

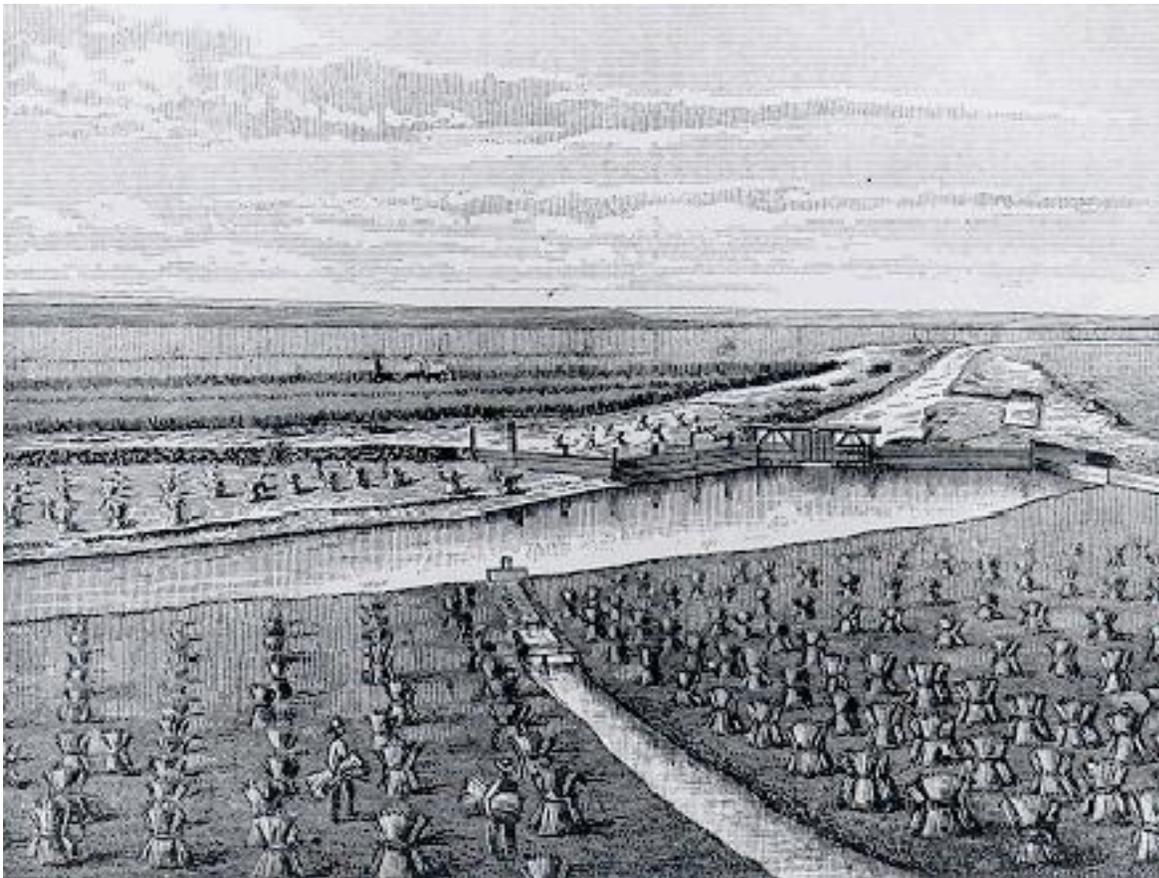
# COLORADO FARMERS & RANCHERS – FARM WORK & TOOLS

## Irrigation

What do these photos tell you about how farmers irrigated their land?

### Irrigation Ditches (San Luis Valley)

This is a drawing of irrigation ditches in the San Luis Valley in southern Colorado. It shows water flowing into grain fields from the irrigation ditches.



*Irrigation ditches in San Luis Valley*

*Photo: Denver Public Library, Western History Collection*

### More About This Topic

Colorado has a very dry climate. There is not enough rain to raise wheat, corn, and many other crops. The early settlers dug irrigation ditches to bring water from the rivers to their fields. The Spanish-

American farmers in the San Luis Valley were to first to irrigate crops in Colorado. Later on other settlers dug irrigation ditches in other parts of the state. The people who settled in Greeley built one of the first large irrigation ditches in eastern Colorado.

### **Their Own Words**

"The 'Big Greeley Ditch,' as it is called, is on the north side of the Cache la Poudre River. It is thirty-six miles long, with three to three and one-half feet depth of water, and is twenty-five feet wide on the bottom at its head, diminishing to fifteen feet at Greeley.... The cost of this irrigating canal was sixty-six thousand dollars."

*Source: William M. Thayer, