

## Clay's Cow House: A Mid-Century Kentucky Barn in Regional and Historical Context

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In August, 1856, Brutus J. Clay (1808-1878) began construction of the largest farm building he was to add to his central Kentucky farming enterprise, what he called his "cow house," a generic term of the time for "cattle barn." Its construction was even noted by the roving reporter for nation-wide *Country Gentlemen* magazine. As reported, it was 160 (actually 165) by 40 (46.9) feet in size. The structure burned about 1918 after being hit by lightning and is known only by a limited number of photographs from the 1890's through ca. 1910, none of which gives an adequate view of the whole building.

Coming on the heels of his leadership in the 1853 livestock importation of the Northern Kentucky Importing Association (Clay 1931) and his presidencies of the Bourbon County and State agricultural societies, it is tempting to view Clay's barn

as triggered by his investment in valuable cattle. Indeed his son Green, writing home from college the previous year, apparently asked about the structure suggesting it was necessitated by the many imported cattle. However, such an interpretation requires some rethinking in light of the building, such as it is known, and the nature of cattle production at the time, such as it can be reconstructed. Contextualized with plan details, the economic context in which it was built, and building patterns developing elsewhere, the barn is revealed principally as an element in a particular capitalistic endeavor arising out of the larger Kentucky livestock industry. Others were making similar investments in their agricultural enterprises. To treat it simply as a gentleman farmer's extravagance is to miss what it has to say about the much larger question of the agricultural industry in the region at the time.

### The Cow Barn Structure

Clay's cow house was built on a slight rise, graded so as to drain to either side, in the midst of a pattern of small lots divided by dry stone walling which served as cattle handling facilities which were in part were constructed to accommodate the new building. Elements of it were built on continuous dry stone foundations, others supported by earth-fast posts. The core of the barn was built on four runs of continuous dry stone foundation, each 2 feet wide, which ran through 140 feet of the total length of the structure. These defined three elements of the plan. The first was a central aisle 6 feet wide. Its narrow width indicates that it may not have been used for driving cattle to their stalls. On the eastern end there

was a gable entrance to this aisle over a substantial stone threshold. Clay's grandson remembered that it had a metal track along which a feed cart could be rolled. Secondly, two foundations running parallel to this center aisle defined series of stalls 8 feet wide on either side of the aisle. An exterior photo suggests these may have been divided into box stalls with doors which opened into flanking sheds (Figure 1), themselves open to the surrounding enclosure. The roof was topped by at least two square ventilators. However, for the times the structure seems to have been relatively unadorned (for example it lacked ornamented barge boards or eaves).



Figure 1. Exterior photograph of south side showing stalls (photo by M.H.Clay, *circa* 1895).

On its western end the barn foundations butted against a 25 x 46 foot dry stone foundation which originally stood to a height of about four feet and defined a floor 4 feet below the level of the aisle and stalls to the east. This room, the width of the barn and sheds, was at right angle to the longer structure. One photograph from about 1908 shows a “Little Giant” (or similar) brand

cast iron corn and cob grinder powered by two mules (*The Western Farm Journal* 1856, Oct.17:1:16) in operation in front of a side door to this portion of the barn (Figure 2). Because of the feed cart in the center aisle which accessed this room, it is probable that this end of the structure was reserved for the preparation, perhaps storage, of prepared grain rations for stabled cattle.



Figure 2. Corn/cob grinder in operation at west end of the barn, *circa* 1908 (photo by C.M.Clay, Jr.)

East of the barn stood another structure which housed a cattle scale bought in December, 1856 from E. and T. Fairbank, a “Fairbank Scale” of later fame, manufactured in St. Johnsbury, Vermont (Rolando 1992:77). The other components of this barn complex were a large cistern/well off the western end of the barn which both collected rain water from the

roof and tapped the water level at that time about ten feet below ground surface (Figure 3). Near the well was a small, square, stone walled structure with fire place and simple chimney which was described as a building where feed was cooked for the cattle (Figure 4).

All buildings in the complex were surrounded by substantial dry stone walls which divided this portion of the lots into a series of smaller enclosures. A small stream flowed through these and below the stone walls between and under substantial stone

water gaps (Figure 5). At least one stone capped culvert carried a path across the stream. When it flowed, the branch watered the enclosed cattle lots. In short, the investment in the total complex was integrated and substantial.



Figure 3. Cistern/well at west end of the barn (photo by M.H.Clay *circa* 1895).



Figure 4. Remains of the feed cooking structure.

With its emphasis on the specialized preparation of cooked feed and ease of feeding it, Clay's large cow house appears to have been principally a structure for feeding cattle. In design it has certain antecedents, although there probably were important differences in floor plan and detailing which

cannot be fully understood today, in plans published by the Allen brothers--Lewis Allen's Design II--based on their experiences in New York state (Allen, Lewis F. 1835:151-153; Allen, Lewis F. 1852:299-307; Allen, Richard L. 1852:309-310 (Figures 6, 7).



Figure 5. Dry stone water gap near the cow barn.

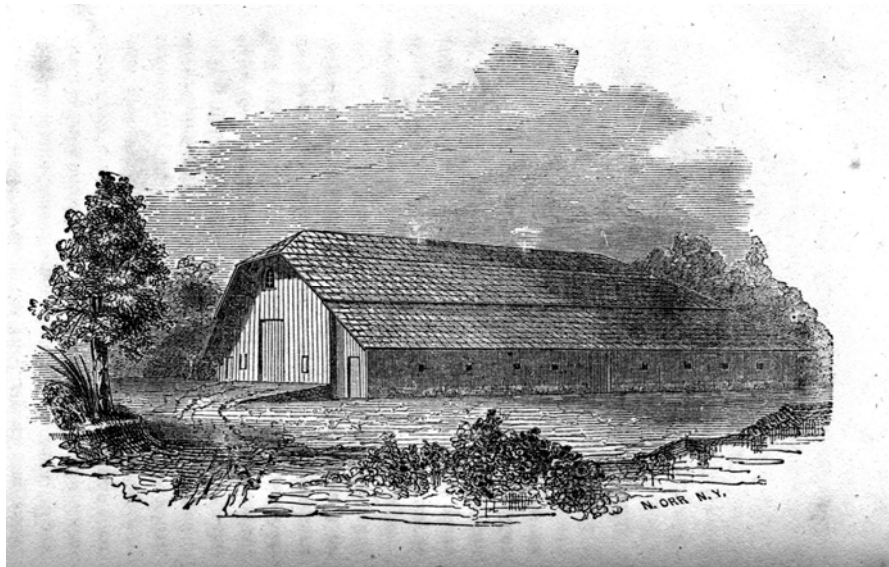


Figure 6. Lewis Allen's cow barn in New York (Lewis Allen 1852:299).

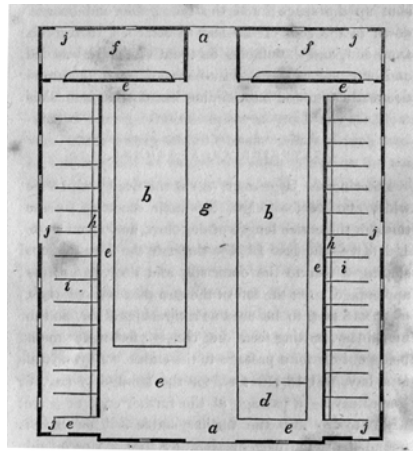


Figure 7. Floor plan of Allen's barn (Allen 1852:304).

Clay's library included complementary copies of the New York Agricultural Society proceedings from Lewis F. Allen (president of the society during the 1850s), although not specifically his volume on farm buildings. In addition, correspondence between the two men on the subject of cattle bloodlines exists as early as 1836 although structures are not mentioned in it (cf. Henlein 1959:33, n.33). Still, there is no definite indication that Clay followed Allen's plans for his own barn: the structure may be a parallel solution to similar needs. Whoever designed it, C.P. Nitt received at least \$60 for work on Clay's "cow house" over a period of about one year (July 1856-July 1857). Mr. Molloy and Mike Gillon—local Irish masons --were paid for the stone foundation.

