CHAMPAIGN COUNTY

“The Experiment”

Ironically, the University of Illinois authorities ordered these three round barns to be constructed well after New York’s Eliot Stewart, who promoted his octagonal barn design in the mid-1870s, admitted in 1892 that round barns were more difficult – and therefore more expensive – to build than their rectangular counterparts. Joseph Wing, editor of *The Breeder’s Gazette*, also decried the so-called advantages of round barns, publishing in 1902 and in 1905 that the round barn’s wedge-shaped stalls were inconvenient when compared to right-angle stalls, the barns let in too little light, and they required special lumber, especially when the boards needed to be soaked in water in order to bend. Other articles brought out more deficiencies of the round barn in early 20th century agricultural journals, including one published in *Ohio Farmer* in 1906 when a farmer, after building a small round barn, claimed that it turned out to be six times more expensive than a rectangular one. However, professors at the University of Illinois were determined to conduct experiments to determine how to maximize milk production per acre of farmland. They thought the answer was round barns.

By 1850 America was predominantly a country of small farms – 1.4 million of them – and, with expansion westwards, settlers faced challenges: tornadoes, damaging insects, droughts, blizzards, floods, and fungal diseases. Many lost their farms. President Lincoln, in 1862 and despite the difficult Civil War years, not only signed the Homestead Act, awarding 160 acres of land to a pioneer-farmer – after homesteading for five years – but also created the U.S. Department of Agriculture and enacted the Morrill Land Grant College Act, which awarded 30,000 acres of land to each state to establish a college for agriculture and the mechanical arts. Lincoln was aware that land-grant colleges could improve crop and livestock production, especially for the war effort in the north. In 1867 the University of Illinois was founded, followed by Purdue University (1869) and Ohio State University (1870). Science was about to join hands with farming.

The University of Wisconsin became a land-grant institution in 1866 and about 20 years later – in 1889 – Professor Franklin King publicized his circular barn design. It became popular in the 1890s and convinced a number of Indiana carpenters to begin building and designing round barns, especially ones with a self-supporting roof. By the early 1900s they aggressively advertised and built these unusual barns, traveling to all parts of the Midwest. By 1903 C. B. Dorsey, an agricultural professor at of the University of Illinois, one of Lincoln’s land-grant colleges, traveled to Indiana to view the barns built by Benton Steele, the foremost round barn builder of that time. Impressed, the professor hired Steele to construct a round barn on his farm in Gilberts.

One of his colleagues, Wilber J. Fraser, the first head of the Department of Dairy Husbandry (1902–1913), apparently also ignored the advice against round barns in agricultural journals. After seeing Professor Dorsey’s barn, he became a strong advocate of this design, claiming that round barns offered the “economy of consideration, low maintenance, and labor efficiency.” He also claimed a round barn was less likely to suffer from a windstorm, compared to a conventional one. At the university’s experiment farm in Urbana, Champaign County, Fraser started a dairy farm in 1908, specifically to determine how to maximize milk production per acre, and he began building round barns. The first one came in 1908.

But, rather than hiring Indiana builders – Steele, Detraz, the McNamees, or Duncan, the cream of the crop – he chose the university’s own architect James M. White, as well as Kell & Bernard to build the barns. This first barn, known as the Twenty Acre Dairy Barn, was 60 feet wide, was built into a hillside, had two stories and a central wooden silo, held 20 cows, and cost $3,200 to construct, almost twice as much as round barns being built in 1908 in nearby southern Wisconsin.

The second barn, the Dairy Horse Barn, though also 60 feet in diameter, cost $2,000, a more reasonable sum when it was built in 1910. It, too, had two stories, a gambrel wood-shingled roof, concrete foundation, and vertical wood siding. Unlike the others, it was built on flat land.

The Dairy Experiment Barn, the third one and built in 1912, was the most costly of the three - $11,000 – and the largest – with a diameter of 70 feet. A large cupola provided ventilation and a rectangular wing allowed more cattle to be housed. This barn continued to spread the gospel of the experimental station throughout the country. After all, why would a university continue to build round barns if they weren’t efficient? And why would it build such a large and expensive one?

In February, 1910, after a year of experimentation with the first round barn, Fraser published a seminal paper, *Economy of the Round Dairy Barn*, in Bulletin 143, issued by the University of Illinois Agricultural Experiment Station. Early in the bulletin, he admitted he knew about the negative viewpoint, “The objections to round barns have usually been made by those who have only a superficial knowledge of the subject …” He went on to not only elaborate about the advantages of the round barn but he also provided complete specifications, detailed costs and construction methods of the university’s first circular dairy barn. Coming from a learned and respected professor of agriculture, this bulletin spread widely throughout the Midwest, stimulating the greatest growth spurt of the round barns – 1910 to 1920.

However, despite Fraser’s continued publications and his willingness to share exact details of construction, the evidence against round barns continued to mount and gained publicity during the 1910-1920 years. And though Fraser’s experiments influenced some farmers to build round barns, they never amounted to more than one percent of all barns built. After all, farmers of the late 1800s and early 1900s had to be practical, had to support a large family, and had to watch costs. Just as Missouri is called the Show-Me State, so also the average farmer had to be shown that something worked: whether it was crop rotation, a certain pesticide, or a new hybrid of corn. It’s reasonable to assume that farmers could see the additional costs of making a curve in a building – the use of correct lumber, the soaking of the boards, and the trimming of the excess siding to fit.

Did Fraser’s experiment fail? Despite Fowler’s octagonal concept earning a following in the 1850s and Stewart’s octagonal barn design furthering interest in the 1870s, the percentage of octagonal barns remained meager. Even after Wisconsin’s Professor King publicized his circular plans in the 1890s, the numbers of round barns built were a small fraction of barns. And, yes, Fraser’s bulletin in 1908 did motivate some farmers but it fizzled within a decade. Depressed agricultural prices in the 1920s, the Great Depression of the 1930s, and the understanding that a round barn was more expensive to construct ended the era of the round.

In 1993 the university secured a listing on the National Register, which the barns richly deserved – acknowledging Professor Fraser’s contribution to the history of the round barn phenomenon. Today these three icons of Illinois farming still stand – exactly where they were built in Urbana – and continue to be used for small dairy herd experiments and for storage. The university is wise to preserve them and to honor the legacy of Fraser’s grand “experiment.”