Everything is bigger in America

A six week residential programme at the University of Cornell’s Summer Dairy Institute course in Ithaca, New York
Troubled waters

As with any trip, two months in New York wasn’t possible without planning. Preparation started nearly a year before the trip began; well before knowing even what country the destination would be. Dairy opportunities for veterinary students are almost limitless, with Cambridge students visiting Canada, Germany, California and New Zealand in recent years.

However the six week Summer Dairy Institute (SDI) residential programme offered at Cornell University immediately stood out as a dynamic mixture of lectures, practicals and the opportunity of an in-depth herd analysis performed in small groups. A two month wait followed the application process before students from five countries were finally invited to attend the programme.

In an unfortunate set of circumstances, several months of transatlantic emails, letters and faxes culminated in a stressful emergency trip to the American Embassy in London before a student visa was granted. The journey itself wasn’t without incident either: after a smooth transatlantic flight to Newark Airport, internal flights to Ithaca were delayed due to bad weather. When finally underway, the flight attendant battled to provide a full drinks service; getting a sugary drink into the hand of every passenger soon after take-off in a bid to calm the nerves. Barely seconds later the plane hit severe turbulence and caused the full glasses of fizzy drink to be thrown at the ceiling, covering most of the passengers.

The weather conditions on the flight were echoed by the torrential rain that greeted passengers at Ithaca airport. This was a sign of things to come; at the flick of a switch hot, humid mornings in Ithaca regularly gave way to thunderstorms and heavy rainfall to act as a comforting reminder of home in the Yorkshire Dales.

Summer solstice at Heathrow Airport before departure
In at the deep end

Having spent the first evening getting to know the other delegates over a few drinks, the following morning was when the real work started. The group, final year students and recently qualified vets from America, Canada, Italy, Japan and England carpooled to Cornell’s Teaching Dairy.

The state of the art dairy is a ten minute walk from the main Veterinary Medicine Department buildings on the University’s North Campus and houses up to 120 cows in free-stalls. The spacious open-sided parlour allows teaching of animal science and vet students and is overlooked by the classroom where the Summer Dairy Institute was based for the six week period.
The US Dairy Industry

The United States of America produces more cows’ milk than any other country in the world. The country is home to 9.3 million dairy cattle producing 94.4 million tonnes of milk annually.

Within the USA, New York is the fourth biggest dairy state. It lies behind the giants of California, Wisconsin and Idaho, with California producing over three times New York’s milk volume. With an output of nearly 6.4 million tons annually, New York’s milk production is equivalent to 40% that of the UK.

Much like in the UK, the face of America’s dairy industry is changing. Small family-run enterprises are making way for much larger units with a greater reliance on paid labour. In 2015 the average herd size was 214 across the US, compared to the UK’s average of 142. The average size within New York State is slightly smaller at 128 adult dairy cows. Herds are following a similar trend: becoming fewer and larger with milk price volatility pushing farmers towards economy of scale in order to survive.

The north-eastern dairy states of New York and neighbouring Ohio and Pennsylvania, are still home to a large number of small family-run herds, many of which belong to Amish families. NY alone is home to 2,350 herds with fewer than fifty adult cows, while also having 210 herds with greater than five hundred animals.

The mountainous rural areas of NY provide ample fertile land for growing high quality corn, the primary cattle feedstuff in the area, but the terrain applies constraints on herd size. The largest herds comprise of around four thousand adult females. By comparison, the more arid southern states are home to far larger enterprises. Herds of up to forty thousand animals exist in California, and the average herd size in New Mexico exceeds two thousand. A vast amount of water is required to irrigate crops in these areas, supplemented by feed imported from the ‘corn belt’ states. Similarly huge herds exist in Wisconsin, the Midwest’s dairy giant, and surrounding states.

Other barriers to expansion exist within New York; compared to other states, NY has much tighter environmental protection laws which often make enlarging herds difficult. These include caps on the use of nitrogen-containing fertilizers, strict manure storage laws and even an increase in regulation for herds above a certain size. Although the farmers in the area have an extremely progressive and proactive mindset, many farms struggle to find well educated farmers to succeed the current generation.

