

The Bedford Barn Survey

by J. Daniel Pezzoni

Barns are almost synonymous with farms in the American consciousness. They are the iconic buildings of the farm landscape, yet changes in agricultural practices and land use have placed older barns at risk. The plight of these evocative buildings inspired the Bedford Historical Society to explore documenting the county's rural architectural heritage beginning in 2009 and led to the Bedford County Farm Survey in 2013, a documentation of over seven hundred farms and thousands of farm buildings. Known as the "Bedford Barn Survey" for short, and undertaken by the author, an architectural historian with Landmark Preservation Associates in Lexington, Virginia, the project was funded in part by the Virginia Department of Historic Resources during a second phase in 2013-14. The survey generated a wealth of information on the county's historic farm buildings, which range from crude log corncribs to architecturally sophisticated dairy barns to specialized facilities for canning tomatoes and packing apples, as well as many other common (and uncommon) farm building types.

What were Bedford County's earliest farm buildings like? The simple answer is: we don't know. Settlement of the area that would become Bedford County began in earnest in the first half of the eighteenth century as agriculturalists of largely English and African derivation moved into the area from more established areas in Piedmont and Tidewater Virginia (with a few settlers from other regions), but no farm buildings from this early period are known to survive. In fact, no agricultural buildings from the 1700s were positively identified by the survey, although it is possible a few are tucked away in remote corners of the county.

But we can deduce something about Bedford's early farm building stock. In its society, economy, and culture the county was like others further east, areas where farm buildings were typically frame structures of simple gable-roofed form, with weatherboard siding and wood shingle roofs. Frame construction was the normative building technology of colonial Virginia, and the wood used in the hewing or sawing of framing timbers was an abundant building material.

In fact, standing timber was too abundant, a hindrance to pioneer agriculture. The first step in the establishment of a Bedford farm would have been land clearance, a back-breaking chore typically carried out (on the larger farms) by a slave workforce under the supervision of the plantation owner or his overseer. But there was a shortcut. Farmers often planted their crops in “deadenings,” groves of dead trees killed by “girdling,” the removal of a strip of the life-giving outer woody layers. The leafless branches allowed sufficient light to reach the ground for the plants to grow. Fire was also employed in a version of slash-and-burn agriculture which enhanced, at least in the short term, soil nutrients. With its charred, dead forests early Bedford would have been no beauty spot, but the point was the maximization of profits with a minimum of labor, not aesthetics.

A glimpse of the county’s early farm building stock is provided by the records of the Mutual Assurance Society of Virginia, an insurance company most active in the state’s rural areas during the first two decades of the nineteenth century. Of the ten or so Bedford barns described in the company’s policy declarations for the period 1802 through 1818, all were wooden buildings with wood-covered roofs. The wooden construction of the barns was either log or frame and the roofing would have been either shingles, clapboards, or boards held down by weight poles.

Most Bedford barns described in the Mutual Assurance Society records were one story high. Two were two stories high, possibly an indication they were of the type known as the bank barn form. As its name suggests, a bank barn was built into a bank so that both its upper and lower levels were directly accessible from the ground. The upper level contained a haymow (hay loft) and, typically, a central drive-in bay and threshing floor. The lower level contained animal stalls. Bank barns are traced to Germanic lands in Europe and were introduced to Virginia by German speakers who primarily settled west of the Blue Ridge.

The county’s surviving bank barns come in three basic types, all relatively rare. The true bank barns, those having full lower levels, appear to date mostly to the twentieth century and may owe more to promotion of the form in the agricultural press than to vernacular transmission. Examples include the barns on the Carner-Croft Farm at Kelso Mill and the Nance Farm in the Moneta vicinity.

