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## Article Title: Soldiers as Farmers: Army Agriculture in the Missouri Valley, 1818-1827

Full Citation: Roger L Nichols, "Soldiers as Farmers: Army Agriculture in the Missouri Valley, 1818-1827," *Nebraska History* 52 (1971): 239-254.

URL of article: [http://www.nebraskahistory.org/publish/publicat/history/full-text/NH1971Soldier\\_Farmers.pdf](http://www.nebraskahistory.org/publish/publicat/history/full-text/NH1971Soldier_Farmers.pdf)

Date: 3/16/2011

Article Summary: During the decade following the War of 1812, the military frontier preceded the settlers' frontier in the Missouri Valley and soldiers became pioneer farmers. The soldiers of Fort Atkinson in Eastern Nebraska engaged in the first extensive American agricultural activity west of the Missouri River.

### Cataloging Information:

Names: Talbot Chambers, Henry Atkinson, Benjamin O'Fallon, Henry Leavenworth, Ashael Savery, Edmund P Gaines, Lord Selkirk, John Gale, De Witt Clinton, George Croghan

Place Names: Fort Atkinson, Nebraska; Fort Osage, Missouri; Sibley, Missouri; Fort Bellefontaine; Missouri River; Yellowstone River; Leavenworth, Kansas; Cow Island; Omaha, Nebraska; Council Bluffs, Iowa; Pembina, Red River of the North; Mississippi-Missouri Valley; Fort Snelling, Minnesota; Fort Smith, Arkansas; Jefferson Barracks, Missouri

Keywords: soldier-farmer; War of 1812; Missouri Expedition; Sixty Infantry; Rifle Regiment; scurvy; Cantonment Missouri; Arikara Indians; Yellowstone Expedition; Panic of 1819; Pawnee; drought; growing season; Arikara War of 1823; Indian Peace Commission; Missouri River floods; "anti-military"

Photographs / Images: Fort Atkinson; Major Benjamin O'Fallon; Visitors to Fort Atkinson excavations, 1961; pipes, domino and coins from the excavation at Fort Atkinson



*The rectangular marks delineate the corners of Fort Atkinson (1820-1827). The powder magazine was located in the center at the cross mark. Photographed in 1960 (view to the north) after Nebraska State Historical Society archeologists began excavating the site.*

## SOLDIERS AS FARMERS: ARMY AGRICULTURE IN THE MISSOURI VALLEY, 1818-1827

By ROGER L. NICHOLS

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**D**URING THE DECADE following the War of 1812, the military frontier preceded the settlers' frontier in the Missouri Valley, and for a time soldiers became pioneer farmers. They plowed, planted, cultivated, and harvested many common crops, and also raised large herds of cattle and hogs for their own food. While doing this, these soldier-farmers experienced most of the difficulties and troubles that civilians encountered later when the fringes of settlement extended westward beyond the Missouri. Therefore, for the historian of American agricultural development, frontier military history can provide a wealth of pertinent material.<sup>1</sup>

The work of soldier-farmers at Fort Atkinson in eastern Nebraska illustrates fully the extent of the nineteenth century military contribution to agricultural knowledge. Built in 1820, this fort had the largest garrison of any army post in the nation and as such had obvious military importance. Its significance for agriculture, however, lies in the fact that the troops stationed there engaged in the first extensive American agricultural activity west of the Missouri River.

Both the fort and the farm activities of its garrison resulted from American military expansion into the Missouri Valley immediately following the War of 1812. This region had interested government officials since Thomas Jefferson's presidency, but, except for Fort Osage, built in 1808 at Sibley, Missouri, the United States made no effort to station troops there. Once the War of 1812 ended, however, continuing friction with the Indians, rampant anti-British attitudes, and the ambitions of American fur traders seem to have convinced American leaders that the national interest required the stationing of troops along the so-called northwestern frontier stretching from Lake Michigan west to Montana.<sup>2</sup>

There were unanticipated difficulties in transporting and supplying the soldiers in these frontier areas. In particular, the troops in both the upper Mississippi and the upper Missouri valleys found themselves far beyond the fringes of frontier settlement, which complicated the task of obtaining food. A second, related problem stemmed from the composition of the diet then prescribed for each soldier. Following the War of 1812, the daily individual ration included one and one-quarter pounds of beef or three-quarters of a pound of pork, eighteen ounces of bread or flour, and one gill or half-cup of rum, whiskey, or brandy. In addition, for each one hundred rations the soldier received two quarts of salt and four quarts of vinegar, the latter to prevent scurvy.<sup>3</sup> Dissatisfaction with this diet led to gradual changes, and an act passed in 1818 allowed the officers to alter the diet for medical reasons. That same year the Secretary of War ordered that, if possible, twice each week one-half of the meat ration be replaced with either peas or beans.<sup>4</sup> Even with this experiment, however, the diet of the individual soldier proved unbalanced, boring, and even dangerous to the health of the troops.

