Flax and Linen: An Uncertain Oregon Industry

By Steve M. Wyatt

One of the several painstaking, time-consuming tasks involved in processing flax is shown in this photo from 1946. Here workers bind dried bundles of retted flax, preparing them for scutching, the procedure by which usable fiber is separated from the plant. (Courtesy Horner Museum, Oregon State University)

In many languages the word for flax is lin. In English, then, the two principal products derived from this fibrous plant are known as linen and linseed oil. Fabrics made of flax have a reputation for both durability and beauty. Linen, for example, because of its resilience and strength (which increases by 20 percent when wet), has had both military and industrial applications. And linen can also, of course, be woven
into fine and beautiful patterns. Linseed oil, a product extracted from the seed of the flax plant, is used to make oil-based paints, linoleum, wood preservatives, and rust inhibitors. In addition, doctors and veterinarians have long used flax seed in poultices to relieve painful and inflamed wounds.

At various times in the late nineteenth and twentieth centuries, farmers in Oregon’s Willamette Valley have pursued flax cultivation on an industrial scale. The temperate climate of the valley, with its generally cloudy skies and ample moisture, was judged ideal for the growing of flax. During the 1920s and again in the 1940s, promoters of the industry felt confident that Oregon would eventually host a stable flax industry. After cultivation and harvesting of the crop, it was thought, workers would process the flax fiber and then manufacture it into a wide variety of products. Many believed that Oregon’s flax industry would become more important economically than the state’s timber industry. The flax industry’s detractors, however, argued that flax cultivation would not succeed because it conflicted with such established American industrial values as efficiency and mechanization. In particular, flax industry critics pointed out, labor-intensive flax processing had traditionally occurred in countries where wages and the standard of living were lower than in Oregon.

The history of flax production in Oregon is, by necessity, an account of government intervention (at both the federal and the state level) in an agriculturally based industry. Early attempts to establish a flax industry in Oregon without government assistance were short lived, and throughout its history the industry was never able to sustain itself without government intervention. When a flax-processing plant was established by legislative action at the state penitentiary in 1915, a foundation was laid upon which Oregon farmers, flax processors, and linen mills could depend. Later, during the economically depressed 1930s, the federal government, acting through the Works Progress Administration (WPA), actively supported the industry. When flax prices dropped, however, WPA processing plants struggled and federal intervention...
broadened in the form of subsidies to flax producers. The industry's fortunes again improved with the onset of the Second World War. When flax was classified as an essential war product, the industry was given an unprecedented boost. However, flax producers and processors suffered another setback when federal subsidies were withdrawn at the conclusion of the war. When the Oregon legislature subsequently withdrew its support for flax cultivation and processing, the industry soon disappeared altogether in the state.

The exploitation of the flax plant for its fiber can be traced to prehistoric times. It is also well established that cloth made from flax (linen) played a vital role in ancient Egyptian civilization. Not until the first century A.D. did the cultivation of flax, for use in the manufacture of fabric, take root in Europe.  

When Spanish and French explorers penetrated North America in the seventeenth century, they found Native Americans using wild flax and similar fibrous plants in the manufacture of textiles and basketry. Later, when British trading companies established colonial outposts in North America, flax cultivation was encouraged. However, since England did not want to encourage a potentially competitive processing industry in the colonies, bounties were offered only for unmanufactured fiber. Notwithstanding such bounties and laws passed in the colonies requiring farmers to grow flax, fiber flax never became an important colonial export crop.

In contrast, flax did become established in North America for domestic use. As late as 1838 nearly every farmer in the northern United States grew a small plot of flax for his family's clothing needs. And some farms grew flax for its seed, exporting the linseed oil obtained from crushing the seeds. Like the South's tobacco- and cotton-growing industries, flax cultivation and processing required a large, relatively low-cost work force. Nevertheless, southern farmers showed little interest in flax except in times of depressed tobacco prices.

When textile production in the United States passed from a common household industry to large-scale, mechanized factory operations in the 1840s, the production of linen in the home was likewise abandoned in favor of relatively inexpensive, factory-produced cotton and woolen goods. Processing flax is far more complex than processing cotton or wool, and flax processors were at
the mercy of unpredictable weather for drying the flax after retting (rotting) the harvested plant. By 1900 the use of flax for fabric in the United States had declined to a mere 1 percent of all textile production.9

Despite its decline in importance in the United States generally, some early Willamette Valley settlers continued to cultivate flax for processing into fabric. Historian Richard White has written that the region’s early settlers most often “husbanded the familiar,” simply transferring familiar agricultural methods and crops westward.10 Thus, although a wild variety of flax is native to Oregon, settlers from flax-growing areas probably brought flax seeds with them west across the plains.