The second type might be called a false bank barn. The lower level of this barn type is less than a full story in height, too low to house livestock. Instead, the purpose appears to have been to raise the haymow floor off the ground to protect the hay from damp. A good example of the form is the nineteenth-century barn at Parkdale Farm near Sedalia. This large barn, constructed of pegged mortise-and-tenon heavy timbers and possibly antebellum in date, is also notable for the wrought-nailed construction of its double-leaf drive-through doors, representing either a late use of the nail type, manufacture of the nails on the farm, or recycling of doors from an earlier barn. The ca. 1900 barn on the Jennings Farm near Kelso Mill also has haymow floors lifted off grade.

The third bank barn type might be called a half bank barn. The frame barn on the Blair Farm near Chamblissburg exemplifies the type. To one side of the center drive-through the barn is a true bank barn with a haymow over animal stalls. The other side has the more common non-bank configuration. The barn was probably built in the early decades of the twentieth century although it reuses hewn timbers from an earlier building (which may also have been a barn). The Blair barn is also notable for an engaged porch-like drive-through in front of the animal stalls; latticed openings on the front of the stalls to facilitate ventilation; and openings at the back of the stalls above the center drive-through floor through which hay from the mow was forked to the animals below.

The haymow may be considered the functional nucleus of the county's barns and often exists in isolation as a hay barn. Many hay barns are constructed of log, a material and construction technique ideally suited for hay storage. The slender young-growth trees that could be used to build hay barns were less valuable and presumably more plentiful than larger, older trees during the early twentieth century, the period to which most of the county's surviving log hay barns apparently date. The gaps between logs provided ample air flow to the loosely piled hay.

One of the oldest barns identified in the survey, that on the Elliott Farm at Reba, which may date to the 1880s, has at its core a stoutly constructed v-notched log haymow perched high on a boulder and rubble foundation. The frame stock shed that attaches to its side is constructed with cut nails and, although it may have been built at the same time as the log portion, reads as

secondary. Over time the Elliott barn expanded with the construction of two additional frame sections to create a linear four-part composition.

The log “crib” of the standard log hay barn could be doubled to form the “double-crib barn” of Appalachian fame. Presumably many double-crib log barns were built in Bedford County historically, however prior surveys and the windshield documentation portion of the barn survey have identified only two. One was surveyed by architectural historian Anne Carter Lee in the Rocky Branch/Joppa Mill vicinity in 1975 and apparently no longer survives. Lee noted that the two-level barn’s lower level was very low, more like a raised basement, the configuration noted in the partial bank barns described above. The second (and surviving) double-crib log barn is located on the Key-Shackford Farm north of Bedford. Ownership history, nail chronology, and other features suggest the Key-Shackford barn dates to the 1910s or 1920s. Sheds on two sides protect many of the saddle-notched logs, which are in almost pristine condition, but exposed sides have experienced deterioration which current owners Joy and Andrew Watkins are repairing.

The basic functional division of the bank barn with animals below and hay above characterized the large non-bank barns constructed throughout the county in the first half of the twentieth century. These multipurpose barns were promoted by the agricultural press of the era and by plan services, state agricultural authorities, and the Virginia Agricultural and Mechanical College (Virginia Tech) in Blacksburg. The form reflected the interest in scientific farming methods, efficiency, and labor-saving technology that characterized the Victorian and Progressive periods.

The multipurpose barn form, also known as the loft barn type, was often coupled with the gambrel roof form which became popular locally during the period ca. 1920 to 1960. The gambrel-roofed barn in its modern incarnation was promoted by the adoption of mechanized hay carriers after the Civil War. Hay carriers used a hayfork, typically in the form of a pincer-like grappling mechanism, to lift loose hay from a wagon parked in the barn’s drive-through or outside. The hayfork was then manipulated to drop the hay into the haymow, the whole process bypassing the hard work of pitching the hay manually by pitch fork. Hay carriers worked best in haymows free of obstruction from the crossbeams of old-fashioned heavy timber construction.

The gambrel form, perfected in the Midwest and gradually adopted in eastern areas like Bedford County, could be built from lighter structural members that dispensed with crossbeams. In their later iterations gambrel roofs were self-supporting, that is, they spanned the haymow without interior support posts.