However, the dairy farms of New York are well placed within the industry – high fluid utilization rates of around 50% give farmers high milk prices relative to other areas of the country, but price volatilities still lead to uncertainty in the future of many smaller farms. With 113 dairy plants within the Empire State, it is the largest producer of yogurt and cottage cheese. The state’s output exceeds 340 million kg of yoghurt and 320 million kg of cheese.

Despite being home to many famous American foodstuffs such as bagels, pretzels and hotdogs, in 2014 the New York State Senate voted in legislation to recognise yogurt as the official state snack in recognition of the importance of the dairy and yogurt industries to the state’s economy.
Many of the issues facing the New York and US dairy industry exist on both sides of the Atlantic. Farmers either side of the ocean face uncertain futures in the face of variable milk prices, increasing bureaucracy and a perceived lack of a next generation of farmers. For many, expansion is the answer. My experiences of the US dairy industry from a veterinary standpoint, and as a dairy farmer and vet student in the UK, have highlighted the value of embracing advances in agricultural technology and veterinary medicine. Farmers, and farm vets, have many opportunities to take on board new ideas from other counties in order to provide greater security for the industry. I am a firm believer that while bigger isn’t always better, a forward-thinking approach to farming is essential for the future of the dairy sector.

The dairy processing plant at Cornell University’s Department of Food Science in Ithaca, NY. The plant bottles milk from the university’s dairy farm and produces ice cream for sale around the campus. Photo: Cornell University
Technology in Agriculture

Embracing technology to improve animal health and farm profitability was a theme which pervaded discussions and lectures throughout the programme. Farms visits provided excellent examples of how these technological advances can be harnessed to benefit farmers and veterinarians in the dairy industry.

There are increasing requirements for farmers to maintain good records on both sides of the Atlantic, for example as part of farm assurance schemes or to satisfy the demands of milk buyers. The US government, in an attempt to quell consumer fears of antimicrobial resistance (AMR) emerging from veterinary antibiotic use, often imposes huge fines on farmers whose produce exceeds pharmaceutical residue limits. Failure to keep an accurate medicines book can add to the punishment; and vets are often implicated for mis-prescribing or for failing to provide proper advice on pharmaceutical use. Misuse of pharmaceuticals is viewed in a similarly bad light in the UK. Fears of emerging AMR continue to threaten the availability of antimicrobials for veterinary applications; appropriate use and rigorous record keeping are both essential to safeguard these valuable commodities within the industry.

Speaker John Gloss suggested that herd management software could ease the administrative burden. Integrated systems have the ability to produce up-to-date medicines books, and keep an accurate inventory of the pharmaceuticals in stock. In order to avoid accidental residue violations the software can flag an animal for milk withhold by the stockman the second it steps foot in the parlour.

Hemdale Farm in the Finger Lakes region of New York switched to robotic milking machines in 2007, and is now one of the biggest robotic dairy farms in the world. Their one thousand strong herd is milked through 19 Lely Astronaut units. The computer system feeds information to and from the milking units: the robots provide information on the daily milk production of individual cows, while automatically withholding milk from the bulk tank if it is suspected to be above drug residue thresholds based on treatment dates and withhold times. However, this system still requires diligent input of treatment records by the farmer in order to withhold milk from the bulk tank.
Robotic and conventional milking centres can now be fitted with in-line monitoring equipment capable of detecting kick-off, air entry in the teat liners, changes in milk conductivity, and the presence of blood in the milk. On top of providing the farmer with information about the outcome of the milking, these measurements can detect mastitis while it is still in the early stages. Identifying the disease sooner allows farmers to instigate prompt and judicious treatment of the infection with the aim of reducing antibiotic use and speeding up recovery to increase animal welfare.

Lectures during the Summer Dairy Institute course were interlaced with classes on the use of DairyComp305 (DC305), a herd management programme developed by Valley Ag Software which is now the most used programme of its type globally. The software is used extensively throughout the north east of the USA and is used increasingly for reproductive management in the UK. The software is not limited to fertility work; DC305 is designed to be a fully integrated farm management tool. Functions include monitoring weight gain in calves and milk yield in adult cows, predicting the future lifetime value of animals, and analysing patterns in disease occurrence. Many potential roles of the software, and similar programmes, are discussed throughout this article.