Allen indicates that his plans derived from a structure which he built 16 years earlier, or about 1836. A livestock producer in upstate New York, he became a leader in progressive farm journalism (cf. McMurray 1988:33-47) in the pre-war period, beginning the domestic Short Horn Herd Book in 1846 and producing a major volume Rural Architecture in 1852 which stands in relation to farming construction roughly analogous to the position that A. J. Downing held in the domestic sphere.

Allen's published structure was rectangular with a spreading, broken, roof line emphasizing the structural division between a center, where feed was stored, and flanking, lean-to sheds where cattle were fed. While the central core contained the storage area for feed, the sheds could be used to extend the structure laterally to cover feeding areas, giving the total building a flexibility which could be tailored to different size operations. In general shape, although framed quite differently, it approximated the general functional outline of what is now recognized as a generic "mid-west three-portal" (Noble 1977:65; 1984:11-14) or "broken gable barn" (Bastian:1977:131-132) which also emphasized somewhat independent sheds for feeding grouped around a central feed storage area. At 100 x 50 feet in size, it was the same width as Brutus' barn although Brutus chose to make his at least 40 feet longer and add the rectangular, sunken feed room on the west end.

In Allen's barn the feeding stalls were located in the sheds while the bins for feed and stover were in the interior of the structure. A centered, gable-end door led into the feed storage area and also accessed a limited threshing floor. Smaller doors in the gable ends of the sheds led to the feeding stalls themselves. Clay had already built a threshing barn some ten years earlier elsewhere on his farmstead. To the extent

that he followed Allen's ideas for a cow house, he modified them by moving the feeding stalls to the central bay, relegating other activities to the sheds, and moving feed storage and preparation to the western end of the barn, linked with the stalls by the tracked feed cart in the narrow center aisle. The sheds, which were open, communicated directly with the core of the barn by stall doors, an improvement in communication with them over Allen's plan.

While the intensive survey fieldwork has not been done to identify the full extent of this particular barn type in Kentucky, at least one other very similar cattle feeding

complex probably existed dating to the same decade. At the South Union Shaker village in Simpson County there was a similar barn existing today only as a foundation (Kurt Fiegel, personal communication). Its size was 135 x 40 feet as estimated from its Google Earth image. A nearby accessory which still stands at South Union was a feed cooking house referred to as a "steam house," and adjacent to the barn was a large well/cistern, both built with brick rather than stone. The South Union Shakers were involved in shorthorn breeding roughly analogous to Clay's operation. They communicated with Clay, and it is possible that he even sold them blooded livestock.

### The Barn Plan in a Wider Context

Whether or not Clay actually followed Allen's plans, his choice of a long, one-story, rambling structure, identifies him with similar contemporaneous choices being made in the mid-west. Out of these came, clearly, the wide-spread and variable in size, mid-west three-portal stock barn. Interestingly, Allen offered *two* barn plans, of which Clay followed in a general way the second. Allen's "Design I" (1852:290-298) was for a structure built "...partially on the Pennsylvania plan, with underground entrance, and a stone walled basement on three sides, with a line of posts standing open on the front yard, and a wall, pierced by doors and windows, retreating 12 feet under the building, giving, in front, a shelter for stock (1852:290)." In modern terminology, Allen's Design I would be described by Enslinger (1992:144) as a "...posted, closed forebay, standard barn." This was a latter-day Pennsylvania barn type which Enslinger interprets as developing toward the middle of the 19th Century, quite different in concept from any structure Clay ever attempted because it incorporated multiple activities (threshing and grain storage, hay storage, cattle shelter and feeding under one roof on multiple floors). Clay's barn was more specialized reflecting

perhaps the more specialized nature of his farming enterprise in comparison to the more generalized nature of smaller farms north of the Ohio River.