Among the county's early gambrel-roofed multipurpose barns is the horse barn at Savenac south of Bedford, which may have been built in the 1910s when horse raiser Dean Starks acquired the property. The barn is representative of transitional gambrel forms. The roof is supported by a row of heavy posts at the breakpoints of the roof slope and the posts in turn are reinforced by cross-braces that tie in to the floor structure and wall plates. Starks' English nationality may partly explain the roof form as well as other features such as the barn's handsome brick construction and a basement level that may have served to enhance ventilation of the space above.

The 1936 County Farm Barn, or "Red Barn" as it is generally known, located at Falling Creek Park, has a self-supporting gambrel roof modeled on the light-framing advances of the early twentieth century. It has been suggested the barn was built from a Sears, Roebuck kit and in fact it shares general features with published examples of Sears barns, as well as specific features such as the shed dormer ventilators that project from the roof, however an exact match has not been established. Other barn kit suppliers such as the Gordon-Van Tine Company, the Aladdin Company, and the Loudon Machinery Company were also active during the era. The Aladdin Company is believed to have supplied components for the Woolfolk Barn, built in 1940-41 and visible from US 460 on the south side of Bedford.

The epitome of the self-supporting roof form was the so called Gothic Arch roof popular in other areas of the country from the 1910s through the 1950s. The Gothic Arch roof, which has the curved and pointed profile of the Gothic lancet arch, is represented in the survey by the roof on the 1947 cinder block dairy barn at the aforementioned Parkdale Farm. Gothic barn roofs and roofs with continuous curves typically utilized thin wood sections that were bent, layered in multiple plies, and glued and/or nailed together to create curved rafters. The barrel-vaulted

bentwood-rafter haymow of the ca. 1950 barn at Groveland near Perrowville is a rare local example of the continuous curve form.

The county's multipurpose barns are associated with various mechanical devices and technological advances. Hay carriers were probably the most common. A clue to the presence or former presence of a hay carrier is provided by the hay bonnets or hoods that project from the roof peaks of many frame and masonry barns. Generally hay bonnets have a small triangular or wedge form sufficient only to shelter the boom that supports the short extension of the hayfork track outside the barn, however the 1920s Spradlin Barn near Stewartsville, a small frame hay and stock barn, features a full strut-supported extension of the gable roof which in addition to protecting the hayfork rail may have served to shelter the hay wagon parked below.

Similar in operation to hay carriers are litter carriers, a somewhat euphemistic term for contraptions used to transport soiled straw litter from barns. In Bedford County these are typically associated with the milking parlor sections of dairy barns. Examples include the Hurt Barn north of Bedford, which preserves a trolley-mounted carrier that runs along a suspended track down the center of the parlor and dumps out the back of the barn through double-leaf doors, and the 1927 barn on the Wright Farm, also north of Bedford, which no longer has its carrier but retains the mounts for the track and double-leaf back doors with a notch through which the track projected. A device of mysterious function survives on the ca. 1900 horse barn at Rothsay Farm in Forest. The device features a large wooden drum pulley that projects from the front wall of the barn. Architectural historian Travis McDonald notes the existence of a similar wheel mechanism in the 1856 granary at nearby Poplar Forest.

The rise of commercial dairying in the early twentieth century and the implementation of stringent health and hygiene requirements concerning the handling and purity of dairy products fostered the construction of sophisticated dairy buildings in the county. Representative of these is the aforementioned 1927 barn on the Wright Farm. The barn has an unusual form with a gambrel-roofed haymow wing and a gabled milk room wing that branch off a main gambrel-roofed axis containing the milking parlor. (A milking parlor is a stanchion-lined space used for milking the cow herd; a milk room is a wing or separate or semi-detached building for

processing the milk.) The Wright barn is reminiscent in some respects to the model dairy barn constructed at Virginia Tech in 1899 according to plans by Roanoke architect Henry H. Huggins, notably through its use of multiple wings at different levels, although Elmo Wright, the barn's original owner, may have modeled the barn on any one of the many barn plans available from published sources and plan services. Huggins was active in the county; he designed the Masonic Hall (1895; the present Bedford Museum) and the S. S. Lambeth House (1909), though whether he also designed any local barns is unknown.