Realizing this, or perhaps responding to a limited budget, the War Department ordered commanders at frontier forts to supplement the ration with fresh vegetables whenever possible. In September, 1818, the order required officers commanding certain garrisons to undertake "a more extensive cultivation . . . as soon as practicable . . ." The order further stipulated that the officers direct and the troops carry out such

agricultural activity on the public land at these forts, and that the scope of this activity be reported on 1 July and 1 October each year.<sup>5</sup> It was hoped that this information would enable the Commissary General's office to make accurate requests for rations and to reduce waste and excessive supply costs. Apparently the War Department considered the need to reduce food and supply expenditures more important than any military training the soldiers would miss because of their farm work. At any rate, the implementation of this order by the members of the Missouri Expedition exemplifies frontier army agricultural activity.

During the summer of 1818, the officers and men of the first battalion of the Rifle Regiment gathered at Fort Bellefontaine near the mouth of the Missouri River, in preparation for their part in the Missouri Expedition. Once the quartermaster officers procured enough boats, provisions, and equipment, Colonel Talbot Chambers ordered the expedition into motion. With 357 men and officers aboard, on August 30, 1818, the flotilla of ten keelboats started up the river.<sup>6</sup> Apparently the battalion officers expected that the civilian suppliers might have difficulty in providing enough food for their men, because even before the War Department issued the order requiring them to establish gardens the officers decided to do so. The editor of a St. Louis newspaper noted that the expedition carried with it wheat, rye, barley, oats, and vegetable seeds for planting once it arrived at the mouth of the Yellowstone River.<sup>7</sup>

During the winter of 1818–1819 the troops halted at Cow Island in the Missouri River just north of Leavenworth, Kansas. They assumed that the next year they would continue the move upriver and therefore made no attempt to use the seeds which they had brought. However, their fear of running short of food or of having difficulties with the civilian supplies proved correct, and, by the summer of 1819, the battalion had to hunt wild game for survival. Later, by September 1819, the rest of the Rifle Regiment and the Sixth Infantry joined the men at Cow Island, and together they continued up the river to Council Bluffs just north of present Omaha, Nebraska. There the command erected temporary quarters to be used as a base camp from which they expected to continue farther upriver the next

year.<sup>8</sup> It was here that the soldiers began their agricultural efforts on the west side of the Missouri River.

The expedition leaders considered the order to produce part of the food ration for their command of such importance that the quality of the soil was one of the factors considered when they chose a campsite in October 1819. In fact, nearly all of the communications which the garrison officers sent East included some mention of this point. Colonel Henry Atkinson, commander of the expedition, not only reported rich soil in the vicinity of the encampment, but later suggested to the Secretary of War that buffalo were so plentiful that if the troops combined farming and hunting they could produce both the vegetable and animal portions of their rations with little expense to the government.<sup>9</sup> War Department officials, however, failed to share this enthusiasm, and the troops did not begin large-scale buffalo hunting to feed themselves.

Instead, they suffered from one of the worst scurvy epidemics in American military history. During the winter of 1819–1820, the men lived under deplorable conditions. Their half-completed barracks proved damp, drafty, and uncomfortable. Some of their rations spoiled, some had been damaged and were unusable, and some were insufficient for the long winter. Consequently, by February 1820, the command succumbed to scurvy. Over half of the garrison contracted the disease, and at least 160 men died from it.<sup>10</sup> This suffering pointed out to both War Department officials and frontier commanders that the plan to have the troops raise some crops to supplement their food ration was not only sound, but imperative.