The use of this programme is becoming increasingly relevant in the UK: herds which are enrolled in Genus’ Reproductive Management Service have their herd data stored in DC305. This has allowed the author to complete a project comparing the fertility of dairy cattle with seropositive for *Neospora caninum* against their seronegative herd mates.
Quality milk production

Cornell’s Quality Milk Production Service (QMPS) has grown as an extension of the services provided by the university’s veterinary clinicians, and it now operates four regional laboratories across the state. Last year its 35 staff members performed over 170,000 milk cultures and other tests, along with over 2,600 farm visits and 7,500 telephone consultations. Their aim is to promote milk quality by controlling mastitis and helping to avoid antibiotic residues through field and laboratory diagnostic evaluations and recommendations.

As part of the SDI programme QMPS staff led a detailed evaluation of milking equipment to check that the equipment itself isn’t causing damage to the cows’ teats. Malfunctioning equipment can lead to damage like this, and thus increase the likelihood of mastitis.

Time was also spent performing assessments of udder preparation techniques. In systems of all sizes it is easy to stray away from recognised best practice which can lead to poorer teat preparation. The consequences of this are that the teats become dirtier with reduced contact time of the antiseptic spray or dip, and are thus more likely to become infected. Suboptimal timings can also mean that the lag time between initial physical stimulation of the udder and application of the milking cluster is insufficient to stimulate the cow’s ‘let-down’ of milk. This can have consequences both for animal health and welfare, but also for profitability on the farm as a longer time is required to fully empty the udder of milk.

QMPS are increasingly combining their work with on-farm computer systems: animals flagged for testing by the farmer or milk monitoring equipment have sterile milk samples sent to their local QMPS laboratory. The milk is cultured and the antibiotic sensitivity assessed before the results are input remotely to the farm’s management software. Back on the farm the management software will produce a list of animals and what treatment they require based on the farm’s standard operating procedure (SOP). The SOP is produced by a veterinarian based on the diagnosis reached for the individual animal’s culture and sensitivity results, history and any clinical signs. Not only does this make treating or culling infected animals quicker, targeted therapy significantly reduces the use of antibiotics by avoiding treatments which would not be effective against the disease-causing organism.
Calf rearing is an increasingly important aspect of US dairy farms. High replacement rates require the cost of rearing a calf to be as low as possible in order to keep high animal turnover profitable. This is in addition to the large body of research showing that disease or slower growth in calves leads to poorer profitability in the adult cow.

A wide variety of calf and heifer rearing systems are employed on either side of the Atlantic, with different housing styles ranging from hutch to group rearing, and a variety of feeding regimes existing.

Lawnhurst Farms in Stanley, NY have developed a system of group housing calves from five days old. To combat the high risk of disease when mixing calves of this age the farm has developed a strict colostrum SOP and provided the calves with a dry, well ventilated and open-sided barn. While New York experiences very hot and humid summers, it also brings deep snowfall in the winter when curtains are partially drawn across the sides of the building and calf jackets are provided.

Stockmen at Lawnhurst move the calves from individual pens into groups of up to 20 animals at the point when they are “drinking aggressively,” around 3-5 days of age. At this stage they are fitted with a radio frequency identification (RFID) collar and individual identification tags. These collars allow the farmers to track the feeding patterns and intake volumes of the calves, as well as monitoring their growth rates via weigh-scales built into the feeding points. The farm’s integrated computer system controls the flow of acidified milk to the teats in each pen; limiting the meal sizes provided and giving preference to the younger animals in the group if two calves are trying to access the teats at once.

