From Kanasín to Kansas

Mexican Sisal, Binder Twine, and the State Penitentiary Twine Factory, 1890–1940

by Sterling Evans

Cawker City, Kansas, is home to what residents there boast is the world’s largest ball of twine. Many travelers and tourists motoring on U.S. 24 in north-central Kansas may not take the time to stop and admire this point of interest, but even those who do fail to learn the history of twine: where it came from, how it was made, the questionable labor practices on which it depended, and the extent to which Kansas and other grain-producing regions were dependent on a foreign resource that was so vital to harvesting cereal crops in the late nineteenth and early twentieth centuries.


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Kanasín, Yucatán, is a Mayan village deep within the region where the fiber to make binder twine was produced. The fiber is from the henequen plant (*Agave fourcroydes*), also known as sisal (a different but similar fibrous plant from Yucatán, *Agave sisalana*), which is native to the region and was used by the ancient Maya, and later the Mexicans in the region, to make mats, hammocks, and cordage. When demand for the fiber increased in the late nineteenth century, Yucatecan growers converted hundreds of thousands of previously uncultivated acres into henequen plantations to help meet the fiber needs of the North American binder twine market.  

*McCormick harvester and twine binder, 1883.*
The two places were linked together because binder twine was essential for farmers in Kansas and throughout the Great Plains. It was used in grain binders, or reaper/binders—harvesting implements that cut grain stalks and tied them into bundles that would then be hand-gathered into shocks to await threshing. To tie the bundles, the binders used a mechanical knotter and sisal twine that was made primarily from the fiber imported from Mexico’s Yucatán Peninsula. Thus in the days of the grain binder, before the widespread use of combines, roughly 1890–1940, Kansas and other grain-producing regions were tied very tightly to a commodity from Mexico.1

The history of this relationship, however, is missing from the historiography of the Central Plains.2 The different angles of that story that will be addressed here, then, include the importance of sisal twine to Kansas farmers, the creation of a twine manufacturing plant at the Kansas State Penitentiary, and the state’s involvement with an international sisal crisis that occurred in 1915 in the midst of the Mexican Revolution.

The story begins in the late 1870s when McCormick and other farm implement manufacturers developed a mechanical knotting device for the power reaper/binder. The industry produced binders that first used wire for tying bundles, but it switched to twine by 1880. Farmers preferred the twine that was less cumbersome, more efficient, and could be ingested by cattle when feeding on discarded straw left over from threshing.3 As

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1. Some introductory parts of this article are similar to an essay on the same topic but concerning North Dakota’s history with binder twine and its state prison mill. See Sterling Evans, “Prison-Made Binder Twine: North Dakota’s Connection with Mexico in the Early Twentieth Century,” North Dakota History 68 (2001): 20–36.

2. There is a robust literature on the history of Yucatecan henequen plantations, but those studies do not address the importance of binder twine in the grain-producing regions of North America. Likewise, when dealing with grain production in the Wheat Belt, agricultural historians have not examined this dependency with Mexico. They generally discuss the advancement of the grain binder without considering one of its most important components—twine. The same is true for the standard works on the history of Kansas.

Professor L. E. Sayre of the University of Kansas noted in 1889: “Pieces of wire and nails would get into the machinery, and finally the feed . . . render[ing] [it] positively dangerous. . . . Binding twine thus became an absolute necessity for cereal products.”

One historian has argued that “of the factors which contributed most to the expansion of the western grain fields, none had more far-reaching influence than the invention of the mechanical knotter which permitted the use of twine.” He went on to show that farmers favored the improved implement because a man with a team of horses and a binder could do in a day what previously took six men to do. News of such labor saving spread quickly and the implement companies raced to keep up with demand. The McCormick Harvesting Machine Company alone sold an average of 152,000 binders a year between 1897 and 1902, and, after it merged with other implement manufacturers in 1902 to form International Harvester (IH), averaged sales of 91,000 binders a year for the next decade.

Other companies such as John Deere, Massey, Minnesota, and Case competed aggressively for the binder market and sold tens of thousands of machines. A map on page 291 shows where farmers used binders to harvest cereal crops across the United States. The unshaded areas in the map represent where headers were used instead of binders in areas of less rainfall and therefore thinner crops. Farmers in western Kansas preferred using headers, but with Kansas’s demand for twine, as this article will show, binders clearly were the harvesting implement of choice for many Kansas farmers.

The improved harvesting technology, a significant increase in immigration, the introduction of adaptable wheat varieties (especially that of Turkey Red hard winter wheat by German–Russian Mennonites in the 1870s), and a soaring demand for grain all contributed to Kansas becoming the Wheat State, or as one historian put it, “a mighty empire on the Kaw.” Historian James C. Malin argued that by 1897 the wheat boom in Kansas “was without precedence” and that “in the language of the silver money agitation of the day, [Kansas farmers] were engaged in the ‘free coinage of wheat.’” Later, a Kansas State Board of Agriculture report perhaps stated it best: “There is no question about it, these Kansans can grow wheat. They like to grow it, they have the soil, the climate, and the facilities it takes to produce a superior product.”

And produce it they did. Kansas wheat harvests jumped from 32,400,000 bushels in 1890 (on 2,160,000 har-

5. Grant McEwan, Between the Red and the Rockies (Toronto: University of Toronto Press, 1952), 206.
6. Sales records are recorded in Barbara Marsh, A Corporate Tragedy: The Agony of International Harvester Company (Garden City, N.Y.: Doubleday and Co., 1985), 42.
vested acres) to a remarkable 172,750,000 bushels (on 8,650,000 acres) in 1914—quintupled production in only twenty-four years. By 1931 production hit a peak of 251,000,000 bushels (on 17,110,000 acres). Kansas clearly was the regional and national wheat growing leader. Between 1890 and 1943 the state was the number one wheat producer for thirty-two of those fifty-four years, or 60 percent of the time (with North Dakota leading the country the other years). Even more poignant, Kansans went from producing 7.2 percent of the nation’s wheat in 1890 to a whopping 26.8 percent by 1931. Statistics like these understandably caused the Kansas Wheat Growers Association to crown the state “the Wheatfield of the World.” And indeed, as E. G. Heyne surmised, “wheat and Kansas [had] become synonymous.”

Important to this story is the amount of binder twine that kind of grain production required. Six pounds of binder twine were needed to harvest every acre of grain crop. In Kansas, the amount of twine needed from 1890 to 1943 amounted to approximately twelve million tons for wheat alone, and binders also were used to harvest oats, barley, and rye. For the particularly bumper crop of 1914, Kansans used twenty million pounds of binder twine.9

To meet such demands, a variety of implement manufacturers and cordage companies around the country quickly developed mills for the production of twine. IH of Chicago, Plymouth Cordage of Boston, Peoria Cordage of Illinois, and others began importing henequen fiber from Yucatán in the 1880s. IH, however, came to monopolize the industry in both fiber importation and twine production so that by 1904 it imported nearly half of the sisal from Yucatán and was producing twice as much twine as the other manufacturers combined.10 With that kind of power, IH


9. Per acre twine need is from Tony Ward, “Farming Technology and Crop Area on Early Prairie Farms,” *Prairie Forum* 20 (Spring 1995): 33. The figure for Kansas is estimated from total number of wheat acres harvested, taking into consideration that farmers in about one-third of the state (western Kansas) used headers, not twine binders, to harvest their crops. The figure also represents subtractions for use of combines as those machines became more popular and therefore decreased the need for twine; J. D. Botkin, “Facts About the Prison Twine Mill,” June 30, 1915, folder 264, box 4, Arthur Capper Administration, Records of the Governor’s Office, Library and Archives Division, Kansas State Historical Society, hereafter cited as Governor’s Records–Capper.

soon was able to control the price of twine and created a trust among other companies.