Charlotte Matheny Kirkwood, in a 1916 issue of the Oregon Voter, wrote that the first cultivation of flax in the Oregon Territory was done by her mother (Mrs. Matheny) in 1844. Having planted her flax seeds on the family homestead near the present-day town of North Plains, in Washington County, Oregon, the result, according to Mrs. Matheny’s daughter, was a fiber “longer and [of] finer quality than that grown in Kentucky.”11 In fact,
many farmers, agronomists, and flax experts concluded that the fiber derived from Oregon-grown flax was equal to the best grown in the world.

Commercial cultivation of flax in Oregon began in 1865 when the operators of the Pioneer Oil Company, in Salem, started producing linseed oil. By 1873 the company had 6,000 acres of flax under contract. With the fine quality of Willamette Valley flax fiber apparent, "the only thing needed to produce fine linen in Oregon was the flax and linen mills with the men who knew how to handle the raw material."13

The first fiber-flax plant in Oregon was established "near Jefferson [Marion County, some twelve miles south of Salem] and contiguous to the railroad." The Mears, Parrish and Miller plant at this location used a ten-horsepower steam engine to drive its machinery, and the plant's primarily Chinese work force produced approximately 450 pounds of finished product (probably twine) each month. Samples of flax grown by this operation were exhibited at the 1876 Centennial Exposition in Philadelphia, where the fiber was awarded a bronze medal and a certificate proclaiming the lint of extraordinary length, with a superior gloss and silky finish. This recognition further stimulated interest in establishing a flax industry in Oregon.15

Perhaps in response to the impressive showing of Oregon flax at the Centennial Exposition, H. M. Crane established the West Coast Flax Mills in Albany in 1877, a mill that manufactured salmon net, twine, shoelaces, and bagging twine. The plant operated only sporadically, though, because of a shortage of flax available to process. When in full operation, the plant provided employment to twelve men and twenty women.16 A similar mill was constructed in Scio in 1890.17

The plants in Jefferson, Albany, and Scio were all short-lived ventures. The traditionally painstaking method of harvesting flax ("pulling" it from the ground roots by hand) remained a major obstacle to the crop's gaining favor among farmers. "Pulling" was desirable to keep the plant sealed, to prevent uncontrolled rotting, and to keep the fibers as long as possible. Long fibers, in turn, meant a stronger and better product and a greater profit margin. Unfortunately, it took an average laborer eight days to "pull" one acre of flax.18 Thus, in the 1870s, when labor was scarce and wheat prices high, Oregon farmers showed little interest in such an uncertain proposition as growing flax.19

Interest in commercial cultivation of flax remained dormant until the late 1890s. Around that time wheat farmers fell on hard
Dubbed the “Flax Mother of Oregon,” Juliette Lord (shown here in 1894) was Oregon’s most vocal flax advocate in the 1890s and early 1900s. In addition to traveling throughout the Willamette Valley on behalf of the flax industry, she visited flax growers and processors in Europe as well. She died before the big flax boom of the 1920s. (OHS neg. OrHi 90637)

Times: Not only did the market for wheat decline but crop yields declined as well. Wheat had been so profitable a crop in the Willamette Valley that it was often planted in successive years, depleting the soil. In fact, by the late nineteenth century much of the land in the valley had become unfit for the production of wheat, and many farmers began to look for an alternative crop.

With wheat prices and crop yields remaining low, interest in flax cultivation increased among farmers. At this juncture the fledgling industry acquired some outspoken advocates, among them Juliette Lord, wife of Gov. William P. Lord. Mrs. Lord and the recently established Woman’s Club of Portland worked tirelessly in the 1890s to establish a flax industry in Oregon. (The club’s long-term goal was to establish a flax-processing plant at the Oregon State Penitentiary.) Because of her efforts, Juliette Lord became affectionately known as the “Flax Mother of Oregon.”