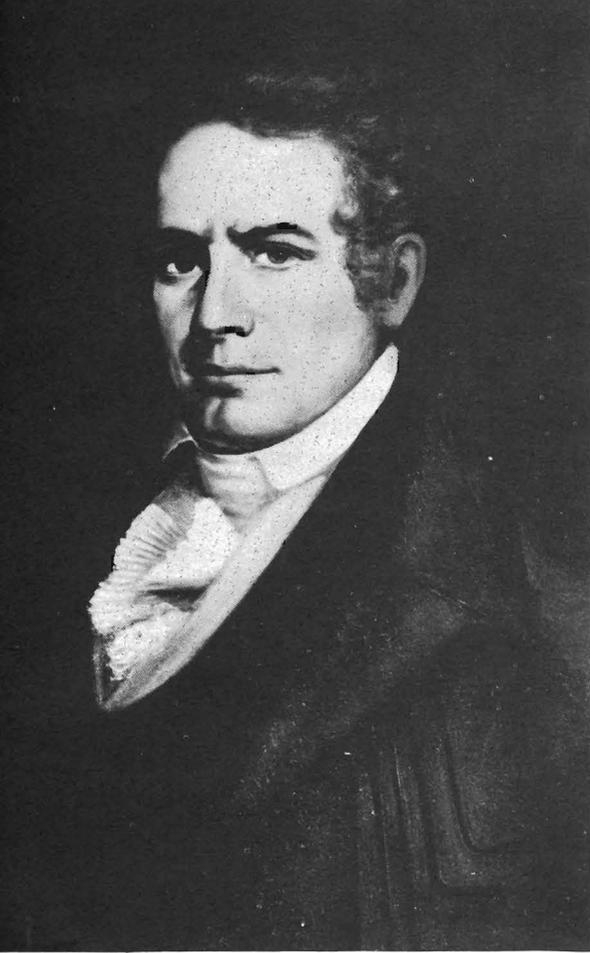
During the spring of 1820, the soldiers turned much of their attention to planting food crops and caring for their livestock. They built new hog pens over one hundred yards from the camp to reduce the stench and the danger to their own health, and also moved the horses and cattle out of the quadrangle formed by the camp buildings. On the bottomland along the river they planted 100 acres of corn and started "extensive vegetable gardens" which contained potatoes and beans. Some weeks later the men enlarged the area under cultivation, adding 200 acres of corn, 100 acres of beans, and 30 acres of potatoes.

To this, they hoped to add 30 acres of turnips later in the season.<sup>11</sup>

Some of this work was wasted, however, because in early June the rising waters of the Missouri inundated Cantonment Missouri and destroyed a portion of the crops. The flood not only ruined one of the corn fields and all of the first-planted vegetable gardens, but so damaged the cantonment that the troops abandoned it, moving two or three miles south to the Council Bluffs.<sup>12</sup> There, during the rest of the summer of 1820, they built a new camp which became Fort Atkinson. Apparently neither the flood nor the move affected the remaining crops, however, because when Colonel Atkinson described both events he reported that the command still anticipated a harvest of 10,000 bushels of corn, 6 to 8,000 bushels of potatoes, a large quantity of beans, and an estimated 8,000 bushels of turnips. A month later, he noted that the troops had harvested over two hundred and fifty tons of hay, which he estimated would provide an ample supply for the livestock during the next winter.<sup>13</sup> Certainly the size of the soldiers' farm activity demonstrates the high regard which the military authorities had for this new program.

During the years 1820–1827, while the soldiers remained at Fort Atkinson, the garden and farm work took an ever-increasing part of their time and effort. Except for the campaign against the Arikara Indians in the summer of 1823 and the Yellowstone Expedition of 1825, the troops remained at Fort Atkinson where they devoted at least as much time to agriculture as they did to any other duty. Both size and scope of operations at the post farm grew from the first sixty-acre plot of corn and the few company vegetable gardens that were flooded during the spring of 1820 to a large, well-organized, and productive agricultural enterprise.

When faced with the reduction of War Department funds because of the Panic of 1819 and the ensuing depression, Colonel Atkinson reported that he hoped to make the post as nearly self-sufficient as possible. With his subordinates, he supervised the gradually expanding post farm facilities. For several years the post quartermaster officer had the responsibility for the farm, but added to his other duties, this



*Major Benjamin O'Fallon was  
Indian agent for the Upper  
Missouri during the time  
Fort Atkinson existed  
(Courtesy, Missouri Historical  
Society, St. Louis)*

responsibility proved unmanageable. Therefore, the two jobs were separated, and in 1822, Major Daniel Ketchum received the appointment as Director of Agriculture for the post.<sup>14</sup> That same year, the garrison enlarged the scope of its agricultural activities by placing another 512 acres of land under cultivation. This allowed the men to plant gardens for the post hospital, and for each officer, company, and regiment. The garden crops included beans, beets, cabbages, carrots, onions, parsnips, potatoes, turnips, and watermelons.<sup>15</sup> Certainly this variety of produce helped to overcome the related problems of dietary monotony and scurvy.

Work in the vegetable gardens, however, was only a small part of the agricultural enterprise at the fort. The need to produce the basic components of the ration, flour and meat, remained at the center of the soldiers' efforts. Grain production increased

gradually from the 200 acres of corn planted during 1820 to include large-scale crops of not only corn, but wheat, oats, and millet within the next few years. In late 1823, for example, Colonel Henry Leavenworth, then commanding the fort, reported that the crops which the troops had harvested and stored that season included 1,000 bushels of wheat, by his estimation sufficient to make 200 barrels of flour, and 6,000 bushels of shelled corn. In fact, the troops had become so successful as farmers that they had been forced to build a barn of 120 by 30 feet just to store their grain and forage crops during the winter.<sup>16</sup>

In addition to the grain produced for flour, the soldiers raised some cereal crops to be used as feed for the livestock kept at the fort. By the end of 1823, the garrison commander reported that the men had planted 40 acres of oats for this purpose, and he also noted that they had cut and stacked 250 tons of hay for the animals. This may seem an excessive amount of hay, but not when the scope of livestock production at the fort is clear. In 1823, the soldier-farmers cared for 382 head of cattle which included: 2 English bulls, 2 common bulls, 121 cows, 112 calves, 96 yearlings, 43 young cattle, and 6 steers. It is interesting to note that this figure did not include the cattle used as teams for plowing, cultivating, pulling post wagons, or powering the grist mill, and therefore underestimates the number of animals. In addition to these cattle, as many as 600 hogs had been driven to the post at one time, and it is reasonable to assume that the troops kept most of these alive until they were needed for food.<sup>17</sup>

The increasing productivity of the post farms brought changes in the duties of the soldiers. For example, a lack of adequate fencing induced the post commander to employ sharpshooters as guards for the animals. Originally, small-scale thievery by nearby Indians had caused some loss and worry, but this soon stopped, and the prairie wolves remained the chief concern. Although guarding the livestock required far less manpower than did the other farm chores, the post commander hired Mr. Ashael Savery, a civilian, to superintend the care of the animals. Plowing, planting, cultivating, and harvesting also occupied large numbers of soldiers for a goodly portion of the summer months. In spite of this, in 1822 General Edmund P.

Gaines, commander of the Western Division of the army, reported that although sixty to eighty men had to work in the fields tending the crops, they had not neglected their drill. In fact, he commented, they had "rendered themselves quite equal in the Knowledge of Military duty to the men of other Corps now less employed in cultivating the soil. . . ." <sup>18</sup>

Whatever General Gaines thought, the soldiers also received nonmilitary benefits from their agricultural labors. Better diet was the major one. The successful, large-scale livestock production led Mr. Savery to establish a post dairy which provided milk, cream, and butter for the garrison. The burgeoning herds of cattle and hogs made so much fresh meat available, that by 1824 the garrison commander deleted salt meat from the rations. <sup>19</sup> The large crops of garden vegetables provided variation in the meals and a degree of certainty that the soldiers would remain healthy, that is, free from scurvy. Clearly these additions and changes made the garrison diet more palatable and nutritious than the standard army rations of that day.

As might be expected, the growing agricultural activity stimulated a need for buildings and equipment with no direct military purpose or significance. In early 1820 Colonel Atkinson ordered millstones purchased and transported to Council Bluffs so that the troops might construct their own grist mill and thus reduce their dependence upon the uncertain supply of flour from the civilian contractors. The following summer he hired a millwright to supervise the work, and in October 1821, reported that "a first rate grist and saw mill, upon the plan of the inclined plane" (employing oxen and a treadmill apparatus) had been erected. <sup>20</sup> In addition to the previously mentioned barn and mill, the troops erected several other farm buildings. These included a three-story warehouse, used to store whiskey, salted meat, and grain; another structure to house the wagons, plows, and other farm equipment; and, in 1824, a distillery, to manufacture brandy and whiskey. <sup>21</sup> Certainly by that year Fort Atkinson appeared far more like a large farming community than a frontier military outpost.

During the seven years these extensive agricultural activities occupied the garrison at Fort Atkinson the soldiers experienced numerous difficulties. Of these, some resulted from the

closeness of the gardens to the banks of the Missouri River. For example, the spring floods in 1820, 1821, 1822, and 1826 all damaged or destroyed some of the vegetable gardens planted along the bottom land of the river valley. Not only did the floods inhibit gardening, but once the waters receded much of the bottom land remained marshy. The stagnant water provided abundant breeding grounds for malaria-carrying mosquitoes, and the ague, as the physicians then called the disease, had a debilitating impact upon the garrison, particularly during the summer months. In 1822 the surgeon reported that the command of about 500 men had suffered 540 cases of "intermittent and remittent fevers."<sup>22</sup>

Although this flooding placed the farmers at Fort Atkinson in a category separate from farmers on the plains, most of the difficulties the soldiers experienced paralleled those encountered by civilian farmers later when the so-called settlers' frontier moved beyond the Missouri Valley. Clouds of grasshoppers plagued the troops, often ruining crops and certainly reducing the yields. In 1820 Colonel Atkinson reported that "grasshoppers appeared in myriads the last week in August, and stripped the turnips of their leaves; they [the turnips] were so well grown, however, as to resuscitate measurably, and will have half a crop." He noted that had the pests arrived a few weeks earlier they would have destroyed the garrison corn crop. In another letter he wrote that the insects had destroyed the entire corn crop of at least one of the Pawnee Indian bands then living about one hundred and thirty miles from the garrison, and that for two consecutive years the hoppers had eaten all of the crops of the Scotch settlers at Lord Selkirk's colony at Pembina on the Red River of the North.<sup>23</sup> From Atkinson's reaction, and that of others, it is clear that few Americans had encountered such insect devastation of crops anywhere in the eastern portions of the United States.

A second problem which the garrison commanders noted was the severity of the weather, and in particular the fluctuations of temperature. During the last three months of 1820 the temperature varied from 88° to - 10°, somewhat more than had been anticipated.<sup>24</sup> This affected the cultivation in several ways. Obviously the extreme winter cold forced the garrison to



*Visitors at Fort Atkinson at a 1961 open house viewed excavations by Nebraska State Historical Society archeologists.*

plant later in the spring than they might have farther east or south. At the other end of the growing season, the early approach of winter meant that unexpected frosts could, and did, ruin or at least damage crops. In 1820, Dr. John Gale, Surgeon of the Rifle Regiment, reported that a killing frost had struck on September 25, an event which he considered unusual enough that he noted it in his official weather report that year.<sup>2 5</sup>

Drought and searing hot winds, two other difficulties which bothered later farmers west of the Missouri, seem to have posed little threat to the soldiers' crops. Standing near the easternmost fringe of the plains, Fort Atkinson was in a zone of transition between the humid Mississippi-Missouri Valley region and the less humid plains to the west. There it got enough precipitation to overcome the high rate of evaporation during the growing season, and apparently the garrison had little trouble with either excessive heat or drought.

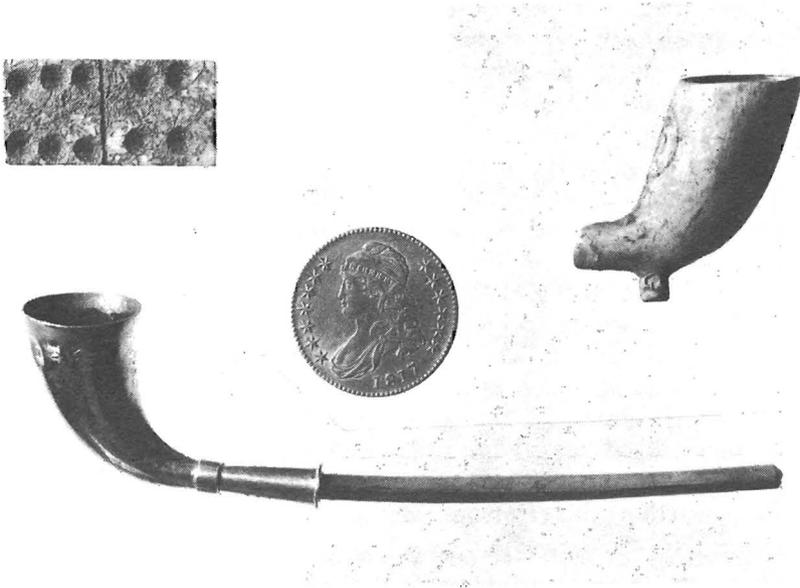
In spite of this, the officers and men at the fort disseminated much information about factors limiting successful agriculture west of the Missouri. News of annual floods, of sickness among the men working along the marshy bottoms, of grasshopper invasions and of Indians stealing and wolves attacking stray livestock circulated freely throughout much of the nation. In this way the soldier-farmers helped to prepare frontier Americans for some of the conditions they would encounter in the trans-Mississippi West.

