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In celebration of the University of Saskatchewan's Centennial in 2007, *Horse Health Lines* looks back at the first few decades in the university's history when horses — along with the people who strived to improve their health and genetics — were very, very **big** on campus.

A farm worker and his three-horse team disc a field at the U of S, circa 1920s (U of S Archives, A-2220).



A MAGNIFICENT OBSESSION: When William J. Rutherford became the University of Saskatchewan's first dean of agriculture in 1909, he brought along his enduring fascination with the Clydesdale — one of several draft horse breeds that were crucial to Canada's agriculture industry in the early 1900s.

His preference for the Scottish draft horse wasn't always popular with western Canadian farmers, but as Grant MacEwan wrote in his book, *Heavy Horses*, Rutherford's defence to accusations of breed prejudice was that he only "favoured any horse possessing true Clydesdale quality."

Rutherford's push to improve the quality of draft horses in Western Canada gained momentum in 1919 when the Saskatchewan government purchased two Scottish-bred Clydesdale yearling stallions for the U of S farm. But even the forward-thinking Rutherford couldn't have predicted where his admiration for Clydesdales would lead him and the university a few years later.

In February 1923, Rutherford received a letter from George Cluett, an American businessman who owned some of the best foundation Clydesdales in the world. Cluett, whose business was hit by the postwar depression, offered Rutherford the chance to buy his entire Clydesdale herd and to continue his breeding program at the

U of S. What must have caused Rutherford's heart to race was the cost: Cluett offered to sell all 13 mares, stallions and foals at the bargain-basement price of \$10,000. Among the prized herd was *Rosalind* (pictured above with Rutherford and one of her foals) who was worth a reported \$15,000 alone.

Rosalind, along with her herd mates, served the university well during the next decade. U of S-owned Clydesdales won championship titles at Toronto's Royal Winter Fair and at the Chicago International. Back at home, the equine giants worked in the university farm's fields, took part in student training activities and educational displays, and produced some premium foals that were eventually sold to producers across Western Canada.

It must have been one of Rutherford's greatest joys to watch his beloved Clydesdales win praise wherever they pranced. But sadly, that pleasure was cut short when the talented teacher and director died unexpectedly on June 1, 1930. Introducing quality bloodstock to the country's draft horse population was only one of Rutherford's many contributions to western Canadian agriculture. But for a man whose appreciation for the noble Clydesdale was legendary, it must have been one of his life's greatest triumphs. *Above photo: U of S Archives (A-2109).*

Hoofprints in U of S History

BIG BRONZE BONNIE: In 1999, former U of S president George Ivany commissioned Saskatchewan artist Joe Fafard to create a piece of art as his parting gift for the university. The result was *Bonnie Buchlyvie* (right), a nine-foot, 1,000-pound bronze sculpture that steadfastly stands in a grassy area between WCVM and the College of Agriculture and Bioresources.

And just who was the namesake for this sculpture? *Bonnie Buchlyvie*, whose sire was the legendary *Baron of Buchlyvie*, was one of Scotland's most famous Clydesdale sires and winner of the Cawdor Cup in 1909. His son — *Bonnie Fyvie* — was one of two yearling stallions that were purchased for the U of S by the Saskatchewan government in 1919.

Four years earlier, *Bonnie Buchlyvie* himself nearly came to live on the Prairies in 1915. That same year, the stallion was purchased for £5,000 by James Kilpatrick. The Scotsman bought the horse on behalf of his friend, W.H. ("Scotty") Bryce of Arcola, Sask., who had tried to buy the great sire in 1912. Ironically, Kilpatrick's exciting telegram to his friend arrived on the day of Bryce's funeral in Arcola. *Bonnie Buchlyvie*, who lived to the age of 21, never did step on Canadian soil.



EARLY EQUINE HEALTH ISSUES: Drs. Norman Wright, Seymour Hadwen and John Fulton were some of the university's first veterinarians who faced challenging horse health issues of the day. According to Dr. Chris Bigland's book, *WCVM: The First Decade and More*, some of the issues facing these clinician-researchers included swamp fever (equine infectious anemia), lockjaw, ticks, warble flies, poisoning of horses by the bracken *Pteris aquilina*, horse bot flies and intestinal worms.