In Clay's building there is no clear evolution in barn plan or style from his earlier threshing barn, stable, and lumber house to his cow house. Nor, at least as far as it can be determined from the photos and archaeological remains, is the structure an evolution out of the rectangular cribs of log construction which are so apparent in his corn crib and other neighborhood log structures. The cow barn would seem to break with local tradition, a movement away from the roughly square, cell like floor plan of earlier structures, log, frame, or brick, embracing an expandable floor plan (for example Clay made his barn *longer* than Allen's). For the Bluegrass long after Clay's death, the end product of this evolution in one sense would be the transverse, double shed, central aisle tobacco barn (Raitz 1995) (Figure 8) often of great length, scaled in size to entrepreneurial skills or, at a later date, to government-controlled Burley tobacco allotments. The construction of these industry-specific Bluegrass barns would take place largely after 1900.





Figure 8. Tobacco barn built on Clay's farm *circa* 1908 (photo by C.M.Clay, Jr.)

Other regions were experimenting with so-called transverse barns in the 19th Century, notably New England. What became known as the "New England" barn (cf. Garrison 1991:132) with its gable entrances and a center aisle, broke free from the constricted, cubical space of the "English barn" or "three-bay threshing barn" (Calkins and Perkins 1995) with its side entrances producing a *frame* which could be expanded in *length* in a way the English barn could not (except by appending to it another English barn) through the multiplication of transverse "bays" (which in Kentucky, in the context of the tobacco barn, would become known as "bents" of shed-aisle-shed). It was also, by the nature of things, wider than the English barn: it had to be because of the space requirements of the central aisle (Garrison 1991:132). At the New England Farmer commented in 1858, "...A barn should be at least thirty-six feet wide, with twenty feet posts. Forty-two feet wide is a better dimension. *The length may be eighty feet, one hundred feet, or longer if needed. Even two hundred feet is better than three separate barns* (emphasis added)." (quoted in Visser: 1997:74). The logical evolutionary result of this in the Connecticut River Valley of which Garrison writes (1991, see also Raitz 1995), was an air-cured tobacco shed not unlike the large,

transverse bay tobacco barn which came to characterize the Kentucky Bluegrass (Figure 9).

If the inspiration for Clay's cow barn was Allen's plan or something like it, itself a development out of the New England transverse barn, then it is possible that the *functional* origins of the three-portal barn lie as much in the northeast as they do in Appalachia, contrary to current thinking (Noble 1975 quoted in Bastian 1977:132). Perhaps more correctly, the three-portal barn combined the storage "cribs" of the Appalachian barn with the expandability of the transverse bay structure geared to cattle feeding (although its internal framing was more closely related to its Appalachian antecedents). It was stimulated by the intensification of American corn belt agriculture which was taking place across the mid-West, not in Appalachia. As Hudson points out (1994:105) the three-portal barn was designed to store corn and feed it to cattle, not however I would add, to shelter the fattening animal as in a stall feeding regime (see below).



Figure 9. Connecticut River tobacco barn on the farm of Mrs. Mary Smith (September 1940, Farm Security Administration photo by Jack Delano, Library of Congress LC-USF34-041554-D).

Garrison suggests that the New England barn was a product of the intensification of New England agriculture particularly through stock raising. In this change the transformed barn became the mark of the larger, more economically successful farmer. By contrast, the small, compact, 3-bay English barn retained an “all purpose” character associated with either less intensive agriculture and more diversified farm pursuits. For many, the square English barn became essentially a large store house, little more. For the Connecticut River valley, again, the tobacco shed, built for a specialized crop, represents the end product of this specialization trend.

Clay’s choice of a structure was similarly influenced by the intensification of his stock raising enterprise in the 1850s. Whether the change was a parallel, but essentially unrelated, response to the factors which faced the larger New England farmer or a conscious attempt to make the “progressive” leap and follow Allen’s line of thinking cannot now be determined. But Clay’s choice did not move in the direction of the complex Pennsylvania barn with its multiple functions grouped logically and economically under one roof, generally on

multiple floors. Like his New England compatriots, this early corn belt stock raiser moved toward a more *specialized* structure which fitted his needs: this extended *out* in space, not up in floors.