Policymakers in the Great Plains, however, decided to combat the high prices by producing a quality twine for less money to help the farmers in their states. Officials in Minnesota engineered the idea to use prison inmate labor to manufacture binder twine at their state penitentiary in Stillwater in the 1880s. Other states followed suit: Kansas and North Dakota (1899), South Dakota (1909), and Wisconsin (1916). The government of Canada established a twine plant at its federal penitentiary in Kingston, Ontario, in 1894.11

It is significant that Kansas opened one of the first penitentiary twine plants at its state prison in Lansing. Recognizing the state’s leading role in the production of grains, the Kansas legislature needed to show its support for agriculture and farmers. As Professor Sayre stated, “Everyone knows that the farmers have been obliged to pay an unreasonable price for this article [binder twine], and the question presents itself, is it feasible for those who would help the agricultural industry, to manufacture twine here at home.”12

The twine plant was built and run “in the interest of the Kansas farmers,” as penitentiary warden Jeremiah Botkin put it in 1914. He also explained that state law prohibited running the twine plant for profit. Willis L. Brown, a member of the State Board of Corrections, stressed that the mission was “to give the farmers of Kansas twine at [the] cost of production.”13 To that end, the state legislature mandated that prison-made twine be sold only in Kansas. Complying, Botkin explained that the penitentiary had “refused to sell a pound outside the state and [had] required all dealers to promise to sell their twine only to Kansas consumers.” Likewise, farmers’ organizations could get twine “at the same price and on the same terms as . . . dealers,” and “chartered elevators and milling companies [could] buy twine in car load lots at [the] same price.” The state required dealers to sell prison twine to farmers at a price no more than 20 percent above the cost of purchase. And according to another prison official, to meet the seasonal demands for twine across the state, it was policy “to fill orders from south to north, as the harvest progresses.”14

Although the price of twine made at the penitentiary varied over the years, it was always a cent per pound lower than that of trade brands like IH or Peabody. As a result, as early as 1904 IH decided to compete with the lower priced penitentiary twines around the country by making a “cheaper” product called “Plain-tagged Twine” (without the IH logo). And as late as 1937 IH still advised farmers against the cheaper off-brands. In a brochure entitled “The Story of Twine,” IH warned farmers that when “you have a chance to buy twine at lower prices . . . you have no assurance that this saving will not be more than offset by short weight, short length, or lost time due to breaks in the binder.”15

Despite such competition, the state’s lower prices put prison twine in high demand not only across Kansas but also in other states where it could not be sold legally. This was especially true after 1915 when the Mexican henequen growers formed their own trade regulating house that caused the price of twine to increase dramatically. Inquiries for cheaper Kansas-made twine came from Oklahoma, Missouri, and Texas, and from as far away as Idaho. Typical was a letter from a farmer in Amorita, Oklahoma, who wrote directly to Kansas governor Arthur

11. Information was compiled from records at various state archives and from the National Archives of Canada in Ottawa. Missouri, Michigan, and Indiana also opened prison twine factories in the early 1900s. Nebraska, Oklahoma, Colorado, and Texas surprisingly did not. Early records of the Kansas State Penitentiary twine factory are sketchy due to a fire in the plant in 1913 that destroyed many of the accounts and papers.
12. Sayre, “The Manufacture of Binding Twine,” 19. Sayre also reported that a twine “manufactory” had been started in Lawrence in 1883 as another way to compete against the “trusts” (p. 20). James Malin, Winter Wheat in the Golden Belt of Kansas, 247, argued that the “anti-trust agitation” produced “local action” when the Kansas legislature “was induced to authorize” the construction of the state twine plant at the penitentiary.
13. J. D. Botkin to Greeley Milling Co., June 17, 1914, folder 1, box 6, George H. Hodges Administration, Records of the Governor’s Office, Library and Archives Division, Kansas State Historical Society, hereafter cited as Governor’s Records–Hodges; Brown, in Proceedings of the Board of Corrections, 1915, folder 179; box 3, Governor’s Records–Capper.
14. J. D. Botkin to Greeley Milling Co., June 17, 1914, Governor’s Records–Hodges; Brown, in Proceedings of the Board of Corrections, 1915; Executive Clerk of the Penitentiary to Alfred Docking, June 10, 1914, Governor’s Records–Hodges.
Capper in April 1917: “I seen a piece in your paper [Capper’s Weekly] where you was selling binder twine at 13 cents a pound. . . . We are in need of 300 pounds and would be glad to hear from you.” Another Oklahoma farmer complained to Capper that in his town they were paying twenty cents per pound for twine compared with Kansas’s price seven cents lower. A dealer in Caldwell, Idaho, explained that due to a “shortage of twine and an overly supply of wheat harvest in southern Idaho” farmers in his area would need the Kansas twine. Each inquiry received a short note back indicating that “the State Prison cannot sell twine outside the state of Kansas.”

Some farmers in Missouri plotted a way to get it anyway. Governor Capper became aware of the problem and wrote prison warden Julian Codding that Missourians had “a scheme to buy Kansas twine.” He argued that “certainly we don’t want to sell twine to Missouri farmers when a great many Kansas farmers are complaining that they cannot get our twine.” In his response to the governor, Codding stated that “the subject is such a delicate one,” but “the business manager has the matter in hand.” Indeed, the state prison twine plant became a very vital benefit to Kansas farmers and represented how the state kept their interests at heart.

But what was the nature of this subsidized benefit? Could the state prison twine plant be classified as a socialist experiment in an otherwise free-market agricultural economy? Walter Thomas Mills used this Kansas example to address such issues in his 1904 book on socialist and collectivist principles, *The Struggle for Existence*:

Kansas has made a contract with the . . . trust to buy all its raw material from [it]. . . . Here is an instance of public ownership which simply results in furnishing a factory for the free use of the . . . trust, together with cheap labor. . . . So long as the government is administered by a political party controlled by capitalists, any industries administered by the government cannot in any way be said to be either examples of Socialism or steps towards Socialism.”

Few Kansans may have read Mills’s book (perhaps breathing a sigh of relief to know that it was not headed down a pure Socialist path!), but the passage speaks to several important points. First, on the issue of dealing with a “trust” for the supply of raw material (sisal fiber), prison officials learned that savings could be won by dealing directly with henequen producers in Mexico. As early as 1901 the warden of the penitentiary (along with his counterparts from Minnesota and North Dakota) traveled to the Yucatán to secure the sale of sisal directly to their twine plants. They purchased the fiber at 0.375 cents per pound under the market price in New York and made arrangements for future sales at similar savings. Although this arrangement lasted for some time, the prison eventually had to rely on acquiring its sisal supply from other cordage dealers who were working with the henequen growers’ trade regulating branch in New York after 1915.

Second, the idea of “cheap labor” is important. Along with the twine mill, the penitentiary employed prisoners in a brick factory and in a coal mine near Lansing. Using inmates created the twin benefits of producing much needed supplies at lower prices for Kansans and keeping idle hands busy at low wages. Warden Codding wrote that reform was at the root of the inmate employment policy: “The Penitentiary presents two problems: One deals with ‘the man,’ the other with the coal, brick, twine and kindred subjects. ‘The man’ is of more interest and value to the state than all the coal mined, brick made or twine manufactured.” Convicts were paid “five percent of seventy-five cents a day” (or 3.75 cents per day) in the plant’s early years, but then received a raise up to ten cents per day in April 1913 when the legislature approved a new minimum wage. Some people believed this amount was too high. In 1914 the attorney general declared the ten-cent-per-day wage invalid, and the prison was forced to pay the nine-cent-per-day minimum wage approved by the legislature. But the prison had already purchased its raw material for the year under the ten-cent-per-day rate, so it could not be held to its new legal obligations. The prison sought to continue to acquire its sisal fiber at lower cost and sought ways to that end in the early 1910s.


19. A report of this trip was not discovered in the prison records of the Kansas state archives (perhaps because of the 1913 fire), but it is mentioned in a North Dakota warden’s report. See “Warden’s Report of Operation of Twine and Cordage Plant at State Penitentiary, Biennial Period 1901–1902,” Archives, State Historical Society of North Dakota, Bismarck.

wages void and reinstated the 3.75¢ rate. All earnings were paid to the inmates’ families. But the low wages must have caused some quality problems from time to time. In 1912, for example, the prison sold a batch of “defective twine” for which Codding had to be accountable. Convicts worked ten-hour days in the twine plant until the eight-hour day was instituted in 1915.

Most of the prisoners working in the twine plant were convicted of crimes ranging from bigamy, wife desertion, forgery, and embezzlement to grand larceny, incest, statutory rape, “white slavery,” manslaughter, and second degree murder. The conditions in which the prisoners lived and worked were far from satisfactory. Codding reported that one in five of the inmates showed signs of tuberculosis (“nearly all” of whom contracted the disease within the prison walls), one in fifteen was affected “by some form of insanity,” and those working indoors were “marching and working in a listless manner,” were “stoop shouldered,” and “appeared to be poorly nourished.” He estimated that around 40 percent of the inmates were illiterate.

Conditions notwithstanding, the prison twine plant continued to operate smoothly and to provide binder twine for Kansas farmers until it was struck by a fire that destroyed it in 1913. The fire occurred on April 12, and front-page news coverage of the disaster in the newspapers was sensational and varying. While headlines in the Kansas City Star screamed “FIRE IN KAS. PRISON—Twine Plant . . . Destroyed in Lansing—Convicts Help Firemen,” the Topeka Daily Capital headlined the event with its story “Prisoners Spread Fire in State Penitentiary,” although later in the article it admitted that there were “many heroes among the convicts” who assisted in attempting to put out the blaze. The Star reported that the fire began with an “explosion under a dynamo in the twine

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21. “Report of Examination of Records and Accounts of Kansas State Penitentiary, Lansing Kansas, July 1, 1912 to June 30, 1913,” folder 2, 3, box 1, Governor’s Records–Hodges. U.S. “Civil Prisoners” being held at the state penitentiary were not paid at all for work performed. J. K. Codding to Arthur Capper, January 11, 1915, folder 29, box 2, Governor’s Records–Capper; J. W. Hazen to Capper, January 28, 1915, folder 264, box 4, ibid.

22. Folder 1, box 6, Governor’s Records–Hodges.

23. Kansas State Penitentiary, Seventeenth Biennial Report, 13; J. K. Codding to George H. Hodges, February 26, 1913, folder 1, box 6, Governor’s Records–Hodges. Codding was even more adamant about the appalling living conditions at the prison in his next report when he wrote: “We need a large, roomy, modern cell for each prisoner. The little dingy, dark holes-in-the-wall—damp, musty and disease-breeding—are an absolute disgrace to Kansas.” See Kansas State Penitentiary, Eighteenth Biennial Report, 1911–1912 (Topeka: State Printing Office, 1912), 10.
which it destroyed along with five minor structures and the prison gymnasium. The Daily Capital stated that the fire started from an electric spark that flew from a transmitter on one of the twine machines. Either way, it spread very quickly throughout the plant. Within forty-five minutes, the Daily Capital reported, all walls were gone and the fire spread to the twine store room where the “oil-soaked twine balls caught like [gun] powder.” The room soon became “a cauldron of flame” with water having no effect.24

The role of the inmates in the twine plant fire also was disputed in the press. The Daily Capital reported that convict F. F. Appleton was the first to sight the fire, how he and four other inmates “heroically stayed” to attempt to extinguish it, and how Appleton even lay on his stomach and “played” water on the flames. He was the last person to leave the burning building and, along with six other prisoners and a guard, was treated for serious burns. Kansas governor George H. Hodges, who immediately traveled to Lansing to inspect the burning factory, said that “those who hazarded their lives in saving others or the property of the state would receive great consideration when they came before the board for parole,” the Daily Capital reported. Although the Daily Capital recounted that “some prisoners spread flames by scattering papers,” the Star stated that there was only an unconfirmed rumor of prisoners spreading “highly inflammable” oil-soaked sisal fiber to fuel the burning area. And regarding the other inmates, both papers reported that no one escaped during the confusion, even with three hundred men in the prison yard at the time, and that discipline and order were maintained. The Daily Capital wrote how the warden armed civilians and every employee “to guard against mutiny.” The Star sensationalized this by adding that “Warden Codding and his son Harold [were] on guard with drawn revolvers during the excitement . . . ready to fight to the death should any of the imprisoned men try to escape.”25 None did.

But there was more conflicting coverage of what happened during the fire at the prison’s “criminal insane ward

24. Kansas City Star, April 12, 1913; Topeka Daily Capital, April 12, 1913.

25. Kansas City Star, April 12, 1913. Although the fire in the Kansas twine plant caused no uprising, there was trouble at other state prison plants. At the Minnesota State Prison inmates working in the twine factory staged a somewhat violent insurrection in 1899. And at the South Dakota Penitentiary inmate workers sabotaged the twine works in 1919–1920 causing havoc with prison officials, farmers, and legislators. For more information, see Sterling Evans, “Entwined in Conflict: The South Dakota State Prison Twine Factory and the Controversy of 1919” (forthcoming).
where fifty insane convicts were locked,” as the Star put it, adding that due to additional guards being stationed there, there was “no sign of panic.” However, the Daily Capital had a different version. “Insane Prisoners Go Wild,” declared the paper. It reported that at that ward the fire caused “a scene of greatest excitement” and that the “flames seemed to throw panic in every inmate . . . driven to a frenzy by the sight of the flames and the heat from the fire.” It asserted that they screamed, beat clenched fists on the bars, and made such a commotion that the warden had them dragged away “with great difficulty” as “they fought their rescuers.”

Whichever the case, the fire was extinguished that afternoon before it could reach the cell house where the majority of inmates lived. But before the fire was doused, it drew a large group of people from the area to watch. The Star reported that the electric cars that ran between Leavenworth and Lansing were “crowded with eager spectators” and that “motor cars . . . [created] a dense crowd.” More important, as the Daily Capital related, about 2.5 million pounds of binder twine (the actual amount was 1,384,870 pounds, as was later reported by officials) “went up in smoke,” causing a loss of about seven hundred thousand dollars. Included were all the accounts and records because the twine mill’s business office was destroyed along with the factory. The Daily Capital continued that Governor Hodges, “standing in the lurid glare of the flames,” spoke to the warden about rebuilding and said that “certain action” would be taken at once.

Two days after the fire Codding provided a more detailed report of the damages to Governor Hodges and pointed out that only one-third of the twine orders would be filled. However, Codding’s estimate was high. By spring of 1914 only one-twentieth of the orders were filled due to the lack of twine created by the fire. Many canceled orders forced farmers to purchase the higher priced brands of twine. Codding had tried to warn farmers and to solicit their support during this time. In a letter to customers he described “the disastrous fire” as an “act of Providence” that “no-one regrets . . . more than the Board [of Corrections] and myself.” He requested that they send cash or money orders for the next year’s twine orders explaining that the prison needed the money “to get the plant going again.”

He then contacted machinery brokers to order spinners, ballers, and other supplies to re-outfit the factory. Prison officials, however, found that to be easier said than done. By May they were experiencing difficulties finding the machinery and the available sisal, and rumors started to fly that IH was somehow making equipment hard to come by and was raising its price of twine to take advantage of the market in Kansas where customers could not buy the prison product. Corrections Board member Willis Brown wrote a letter to the Kansas City Star in which he asserted that IH “jumped the price of twine two cents since the burning of the Kansas prison twine plant.” The response from IH headquarters was indignant and defensive. In a letter to Brown, company president R. C. Haskins stated that

The price of binder twine has gone up all over the world. . . . [Bad trade conditions in the Yucatan have sent up the cost of raw material. . . . Every mill at home or abroad, and every prison twine mill in America has been compelled to increase twine prices this year. Our prices . . . were not increased since your fire.

And regarding the equipment, he argued, “Your letter darkly hints that someone has taken options of all available twine machinery to embarrass the state of Kansas.” In addition, his twine mills manager indicated that a variety of manufacturers had new spinners and twine equipment for sale and that cordage companies back east had used machinery available. Therefore, “we have not the slightest objection to giving you any further information that may come to us on the subject, or to render assistance in the matter.”

Warden Codding at least had the backing of Governor Hodges throughout these trying times. He sent another letter to him soon after the fire thanking him for his “self-sacrifice” and the “manly spirit you showed toward this institution and toward us during our recent calamity” and this...
“very dark period of my life,” Hodges responded with his full support: “I was glad I could be with you . . . I have the same interest in your institution that all good Kansans should have.” He also indicated that while hampered “by want of money,” he hoped the state could “rebuild a bigger and better” twine facility, and that he had called a special meeting to take up the matter of funding. And then in a perhaps typically political postscript befitting any politician, he added, “I am glad to know you will save one carload of twine for the farmers of Johnson County.”

Hodges was a Democrat from Olathe who had won his 1912 gubernatorial race because of Woodrow Wilson’s unusually strong showing and the factional split in the GOP. The twine load did not have enough political spin-off benefits, however, for Hodges to overcome the traditional Republican advantage, and Arthur Capper won the governor’s seat in 1914. Nor did Hodges’s letter of support ameliorate the situation sufficiently for Warden Codding. The fire, the funding, equipment acquisition problems, and news from the twine factory’s clerk that there were many uncollected (and probably, uncollectible) accounts from farmers around the state all caused him to resign in June 1913.

The new warden Hodges appointed was Jeremiah Botkin who took an active role in rebuilding the plant. By the end of the year it was completed and Botkin noted to Hodges that it was “running full blast . . . like the works of a first-class watch.” The first twine rolled out on January 2, 1914, in a factory now made to produce an estimated three million pounds of twine per year. Later that month Botkin sent the governor some samples from the plant along with another letter that explained the twine-making process: “I am sending you today . . . a ball of twine, together with a nice bunch of sisal, which you may desire to place in your office. This sisal came from Yucatan . . . and was made from the fiber of the cactus [sic] leaf. . . . We are all proud of our twine mill.”

It is unknown whether Hodges displayed the sisal and ball of twine in his office, but it was important that the mill was up and running by 1914. That was the year in which Kansas farmers experienced their most abundant wheat crop to date (172,750,000 bushels, not surpassed until 1928 with its 173,185,000 bushels). It was also the year that wheat production in Kansas surpassed that of corn—“the deposed king,” as one account put it, representing “a sharp increase in wheat rather than a decrease in corn.” Unfortunately for the farmers, however, so much wheat caused the prices to drop. Incensed, C. W. Miller, a farmer from Hays, wrote Hodges in July saying that “Ellis County and the whole country has a wheat crop such as the world never saw. And some threshing [sic] has been done with a yield of 24 bushel per acre and the wheat buyers or the wheat pit has started a price of 60 cents. This is an outrage. Take off your coat for the farmers, Governor, and see if you cannot help us save our crops. . . . Give us a lift.” Hodges responded explaining that the trouble was that the farmers were “rushing their wheat to stations, glutting the market.” Inadequate storage facilities exacerbated the price problem. “Of course the price is regulated by London and Liverpool,” he added, but Hodges assured Miller that his office was “anxious to do everything we can to maintain a standard price.”

Much of the demand that fueled the increase in production was due to the World War and America’s response to help keep the European allied armies fed. “Wheat Will Win the War,” as the popular slogan of the time proclaimed. A Kansan historian explained:

The orators and newspapers urged [farmers] to grow more wheat. . . . The federal authorities lent them money to buy seed, and the Kansas Council of Defense helped them in every way possible . . . . During the five-year war period the total production of wheat in Kansas amounted to 529,000,000 bushels of wheat. This was 100,000,000 bushels more than was produced in any other state in the same period.

32. J. K. Codding to George H. Hodges, April 16, 1913, ibid.; Hodges to Codding, May 22, 1913, ibid.
33. Homer E. Socolofsky, Kansas Governors (Lawrence: University Press of Kansas, 1990), 142. Executive Clerk to J. K. Codding, May 14, 1913, folder 1, box 6, Governor’s Records–Hodges; Codding to Hodges, June 6, 1913, ibid.
34. J. D. Botkin to George H. Hodges, December 29, 1913, ibid.; Botkin, “Facts About the Prison Twine Mill.” Botkin, a Democrat like Hodges, had served one term in the U.S. Congress (1897–1899) as a Populist and later was elected secretary of state during the governorship of Henry Allen (1919–1923); J. D. Botkin to George H. Hodges, January 19, 1914, folder 1, box 6, Governor’s Records–Hodges.
37. C. W. Miller to George H. Hodges, July 7, 1914, folder 10, box 6, Governor’s Records–Hodges; Hodges to Miller, July 8, 1914, ibid.
One Kansas newspaper that was leading the propaganda campaign was the *Topeka Daily Capital*:

From Baxter Springs to St. Francis; from White Cloud to Elkhart, a determined and patriotic people have enlisted in a great industrial army to fight the battle for bread as truly and as bravely as our soldiers will fight for liberty and humanity on the battle fields of Europe. Kansas stands at the head of the class of forty-eight states in [this] great battle.  

Wheat for the war meant twine for the wheat. In 1914 Kansans used twenty million pounds of binder twine, 15 percent of which came from the prison. Unfilled orders for five million pounds more prompted a frustrated Botkin to write that such a figure showed “how impossible it is for us to supply the demand.” Even double shifts, producing sixteen thousand pounds a day, could not fill the orders. In April a scuttlebutt of sorts arose when some grange members and farmers had heard that the prison was selling out the scarce twine to “jobbers” (wholesalers). An angry F. W. Dixon from Holton, representing the Pomona Grange of Jackson County, wrote directly to the governor: “Since this twine factory was started to benefit the farmers,” he wondered, “why was this twine sold so early in the season to Jobbers?” Botkin countered with press releases to local newspapers and circulars sent to Democratic papers and precinct members around the state to suggest to farmers and their organizations that the accusation was untrue. Still, politics at times played a role in who received the shipments. For example, in May, Hodges wrote Botkin that the one family was “very strong Democrats and good business men” and “friends of the administration.” “If there is any way that you could edge in and give these gentlemen 10,000 pounds, please do so.” And when another constituent alerted the governor on June 8 of the fact that a carload of twine ordered for Anderson County had not arrived, Hodges’s staff contacted prison officials. The response indicated that orders were “being filled as fast as possible,” and that Warden Botkin was “doing everything that human endeavor can do to supply twine.”

The big harvests of 1914 caused prison officials to call for an expansion of the twine plant. Botkin suggested that because the mill was producing “hardly a drop in the bucket compared with the demands,” the state construct two other twine mills that could produce nine million pounds annually and an extra storage room to replace the one destroyed in the fire. With such additions the farmers and dealers could “organize for the purpose of handling

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40. Botkin, “Facts About the Prison Twine Mill.”
41. F. W. Dixon to George H. Hodges, April 20, 1914, folder 1, box 6, Governor’s Records–Hodges; J. D. Botkin to Grant Harrington, April 29, 1914, ibid.
42. George H. Hodges to J. D. Botkin, May 28, 1914, ibid.; Executive Clerk to Alfred Docking, June 10, 1914, ibid.
the output” and could “absolutely control the price of binder twine.”43 His hopes were dashed, however, with the 1915 gubernatorial election of Republican Arthur Capper who, although making agriculture one of his chief concerns, especially with regard to the war effort, cut government spending and did not support the expansion of the twine mill.44

During his two terms in office (1915–1919), however, Capper took a very active and personal interest in Kansas agriculture, which included the farmers’ need for twine. A newspaperman by profession, he published the *Topeka State Journal*, the *Topeka Daily Capital*, *Capper’s Weekly*, and *Capper’s Farmer*, which covered issues important to farmers and often advocated on their behalf, which farmers dearly appreciated. Soon after the inauguration, for example, a concerned farmer from Mulberry applauded the state’s efforts to keep twine prices 1 to 1.5 cents per pound cheaper than “the Trust twine” (IH’s) and requested that the governor look into adding a second shift at the plant. Capper responded that he agreed but a shortage of labor at the prison prevented the second shift. In April a Marysville farmer wrote the governor saying, “We saw in your *Daily Capital* that you were trying . . . to give farmers a discount for cash payment for twine. You can hardly believe how much your efforts have been, and will be, appreciated. Keep on.”45

Helping farmers even more, the Board of Corrections cut the price of twine by one cent per pound on February 3, 1915—a 15 percent cut from 1914 prices. Willis Brown, of the Board of Corrections, was quoted in the *Topeka Daily Capital* as explaining that “the price of twine this season will be the cheapest ever, and of the best quality.” “Prison twine will run between one and two cents [per pound] cheaper than that from outside,” he continued, “we purchased 500 bales of sisal yesterday at $4.29 [a bale], the cheapest in the history of the plant.”46

With these good prices, the prison-made twine became even more popular. So when orders were not able to be filled, some farmers wrote directly to the governor. His office responded that although the plant was running at “full