The Woman’s Club of Portland formed the Oregon Woman’s Flax and Hemp Fibre Association, installing Juliette Lord as one of its trustees, on March 5, 1897. Mrs. Lord, who was descended from colonial flax growers, became the organization’s chief spokesperson, press agent, and the driving force for establishing a flax industry in Oregon. On the very evening that the Flax and
Hemp Fibre Association formed, the group began to sell stock in the enterprise, with proceeds used to finance contracts with farmers who would cultivate flax and hemp. The association believed that a successful flax-growing base would attract flax-processing plants to the state, and these in turn would market processed fiber in both foreign and domestic markets.  

Juliette Lord and the Oregon Woman’s Flax and Hemp Fibre Association targeted Salem as the ideal location for a network of flax growers, and for a scutching mill (where, through a mechanical process, fiber is removed from the woody part of the flax plant). However, the association’s work in Salem resulted, after years of effort, in “some expense . . . much effort and many dis-

This promotional exhibit (ca. 1900), possibly at the Oregon State Fair, featured women spinning flax. Juliette Lord (wife of Gov. William P. Lord), Mrs. Henry Weinhard, and Mrs. Henry L. Pittock were a few of the well-known organizers of what was initially called the Oregon Woman’s Flax and Hemp Fibre Association. (OHS neg. CN 0165G004)
"Although the cause of the fires of 1904–05 remains a mystery, at the time of the incidents a conspiracy was suspected."

couragements," and throughout its history the Flax and Hemp Fibre Association was crippled by a lack of capital.  
Around 1900 Mrs. Lord obtained financing from a family member to employ Eugene Bosse, a Belgian flax merchant, to manage the state’s struggling flax industry. Bosse quickly ascertained that the flax farmers of Marion County had too little experience in the growing and harvesting of flax. Moreover, according to the Portland Oregonian, the success of a flax industry in Salem was inhibited by a shortage of "a labor suited to the industry."  
Because the processing of flax was labor intensive and involved many disagreeable tasks, laborers willing to work the flax were in short supply from the beginning of Oregon’s flax industry to its end in the 1950s. To meet the Salem mill’s labor requirements, Eugene Bosse hired Japanese laborers for $1.50 a day, a move unpopular with many non-Japanese workers. To reduce labor costs further, Bosse built a processing plant, installing several thousand dollars’ worth of machinery, some of which he had invented and patented. Eventually Bosse became the owner of the Salem flax mill.  
As a result of Bosse’s innovations, the Oregon flax industry enjoyed some good harvests in the first few years of the 1900s. In fact, the outlook appeared so promising that the United States Department of Agriculture (USDA) took an active interest in the state’s flax industry. For example, in 1903 the USDA provided Bosse with flax seeds from different regions of the world, and the results were promising enough that the USDA expressed optimism for the future of the industry in Oregon.  
Despite these breakthroughs and several successful harvests, the Salem operation of the early 1900s, like all previous attempts to establish a flax industry in the state, met with failure. On three separate occasions in 1904 and 1905, fire destroyed or severely damaged Eugene Bosse’s flax mill. Dust generated during flax processing was highly flammable, and virtually every flax plant in Oregon had to contend with fire. Although the cause of the fires of 1904–05 remains a mystery, at the time of the incidents a conspiracy was suspected. Newspaper accounts expressed little doubt.
that the fires were intentionally started by someone who wanted to see the region's flax industry fail.\textsuperscript{28}

The August 22, 1905, \textit{Oregonian} described the fires as the "deed of an incendiary," and the next day's paper ran an article on the opinion page detailing the mysterious "undercurrent of opposition to establishment of the flax industry in Oregon."\textsuperscript{29} Meanwhile, Gov. George Earle Chamberlain announced that he had "under consideration the offering of a substantial reward for the arrest of the perpetrator of the crime."\textsuperscript{30} The prime suspect was a secret linen trust in the eastern United States. Supposedly, the trust feared competition from Oregon, and indeed the state's flax manufacturers were competitive in some markets, particularly fishnet twine sold to Columbia River fishermen. (Oregon-made twine sold for 35 cents a pound; twine manufactured in the East sold for $1.15 a pound.\textsuperscript{31})

Labor problems, compounded with the series of fires, discouraged Bosse, who, sometime around 1910, moved south to Eugene to pursue other business ventures. Once again, the flax industry entered a dormant stage. This period of inactivity endured until 1914, when the First World War resulted in destruction of flax fields in Europe, the disruption of shipping, and a worldwide shortage of flax. Industrialized nations began to investigate ways to mechanize flax processing.\textsuperscript{32}