When equine infectious anemia became prevalent in the mid-1920s, Fulton's investigations of the disease showed that it occurred in areas with sandy, loam-type soil and that horses developed swamp fever after drinking slough water in these areas. Fulton also developed a test that veterinarians could use to make a definitive diagnosis of equine infectious anemia.

1907: The University Act receives Royal Assent, leading to the creation of the University of Saskatchewan in Saskatoon.

1909: William Rutherford is appointed as dean of the College of Agriculture. That same year, construction begins on the university's working farm. It eventually becomes an agricultural centre where students, professors and local producers learn the best techniques in crop production, farm management, livestock breeding enhancement, animal health and veterinary medicine.

1912: Crews of men and horses complete construction on the university's main barn and livestock pavilion. The College of Agriculture opens in the fall of 1912.

1913: Instruction begins in veterinary science at the College of Agriculture.

1914: Rutherford initiates the "Better Farming Train," a travelling agricultural college that visits Saskatchewan communities every summer between 1914 and 1920. Through demonstration cars, lectures, exhibits and live animals, U of S representatives bring new products and practices to farmers across the province.

1923: U of S purchases 13 premium-bred Clydesdale horses for \$10,000. The horses help to improve draft horse genetics in Western Canada.

1926-29: Dr. John Fulton conducts research on "swamp fever" (equine infectious anemia) at the U of S.

Mid-1930s: The U of S becomes a focal point for western equine encephalitis research when Fulton isolates the virus, then develops and produces a preventive vaccine for horses and humans.

1939-1949: More than a half-million horses across the Prairies are vaccinated with the WEE vaccine that was produced at the U of S. The university uses profits from vaccine sales to construct a new virus laboratory. The J.S. Fulton Laboratory opens on February 28, 1949, at a total cost of \$100,000.

1965: The first class of veterinary students is admitted to the Western College of Veterinary Medicine at the U of S. The new college building officially opens in 1969.

1977: WCVM and representatives of Western Canada's horse industry create the Equine Health Research Fund to support the college's equine health research and training programs.

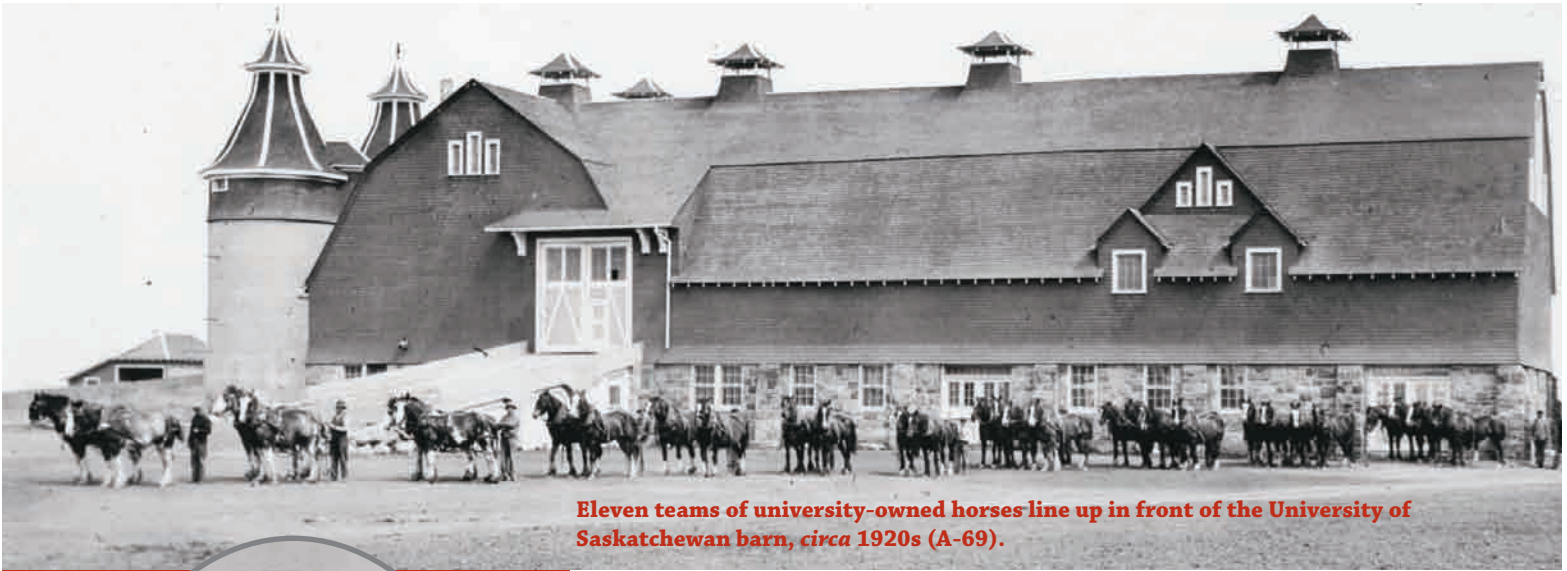
2007: The U of S celebrates its 100th anniversary while the EHRF turns 30 years old. During its history, the Fund has supported hundreds of significant horse health projects and contributed to the training of dozens of equine specialists.