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43. J. D. Botkin to Manager, Greeley Milling Co., June 17, 1914, ibid; Botkin, “Facts About the Prison Twine Mill.”
44. See Richmond, *Kansas: A Land of Contrasts*, 205–6. Richmond cites how Capper headed a Belgian relief movement in Kansas and urged people to plant a vegetable garden in every yard and vacant lot, asked everyone to conserve food, and appointed a State Agricultural Defense Council to work with the U.S. Department of Agriculture on these efforts. After two terms as governor, Capper was elected to five terms as U.S. senator (1919–1949).
he manufacture of twine, however, would survive a serious threat soon into the Capper administration due to an endangered supply of sisal in 1915. That year Mexico was in the midst of a revolution (1910–1920) that not only ousted Porfirio Díaz—a dictator who ruled Mexico from 1876 to 1911—but had also split the nation into several warring factions. Díaz had supported the henequen industry and had worked to make sure a labor shortage there would be “solved” by transferring unassimilated Yaqui Indians from Sonora (northwest Mexico) to work as slaves on the Yucatecan plantations. The heart-wrenching details of the Yaqui dislocation and their slave labor conditions were chronicled by U.S. muckraking journalist John Kenneth Turner, who published a series of articles entitled “Barbarous Mexico” in 1910 in the American Review. Turner also had published his findings in Kansas—in the socialist paper Appeal to Reason from Girard, Kansas, in which he alerted readers that large corporate interests in the United States were at the heart of the sisal plantation problem.

For Kansans, however, the war provided a slight benefit in reducing the price of twine. Willis Brown cited how the lower price of baled sisal was due to the “unsettled conditions in Mexico,” where “in times of greatest unrest . . . Mexican money is always cheapest.” “We pay for all sisal in the money of the republic,” he explained, “and when they are in greatest turmoil, Uncle Sam’s dollar will purchase more Mexican dobies [pesos]. They need ready cash and will sell for less.”

Nonetheless, the mood in Mexico was anti-American and anti-monopoly, and therefore the revolution had a compelling impact on the nation’s leading export crop, sisal, that was bound for North American markets and virtually controlled by IH. The army of Venustiano Carranza, the commander of the constitutionalist faction of the revo-

47. Office of Governor Capper to F. E. Ertel, April 5, 1915, folder 264, box 4, Governor’s Records—Capper; Capper to C. E. Payne, April 7, 1915, ibid.
49. J. L. Mellor to Arthur Capper, April 15, 1915, ibid.
50. Board of Corrections Proceedings, 1915, folder 179, box 3, ibid. As profitable as it perhaps was, some farmers agreed with Botkin that the mill be enlarged to accommodate the twenty-four million pounds per year used by Kansas farmers. John Frye of Independence, for example, wrote Capper a particularly strong letter: “Now why not make an appropriation to run the twine plant to make as . . . [many] pounds as they could? It would be a lasting benefit to the farmers and to the state, as every dollar of it would come back to the state with a profit.” See John Frye to Arthur Capper, March 3, 1915, folder 264, box 4, Governor’s Records—Capper.
52. John Kenneth Turner, “American Capitalism’s Official Executio-
utionary forces and provisional head of the government, marched on Yucatán in February 1915, hoping to secure the region (along with its income from the henequen industry) for the cause. But to ensure that no weapons would be sent to rebels in the region, Carranza ordered that the port of Progreso (from where all of Yucatán’s sisal was exported) be blockaded. His order immediately tied up 250,000 bales of sisal—119,000 of which belonged to IH—that were ready to be shipped to twine manufacturers in the United States and Canada. The port was closed for nearly a month. News of the blockade spread quickly. With summer looming, indications of another bumper crop to harvest, and a depletion of stock with which to make the all-important binder twine, an imminent disaster was lurking. The U.S. news media referred to the event as the “Sisal Situation” and followed the story closely.

The Sisal Situation came to test the Woodrow Wilson administration in how far it would go to defend fiber, implement, and farm interests. Twine manufacturers deluged the office of Secretary of State William Jennings Bryan (from wheat-producing Nebraska) with letters and telegrams urging the United States to take action. Messages came in from cordage companies, implement dealers, farmers, prison wardens, and congressmen from agricultural states. Even IH president Cyrus McCormick Jr., who between him and his company had contributed sixty-six thousand dollars to Wilson’s election, called on Bryan in person to urge the United States to intervene.

A variety of messages was sent from Kansas where people had reason to worry, especially if harvests would be anything like those the year before. “1915 Wheat Crop is Good,” “Wheat Crop Prospects Better than in 1914,” announced headlines in the Topeka Daily Capital in February in the midst of the sisal crisis. The articles went on to say that due to “plenty of moisture,” there was “promise of another bumper year,” how crops were “tiptop” and in “first class shape,” especially in the central part of the state where “wheat conditions . . . were never better.” Thus Governor Capper sent a telegram directly to President Wilson with the message, “I am informed that blockade of Port at Progreso Yucatan makes it impossible for the State of Kansas to secure sisal for its prison plant. I earnestly hope that every endeavor will be made to raise the blockade so that we can secure this necessary supply of sisal for Kansas grain producers.” In response, Bryan telegraphed Capper: “Dept has made earnest requests of Caranza [sic] to re-open port progresso [sic] and permit exportation of sisal hemp, but requests have met definite refusal and Carranza [sic] states that he will not permit such exportation at present and that the port will remain closed as means of subjugating district.” Others, such as Warden Botkin, members of the Board of Corrections, U.S. senator Joseph Bristow, retail dealers, and representatives from farmers’ organizations all sent telegrams to the Department of State.

When Bryan’s “earnest requests” did not seem to change the blockade policy in Mexico, he and Wilson decided to send the USS cruiser Des Moines to Progreso to monitor the situation and later to send the USS collier Brutus and the gunboat Olympia as backups. With those moves, on March 14 Bryan sent a stiff warning to Carranza—an ultimatum, really—saying that the U.S. naval officers on board these ships were “to prevent any interference with commerce to and from the port” if Carranza did not lift the blockade. The threat worked and the situation cleared when Carranza bowed to U.S. demands and ordered his ships away from Progreso. The last thing the Mexican revolutionaries needed was a naval attack from the United States.

54. For further details, see Joseph, Revolution from Without, 154–55.
55. See New York Times, March 16–21, 1915. Coverage often was front-page news.
57. Topeka Daily Capital, February 14, 16, 1915. Wheat harvests in 1915 (106,478,000 bushels) ended up being not quite as good as the bumper crop of 1914 (172,750,000 bushels) but were still better than those of the next three years. North Dakota led the nation in wheat harvest in 1915 with 159,290,000 bushels. See U.S. Department of Agriculture, Wheat: Acreage Yield Production, 10–11. For North Dakotans’ response to the Sisal Situation, see Evans, “Prison-Made Binder Twine,” 27–30.
59. U.S. State Department Relations with Mexico, microfilm 206. Gunboat diplomacy was typical of early 1900s U.S. foreign policy—actually something that Wilson and Bryan had opposed during the Taft administration—that was based on the legal concept of “no duty to retreat.” For analysis of how this concept applied to foreign policy, see Richard Maxwell Brown, No Duty to Retreat: Violence and Values in American History (New York: Oxford University Press, 1991), chapter 4.
The U.S. military threat was part of Wilson’s approach to the Mexican Revolution in general. A year earlier he had instructed the U.S. Navy to intervene at Tampico and Veracruz on the Gulf Coast. Wilson had gone so far as ordering the seizure of the port of Veracruz where a thousand sailors and marines engaged in armed combat with Mexican forces. Two years later (1916–1917) Wilson dispatched General John Pershing and more than six thousand troops deep into the Mexican state of Chihuahua on an unsuccessful mission to capture revolutionary leader Francisco “Pancho” Villa, in retribution for Villa’s attack on Columbus, New Mexico.

