seed
- 3 bulk storages and 2 box storages for processing and table
- Historically there was not a lot of potatoes in their area. That has changed in recent years, creating competition for land and more disease pressure.
- 30% of production is irrigated (mostly Innovators), using reel & gun systems
- Have a fall market for fresh potatoes to Spain. They were grading/packing totes for Spain during our visit.
- Potatoes grown in a 6-year rotation. Other crops in rotation include wheat, peas, beans, and corn.
- 2 AVR harvesters (1 self-propelled, 1 tow)
- 2 planters (1 AVR, 1 Grimme)

- Cites largest challenges as lack of available/effective pesticides (especially for late blight), the availability of water (all from wells), and improving soil health/regenerative agriculture practices while still maintaining/growing yields.



Left top : Seed boxes at SCEA Marclau

Left right: Munitions from WW1 that keep being found at the Chatelain farm each year

Right top: Farm yard at SCEA Marclau

Luc Chatelain, Fontaine-les-Croisilles



- Located 15 min southeast of Arras in potato-intensive area
- Farm is located in what was once “No Man’s Land” between Allied/German lines in WWI. Farm was completely destroyed in WWI, and was rebuilt just before WWII.
- Luc (father) farms with two sons and a nephew (family farm)
- 200 ha (500 ac) of potatoes with 40 ha (100 ac) of processing (Markies), small amount of seed for own use, and the rest in fresh potatoes
- Farm specializes in mini (creamer) potatoes. Heavy emphasis on potato quality and skin finish
- Five-year rotation with other vegetable crops, wheat, and beans. Forage/grain crops are largely non-profitable.
- Heavy competition for land, as growing number of people growing potatoes in the area.
- Land rental up to 2,000 euro/ha (\$1200 CAN/acre) for one year, in and out. Rental costs have doubled in last five years.

- Price of land to purchase (if it comes for sale) is >\$60,000 euro/ha (\$36,000 CAD/acre)
- Have three different farm locations, relatively close together.
- 60% irrigated production, all on fresh acres. This is done to maximize tuber numbers and skin finish (prevent scab, etc.)
- Ship fresh potatoes to Spain, Portugal, Italy, and Romania. Have a tote-filling line that doesn't require washing for those markets
- Hires four Polish workers during cropping season, who had just gone home. Also provides housing/work for group of Somali refugees.
- Seed growers are not getting enough money for seed, leading to decline in number of seed growers, requiring more farms to grow own seed.
- Each year on his farm, Luc finds hundreds of pounds of WWI munitions (shells, grenades, etc.). Government funded agency collects and defuses munitions at hundreds of farms each year.
- Major challenges are lack of effective/available crop protection products, competition for land, and availability of labour. Water is less of a concern in this area.

Thank you to Francois-Xavier Broutin and Florence Rossillion from CNIPT (French potato producers association) for their assistance in organizing these two visits. Following these visits, our group spent the evening in the historic French town of Arras, and then visited the Canadian WWI memorial at Vimy Ridge the next morning

Viaverda:

Following our return from France, we visited Viaverda in Kruishoutem (near Kortrijk). Viaverda (previously known as PCA) is a membership-based organization which provides agronomic and market information services to farmers in the Flemish region of Belgium. There is a similar organization (FIWAP) in the French part of Belgium. We received a presentation by Stany Vandermoere, a researcher with Viaverda. Some key points from our visit:

- Approx. 105,000 ha of potato production in Belgium with 55,655 ha in Flanders
- Average yield of 47 T/ha (420 cwt/ac)
- Only 1-2% of production acres in Belgium is irrigated. Much more in Netherlands and France
- 16 french fry plants in Belgium, including 3 Agristo, 1 McCain, 1 Lamb-Weston
- 6 million tons are processed in Belgium each year, with lots coming from nearby countries to Belgian plants
- Viaverda has ~1200 members, 1000 of which are farmers.
- Key activities are research trials, extension, agronomy services to producers, and providing market data (pricing) to producers
- Have a late blight warning system which models disease risk using localized weather data, variety info and product application history for each producer. Sophisticated program available online