There were two other ways in which the blue-clad plowmen aided American agricultural development. First, the short growing season and the severity of the early autumn frosts in Nebraska encouraged the officers at the garrison to experiment with several types of corn seed. In late 1820 Colonel Atkinson obtained several barrels of corn from the nearby Omaha Indians. This strain, he claimed, was "far superior to any other discreption (*sic*) of corn that I have known cultivated any where." It grew to maturity in ninety days, resisted the early frosts, produced a substantially greater yield than did other varieties of corn, and was "much hardier and is more capable of contending against the environment of winds and grass." This corn impressed him so much that he sent barrels of the seed to

De Witt Clinton, then Governor of New York, and also to Secretary of War John C. Calhoun.<sup>26</sup> Apparently, Atkinson hoped that the recipients would give samples of the seed to eastern agricultural societies for testing by their members. Unfortunately, no evidence indicates whether this corn actually proved to be as superior as Colonel Atkinson had claimed, but simply by sending it east, he proved that the land west of the Missouri could be cultivated successfully, even if it might require new strains of seeds to do so.

A second example of army contributions to Missouri Valley agriculture resulted, not from the soldiers' efforts to raise crops or animals, but from their observations while traveling through the Indian country. After the so-called Arikara War of 1823 and the demands that the Indians be pacified, Congress established an Indian Peace Commission to conclude treaties with the hostile tribes. During the summer of 1825, Colonel Atkinson and Indian agent Benjamin O'Fallon, the two peace commissioners, led a force of 476 men and officers from Fort Atkinson up the Missouri to eastern Montana and succeeded in concluding a series of treaties. Of more significance to this study, however, is a report Atkinson submitted describing the terrain, vegetation, and animal life of the upper Missouri Valley. In addition, it included comments about the type and amount of Indian agriculture practiced there. It noted that the Indians raised corn, pumpkins, squash, melons, and a small, narrow-leaved tobacco at their permanent villages.<sup>27</sup> The War Department submitted this report to Congress during 1826 along with the negotiated treaties, so that the information which the army gathered reached at least some people in the eastern United States. Thus, once again, army activity in the Missouri Valley helped to publicize the resources and agricultural potential of that area.

Contemporaries recognized and praised the army for its contributions, and across the country newspapers informed their readers of frontier army agricultural activity. They discussed the Missouri River floods, the grasshopper invasions, the experiments with Indian corn, and even the crop yields of the post farm.<sup>28</sup> Often the editors praised individual officers for their efforts. For example, in 1821 an Indiana editor wrote



*Society archeologists have recovered a domino, pipes, and coins at the site of Fort Atkinson. The pipe at top is made of clay, the one at bottom of metal with a bone stem.*

that Colonel Atkinson was “entitled to much credit for his zeal in promoting the interests of his agricultural countrymen,” and hoped that “his example will not be lost upon others who may have opportunities to render similar services.”<sup>29</sup> Westerners, themselves, seemed pleased with the successes of the soldier-farmers. In 1823 the St. Louis (Missouri) County Agricultural Society unanimously elected Atkinson as an honorary member because of “the flourishing state of the agriculture at Council Bluffs,” which he had supervised.<sup>30</sup> Certainly these favorable comments about Atkinson’s activity reflect this interest in the work and success of the troops at Fort Atkinson.