The system at Lawnhurst allows calves up to 18 litres of acidified waste milk per day, a maximum of 2L every 30 minutes. The high volume feeding allows extremely high average daily live weight gains of 1.7 kg and the animals can be weaned from five weeks. These high growth rates allow Lawnhurst, who also rear calves on contract for other farmers, to serve their heifers from 12 months old so they first calve around 22-23 months.
Computer systems are also used at Lawnhurst, as with many other farms in New York, to control the air conditions within the farm buildings. The computers combine data from local weather stations and on-farm monitors to predict weather patterns. In turn, this allows the temperature and humidity of the buildings to be controlled automatically. The systems are able to change fan settings, open and close the sides of buildings, and turn on water sprays to cool animals down when required. These systems reduce heat stress in adult cattle and improve the health and growth rates of youngstock; reducing input from the farmers so their time can be spent on other tasks.

Group calf housing at Lawnhurst Farms. Calves are pictured with RFID collars and the feeding stations can be seen against the back wall. The ventilation system pictured is controlled automatically based on local weather predictions and air conditions in the building.
Reproductive management

The use of activity monitors for assessing oestrus activity in dairy cattle is becoming commonplace in the UK, as it is in the US. Farm management software can generate lists of animals detected as being in oestrus based on activity levels, as well as automatically generating lists of animals needing attention from a vet. These include post-natal checks, pregnancy diagnoses, animals unexpectedly displaying increased levels of activity (for example mid-gestation), and also animals which are due injections as part of programmes manipulating the oestrus cycle such as the popular ‘ovsync’ programme. While stockmen are more than capable of producing these lists themselves, the software eases the administrative burden and allows farmers to redistribute their time; for example choosing sires or observing the animals as an adjunct to automatic oestrus detection.

Endless Mountain Vet Clinic in Rome, Pennsylvania works in partnership with Boviteq (the embryo transfer arm of Semex) to refine their oocyte pick up / in vitro fertilisation (OPU/IVF) technique. This vet clinic’s desire to provide the most advanced reproductive technologies to their clients has led them to build a new barn to house donor and recipient cows for their IVF protocols. When the SDI group visited the clinic in summer 2015 the OPU procedure was relative unheard of, involving transvaginal aspiration of oocytes from the ovaries. Part of the protocol in this clinic is dominant follicle removal (DFR) performed on donor animals 14 days and 6 days before oocyte collection. Removal of the dominant follicles allows a greater number of oocytes to develop to fertile levels by the time of the subsequent OPU session.

There are many benefits of the technique, which can be performed every 2 weeks compared to embryo transfer’s (ET) 60 day intervals. Donors can be up to four months pregnant, as young as 6 months or as old as 14 years. Less semen is required and sexed semen produces a better pregnancy rate than conventional ET/IVF. By performing DFR and screening the embryos for quality, Endless Mountain are able to produce twice as many female pregnancies within a 60 day period compared to their OPU/IVF competitors, and over 10 times more female pregnancies versus conventional ET. This equates to a significantly lower price per pregnancy for the farmer; allowing farms to rapidly increase the genetic merit of their livestock.

Endless Mountain Veterinary Clinic’s donor housing in Rome, PA. Animals enrolled in OPU/IVF protocols are housed here during the procedures
CCTV in agriculture

In amongst the technology being used on farms is the installation of closed circuit television (CCTV) systems. These are being used more frequently for purposes beyond their tradition use in security.

The US dairy industry has a large reliance on Spanish speaking immigrant workers who make up around half of the national dairy workforce. Language barriers exist between these workers, some of whom have little or no English, and the farm managers or owners. As a result, and to ensure consistency across all the workers on huge farms, standard operating procedures (SOPs) are drawn up in combination by vets and farmers, often in both English and Spanish. Cornell’s QMPS service employs a number of bilingual staff members who aid farm managers and staff developing SOPs for Spanish-speaking workers. With such a large proportion of the dairy workforce speaking Spanish, there is a huge benefit to vets in having a good grasp of the language, and as a result Spanish classes form part of the teaching syllabus at Cornell University’s veterinary course and during the Summer Dairy Institute programme. With a growing proportion of the UK workforce not having English as their first language, the situation may soon be similar in the UK.