- Wireworm is a growing issue as well as Rhizoctonia and nematodes
- The 2024 crop was very late to be planted. It is usually planted in March/April, but was delayed to May/June in many places due to excess moisture leading to some reduction in yield
- Regulatory push to reduce N rates and pesticide use. Working with producers to optimize N rates, and putting research into split application. Very little slow-release N is used in Belgium (only in sandy soils). There is a high use of manure (both liquid and solid). Most planter-applied fertilizer is liquid (starter) with some broadcast N in-season. Rates are largely 170-200 kg/ha (150-180 lbs/as). Recommendation to apply 40 kg/ha as split application in season would reduce from early season applications.
- In Belgium, almost all N uptake happens 60 days after emergence which means there is no need for later season N application.
- Regulations about post-harvest soil nitrate levels has led to both reduction in total applied N but also increased use of cover crops after potatoes, and other vegetables.
- Due to historical use of phosphorus, very few potatoes require additional P. Research has showed no yield improvement from P addition.
- Increased interest in biostimulants, as there are lots on the market. None have shown consistent yield improvement in their trials in fields with good soil/good fertility.
- Historically, many farms got manure for free. Many have to pay for manure now or pay to store manure.
- Primary pest/disease issues: Late blight (#1), early blight, aphids, Colorado potato beetle (less than Canada, but fewer products), and lack of herbicides for weed control/desiccation.
- Maximum yield loss to early blight of 5 T/ha (45 cwt/ac)
- Some research into using drones to do imaging for spot spraying for CPB (early-stage research). Coragen has been the most effective pesticide
- Most potatoes are followed by winter wheat, mostly for cover crop reasons. Most areas have requirements for cover crop establishment.
- Mandated 4-year crop rotation with most common being potato / winter wheat / sugarbeet / corn. Other crops in rotation include beet root, market vegetables (especially in west Flanders), grass, and onions.
- Most effective sprout inhibitors are orange oil and DMN with mint oil and ethylene less used. These require applications every 4-6 weeks. CIPC has been gone for more than 5 years now.
- Provide Cost of Production and Market Pricing info to producers. 2024 CoP of \$7,600 euro/ha (\$4,560/acre).
- Breakeven prices out of the field are approximately 160 euro/tonne (\$11/cwt) out of the field and 240 euro/tonne out of long-term storage (\$16.30/cwt). Current price around 148 euro/tonne on open market.
- Majority of seed is brokered by processors in Belgium. More producers are applying to grow their own seed. Historically, it mostly came from the Netherlands

- Cost of late blight mitigation was 10% of CoP in 2024, 40-50% of total crop protection costs.



Vimy Ridge, FR

What we do
Practical research for growers and the industry

Services

> Market information

- Viaverda/Fiwap quotation → weekly development
- Production costs calculation

Example

	Fontaine 2023 (excl. VAT)	2023
Seed tubers		1.287
Fertilizers		694
Crop protection		1160
Farm contracting		850
Pacht (seizoen)		1400
Depreciation		492
Intrests		114
Other costs (fixed/variable)		609
		6.606
Own labour (40u/ha x 25€/u)		1000
TOTAL		7.606

Excl. irrigation, risk insurance, ...

Up to 1650 euro/ha

6.552 euro/ha in 2022

viaverda

Cost of Production for Belgian processing - Viaverda

De Nood Farm, Oostburg, NL

Following our visit to Viaverda, we travelled north to the Oostburg area of the Netherlands, close to the Belgian border where we visited the De Nood family, a multi-generation family farm.

Some notes from this visit:

- Family operation, with father and mother, three brothers and a sister all having roles in the farm. It is a 3rd generation farm.

- Large farm for the area, growing 300 ha (750 ac) of potatoes and 120 ha (300 ac) of onions
- 100 ha irrigated from canals/drainage presenting some issues with water salinity. Usually only have to irrigate twice early in growing seasons, 40-50 mm total using reel & guns.
- Average about 45 T/ha (400 cwt/ac) on potatoes, which varies with year.
- Mostly Fontane, Innovator, and Donata which are all used for processing.
- Potatoes more profitable than onions. Have to dig onions, leave on surface of soil to dry for a week, then pick up. Requires high air volumes in storage to dry down onions and they are prone to Fusarium.
- 4-year rotation with mostly wheat, sugar beet, onion, and flax. Another farm grows sugar beets on their land. They rent significant acres for potatoes. Rent up to 2,000 euro/ha (\$1200/acre) in and out.
- Use a lot of manure and compost on their land, which makes up most of the nitrogen requirements. Stockpile some liquid manure themselves. Liquid manure is applied ahead of planting.
- Generally plant potatoes in March/April, and harvest in Sept/Oct.
- 2 Ploeger self-propelled harvesters, and are very happy with them. Large bunker requiring fewer unloads to carts/trucks. 1 Grimme planter with 30 inch row spacing.
- Previously did some variable rate fertility work, but didn't see value. Most fields are small (3-5 ha) so not a lot of in-field variability. More variability between fields. Have GPS on all tractors/equipment.
- 51m sprayer (Delvano).
- Land sells for 100K euro/ha (\$60,000/acre) if you can find it.