In spite of the successes of the soldier-farmers in their agricultural enterprises and the publicity which the Missouri Valley got from the newspapers and the government, not all military authorities welcomed such activity. The medical officers complained that the garden work, on low, often muddy ground along the river bottom, kept the rate of sickness at the

garrison high. Certainly the reports of continuing attacks of intermittent and remittent fevers—usually signifying malaria—supported the physicians' contentions. The medical officers, however, were not alone in complaining about soldiers serving as farmers. Inspector General George Croghan denounced army agriculture as "anti-military" activity. He thought that the soldiers should occupy most of their time learning military skills and assignments, and carry on any farm work in their spare time. "Look at Fort Atkinson," he grumbled, "and you will see barn yards that would not disgrace a Pennsylvania farmer, herds of cattle that would do credit to a Potomac grazier . . ." All of this proved the soldiers' degree of success as farmers, but, claimed Croghan, it brought a "great loss of moral strength" to the men as soldiers.<sup>31</sup> Surely he must have been pleased when the men ceased their large-scale farm activities and abandoned Fort Atkinson in 1827, to move back down river to either Fort Leavenworth or to Jefferson Barracks near St. Louis.

The story of the farmer-soldiers at Fort Atkinson was not unique. During the years the soldiers there did their farm work, American military personnel at Fort Snelling, Minnesota, Fort Smith, Arkansas, and other frontier posts carried out similar tasks. In fact, as late as the decades 1850 to 1870, soldiers at frontier forts produced at least a part of their ration each year, although few ever carried on such extensive farming activities as did the men at Fort Atkinson.<sup>32</sup>

For the frontier soldier, farming meant not only more physical labor, but also a varied and wholesome diet. On the other hand, mundane tasks such as plowing or cleaning stables irritated some soldiers who may have enlisted just to escape such chores at home. Fortunately, the army did not have to conduct any large-scale military campaigns during the 1820s, so the individual soldier did not suffer when he received less military training because of plowing or tending livestock. For the United States as a society, the army agricultural activities west of the Missouri produced new and valuable information about the potential for future settlement there. For agricultural historians, this example of army farm activity demonstrates the potential of military records for material related to successful farming west of the Missouri River during the nineteenth century.

## NOTES

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3. Erna Risch, *Quartermaster Support of the Army: A History of the Corps, 1775-1935* (Washington, 1962), 203-04.
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10. *Gale Journal*, Dec. 1819-March 1820 entries; see also Roger L. Nichols, "Scurvy at Cantonment Missouri, 1819-1820," *Nebraska History* 49 (Winter 1968), 333-47.
11. Sally Johnson, "Cantonment Missouri, 1819-1820," *Nebraska History* 37 (June 1956), 127; Atkinson to Calhoun, May 27, 1820, NA, RG 94,, "Letters Received, Office of the Adjutant General"; Atkinson to Thomas Smith, June 20, 1820, Thomas Smith Papers, State Historical Society of Missouri.
12. *Gale Journal*, June 1820 entries.
13. Atkinson to Smith, June 20, 1820, Smith Papers.
14. Johnson, "The Sixth's Elysian Fields," 10.
15. Report of General Edmund Gaines, Sept. 30, 1822, NA, RG 98, "Letters Sent, Department of the West, Records of United States Army Commands"; Henry Leavenworth to Atkinson, Nov. 2, 1823, NA, RG 94, "Letters Received, Records of the Office of the Adjutant General"; Paul Wilhelm, Duke of Wuerttemberg, "First Journey to North America in the Years 1822-1824," trans. William G. Bek, *South Dakota Historical Collections* 19 (Pierre, 1938), 361.

16. Leavenworth to Atkinson, Nov. 2, 1823, NA, RG 94.
17. *Ibid.*
18. Gaines Report, Sept. 30, 1822, NA, RG 98.
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20. Atkinson to Smith, May 30, 1820, Smith Papers; Atkinson, Ninth Military Department Order, April 6, 1821, NA, RG 98, "Records of United States Army Commands"; Atkinson to Calhoun, Oct. 10, 1821, NA, RG 107, "Letters Received, Office of the Secretary of War."
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29. *Western Sun and General Advertiser*, August 18, 1821.
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31. George Croghan, "Report 1826," in Francis P. Prucha, ed., *Army Life on the Western Frontier* (Norman Okla., 1958), 6-7.
32. Athearn, *Forts of the Upper Missouri*, 70; Leo E. Oliva, *Soldiers on the Santa Fe Trail* (Norman, Okla., 1967), 196; Don Rickey, Jr., *Forty Miles a Day on Beans and Hay* (Norman, Okla., 1963), 97-98.