Education of staff and discussion of the SOPs are both essential to ensure best-practice is adhered, but vets/managers are unable to be ever-present in monitoring the procedures in place. The advent of cheaper CCTV has seen their installation on farms to continually monitor staff performance, notably in dairy parlours themselves. This had been implemented successfully at Twin Birch Farms of Skaneateles, NY where strict adherence to SOPs means cows get the correct time lag time between tactile teat stimulation and application of milking clusters, and an adequate contact time for teat disinfectants. This has reduced milking time for better parlour efficiency and, in the opinion of the farm manager, contributed to lower mastitis rates and lower bulk tank somatic cell counts.

On the same farm, CCTV systems have also been installed around the site to improve animal welfare. Cameras in the farm’s ‘maternity ward’ allow close observation of cows around calving without disturbing the parturition process itself. As a result stockmen can intervene when calving is not
progressing, and can also be on hand when required to monitor or treat the new born calf. Other devices can be used to monitor the calving period, such as vulvar sensors which are attached to the cow to alert farmers when parturition begins.

Similarly, CCTV systems have also been combined with backing gates in collecting yards. Stockmen are able to use the cameras’ images to safely move the gates to fill the parlour but without harming the cattle in the yard.

Applications of CCTV are being used elsewhere in the livestock industry for improving animal welfare. Cargill Beef’s abattoir and cutting plant in Wyalusing, Pennsylvania slaughters over 1600 cows per day, the majority of which are former dairy cattle. At this site cameras are installed throughout lairage, animal handling facilities and slaughter lines to monitor employee’s treatment of live animals and to improve welfare where protocol breaches are seen. In line with this, on the opposite side of the Atlantic over 90% of UK slaughterhouses now use CCTV to monitor and improve animal welfare. The British Veterinary Association and the Veterinary Public Health Association are continuing to call for mandatory CCTV in all UK slaughterhouses and for veterinarians working on these sites to have unrestricted access to the footage.
The Vital 90 Days

The greatest risk period for any dairy cow is the transition between being a dry cow and a lactating cow. At this time the animal’s metabolic demands are most stretched and thus they are at greatest risk of diseases such as ketosis, cystic ovaries and displaced abomasa.

Many of the lectures during the Summer Dairy Institute course were focussed on this topic, some of which were in conjunction with Elanco’s Vital90 scheme. The aim of this scheme is to promote awareness of cattle requirements in the 60 days before calving and the 30 days after – the ‘vital 90 days’ of the transition period. Elanco are seeking to raise farmer awareness of the importance of providing cows with not just the right diet, but the ideal environment to limit the stresses they are under.

Part of the scheme is the Vital90 Analyzer iPad app, which the SDI delegates played a part in testing and developing. The app is designed to aid vets in assessing all the components of transition period: cubicle size and shape, water and feed availability, diet quality, stocking density, heat stress abatement, group body condition scores and many more. By entering easily measured metrics the app allows a complete evaluation of a farm’s transition cow management within a few hours. As a result, it generates a short report with areas which require the most urgent attention to alleviate transition cow problems on an individual farm.

Having used the app as part of a three day herd-health assessment, which all SDI students performed on a case farm, there is still a place for veterinary expertise in interpretation of the findings. While often on paper the figures for an individual farm may appear sub-optimal, the app is unable to interpret the unusual situations which farms regularly find themselves in. Vets are also required to prioritise aspects of the farm for short-term and long-term improvement, from a longer list generated by the app.

Many of the vet students on the programme had already embraced other smartphone apps to help with herd assessments, for example body condition scores can be analysed automatically from photos taken with smartphone cameras.
Evidence Based Decision Making

A constant thread throughout the programme was the importance of using scientific research to form the basis of decision making. This isn’t just true for veterinarians, but also for farmers who wish to maximise the efficiency of their spending. A huge body of peer reviewed research is available from the animal science, agriculture and veterinary medicine departments of universities across the world, as well as from private research institutes and industry bodies. Of growing importance in the ‘age of the internet’ is the ability of vets and forward thinking farmers to use the research to assess the merits of a new technology or management change, and whether the costs outweigh the benefits for an individual farm.

However, for many farmers ‘seeing is believing.’ A large amount of discussion surrounded how newly graduated vets can make their mark on a new client’s farm in order to get their foot in the door. It is a daunting task stepping out of the car as a young new vet, so making a positive impact early in the relationship with a farmer was viewed by the group as being very important.

For example, veterinary graduates have a solid education in housing design and a body of literature to support best practice. However, it is very unlikely that a new graduate would get the chance to have any input in the design of new buildings. To appeal to a farmer’s desire to see evidence first hand, small changes with visual outcomes can be the most effective to suggest early in a vet’s career. In this case, easy modifications to the ventilation of calf buildings can lead to noticeably lower rates of respiratory disease at very little cost. Similarly, removing solid walls in adult cow buildings can lead to improved milk yields because of reduced heat stress (in New York at least!)

For farmers who are more receptive to facts and figures, the use of partial models for cost-benefit analysis can be extremely useful. For example, a large body of evidence exists regarding the detrimental effects of over-stocking in adult cow buildings using free-stalls (cubicles). Overstocking at up to 1.4 cows per cubicle is commonplace in New York State based on the belief that more cows lead to more milk. However, research has shown that overstocking reduces accessibility to feed and water, and also reduced bed availability causes reduced rumination and more lameness. The consequence of these, and many other factors, is that overstocking can reduce milk production per cow to such an extent that reducing cow numbers can actually produce a greater volume of total milk, and at a lower cost. This can easily be input into a partial model which accounts for the farmer’s milk contract price and current level of production per cow to show approximately how much benefit that specific farm could achieve from a lower stocking density.

This is just one example of a partial model which can be used to examine the suitability of management practices in an individual setting. With information from herd management software the pregnancy rates of different fertility management protocols can be compared: for example timed artificial insemination versus insemination based on oestrus detection. Investigations like this on individual farms should direct management changes in isolation, but they can be considered alongside any available peer-reviewed data to assess if farmers are getting the best out of their fertility management programme.
Both ends of the spectrum

The average farm size across the USA continues to rise as farms race to expand by building more barns and upgrading their parlours to hold more cattle. However, not all farms are aiming to milk cows by the thousand.

Amish families are among the farmers who are making a living from smaller dairy enterprises. The Amish are a group of traditionalist Christian church fellowships whose followers are known for simple living, plain dress and a reluctance to adopt the conveniences of modern technology. A large proportion of Amish people within the USA live in the states of Pennsylvania, Ohio and Indiana. Samuel Stoltzfus, an Amish farmer in Ohio, was kind enough to show the SDI group around his 42-head dairy farm.

Family run enterprises, Amish farms do not use motor vehicles or electricity except in rare circumstances. Instead, they rely on horses to cultivate crops and for their transportation. Dairy enterprises cut grass and corn by hand; piling it into silo towers in order to produce silage. The grass is compressed to remove the air by stamping down the pile as fresh grass or corn is added.

By law milk must be stored in a refrigerated bulk tank. At the Stoltzfus farm the bulk tank was housed separately in a small shed: the only building on the entire site with an electricity supply.

Milking is performed in tie-stalls by hand. Although a vacuum line attached to a single milking cluster was used, the milk was collected into a bucket and carried across the yard to the bulk tank by hand.

Although not an organic unit, the Stoltzfus farm had reduced its antimicrobial use significantly through selective dry cow therapy and only reluctant use of antimicrobials in youngstock. The farmer aimed to keep welfare as high as possible which he believed lead to low disease rates, and hence antimicrobial usage, on the farm. This was one of only two farms visited by the SDI group where cows were allowed outside during the day, however during winter and overnight the milking cattle were confined to tie-stalls.
Tie-stall systems are still popular across the US and Canada, especially in smaller farms. In these systems, animals are tied into their individual stall by a neck collar. Food and water are available to the animal as would be the case in cubicle (free-stall) systems; however, the cow’s natural roaming behaviour is prevented. Consumers are increasing conscious of the welfare of dairy cattle, and have a worse perception of animals housed in tie-stalls. As tie-stall housing is coming under increasing scrutiny from welfare groups, dairy processors are changing their buying patterns to reduce the proportion of their milk which is bought from tie-stall farms.