We finished our visit with some great hospitality with the De Nood family before heading to Bruges for the night. Thank you to the team at Case New Holland Benelux for coordinating our visit to this farm.



Ploeger Harvester at De Nood Farm, NL



ILVO:

On the morning of November 29th, we visited ILVO, a government-run research organization funded by the government of Flanders. ILVO works on all crops and agricultural sectors but is particularly involved in potato research, including collaborations with a large number of private and public companies/organizations. We had presentations from two researchers during our visit:

Johan Van Vaerenbergh – Pathologist

- Previous visits to PEI, collaboration with Solke de Boer on BRR
- Seed certification slightly different in Flanders and Wallonia
- ILVO is accredited lab for a number of seed certification tests
- Centre for Plant Health Diagnosis
- Quarantine pests: PCN, root knot nematode, BRR, and brown rot
- Non-quarantine pests: Pectobacterium, Dickeya, and viruses
- 2003 was last case of BRR in Belgium. See it a bit more in NL, but not in seed potatoes
- Some potato wart present near BE/NL border but not a big area
- Wart assessed only through visual symptoms, not soil testing
- PCN also tested from plant/tubers, not soil
- PVY testing by PCR or grow out from eye cutouts, with 4-7 week grow out. 3 days turnaround from PCR
- Can test for 16 viruses in one PCR test (high throughput testing)
- 60% of field have one or more PCN species. Managing through resistant varieties

- Developed new machine for heat treating soil. Auger moves soil at 60 C for 10 min, which kills nematodes in tare soil.
- Some early work on using drone imagery to look for root-knot nematode infestations through damage spots.

Simon Cool – Precision Agriculture

- Working on a number of potato related precision ag projects, including data sharing platforms, crop monitoring, weed detection, pest/disease detection, autonomous vehicles, and sprayer technology.
- Research links between “discovery” at universities and end user (farmers)
- VR applications not widely used in Belgium due to small field size
- Just Connect: open data sharing platform where farmers consent to data sharing and coordination with industry partners
- Working on real-time site-specific weed detection and spraying, as they have fewer, more expensive chemicals
- Developed site-specific weed burner for organic production as well.
- Drone/satellite detection of volunteer potatoes
- Developing robotic platforms for site-specific spraying
- Working on detection methods for Alternaria and CPB
- Developing autonomous tractor/machines which don’t have value for small fields (too much time getting them to the field/set up) but more value in larger fields
- Have a 50 hp electric tractor, with autonomous mode (New Holland)
- Robot with ability to attach/detach multiple tools.
- Research into autonomous soil sampling

As we only had the morning to spend at ILVO, this is only a sampling of some of the research that the ILVO team undertakes in potatoes. There would be the potential for collaboration with ILVO on relevant projects, particularly precision agriculture, that could be explored.



Robotic field vehicle at ILVO that can multiple attachments for field operations

Belgium Farm Visits:

Our next visit was to Van Damme Agri, a business that operates a small family farm but also has a large contractor business. They do custom planting, spraying, and harvesting operations for over 250 customers in a radius of 70 km from their location south of Ghent. They service a wide range of crops, but particularly focus on potatoes. They harvest approximately 1,000 ha (2,500 ac) of potatoes, 600 ha (1,500 ac) of wheat, 400 ha (1,000 ac) of grain corn, 800 ha (2,000 ac) of corn silage, and 400 ha (1,000 ac) of sugar beets. Among their machinery, they have 4 self-propelled potato harvesters, a self-propelled sugar beet harvester, 6 combines, 4 potato planters, and a range of tractors, wagons, trucks, manure spreaders, and more. The business is family run (father and two brothers) as well as additional staff, which can be up to 20 people during the busy harvest season.

In Flanders, the majority of potato farms grow only 100 ac or less, so owning a harvester and planter doesn't make financial sense for many farms. The use of custom operators is very common. At Van Damme, GPS systems are commonplace for farm records and for accuracy/reducing overlap; however, as with other farms, use of variable rate technology is not used as most field sizes are small (most are 3-5 ha).

The Van Damme family also have a farm, growing 35 ha (88 ac) of their own potatoes, including Fontane, Kingsman, Challenger, and Alegria varieties, which are all used for processing. They also grow wheat and corn in rotation, which they utilize on-farm to feed 40,000 broiler chickens and a barn of Belgian Blue feeder bulls that are purchased as feeder calves and raised to slaughter weight. Thank you again to the team at Case New Holland Belgium (especially Pieterjan Maenhout) for arranging this visit.