Structures like Allen’s and Clay’s, are most closely identified with a type of livestock production known as *stall feeding* although the mid-west three-portal barn was to become generalized as a stock barn not necessarily associated with this particular feeding strategy. In this sense Clay’s barn represents an economic “moment in time” for the 19<sup>th</sup> Century. Richard Allen, editor of the *American Agriculturist*, gave a detailed discussion of the principles of this type of cattle finishing and its economics (1847:288-289). Stall feeding was an alternative to grass fattening or finishing on pasture alone, or on pasture and rough forage (i.e. chopped corn fodder). Its object was to produce a heavy, three-year old bullock weighing over a ton. Both freemartins and spayed heifers were also fed to heavy weights. The animal was tied in an individual stall, or a double stall with a compatible neighbor, and led out only to water. Feeding punctuality was stressed, indeed everything was done to keep the



animal quiet, contented, and gaining constantly (the gain must have been on the order of 3 pounds a day or better).

As Allen explained (1847:288), the profit margins of stall feeding, which involved grain feed in addition to hay and fodder, were slim, “.....from repeated trials it is found that the carcass of stall-fed animals will barely return the value of the materials consumed.” For this reason he emphasized the proper selection of cattle for stall feeding; clearly not all were suitable and by implication the majority of light weight lower grade scrub stockers as potential heavy fed cattle were economically a losing proposition. Most animals, he thought, would be fed on grass alone and sold light at about two years of age “...after the surplus fodder is gone.”

Such stall feeding, which in the current (2012) cow/calf and back grounding context might be termed “extended feedlot ownership,” was, as it is today, an effort by the calf producer to increase the value of the fattened animal when the price of lighter cattle was declining, thus, overall, to increase one’s profit margin. It was obviously most attractive to the large cattle producer who would be able to select choice animals for intensive feeding and who might

be less affected by cash flow problems, thus able to carry the cost of the animal and feed for an extended period of time.

However, quite in contrast to present-day cattle feeding, it emphasized a level of comfort and seclusion for the animal and a labor input which is unheard of today. For example, it was generally felt that the animal should be kept “literally in the dark”. Thus it was an economic proposition associated with a building. Clay was a farmer in the decade of the 1850’s who was relatively free of cash flow problems. As a slave owner, labor in addition, may not have been as important an issue. He also seems to have had the sufficient cash reserves so that ownership could be retained for this next and final level of fattening. Basically, however, the building may be viewed as an economic strategy to widen his profit margins, not simply to pamper prize stock or to demonstrate his wealth with a fancy structure. It was a capitalistic enterprise developed to make a profit from one aspect of the cattle business; a point often lost sight of in assessing the development of agriculture in the 19<sup>th</sup> Century, too often seen as associated with “gentlemen farmers” driven by status rather than profit (Thornton 1989).

### Questions of Local Economics

Profitable stall feeding involved at least two other factors. In the 1850’s both worked favorably for Clay near Paris, Kentucky. In fact, they may have prompted his move into this system of intensive feeding. As the decade progressed, and certainly after the Civil War, other factors would make stall feeding less attractive, indeed there is a suggestion that the barn fell to other uses once constructed.

The first factor favoring stall feeding was improved transportation to market. A major problem in all livestock production, and especially involving fat cattle, is shrinkage (weight loss) on the way to

market. Where the market was local, and thus the cattle did not have to be driven a great distance, the feeder could reap the benefits of his added weight and minimize loss due to shrink. This was the case in the stall feeding regions of the northeast outside urban centers, probably explaining the origins of the feeding custom there (Garrison 1991:69-72).