By placing the Wright barn's milk room in a separate wing the barn's designer helped protect the milk from unhygienic conditions in the milking parlor. The milk room's concrete floors and wainscots further promoted hygiene. The milk room was equipped with brine coolers, a vat for cooling the milk cans with an overhead hoist beam for lifting them out, a boiler that supplied hot water for washing implements, and a metal-lined vault for implement storage visible on the exterior as a small shed-roofed extension on the end of the wing.

In the early 1950s a separate cinder (concrete) block milking parlor and milk room were built to the side of the Wright barn. Concrete construction, painted on the interior, was favored as a method for controlling bacteria. The new arrangement on the Wright Farm reflected an important postwar shift in the industry: the adoption of refrigerated bulk tanks for the keeping of milk in place of individual cans, and the piping of milk from mechanized milkers attached to the cows' udders directly to the tank to minimize handling and reduce the danger of contamination.

At its peak in the mid-1940s the Wright Farm's milking parlor accommodated a herd of eighty-six cows at a single milking. Larger still was the herd at nearby Redlands farm which numbered as many as three hundred to four hundred head. The milking parlor at Redlands, which may be contemporaneous with the one on the Wright Farm, shares with it specialized features such as a milk house wing replete with boiler and cooler and also an engine room wing. The milking parlor proper is spanned by a roof with a complicated structure of scissor trusses and tension rods.

Frame dairy barns and milking parlors were built as late as the mid-1940s, for example the broad gable-roofed milking parlor built on the Markham Farm about 1946, which at the time was one of the first specialized dairy buildings in its Kelso Mill Road area. But for the most part post-war dairy buildings were constructed of cinder block. Milk house arrangements were varied both before and after the war. Semi-detached milk houses connected to their milking parlors or dairy barns by covered breezeways are represented by the 1936 County Farm Barn and the ca. 1950 dairy barn (later converted to a horse barn) on the Blair Farm. Milk houses constructed as separate single-purpose buildings appear on a number of farms. The construction of separate or semi-detached milk houses responded to the desire of regulators for milk houses that were “free from contaminating surroundings,” meaning the filth of the milking parlor.

In the public imagination, silos are as much a feature of barns as gambrel roofs and red-painted siding, but in Virginia silos are relative latecomers to the farm landscape. Silage—corn or other feed that is partially fermented to produce acids that inhibit bacterial growth and extend storage life—enabled farmers to store quantities of feed for periods of poor or unavailable pasturage, as during droughts and snowy weather, and resulted in larger dairy herds. European agriculturalists experimented with the making of silage in the 1870s and the first American silos were apparently built in the mid-1870s. Early silos took the form of trenches or covered pits but by the end of the 1880s tower-type silos became popular. Many early tower-type silos were square/rectangular or octagonal in floor plan but when it was realized that rot was more likely to occur in the corners of polygonal silos builders switched to the now-standard circular form.

The first Bedford County silos, which date to the early twentieth century, were apparently constructed of wooden staves. Only one surviving example of a wooden stave silo was documented by the survey, the silo attached to the 1939 dairy barn on the Tanner Farm near Big Island. The Tanner silo was disassembled at another farm, reassembled on the Tanner property, and encased in a rectangular metal-sided enclosure to protect the staves from the elements.

Wood construction gradually gave way to more durable materials in silos. The attractive stone and poured concrete silo on the Arrington Farm near Peaksville was built by brothers Harry, Onyx, Morris, and Joseph Arrington in the mid-1930s when the four were boys or young men.

Charles Ervin Woolfolk also built a stone silo in the 1930s at his farm just outside Bedford. After World War II, concrete supplanted other materials as the most popular silo material in the county. Early examples, such as the concrete silo attached to the ca. 1935 barn on the Simmons Farm near Chamblissburg, were poured in forms, however most surviving historic-period concrete silos were built from prefabricated concrete staves that slotted together and were held in place by steel tension rings. The example on the Cridlin Farm near Goode was built with components manufactured by the Marietta Silos company of Marietta, Ohio, as indicated by the metal logo on the weathervane that tops the silo's domical roof.

Brick also occasionally served for silo construction as demonstrated by the ca. 1946 silo on the Markham Farm and the ca. 1945 silo at Triple Hills Farm near Stewartsville. A material especially well suited to silage making owing to its impervious vitrified surface was glazed terracotta tile block. The ca. 1920s Chappelle Barn northwest of Bedford has a silo constructed of "vitrified hollow clay tile" manufactured by the National Fire Proofing Company (NATCO) of Pittsburgh, Pennsylvania, as a plaque inside the silo attests. NATCO also produced tile block for the construction of the ca. 1920s silos (one of which was recently torn down) on the farm at the nearby Elks National Home in Bedford. NATCO advertised its silo as "the silo that lasts for generations." A tile block silo also stands by the horse barn at Savenac and like the barn may date to the 1910s. The Hurt Barn north of Bedford, which appears to date to the 1920s or 1930s, has a silo constructed of riveted metal plates some of which bear traces of the stenciled name of the manufacturer, the E. W. Ross Company of Springfield, Ohio.

Bedford County's dominant agricultural specialization until the turn of the twentieth century was tobacco cultivation, and tobacco barns for the curing of tobacco, generally referred to as "tobacco houses" in Virginia's early history, may have been built on the county's earliest farms, though the popular colonial-era sun curing method of drying the harvested leaf did not require curing barns. The county's earliest tobacco barns may have been frame, gradually giving way to log construction by the end of the eighteenth century, a trend noted by historian Ronald L. Giese in research on the county's historic tobacco barns undertaken for Poplar Forest.

Most of the county's surviving tobacco barns, which appear to date predominately to the first half of the twentieth century, are log, a material that when chinked and daubed made an airtight enclosure ideal for the two locally prevalent forms of curing, fire curing and flue curing. Fire curing, more common locally, involved the lighting of small fires on the floor of the barn which both heated and smoked the tobacco leaves suspended overhead from poles known as tier poles. Fire curing came into use in tobacco-growing regions by 1786 and was common by 1800. Flue curing, introduced by agricultural innovators in the early nineteenth century and in Bedford County dominant in the county's southern tip, was a modification of fire curing that removed the fire to stone fireboxes at the front corners of the barn and conducted the heat through flues that snaked across the barn floor to exhaust their heat and smoke beside the front entry. Flue curing heated the leaves without smoking them and had the added benefit of reducing the potential fire risk from sparks that might ignite the leaves. Both fire-cure and flue-cure barns have tall forms to maximize exposure of the leaves to the rising heated air. The basic concept may have been borrowed from smokehouses which worked on the same principle.

The county's oldest known tobacco barn, the McDaniel Tobacco Barn near Perrowville, is believed to date to 1851-52 and stands on what was at the time the farm of Albert McDaniel. The 1850s date seems probable given the specificity of the oral tradition for the barn and also the use of cut nails in its construction (cut nails generally passed out of use by 1900). The relatively large v-notched log barn, which measures approximately twenty-one and a half feet to a side, has the tall profile of the type, and its stone foundation lacks fireboxes confirming the use of fire curing rather than flue curing. Smoke residues on some of the lower tier poles and walls of the barn provide additional evidence of the fires used to cure the leaf.

Flue-cure barns are often found in groupings of two or more. The Martin Farm on Falling Creek Road has three surviving flue-cure barns of an original five tobacco barns (the other two were fire-cure barns). Most or all of the farm's log tobacco barns were built in the 1920s. Current co-owner Alvin M. Martin notes that flue-cure barns could be easily converted to fire curing by the simple expedient of opening the flues on the interior. Depressions in the ground near two of the barns mark borrow pits where mud was dug for use in daubing the gaps between the logs, routine maintenance necessary to keep the barns airtight.

After curing their leaves, tobacco farmers placed them in “order,” that is, they moistened them so that they could be handled without crumbling. The Martin family accomplished this by flooding the floors of their tobacco barns with water or sprinkling the leaves with a watering can, but most Piedmont Virginia tobacco farms used an ordering pit, a semi-subterranean space where the cured leaves were hung so that they were exposed to ambient moisture from the ground. An ordering pit survives on the Jones Farm near Smith Mountain Lake Park. The pit is a partially excavated cellar under the farm’s pack house or “stripping house” where the tobacco leaves were prepared for shipment. The log tobacco barn on the Turner Farm near Graves Store, originally a flue-cure barn, has a shed-roofed log wing where the cured leaf was apparently prepared after curing.

Two building types with a hybrid agricultural-processing function were recorded during the 2013-14 survey: tomato canneries and apple packing houses. The introduction of large-scale commercial tomato cultivation in the early twentieth century necessitated facilities for processing the crop and preparing it for shipment to market. Any barn or other building large enough to house the workers and machinery during the brief summer canning season would do but many producers constructed purpose-built canneries. The long rectangular form typical of local canneries reflected the assembly-line nature of the production process which began with receiving and continued on to scalding, peeling, canning, boiling the cans, labeling, boxing, and shipping.

The Arrington-Gross Cannery near Peaksville, apparently built before 1918, is representative of the type. A notable feature of the building is its provision for the comfort of the workers who, during the Gross family’s ownership, were members of the family, both adults and children. The end of the building that sheltered the hot work of scalding and boiling is slatted to encourage air flow (the slats are now covered with metal sheathing). The more enclosed vertical-board-sided end was used to store the boxes of cans until they were picked up by trucks for shipment. An essential feature of the Arrington-Gross Cannery, one shared by many others, is its location beside a creek. The creek supplied water to the operation and was used to wash away the

peelings. The Arrington-Gross cannery also had an office in a shed wing (now removed) that projected from a corner.

Apple growing was not as extensive an agricultural specialization as tomato cultivation but it nevertheless made a mark on the county's architectural landscape. Apple packing houses were constructed at the larger orchards. Among the oldest of these to survive is the packing house at Hunting Creek Farm near Sedalia which was probably built in the 1920s. The two-story building, sided with weatherboards and set on poured concrete and stone foundations, has something of the appearance of a large barn of the era. A complicated conveyor-belt apparatus for grading the apples extends the length of the main interior space. Slatted slides, apparently for feeding boxes to the packers who worked by the conveyor belt, connect to the second floor where the boxes were stored. The Hunting Creek operation ranked among the county's top four apple growers in 1949.

At the smaller end of the size spectrum is the Yoder Apple Packing House, also near Sedalia, which has interesting origins. It was built in the late 1940s by Jacob Johnson Yoder, a World War II veteran who fought in the Battle of the Bulge. Upon his return to the states Yoder decided apple growing on a Bedford County mountainside was the quiet life he needed after the horrors of combat. His pole-built packing house, though crudely constructed compared to other examples, nevertheless shares the same functional division of a lower level for grading operations and an upper level for box storage.

The Bedford Barn Survey was a successful preservation initiative to which many people contributed, among them a cadre of dedicated volunteer drivers. The project was featured at the Bedford County Agricultural Economic Development Advisory Board Expo held in March 2014 and was also the subject of articles in the *Bedford Bulletin* and the *Lynchburg Business Magazine*. Public outreach was an important goal from the outset, achieved in part by the production of the 2014 "Barns of Bedford" calendar, illustrated with pastel drawings of local barns by middle school art students. The survey and allied initiatives raised public awareness of the county's irreplaceable farm heritage and will hopefully encourage the preservation of barns and other farm buildings into the future.