The media around the country, including that of Kansas (especially the Topeka Daily Capital), followed the Sisal Situation closely. “Kick on Sisal Embargo Placed by Gen. Carranza” announced a front page headline in the Daily Capital on March 2. A few days later the paper’s story “Protest to President About Sisal Embargo” reported how officials of various twine-making companies went to see Wilson to “urge him to take steps against the actions of the Mexican authorities.” On the day after Bryan’s message to Carranza, the paper headlined that “Supply of Binding Twine For U.S. Is Threatened” and told how “warships have received orders to protect U.S. commerce” at Progreso—“the port from which is shipped ninety percent of the sisal hemp required for binding the wheat crop of the United States.” The story suggested that Bryan’s threat was “in accordance with international precedent, the right of a defacto government to close a port not in its possession is not recognized.” And, assuredly making farmers and prison officials rest easier, it concluded by saying that Carranza’s blockade was lifted. Other papers were not as detailed in their coverage, but the Wichita Daily Eagle did report the story on March 16, saying that Wilson’s action was “to force all factions to respect freedom of trade.” Amazingly, it went on to state (and certainly without any corroboration) that the state of Yucatán wanted to secede from Mexico because the “rich south land want[ed] to become a protogé [sic] of the United States.” The Kansas City Star had less information but did run the story “Carranza Needs a Threat,” which stated how “the United States had prepared to back up its demands” with force to allow the shipments of sisal.

60. Topeka Daily Capital, March 2, 7, 15, 1915.
61. Wichita Daily Eagle, March 16, 1915; Kansas City Star, March 15, 1915. Given the gravity of the “crisis,” it is surprising that no editorials addressed the issue in these papers.
Most poignant, perhaps, was the Daily Capital’s story on March 16 that shows very clearly the pertinence of Bryan’s ultimatum for Kansans and gives a rather succinct picture of the dependence of one region on the other. “Raising Blockade Will Help Kansas,” “News From Washington . . . Is Welcomed by Farmers,” and “Will Keep the Twine Plant Going” were the headlines of the article. It quoted Board of Corrections member Charles M. Harger who said that the “the news received today . . . is welcome to the farmers” since available sisal supplies would have run out by April 15, forcing the plant to close, meaning “a great loss to the wheat growers of Kansas.” He also credited the “insistent telegrams” from various authorities as being “influential in persuading the [U.S.] government to re-open the port.” He also assured farmers that the board would not raise the price of twine because of the crisis and mentioned that the plant would probably “be put on extra time immediately with another splendid wheat crop in prospect.”

Although sisal was once again flowing out of the port of Progreso, rumors of other dangers of the Mexican Revolution and how they could affect henequen production were starting to make their way to Kansas. Now, it was thought, revolutionaries were burning plantations and storehouses of fiber in Yucatán. Upon hearing this, Warden Botkin wired Bryan: “We urge action to stop destruction of sisal as failure to get it will cause enormous loss to our farmers.” The rumors were unfounded, but sisal was stalled in getting to Kansas due to a variety of delays in Mexico and to the tremendous demand across the country. Governor Capper tried to explain the situation to a buyer in Arkansas City:

“At this time we are unable to buy sisal at any price. . . . We are doing everything in our power to get sisal, but . . . it comes from only one port in Central America [sic]. . . . I think you folks had better look to other


63. See Joseph, Revolution from Without, 155; J. D. Botkin to William Jennings Bryan, March 19, 1915, U.S. State Department Relations with Mexico, microfilm 206.
As if the supply problem were not enough, the governor and the Board of Corrections had to deal with a pressing internal matter that concerned the management of the twine mill. In the summer of that year Warden Botkin was brought up on a variety of charges that eventually caused his dismissal. Some of the original fifteen counts were dropped, but the charge that stuck was “that he had misrepresented the operation and facilities of the prison twine plant . . . being detrimental to the business interests of the penitentiary.” Capper did not give many details in a letter to him outlining the charges, but according to the Kansas City Journal he was found to be “discrediting the prison twine plant in numerous interviews.” The paper also reported that Botkin had refused to resign and demanded an open investigation. A statewide committee also censured the Board of Corrections for “neglect of duty” in the whole affair. Capper fired Botkin and replaced him with former warden Julian Codding who had preceded Botkin and who had resigned in the wake of the twine plant fire in 1913.

By the summer of 1916 things were basically back to normal. Codding showed that the mill was operating in the black and that it had dispersed $204,000 worth of twine—almost double what had been sold in troubled 1915. “We are in excellent shape so far as our twine plant is concerned,” Codding explained to Capper. He reported that the prison had nearly 1.5 million pounds of raw sisal in store and had nearly the same amount of manufactured twine ready to distribute. And in a letter to customers he stated, “We fully guarantee our Standard Binding Twine. . . . [It’s given] special treatment that makes it as near insect-proof as any other twine made. . . . We strongly urge you to order your stocks early.”

Meanwhile in Mexico, with Carranza’s successes, the revolution’s anti-foreign-monopoly ideals were being applied in Yucatán. To break the stronghold that IH enjoyed on the control of exporting sisal, the state government of Yucatán activated the Comisión Reguladora del Mercado del Henequén (CRMH—the Henequen Marketing Regulating Commission) in late 1915, which immediately raised the price of sisal. The CRMH formed a “trust” with five major U.S. banks to control the sisal market. Once again manufacturers, dealers, and farmers in the United States were outraged and complained to the U.S. government that one monopoly had replaced another. In fact, an editorial in the Concordia Daily Kansan claimed that IH was being victimized by “this unholy combination of American capital with the monopoly in Yucatan.”

64. Arthur Capper to A. H. Abrams, April 1, 1915, folder 264, box 4, Governor’s Records–Capper.
It is unreasonable to charge . . . that this company has anything to do with the combination of American bankers to create a monopoly of the sisal fiber output of Yucatán, for the purpose of robbing the American farmers. . . . This is one time where a big corporation is getting the worst of it, but the burden . . . will fall on the ultimate consumer—the farmers of Kansas. 

The Sixty-fourth Congress took up the issue in 1916 and conducted hearings on the “Importation of Sisal and Manila Hemp.” Senator Charles Curtis of Kansas took an active part in the proceedings and proudly cited Kansas as the “top wheat state” that consumed between fifteen and twenty million pounds of twine per year. He discussed the importance of securing sisal and of the prison mill that so greatly helped farmers by using “convict labor” and selling the twine for at least one cent per pound cheaper than trade brands. His testimony was picked up by the Topeka Daily Capital, which quoted him as saying that prices had jumped from as low as $3.60 per hundredweight in 1914 to a whopping $9.25 just two years later due to the CRMH’s policies, with the increase naturally being passed on to farmers. Likewise, the paper noted that the New Orleans bankers and distributors were cashing in on the increases and not the henequen growers in the Yucatán. A representative of the CRMH argued that the prices were reasonable and were benefiting the people of Yucatán. The proceedings ended with the subcommittee’s decision to pass the controversy over to the Federal Trade Commission. For their part, the prison officials did what they could to secure sisal at better prices. They notified customers that “The Mexican Sisal Trust . . . has advanced the price of raw sisal. . . . However, the Penitentiary management . . . bought large quantities of sisal before the raise, thereby protecting the Kansas farmer against exorbitant prices charged by other manufacturers.”

68. Charles Curtis, Importation of Sisal and Manila Hemp Hearings, U.S. Senate, Subcommittee of the Committee on Agriculture and Forestry, 64th Cong., 1st sess., 1916, S. Doc. 440, 257–59. Senator Curtis erred, however, when he stated that the “only place U.S. farmers get twine is from Yucatan sisal.” Some farmers used a higher grade twine made from Manila hemp imported from the Philippines.

One would think that with the high prices for sisal, cordage makers would want to produce binder twine from other fiber plants. Industrial hemp (Cannabis sativa), for example, had proven to be a worthy fiber producer for many years and had been used in the manufacture of rope. Indeed, as Professor Sayre had noted, “hemp furnishes a fiber sufficiently tenacious for all the purposes of manufacturing binding-twine. It . . . does well in eastern Kansas, and in the early history of the state yielded handsome returns to the cultivator.” Likewise, it did not yet in those years carry the misconceptions affiliated with THC (tetrahydracannabinol, the psychoactive ingredient that was bred into different, non-industrial strains of C. sativa that produces marijuana). Those myths came in the late 1930s through an active campaign partly engineered by William Randolph Hearst.

Thus, cordage makers did experiment with hemp, wire grass, and flax as alternative fiber crops for twine. IH even developed experimental fields of hemp in North Dakota. But, as Sayre pointed out, hemp required “a rich soil and heavy manuring, and is an exhausting crop” which made it costly to raise. Equally important, wire grass and flax could not produce a twine that could be tied tightly enough for farmers’ satisfaction or withstand the pressure of the mechanical knottner. No, Yucatecan sisal remained the ingredient to use and still was less expensive than importing manila (abaca hemp) from the Philippines or jute from India, although places such as Tanganyika (now Tanzania), Haiti, and New Zealand began producing sisal and competed aggressively for the cordage market.

continue raising wheat to feed the people of the war-torn nations of Europe where farming had been neglected for four years.” And, “wheat was still bringing war prices . . . that made it an attractive financial gamble.”74 One farmer trying to get more prison twine expressed it the best in a letter to Governor Capper: “The government is asking the farmers to plant every bit of land available.” Another wanted five hundred pounds so badly he was willing to drive his team and wagon to Lansing if it would increase his chances of getting the cheaper twine, “instead of paying such high prices for it here.” “I am a farmer and doing my best to raise a crop,” he explained.75

Unfortunately, the prison plant just could not produce enough twine. Warden Codding received approval to run the mill overtime to prepare for the harvests of 1918 and told customers “by another year we may be able to come nearer [to] furnishing the whole state with twine.”76 Also in 1918 the prison was accused of making an inferior twine, selling vast amounts to dealers who benefited from “rake-offs” by selling it at marked-up prices, not supplying local granges with adequate amounts, and selling the product to the “twine trust” for increased market prices. Capper ordered a report and found that records showed more than one-third of the prison twine was distributed to farmers’ unions, more than one-third to local dealers, and the remainder to granges and individual farmers.77

But the problem remained significant enough in 1919 for the new Republican governor of Kansas, Henry J. Allen of Wichita, to call for a more thorough investigation of the twine distribution matter. The result was a ruling from the Board of Corrections: prison twine would only be sold to farmers and farmers’ organizations; this, of course, outraged the dealers. Representative of them was a hardware dealer in Atchison who in a letter to Allen requested his research into the problem, “hoping that you are the Governor of Kansas Citizens . . . whether they be farmers, merchants, or otherwise . . . to see that merchants get a square deal.”78

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74. Streeter, The Kaw: The Heart of a Nation, 274; see also Richmond, Kansas: A Land of Contrasts, 205–6.
75. A. B. Shaughnessy to Arthur Capper, May 1, 1917, Governor’s Records–Capper; C. L. Morrison to Capper, May 23, 1917, ibid.
76. J. K. Codding to C. B. Manning, April 27, 1918, ibid.
77. Various letters in Governor’s Records–Capper. The record of the report is in Capper to G. F. Eubanks, March 18, 1918, ibid.
78. Armstrong Brothers General Store to Henry Allen, February 8, 1919, Correspondence Received, folder 19, box 15, Henry Allen Administration, Records of the Governor’s Office, Library and Archives Division, Kansas State Historical Society.
Certainly farmers needed a less expensive twine in the early 1920s when prices for wheat plummeted. Allen now had to confront irate farmers who not only were demanding more prison twine but who called on him to take action against the Chicago Board of Trade’s pricing policies. Typical was the farmer’s wife from Downs who, calling it the “Chicago Board of Thieves,” wrote,

I hope I am a Christian woman, but think it no harm to see them blowed to perdition. . . . I think of the little children they are depriving of their daily bread. They give nothing for our wheat . . . then raise [the price of] our flour so we cannot afford to buy it. We must eat like the beggars and see our children begging for a piece of cake of which all children are so fond.79

Fewer issues and controversies affected the prison twine plant in the 1920s and 1930s than they had during the first two decades of operation. Things went relatively smoothly in those years. A visitor to the prison in 1923 wrote that “the place where the binding twine was [made] resembled a hive full of busy bees. There was not one single idle workman to be [sic] seen from the time we entered the building til we left it.” By 1925 the mill was turning out 3.5 million pounds of twine per year. This was during the Republican administration of Governor Ben Paulen, however, when politics continued to play a profound role in prison operations. Some Kansans wondered why so many Democrats were still employed at the prison, including in the twine factory. One such party supporter complained to the current warden, William Mackey, saying, “In all my years I have been with the Republican boys I have never seen an administration like this one.” This attitude may have led in 1926 to the dismissal of the twine plant superintendent, Ben Kennedy, who had worked there for twenty years. “Kennedy was lazy and spent practically all his time sitting in the office of the twine plant . . . doing guess work,” Mackey told the governor. Kennedy tried to halt his dismissal by bringing his defense to the Leavenworth Press, a Democratic paper, but to no avail. By 1928

79. Elizabeth Kramer to Henry Allen, October 23, 1920, ibid. Governor Allen’s secretary responded that “the governor appreciates your frank letter and wishes to assure you that he is doing all in his power to bring a thorough investigation of the present wheat situation.” See Secretary of Governor Allen to Kramer, October 28, 1920, ibid.

80. C. F. Fein to Jonathan Davis, June 21, 1923, folder 5, box 6, Governor’s Records–Davis. Fein went on to laud the food served to the workers: “The noon-day lunch . . . had the same flavor and taste as those meals we partook of years ago when we followed the thrashing [sic] machine as a bundle-pitcher. It was par excellence.”

Due to the manufacture of combines, the demand for binder twine decreased beginning in the 1930s. Near the end of the decade the prison plant sold about one-third its usual amount. Photographed here in 1936 is the spinner room of the twine plant, which ceased operations in the 1940s.
Mackey informed Paulen that he had “weeded out” Democratic employees without families and had replaced them with Republican employees with families.81

There was room for production improvement, too. With that in mind, an official from Kansas visited the much larger Minnesota State Prison twine plant in the summer of 1930. E. L. Barrier, budget director for the State of Kansas, learned on his trip that Minnesota was producing and selling eight times as much binder twine per year (24,700,000 pounds) as Kansas through a vigorous advertising campaign that included sending sixteen traveling salesmen throughout the state. The Kansas governor at the time, Clyde Reed, was keenly interested in this comparison and commissioned Barrier to look into how Kansas could increase production and sale. Barrier responded that the Kansas system was “absolutely out-of-date” and recommended a direct sales and marketing campaign. Reed sent this idea to the State Board of Administration, which killed it, believing it “would antagonize the dealers throughout the state.”82

What antagonized customers more than distribution was the issue of quality. In the summer of 1930 the prison received a variety of complaints, especially from E. D. Mikesell, an attorney in Fredonia representing some Wilson County farmers. “Why can’t the prison turn out as good as twine as the private manufacturers?” inquired Mikesell. Prison twine was “of inferior quality . . . [with] heavy places and light places” causing the knotter to bind and break. He cited how some farmers complained that the prison twine went only three-fifths as far as trade brands and that it only consisted of three or four strands of sisal,“that he threw it all into the river. “It’s a matter of serious concern to farmers of Kansas,” Mikesell said, and should be “investigated and remedied.”83

Board of Corrections member Lacy Simpson did investigate and found that Mikesell was “entirely mistaken.” He wrote Governor Reed that farmers praised the twine’s quality and that it equaled any sold in the state. He thought the complaints might have stemmed from other manufacturers: “Sometimes the competitors, particularly . . . International Harvester Co. and the John Deere Co., grossly misrepresented Penitentiary twine.” Warden Milton Amrine responded directly to Mikesell. He explained how the prison sold twine at cost, which “has saved many thousands of dollars to the farmers” as a “bar to the exorbitant prices by combinations,” how a “long list” of merchants handled it without complaint, how farmers often were “disgusted with other twine” and bought “ours because their neighbors recommend it,” and how the occasional “faults” had been “grossly exaggerated” since the prison twine “remained in big demand . . . year after year.” He challenged Mikesell to make his own comparison by checking balls from other factories.84

By the 1930s, however, the twine plant at the penitentiary was already in its decline. Combines started to replace binders as the preferred harvester in Kansas in the mid-1920s, and with fewer binders there was less demand for twine. Kansas farmers went from using forty-seven hundred combines in 1920 to more than twenty-four thousand just five years later and to almost forty-three thousand by 1940.85 Seventy-five percent of the winter wheat on the Great Plains was harvested by combines by 1929. The phenomenal growth was due to a variety of financial factors, as historian Douglas Hurt explained:

If a wheat field . . . averaged 15 bushels per acre, 4.6 man-hours were required to bind, shock and thresh it . . . In contrast, only .75 man-hours were needed . . .