Before the construction of railroads in the west, cattle walked to market. The period of the 1830s and the 1840s in the Ohio Valley was the time of the legendary, drives of mature cattle to the slaughterhouses in Philadelphia, Baltimore,

and other east coast towns, events which established in good part the distinctive American culture of the National Road (Henlein 1959:103-129, Morse and Green 1971). Faced with the real problem of shrinkage from overland driving, there would have been little incentive to initially fatten cattle to extreme weights; rather to merely maintain carcass condition with leased grazing along the way to market. Intensive feeding would take place in proximity to the east coast markets. In fact it was during this same period that stall feeding developed in eastern Pennsylvania as local feeders sought to capture the profit which came from fattening cattle coming off the overland drives (cf. Fletcher 1971:180-181).

For mid-century America, specifically the decade of the 1850s when rail transport to market and slaughter began to become available, rail shipment could offset shrink loss and open more distant markets for heavier fed cattle to the western feeder (Hudson 1994:134). The 1850s saw the linkage of Paris, only three miles from Clay's farm, with Lexington and Frankfort on the west (with the arrival of the rails of the Lexington and Ohio Railroad in 1854) and Cincinnati on the north (with the rails of the Lexington and Covington Railroad completed in 1856. Cincinnati was the major slaughterhouse center in the west at the time in part due to the proximity by water of the Kanawha Valley salt works then in Virginia (now West Virginia) and also to the much larger distribution of the Mississippi Valley drainage providing access to western markets and, through New Orleans, foreign markets.

In the decades before the Civil War, Paris consistently ranked high in the state in livestock production. For the 1850s a major factor had become its location and rail connections to both the east and the west. From this standpoint, Paris in the late 1850s was quite literally one of the best connected towns in Kentucky. Local farmers might gripe in print about the inattention of the

railroad companies (The Kentucky Farmer 1858), but the fairgrounds of the Bourbon County Agricultural Society proudly supported as a permanent fixture the auction ring and cattle loading chutes serving the Lexington and Covington Railroad --which the 1857 Panic would transform into the Kentucky Central Railroad-- bordering the fairgrounds. Not coincidentally the South Union Shakers, who had built a barn similar to Clay's for the same reasons, also had a ready rail connection to Louisville and Memphis Railroad in the community of South Union by 1860 (Herr 1964:26-27).

In Paris these same livestock chutes survived as an appendage of a mid-century community improvement which included not only the fairgrounds, but a new Paris cemetery with elaborately monumented graves. But by 1960 the fairgrounds had long since been swallowed up by industrial development and the cemetery had expanded greatly. Still the stock yards survived, now incongruously located across the old Lexington Turnpike from the elaborate entrance to the Paris City Cemetery. On Friday sale days the morbid silence of the chance *pomps funebres* was mixed with the nearby scheduled animal bawls and grunts and human profanity of the livestock auction circle. This physical union of the rails with the local livestock industry and the general cultural character of the county (expressed in cemetery and fairgrounds) was an essential element of mid-century Paris, Kentucky.

The other necessity for the stall feeder, according to Allen, was a supply of choice light cattle, not run-of-the-mill scrub stock. Clay's farming operation was no stranger to cattle: as early as 1834 he listed 100 cattle for taxation purposes. What he was doing with cattle is a little more difficult to determine and the available figures from censuses, tax records, and accounts require some reading between the lines.

In the 1850 Federal agricultural census Clay reported 30 milk cows, in 1860, 40

head. Rather than being dairy cows, these probably represent a commercial beef cow herd. After all, Durhams--which formed the basis for Brutus's herd, perhaps its main genetic contribution--were viewed as *both* meat animals *and* milk cows: specialized dairy breeds would only come later in the mid-south. These animals indicate that Clay was himself a producer of light cattle and his cow herd was growing in importance through the decade.

In these same censuses Clay reported 200 "other" cattle in 1850, 100 cattle in 1860. These figures suggest that, at the same time that he was maintaining a cow herd raising choice calves, he was probably buying light cattle for fattening. Expeditions to purchase cattle, generally south of the Kentucky River in Madison, Garrard, and Lincoln Counties, are mentioned in the flow of family correspondence.