Much like the use of tie-stalls, reduction in the use of recombinant bovine somatotropin (rBST) is not being led by the government but by consumer preferences. The hormone is injected into dairy cattle to boost milk production, especially in the later stages of lactation. Increasingly, food sellers and processors across the USA are listening to the demands of consumers who want reduced hormone use in agriculture. As a result, many dairy processors no longer buy milk from farms using rBST which has led to a widespread drop in use of the hormone. It is interesting to compare the proactive stance on animal welfare taken by the UK government with the situation in the US where the task of changing farming practices falls on industry bodies.
No rest for the wicked

The Summer Dairy Institute provided a busy schedule every day: either seven hours of lectures by guest speakers from vet schools and industry bodies across the US and Canada, or day trips to visit farms, abattoirs and milk processors. The packed schedule covered everything from manure management to mastitis, from vaccination protocols to robotic milking systems, and any other aspect of dairy farming imaginable. However, this didn’t stop the Summer Dairy Institute delegates from making the most of summer in Ithaca and on the Cornell Campus.

Twenty delegates from five countries were housed together in the Alpha-Zeta fraternity house, and the free beer provided on the first night before lectures began was a sign of things to come. Making the most of free weekends and sunny evenings in the Finger Lakes region the delegates’ activities included canoeing, power boating and jet skiing on the Finger Lakes; hiking and camping in New York’s State Parks; exploring the gorges and university campus of Ithaca; frequenting dive bars and ‘wing nights’, and visiting the nearby Niagara Falls. Any evenings which seemed to have been set aside for extra reading were broken up with games of beach volleyball or the loosely termed ‘reading on the porch with a beer’.

July was a good month to be in North America: 4th of July marks the USA’s Independence Day, with SDI delegates venturing to New York City for sightseeing and celebrating “the New Yorker way” by watching the fireworks from a rooftop in Brooklyn. However, the ten Canadian delegates made sure we didn’t forget to celebrate the (arguably more important) Canada Day on 1st July.
The eight Cornell students taking part in the summer programme were kind enough to welcome the other delegates into their homes and show off the highlights of Ithaca: weekly beer tasting, Salsa dancing classes, a bus tour around the Finger Lakes region’s wineries, and a particularly memorable day spent swimming in one of the nearby lakes. With their help, SDI delegates were also able to attend Cornell Vet School’s weekly pathology round-ups where final year students present their most interesting cases from the pathology rotation to a lecture hall of students and clinicians.

The hospitality of Cornell extended into the homes of the professors involved in the SDI programme. Their families kindly took turns to host the delegates for amazing meals: barbeques and Guatemalan tamales were all accompanied by seemingly endless amounts of beer. Similarly, the hospitality of the farmers in the area was second to none as they gave tours of their farms and willing answered any questions that were thrown their way.

While it may seem like the volume of beer drunk was excessive, it was significantly outweighed by the amount of ice cream consumed during in the six week course. The famous Cornell Dairy Bar is strategically placed within walking distance of the Veterinary Medicine Department on the university campus: perfect for lunch or the walk home on a sunny evening. Of course it would be rude for a convoy of 28 dairy vets not to stop off at least once on every car journey for ice cream. It is unlikely there were any roadside ice cream parlours in New York State that didn’t see Summer Dairy Institute delegates last summer. The obsession continued into a tour of Cornell’s own ice cream factory followed by sneak-peak tastings of their upcoming flavours before they were released to the public!
Acknowledgements

Many thanks go to following bodies who provided financial support for this trip, without whom the educational visit would not have been possible

- Harry Steele-Bodger Memorial Trust
- The British Veterinary Association
- Cambridge University’s Department of Veterinary Medicine
- Downing College, Cambridge

Further thanks go to our hosts at Cornell’s Department of Veterinary Medicine, in particular the staff of the Quality Milk Production Service and the Summer Dairy Institute, as well as our hosts at the Alpha-Zeta fraternity.

Summer Dairy Institute delegates and guests enjoying the Finger Lakes wine tour