With the heightened worldwide demand for flax increasingly apparent, steps were taken in Oregon to reestablish an industry in
the state. In an effort to ensure that the industry would not be hampered by a shortage of labor, the state legislature funded construction of a flax plant at the Oregon State Penitentiary. The penitentiary had "about two hundred convicts . . . who are not employed," and the legislature granted the state Board of Control $50,000 to purchase and maintain equipment necessary for flax processing. The Oregon Constitution declared that the principal goal of state incarceration was to reform prisoners without overlooking the need to protect society, and so the legislature concluded that this goal might best be accomplished by giving the prisoners work and paying them wages. By 1931 the pay scale varied from 12 1/2 cents a day to 37 1/2 cents per day, depending on the type of flax-processing work the inmate performed.

Even with a sufficient supply of inexpensive labor, the penitentiary plant encountered great obstacles. Between 1915 and 1923 three serious fires occurred at the flax mill, and nearly all the funds appropriated for the plant were required to repair the damage. Ultimately, because of the fires and the cost of labor, this latest state effort to bolster a Willamette Valley flax industry met with only partial success. However, merely by surviving its first few years of operation, this attempt outlasted all previous ones.

Interest in flax in Oregon reached unprecedented heights in 1923. In that year a representative of Perfection Flax Pulling Machines Limited of Toronto, Canada, Lt.-Col. W. B. Bartrum, brought the Vessot Flax Puller to the Willamette Valley. With the

ceased its flax operations in 1955. (OHS neg. CN 019284)
Bales of flax stand ready for export, probably to Europe, at a Portland municipal dock in 1924. Flax was not a viable export crop until the mechanized flax puller was introduced in 1923. (OHs neg. CN 018618)

introduction of this new technology, it was believed that at last the flax industry would become an American industry, a *mechanized* industry. Bartrum successfully marketed the mechanical flax-harvesting machine in Oregon, and then went on to become the superintendent of the state's prison flax mill. The Vessot Flax Puller, which could be mobilized by a team of horses or by a tractor, used rubber belts driven by a small engine to pull the flax from the ground.36

No technological development prior to the introduction of the flax puller provoked more interest among farmers and investors in the possibilities of a Willamette Valley flax industry. The machine's debut attracted farmers, investors, and dignitaries to witness its laborsaving capabilities, and the Pathé news service judged the event newsworthy enough to produce a newsreel featuring the flax puller in action.37 When the flax-pulling machine lowered the cost of harvesting flax from $20 to $3.65 an acre, investors responded with a wave of speculation in the industry.38
Because the Canadian flax-pulling machine sold for $2,250 (incredibly expensive for its day), few farmers could afford to purchase one. But the state of Oregon and the Portland Chamber of Commerce jointly purchased twelve pulling machines to be used in the Willamette Valley. Then, perhaps in response to the reduced manpower needed to harvest flax, and the resulting greater yields, the penitentiary plant was upgraded and enlarged. Upon completion of the renovations, boosters proclaimed it to be the largest such plant in the world. Fifty convicts operated twenty-four machines, and in 1925 the penitentiary plant processed flax sown on a record 2,323 acres.

These revolutionary changes in the state’s flax industry in the 1920s stimulated the interest of many. B. C. Miles of Salem packed up 100 pounds of processed Oregon flax fiber and traveled throughout Scotland, Ireland, and Belgium for three and a half months in 1924. In each country he sought out linen mills and convinced the spinners and weavers to test the Willamette Valley fiber. Miles, returning to Oregon even more enthusiastic about the quality of Oregon flax and the potential of the industry, arranged for the purchase of $60,000 worth of machinery from Eng-
land and began construction on a plant in Salem that would manufacture the simplest products made from flax—salmon twine, harness, and shoelace.41 Miles entered into a contract with the penitentiary flax mill to purchase half of its output of “long-line fiber,” and in September 1925 the Miles plant spun its first yarn from flax fiber.42

Dominion’s Lines of Toronto also sought to establish a flax mill in Salem. To secure the mill’s construction, Willamette Valley investors subscribed $600,000 of the $640,000 needed for the project. Salem’s quota of the necessary funds was $300,000; Portland’s was $175,000. Other cities throughout the Willamette Valley agreed to quotas proportional to their population.43 It was projected that the mill would produce 20,000 yards of linen a week from an annual harvest of 8,000 acres of flax.44 During the fund-raising campaign for the project, the Oregon Statesman printed articles and editorials aimed at generating support for the venture. Thomas Kay, state treasurer and woolen mill owner, and Sen. Charles McNary spoke at scores of meetings endorsing the endeavor. At the organizational meeting of what became known as the Salem Linen Mill, Inc., Thomas Kay was elected president and Charles McNary was elected to the board of directors.45

Even though some continued to express caution and doubt over the future of the industry, “flax fever” was rampant in Salem. Newspaper editorials proclaimed confidently that the flax industry would surpass the timber industry in economic importance, and that Salem was destined to become the Belfast (known for its

The Miles Linen Mill of Salem spun its first yarn from flax fiber in September 1925. The mill, equipped with some $60,000 worth of machinery imported from England, produced twine, harness, and shoelace, the simplest products made from flax. (OHS neg. CN 022819)
flax output) of North America. Members of the Salem Chamber of Commerce divided the city into sections, and teams canvassed their assigned sections selling stock in the Salem Linen Mill. Similar efforts were undertaken throughout the Willamette Valley. All potential investors were approached; even the employees of the Salem J. C. Penney and the Stiff Furniture Company were called together and had “the proposition explained to them.” It was argued that for each acre of flax grown, $2,400 worth of product would be produced locally, and Salem would become the home of a $100-million-a-year industry. Newspapers predicted that 1 million people would be employed directly or indirectly in the flax industry, and they jubilantly proclaimed that Salem was to become the “most uniformly prosperous city in the world.”

The pulley-driven rollers on the left were used for threshing (deseeding) the harvested flax plant during processing. Workers untied the flax bundles, passed the seed-bearing portion of the plant through the rollers, and then retied the bundles. (OHS neg. OrHi 90639)
Backers of Salem’s linen industry soon discovered that their investment was not as profitable as they had anticipated. Both of the town’s mills lacked capital and experienced management, and neither the Miles mill nor the Salem mill was able to gain a foothold in its markets. The linen mills of New England, in operation since the shortage of cotton during the Civil War, consistently marketed goods of better quality and at lower prices than either of the two struggling Oregon mills.49

Unable to operate profitably, the Miles mill was purchased by the Barbour Company of New England through Thomas Kay. Kay, who had assumed management of both Salem mills by 1928, purchased the Miles stock from investors at 25 cents on the dollar and then resold it to the Barbour Company at $1.25.50

The Barbour mill was dormant by 1930, but the penitentiary plant and the Salem Linen Mill remained in operation. In fact, 1930 was a reasonably good year for the Oregon flax industry: The penitentiary purchased harvested flax from farmers, processed it, sold it to the Salem Linen Mill for spinning, paid out $400,000 to farmers, and a total of 3,811 acres of flax were sown.51 Despite the good year, though, the effects of the economic downturn of the 1930s began to inhibit the already troubled industry.

Passage of the Hawes-Cooper Act of 1929 presented an additional threat to the flax industry. The law, which went into effect in 1934, permitted states to ban the importation of prison-made goods. Although many states passed such laws, Oregon’s penitentiary plant lost only one customer. Nevertheless, many flax professionals began to conclude that Oregon’s industry was in danger of disintegration, particularly if additional legal barriers on prison-made goods were enacted. The industry hit a low point in 1933, when a mere 461 acres of flax were cultivated.52

The flax industry acquired an invaluable ally in 1930. Despite the success of the 1930 harvest, the Salem Linen Mill found itself desperately in need of capital. To secure federal funds from the Farmer Credit Administration (FCA), the mill employed Emerson Griffith to arrange refinancing. In addition to being an advocate for the flax industry, Griffith later became state administrator of the WPA. First, though, he reorganized the Salem Linen Mill as a cooperative. Unable to qualify for the FCA loan, Griffith eventually obtained a loan from the Reconstruction Finance Corporation (RFC). Undertaking “a thorough study of the Oregon flax situation,” Griffith concluded that the Willamette Valley was indeed suited for a flax industry. What was needed, though, was “to bring the industry from behind prison walls.”53
Griffith was not alone in his advocacy for Oregon flax. Once again Oregon women, this time via the Federation of Women's Clubs, took an active interest in the flax industry. Under the direction of Mrs. W. W. Gabriel, the group was able to win over Gov. Charles Martin and other state officials to their cause. The Oregon WPA, under the direction of Griffith, Gabriel, and Governor Martin, worked to devise a plan to obtain federal funds to construct additional retting and scutching plants in Oregon.54 Supplementing their efforts was the work of nearly every civic organization in Oregon. These various interests sponsored a petition signed by 90,000 Oregonians asking President Roosevelt for an adequate appropriation to develop a flax industry in the state.55