81. Twine Production Report to State Board of Administration, January 27, 1926, folder 14, box 13, Ben Paulen Administration, Records of the Governor’s Office, Library and Archives Division, Kansas State Historical Society; P. T. Foley to William Mackey, February 1, 1926, ibid.; Mackey to Ben Paulen, September 18, 1926, ibid.; Mackey to Paulen, March 21, 1928, ibid.
82. E. L. Barrier to Clyde Reed, August 29, September 11, 1930, folder 20, box 17, Clyde Reed Administration, Records of the Governor’s Office, Library and Archives Division, Kansas State Historical Society; hereafter cited as Governor’s Records–Reed; H. R. Rhodes to Reed, September 8, 1930, ibid.
83. E. D. Mikesell to Clyde Reed, June 18, 1930, ibid.; M. F. Amrine to Lacy M. Simpson, June 29, 1930, ibid.
84. Lacy M. Simpson to Clyde Reed, July 3, 1930, ibid.; M. F. Amrine to E. D. Mikesell, June 29, 1930, ibid.
85. Huber Self, Environment and Man in Kansas: A Geographical Analysis (Lawrence: Regents Press of Kansas, 1978), 101. The majority of combines in these years was pulled by tractors using a power take-off or with motors on the pulled combines. Self-propelled combines became popular with farmers who could afford them by the late 1930s and 1940s.
with a combine. When all other costs are included... a farmer who used a 15-foot combine could cut an acre of grain for $1.50 while others expended $4.22 per acre for harvesting the crop with a binder.

Combines also lost less grain in the harvest process (2.63 percent, or thirty-two pounds per acre, compared with 6.06 percent, or seventy-four pounds per acre, with binders), and sped the harvest (thirty-five to forty acres per day compared with the binder’s fifteen to twenty acres) which “reduced the risk from bad weather at harvest and encouraged farmers to expand their production.” Hurt concluded that a farmer could earn “an additional $6,920 by using this implement at maximum capacity.”

As the binder and need for twine declined, the Yucatán suffered an economic collapse from which it has yet to recover. Henequen industry officials started to worry about the impact of combines in the mid to late 1920s. Front-page articles in El sisal mexicano, a henequen trade journal, for practically every month of 1927 warned sisal growers of the economic dangers lurking in combines. Headlines such as “Fiber Commerce Threatened by Combines that Could Eliminate Binder Twine” and “A Revolution in Wheat: More than 8,000 Combines in Use” sounded the warning. The stories related how farmers in the Great Plains could benefit from the quicker harvests with less moisture threatening the grain. One article reported how a Kansas farmer on a big spread could harvest with four combines and twenty-five men what used to take sixteen binders or headers and seventy-five workers. The same labor- and time-saving arguments were used for the binder forty years prior to this. And thus it is with technological changes.

The prison recognized these same facts, which probably accounts for why it never expanded its twine manufacturing capacity in the 1920s. One result was shipping twine out of state, including a whopping one-third or more of 1929’s production to a dealer in Iowa. A state official wrote that “the increase in the combine has cut down our twine sales in Kansas and during the 1929 season our plant made 3,066,630 pounds of twine, of which 1,448,000 were shipped to Henry Field Seed Co. [of Iowa].” In this way only could the mill continue apace through the early 1930s. It manufactured 3.2 million pounds of binder twine in 1932 and reported that it made a profit of five hundred thousand dollars for the state in the twenty-year period of 1911 to 1931. But between the combine and the drought of the Dust Bowl in the Dirty Thirties when harvests were especially poor (or nonexistent in many places), twine was on its way out. In 1933 sales were particularly low, and in 1937–1938 the plant sold about one-third its usual amount (one million pounds per year). By then the prison emphasized other projects, including its brick plant, the coal mine, and a turkey farm. It ceased making binder twine in the 1940s. Some state prison plants continued manufacturing it for a few years longer, and some, notably North Dakota’s, converted to making baler twine for hay (which at first was made of sisal fiber but later from synthetic polyethylene), but there is no evidence that baler twine was made in Lansing.

The World’s Largest Ball of Twine (4,675,000 feet in length) in Cawker City, Kansas, is made primarily from this baler twine, since it was started by area farmer Frank Stoeber in 1953 after most farmers discontinued using...

86. R. Douglas Hurt, “Combine Harvesters,” Journal of the West 30 (April 1991): 49–52. As he notes, spring wheat farmers in North Dakota and other places generally adopted the combine later, preferring the binder because spring wheat did not ripen evenly and often contained weeds—the same reasoning why they usually swathed before combining after they did adopt the machine. The labor-need changes also affected farm women, according to the Kansas State Board of Agriculture, Forty-fourth Biennial Report, 278: “In evaluating the introduction of the combine harvester, the lift it gave to the housewife should not be overlooked. It eliminated, almost entirely, feeding the harvesting and threshing crews.” It also “eliminated opportunities for social gatherings which the farm women enjoyed.”

87. The Yucatán henequen industry has tried to develop a variety of other sisal products, including hammocks, burlap, servey sacks, and mats, but none has approached the boom of the binder twine years. The state, once considered Mexico’s wealthiest, quickly became one of the nation’s poorest with high unemployment and a stale economy.


89. E. L. Barrier to Henry Caulfield, June 18, 1930, folder 18, box 7, Governor’s Records – Reed.


91. Kansas State Penitentiary, Twenty-Ninth Biennial Report, 1933–1934 (Topeka: Kansas State Printing Plant, 1938), 28–29; ibid., Thirty-First Biennial Report, 1937–1938 (1938), 50–51. The exact date was difficult to discover, although reports from the twine plants were last included in the Thirty-Second Biennial Report, 1939–1940, and in 1948 Warden Robert H. Hudspeth stated, “Due to combines being used in wheat and other small grain harvest, the twine plant has not been in operation for several years. All the twine machinery has been sold.” See ibid., Thirty-Sixth Biennial Report, 1947–1948 (1948), 3.
binders. One source quotes how the giant ball was used in a farcical article to promote tourists to visit Kansas by saying that the twine is long enough to unravel all the way to Carrolton, Missouri, on the east, but that the westward limit would be unknown, because the ball is “too heavy to roll up uphill.” And although the markers, signs, and brochures about the ball in the town proclaim it to be “sisal twine,” no information on sisal production in Yucatán, the state’s dependence on it for grain harvests, the sisal crisis of 1915, or the story of how penitentiary inmates produced twine for Kansas farmers is mentioned at the site. Harold Reling, the unofficial “keeper” of the ball of twine there in Cawker City, likewise admitted he had not heard that the sisal was from a Mexican commodity.

But perhaps the giant ball of twine should stand as a monument to the interdependent nature of agricultural production—a symbol not only of how early-twentieth-century grain production in Kansas was tied very tightly to a commodity in Mexico, but how indeed the world is linked together for raw materials and markets. Perhaps it should suggest just how far governments will go to protect those flows—gunboat diplomacy and ultimatums then, and “free-trade” agreements such as NAFTA today. Likewise, it should represent the nature of subsidized industry in a supposedly free-market economy, in terms of the state government using low-wage convict labor to benefit the farmers, especially as that remains a controversial point today when corporations are fast exploiting inmates at extremely low wages. And finally, perhaps it should stand for the lessons that could be gleaned from this wheat–henequen experience: the social and economic results (not to mention the environmental ones) of an increasingly mechanized agriculture; the ups and downs of dependence on foreign raw materials (and the boom/bust nature of that experience for places such as Kanasín, Yucatán). Not all of those lessons could be discussed in depth here, but the role of Kansas, and all of the twists and turns of its experiences with binder twine, should not go unnoticed in the state’s agricultural history.

92. According to brochures from the site, area farmer Stoeber started wrapping the ball on his place in 1953 and donated it to the town of Cawker City in 1961.


94. Harold Reling, interview by author, May 27, 1996. Reling claimed that from time to time the diameter of the ball shrinks when local pranksters set it on fire to see how much of it will burn. He also mentioned that residents of Darwin, Minnesota, claim a giant ball of twine in their town is the “world’s largest” and that a competitive race rages between the two towns.

The world’s largest ball of twine in Cawker City, Kansas, was begun in 1953 and is made primarily of baler rather than binding twine.