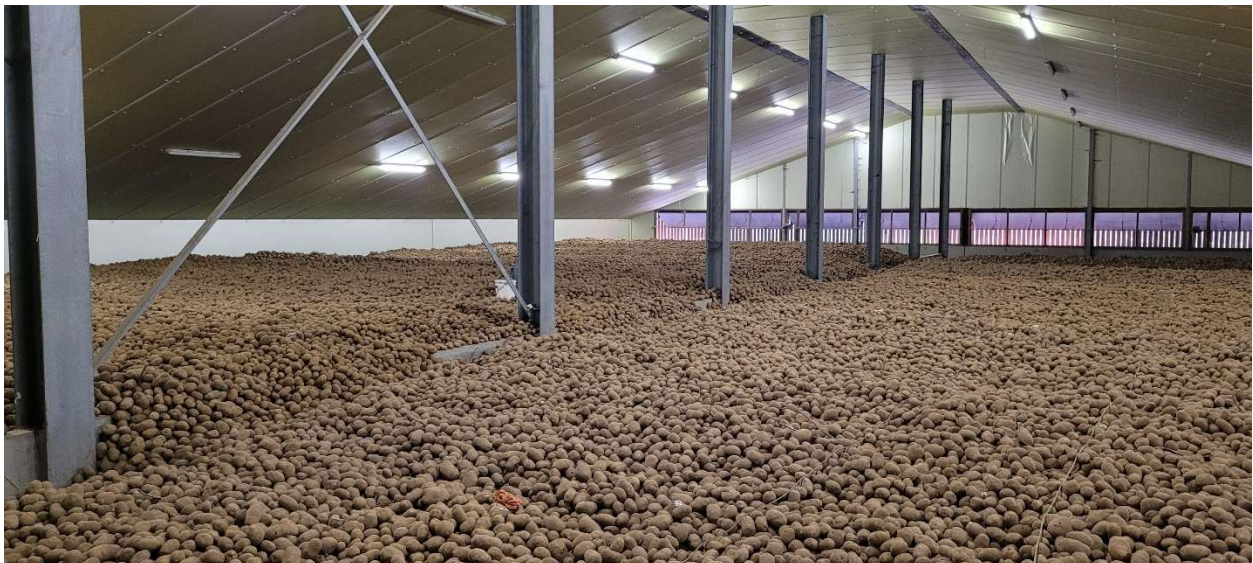
Our final stop was to the farm of Ilse Eeckhout and her husband near Zottegem. Ilse works as the head of the potato research and extension group at ILVO and invited us out to visit her farm. The original buildings (including their first potato storage) are the remnants of an 18th century monastery, but new potato storages have been added in recent years, including a modern storage added in the last ten years. The farm grows a total of 250 ha (625 ac) of crops, with 90 ha (225 ac) of potatoes. They have a small base of owned land, but more land in rental agreements. They have a diverse crop rotation, including wheat, sugar beet (contracted), corn, and a variety of vegetables, including green peas, spinach, parsnip and chicory. All harvesting is done by a contractor, with a cost of 500 euro/ha for harvesting (\$300/acre). Ilse noted that they are happy to pay that amount for harvesting (45,000 euro/year) because the cost of a harvester is so high and they don't have to worry about maintenance. They have a potato planter and haul potatoes home to their own storage. They also look after their own spraying and tillage. Fontane is the only variety grown with 60% under contract and 40% open acres. They deliver at multiple times of the year but can store potatoes until June. Sprout suppression in the long-term storage is done using DMN, but MH is used before harvest.

In terms of nitrogen use, Ilse noted that they are restricted to using a maximum of 168 kg/ha (150 lbs/ac) of nitrogen per acre across all crops, and 180 kg/ha (165 lbs/ac) N on potatoes. For some

long-season varieties this may limit yield in light land. A significant amount of this N comes from manure sourced from nearby farms. They target 150 kg/ha applied before or at planting, with 30 kg/ha applied as a top-dress as needed. Petiole testing is not widely done in Belgium, as it is seen as not terribly accurate and not very informative. Almost every field has a cover crop after harvest (there is legislation on this), and corn is not grown before potatoes. Ilse noted that fertility restrictions, issues with nematodes and wireworm, and the challenges to control late blight are the biggest challenges on their farm and for most farms in their area.