The importance of this side of the cattle industry in general is quite possibly not adequately recorded in census statistics, in fact it is difficult to dissect the structure of his cattle program with certainty because of this. As Pruitt points out in her study of 19th Century agriculture in Massachusetts (1981), agricultural census figures typically were recorded in September. Yet this was traditionally before light cattle were purchased for winter feeding (as reported in Garrison 1991:68). While it is possible that cattle numbers were intentionally underestimated to the census collector, it was more probably a question of just what was to be recorded, cattle on hand, or cattle held during the year *en toto*? Cattle feeding was a dynamic process involving sales and purchases at various times of the year dictated by weather, market, cattle weight, feed on hand, and a host of other factors. Cash flow needs could outweigh all others; for example Clay bought his first blooded cow in the 1830s when his brother, flamboyant Cassius M. Clay, suffered financial reverses and had to liquidate his herd. Not simply in September, but in fact

*any* time in the year, a single cattle inventory might not reflect the full nature of a cattle production system which might be quite flexible. So it is with figures on cattle production in Kentucky. Add to this the fact that both cattle purchases and sales could involve notes paid off over 6 months to a year, or longer, thus receipts and bills only reveal cattle transactions over a period of time, and it is difficult to track the full nature of the production system from cash books and other archival records which, for Clay's operation, are extensive.

But by the time of the construction of his cow barn, Clay was a producer of select light cattle. Although he no doubt continued to buy common light cattle, his cow herd produced a yearly crop of calves which, due to his selection of sires and dams, were probably of a higher quality than those he might buy elsewhere in central Kentucky. With these animals, and following Allen's views of the economics of stall feeding, he was equipped to carry better animals to a higher weight by stall feeding.

Viewed in this light, Clay's construction of his cow house for stall feeding in 1856 is principally a logical, capitalistic intensification of his involvement in commercial agriculture, not so much a "show barn" for his fancy imported cattle and reflecting a desire to be considered a "gentleman farmer" (Thornton 1989). However, because it was built in 1856, it raises the obvious question, how was he housing his blooded cattle before that date? The answer would seem to be that the bulk of his herd was maintained in the open on pasture, a characteristic of Kentucky cattle production in general, then and now. Stall feeding, finally, would seem to have been a short lived economic proposition, not only here but elsewhere. It went out of style with the westward expansion of the corn belt and associated livestock production after the Civil War, associated with the rise of Chicago and the decline of Cincinnati as the slaughterhouse of the country (Hudson 1994).

## Changes

As Richard Allen noted (1952), the economic advantages of stall feeding were slim although presumably real enough for farmers to use the system at certain times and in certain places before the Civil War. It is doubtful that Clay's attempt produced the economic results he desired although this is difficult to demonstrate from his records. However, the years of the Civil War (1861-1865), which turned Kentucky into a major supplier of meat for the Union armies, probably pressured farmers to rapidly produce younger and lighter cattle. Still, while it may have hastened change, the war was only an element in larger changes in the livestock business which were occurring. These were linked to the vast expansion of the corn belt throughout the Midwest, well under way by 1861 (Hudson 1994). In light

of these, the center of slaughtering shifted west from Cincinnati to Chicago. By the end of the 1860s the Chicago stockyard dominated meat production in a country (Cronon 1991-218-224) which emphasized feeding cattle to younger ages and lighter weights in response to market demands. In Kentucky, cattle feeding shifted to (more correctly reverted to) earlier patterns which stressed open air feeding of corn and forage. So it was on Clay's farm (Figure 10). Surviving documents, furthermore, record the sales of large lots of fed cattle to order buyers who would then ship them by rail to one or more consuming centers, a pattern which exists today. In this changed system there was little place for specialized, intensive stall feeding.



Figure 10. An old pattern returned: winter feeding of corn fodder to comingled cattle and hogs *circa* 1908 (photo by C.M.Clay, Jr.)

## A Note on Sources

Details of Clay's farming enterprise are based on the personal papers of Brutus J. Clay held in the Margaret I. King Library at the University of Kentucky. Contemporary photographs are in the collection of the

author. I would also like to thank Kurt Fiegel for his information, gratefully given some time ago, on the Shakers of South Union, Kentucky with whom he is well acquainted through his fieldwork.

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