Acknowledgments:

- *Heavy Horses: Highlights of their History* (1986) by Grant MacEwan.
- *WCVM: The First Decade and More* (1990) by Christopher H. Bigland.
- U of S Archives and Dr. Ernest Olfert for access to historical photos.

Judging draft horses in the U of S Livestock Pavilion, circa 1920s
(U of S Archives, A-3699).





Eleven teams of university-owned horses line up in front of the University of Saskatchewan barn, circa 1920s (A-69).



U of S Fights Killer Equine

Disease: During the mid- to late 1930s, thousands of western Canadian horses died from outbreaks of *western equine encephalitis (WEE)*— also known as “sleeping sickness” among Prairie farmers. With no vaccine or preventive therapy available, livestock producers could only watch helplessly as their horses succumbed to the disease’s severe clinical signs of fever, brain swelling and paralysis.

Hope finally came in 1935 when U of S veterinary researcher Dr. John S. Fulton isolated the WEE virus. After a number of trials, Fulton was successful in developing a vaccine that was effective in boosting horses’ immune systems enough to fight off the viral infection. When the demand exceeded the vaccine’s supply on the market, Fulton began large-scale production in his U of S laboratory — using fertilized eggs supplied by local poultry farms to manufacture the WEE vaccine.

It was an extremely busy time for the researcher and his technical team: “Part of the laboratory was transformed into a factory, equipment was bought or devised, and extra staff employed to cope with this challenge. We became proficient at inoculating fertile eggs, collecting membranes, processing and bottling,” recalled Dr. Jean Murray in Dr. Chris Bigland’s book, *WCVM — The First Decade and More*. Murray, who went on to join the Western College of Veterinary Medicine’s faculty in 1964, was a technician in Fulton’s lab from 1931 to 1939.

By 1947, the U of S had accumulated nearly \$110,000 in profits from the sale of WEE vaccines and other U of S-manufactured biologic products to veterinarians and producers across the Prairies. At the urging of Fulton, the university agreed to use the proceeds to build a new virus laboratory. The square building (above) opened in February 28, 1949, and was eventually renamed the J.S. Fulton Laboratory in 1964.

Fulton’s WEE-related research also contributed to human health knowledge when he confirmed that a number of Saskatchewan residents who were showing signs of mental illness were actually infected with WEE. In the mid-1940s, Fulton and his research colleague, Dr. Althea Burton, modified the equine WEE vaccine so it could be used in humans.

Like Murray, Burton initially worked as a technician in Fulton’s lab before completing her veterinary degree at the Ontario Veterinary College in 1947. After Fulton’s retirement in 1958, Burton continued the WEE studies in collaboration with other Saskatoon scientists — including professional and amateur entomologists. This collaborative team eventually confirmed that the WEE virus overwintered on the Prairies and was transmitted to birds, horses and humans through mosquito species. More than 40 years later, findings from those foundational studies in WEE became invaluable as public health teams in Western Canada learned to deal with the spread of West Nile virus — another mosquito-borne arbovirus that affects birds, horses and humans. **H**



The lab that vaccines built: The J.S. Fulton Laboratory. Photo courtesy of Dr. Ernest Olfert.



Above: Dr. John S. Fulton (U of S Archives, A-3253). **Left:** Two U of S clinical workers take blood from one of the university’s horses (U of S Archives, A-2242).