Equipment shed at Van Damme Agri



Fontane potatoes in storage at Ilse Eeckhout's farm

Summary:

Some general observations from our time in NW Europe, and how they may relate to future projects back home:

1. The deregistration of pesticides in Europe is having a negative impact on yield and quality and increasing the cost of production for producers. There are only a few effective late blight control products, but these are largely single-gene chemistries and resistance is already showing up to some relatively new products. In a high-pressure year like 2024, most producers are spraying expensive late blight products 14-16 times per season at a significant cost. In Canada, we should do all we can to retain access to mancozeb and chlorothalonil for as long as we can, both in terms of cost and resistance management.
2. We should be prepared for the deregistration of CIPC in the not-to-distant future. Based on feedback from European growers, DMN (registered in Canada) and orange oil (not yet registered) are the most effective products, with ethylene and mint oil (both registered) also used but perhaps less effective. If CIPC is deregistered, growers will have to get used to repeated applications through the storage season and increased cost.
3. Out of necessity, growers in NW Europe are using disease prediction models and decision support tools much more than North American growers to inform when and what they spray for diseases like late blight (but also *Alternaria*, etc.). Given the relatively low amount of late blight that we have seen in PEI in recent years as well as the spore data that we have access to, the use of such tools would likely make it possible for PEI farms to use significantly less fungicide when conditions are not favourable to late blight. Ideally this should be done on a provincial basis on behalf of all producers.
4. Similarly, most NW European growers have access to a better network of weather data than we do, and that data is available in a user-friendly manner. Several of us on the tour group felt that there was merit in looking at some of these European sensor and weather monitoring companies for PEI. This may require a regional or provincial approach (and funding assistance) to build a robust system with enough data for confidence/model building.
5. There were multiple companies at Interpom showcasing user-friendly soil moisture monitors, including Sencrop, CropX, Soiltech, and Agurotech. There are differences between each of these companies/products, but the technology exists to provide growers with irrigation real-time data to inform irrigation schedules.
6. Despite the high purchase price, there is a lot of love for the self-propelled harvester in NW Europe. For some producers, self-propelled harvesters are the only way to guarantee that they will be able to harvest their crop, as a self-propelled harvester can operate in wet

conditions that a trailed harvester cannot. Most harvesting in NW Europe is done with one self-propelled (or a couple of 2-row trailed harvesters) with bunkers, dumping to crop carts or wagons towed by tractors. This is better for compaction (no trucks with road tires in the field) and also reduces the need for truck drivers (which is even more regulated in the EU than in Canada). Processors provide transport for deliveries to the plant, whether from the field or from storage, so producers don't need to have trucks for potato deliveries. It should be noted that NW Europe has a longer harvest window than we do (at least two months most years) and fewer acres per farm than we see on average in PEI. Nonetheless, self-propelled harvesters can operate at double the speed or more of harvesters in PEI, making up some of the difference in harvest time.

7. Potato wart is largely unknown in Belgium and France, especially by the average farmer. It is a bit more on the radar in the Netherlands but is felt to be under effective control. There are a number of breeding companies with wart-resistant varieties but most are not resistant to Pathotype 6, which we have in PEI. There are some new wart-resistant varieties that could be looked at for variety trials in PEI across multiple breeding companies.
8. Belgium and the Netherlands have significant legislation on maximum nitrogen use, maximum residual nitrate, crop rotation length, harvest dates, and cover crop use. In PEI, we should be pro-active in continuing to advance on sustainability metrics to avoid the need for legislation where possible.
9. The Fontane variety makes up 60% of potato acres in Belgium. This is similar to the dominance of Russet Burbank in PEI and North America in the past. Processors in Belgium/NW Europe are slow to adopt new varieties, even though most fries there are made with yellow varieties. New PCN resistant varieties such as King Russet (controlled by McCain) are seeing increased uptake.
10. In general, European processors contract less of their needed volume than North American processors. "Open" potatoes sell below contract price most years (at least 2 out of 3 years), often times below the cost of production. Despite this, acreage of potatoes continues to grow. The best margin is in potatoes that have been stored until May/June, but those obviously come with increased risk, and many grower storages don't have refrigeration. Producers we visited in France were more diversified in production (more varieties, more end uses) than in Belgium (95% for French fry processing).

Thank you to those in the tour group for their contributions to this report and for making it a great week in Belgium and beyond.

Respectfully submitted,

Ryan Barrett



Tour Group (L to R): Evan MacDonald, Patrick Murray, Albert MacMurdo, Hans Roets, Ryan Barrett, Chad Mooney, Brandon MacPhail, Troy Rennie, Steve Watts



Canadian Memorial at Vimy Ridge, France