The result of this effort was an allotment of $60,000 to fund the construction of three identical retting and scutching plants. Each plant received approximately $15,000 for construction costs and $5,000 for the first year's operating wages. The land for each plant was donated by the state. Funds were raised locally to pro-

Various flax promoters and benefactors stand behind a model of a “typical retting and scutching plant” at the Pacific International Livestock Exposition Building in Portland in 1936. Mrs. W. W. Gabriel (far left), Gov. Charles Martin (center), and Oregon WPA director Emerson J. Griffith (third from right) obtained $60,000 from the Roosevelt Administration for the construction and first year of operation of three flax plants in the state. (OHS neg. CN 019286)
vide materials for construction of the plant and for the purchase of $11,000 worth of machinery. The finished plants were in turn deeded to the state, which leased them to the cooperative for one dollar a year. The farmers of Mount Angel were the first to embrace the plan; Eugene-Springfield and Canby quickly followed suit.

Farmers purchased memberships in the cooperative for a minimal sum. In the case of the Oregon Fiber Flax Growers plant in Springfield, memberships were obtained for ten dollars. Only members of the cooperative were allowed to bring flax to the plant for processing. Initially, each plant employed from six to eight workers year-round; an additional crew of twenty-five worked seasonally. In the first few years of operation at the Eugene-Springfield plant, approximately twenty-seven growers cultivated seven acres of flax each; other WPA flax plants in the state had memberships and outputs of similar size.

Shortly after the processing plants were completed, Harry Hopkins (head of the WPA at the federal level) accompanied Emerson Griffith, Gov. Charles Martin, and local officials on a visit to the Mount Angel operation, in conjunction with the state's first flax festival (a celebration that endured until the early 1950s.) In his

This gathering of flax-minded dignitaries took place at Mount Angel's first flax festival, on September 15, 1936. Left to right: Gov. Charles Martin, Mr. Hinkley (assistant to Harry Hopkins), Harry Hopkins (key architect of the New Deal), Joe Bernt (president of the Mount Angel Flax Board), Father Alcuin Heibel, Emerson J. Griffith, Rufus Holman (Oregon state treasurer), and Joe Carson (mayor of Portland). (Courtesy Henrietta Saalfeld)
Temporarily empty retting tanks at the Oregon Flax Company in Marion County, during the summer of 1939. After the tanks were loaded with several tons of flax, and before the warm water essential to the retting process was added, braces were placed across the top of the tanks to prevent the bundles from floating. (OHS neg. OrHi 90638)

whirlwind visit Hopkins inspected the plant, and then opened a congratulatory speech by remarking that Griffith had made a mistake in constructing the three plants: "Instead of building three plants, he should have built fifty." Hopkins also announced that the Eugene-Springfield and Mount Angel plants would each receive additional funds in excess of $20,000 to enlarge its operations.

When the operations of these plants are reviewed, the tremendous amount of labor necessary to process and prepare flax for spinning becomes evident. After harvesting, flax was delivered to the processors in loads of tied, twelve-inch-diameter bundles. Workers initially threshed (deseeded) the flax by untangling each bundle and passing the seed-bearing portion of the stalks through smooth rollers. Once the seeds were removed, the bundles were retted. The threshed flax was then retted, a process that dissolved the gums that bind the fibers to the woody part of the plant.

Oregon processors retted their flax in large concrete tanks. Several tons of flax bundles were first placed in the concrete tanks by
hand; then the tanks were filled with water kept at a temperature of eighty degrees. Each tank load was allowed to soak for six to eight days before workers unloaded the bundles and removed the flax to a nearby field for drying; there laborers leaned the wet bundles upright against each other to form what were called “wigwams.” Weather permitting, the wigwams dried in a few hours. When dry, workers collected the bundles and returned them to the plant to be scutched, the process by which brittle straw was removed from the soft, flexible flax fibers. This was done by running the dried flax through fluted rollers, with the resulting fiber then hackled (combed straight) by workers. Each time workers handled the bundles, care had to be taken to ensure that root ends were kept even to prevent the straw from tangling.

It took Oregon processors an average of eighteen months from the time harvested flax was delivered to when the end product could be marketed as processed fiber. During the Second World War Oregon flax-processing plants faced a labor shortage that could have slowed processing even more. Many workers joined the armed services or moved to higher-paying defense-related jobs. Consequently, Hispanic migrant workers were hired by many of the processing plants to keep the plants operating.

Despite governmental assistance, the Willamette Valley cooperatives were unable to process flax profitably. At the request of farmers and “other flax-minded individuals,” the Agricultural Adjustment Administration (AAA) began making subsidy payments to farmers on a per-ton basis in 1936. The highest payments were made in 1937, when the AAA paid $7.50 for each ton harvested.

In addition to the federal funds paid to farmers, events in the Soviet Union bolstered the domestic industry. In an attempt to develop a linen industry within its borders in the mid-1930s, the Soviet Union first restricted flax exports in 1935 and then banned all flax exports in 1939. Prior to these restrictions, 90 percent of the world’s flax supply came from Russia. As a result of the restrictions, flax prices rose dramatically. In 1935 flax sold for $16.20 a ton; by 1941 the price per ton had risen to $65. When German troops invaded the Soviet Union, the price of flax climbed even higher.

The domestic U.S. industry seemed as if it were shifting to the Willamette Valley when three additional retting and scutching plants were constructed in 1941. The new plants were the Approved Flax Company near Eugene, the Harrisburg Flax Growers in Harrisburg, and the St. Paul Growers of St. Paul. Of these three, the Harrisburg and St. Paul plants were cooperatives, and nearly
“Flax fiber was needed to produce parachute harnesses, bomb slings, linen laces for army shoes, signal halyards, and . . . perhaps its most important use was for fire hoses.”

half of the capital for the construction of the co-ops was obtained by loan from the RFC. The Approved Equipment Company of New Jersey owned the Approved Flax Company; flax from this plant was used to make fire and other industrial hoses.

These Oregon plants were aided, as were all plants constructed after 1940, by the USDA, which worked through the Flax Research Station at Oregon State College. The station provided anyone interested in starting a plant with complete plans and specifications for plots, buildings, and machinery.

Construction began in 1941 on a second privately owned flax-processing plant, the Northwest Flax Products Company of Eugene. But work on the plant came to a halt when negotiations for a federal mortgage stalled. Emerson Griffith went to bat for the struggling company in Washington, D.C. In an interview five years later, Griffith told of his visits to the Department of Agriculture and the War Production Board, where he “found himself being escorted out the back door.” Before boarding a plane home, Griffith informed Vice Pres. Henry Wallace of the inaction of the Department of Agriculture and the War Production Board. Shortly after arriving back in Oregon, a representative of the RFC telephoned Griffith and informed him that flax had been categorized as an essential war product, and that the way was now open to complete the plant in Eugene. Griffith promptly announced this to the press. The secretary of agriculture, unaware of the ruling until he was informed of Griffith’s announcement, demanded that Griffith rescind the supposedly erroneous announcement. Griffith “sent back an equally curt paragraph,” quoting the order issued by President Roosevelt.

The timing of the placement of flax in the war-essential category might lead one to conclude that it was an overreaction to the declaration of war with Japan. After all, the announcement came less than a week after the bombing of Pearl Harbor. However, two years later the War Production Board intervened in the flax industry once again, this time banning the use of flax for civilian nonessential uses. In other words, flax was to be used exclusively
to fill orders placed by the armed services. Flax fiber was needed to produce parachute harnesses, bomb slings, linen laces for army shoes, signal halyards, and packing for marine engines, but perhaps its most important use was for fire hoses. Linen's importance to the war effort, in fact, prompted one poetic newsman to write:

Hispanic workers employed by the Mt. Angel Flax Growers Co-operative pose in 1944 on the steps of the local Catholic church. Hispanics were recruited by flax industry officials to provide replacement labor when white workers joined the war effort. (Courtesy Henrietta Saalfeld)
Flax producers in the Salem area do not themselves know on what battleships of flying fortress their linen is fighting, but they do know that its qualities make it a fighter and that more than 90 percent of their flax products are going into the war effort.76

Acreage sown with flax shot up when the government guaranteed the price of the crop at 58 cents a pound. The availability of government funds to finance the construction of processing plants also fueled a sudden and dramatic boom in the industry. Four additional plants were constructed in Oregon in 1942, and two more were completed in 1943. At its short-lived peak, the industry had fourteen plants operating throughout the Willamette Valley.77

Prior to the Second World War, Oregon produced 5 percent of the nation’s flax; the additional plants boosted the Oregon industry’s capacity to 70 percent of the country’s prewar needs.78 A third manufacturer began operation in Salem in 1943. The Oregon Flax Textile Company made twine from short fibers unsuited for spinning. After the war it manufactured rugs.79

The vitality of Oregon’s flax industry endured no longer than the war. When price supports were suddenly withdrawn, and flax from Europe, which had been stored by farmers during the war years, flooded the market, Oregon’s industry was doomed. The price of flax dropped below 40 cents a pound, and much of the crop planted for the war effort never left the valley. Flax processing was seasonal and required favorable summer weather for the drying stage. Moreover, each year’s crop took two full years from the time it was planted, through harvesting and processing, to the point when fibers could be manufactured into useable products. Farmers who planted flax between 1942 and 1944, when the price was guaranteed at 58 cents a pound, were caught with hundreds of tons of flax when prices plummeted. The first Oregon processing plant closed in 1945; there were only three plants in operation by 1950.80

The end of government price guarantees and supports was not the only cause of the demise of the once-promising flax industry. When, during the war years, the output of Oregon processors could not keep pace with heightened demand, research was aimed at developing fibers that could be substituted for flax. Consequently, a process was devised that made cotton both stronger and more heat resistant. Nylon and rayon also took a substantial portion of the shrinking market share held by flax.81

Oregon flax processors also failed to adopt grading standards necessary to market their product successfully. Willamette Valley flax was graded strictly on length rather than on the fiber’s texture.
as well. This meant that Oregon flax was used only as a blend with finely graded imported flax to add strength. Still other reasons for the industry’s decline included the failure of processing plants to invest in laborsaving machinery and the mismanagement of processing plants. As a financially viable enterprise the flax industry came to an end, in 1955, in the same place it began—on the floor of the Oregon legislature. After several consecutive years of operating at a loss, the penitentiary plant came under fire, as did the state’s overall role in the flax industry, when the warden of the penitentiary publicly questioned whether flax processing was rehabilitative for the inmates. Despite the persistence of a few die-hard entrepreneurs, Oregon’s flax industry was unable to survive without government assistance.

Despite substantial obstacles, many had viewed flax as the crop that would one day replace wheat at the top of Oregon’s agricultural economy. Without question, the crop grew vigorously in the Willamette Valley; but flax was not a simple food crop. In order for flax to meet its potential as an agricultural product, a processing industry capable of profitably transforming the fiber into marketable products had to be developed. For long-term survival, streamlining and mechanization were necessary. And in order to minimize the effects of the unpredictable Willamette Valley weather, it was essential that processing be accelerated and labor costs minimized. With the loss of government assistance, however, it soon became clear that the industry would be unable to make the technological and managerial changes necessary for survival in the postwar world economy.

Notes

2. Ibid., 52.
6. Ibid., 250.
7. Gray, Agriculture in the Southern United States to 1860.
Notes

United States, 181.
16. Albany City Directory (Albany, OR, 1878), 42.
22. "Mrs. Lord and Flax," Oregonian (Mar. 6, 1897).
24. Ibid.
25. Nadyne Kellogg Reynolds to author (Apr. 3, 1990), citing the "Hansett-Bosse Family History."
26. Ibid.
38. "Flax Growing May Become Important."
Notes

42. "Miles Seeks a Decision on Contract," Oregon Statesman (Nov. 24, 1924); and "Bits for Breakfast," Oregon Statesman (Sept. 6, 1925).
46. "Use It or Lose It," Oregon Statesman (Apr. 21, 1925).
52. Rada and DeLoach, Oregon Fiber-Flax Industry, 11.
54. Flax in Oregon (Portland 1936), 4.
55. "90,000 Oregonians Back Flax Plea," Oregonian (June 9, 1936).
57. Flax in Oregon, 4.
61. Dunann, "Fight for Flax," 64.
64. B. B. Robinson, Fiber-Flax Production (Washington, D.C. 1940), 24-27.
65. Richard Pfefferkorn, Oregon Fiber Flax for an American Linen Industry (Corvallis, Or 1944), 18.
Notes


Flax and Linen 175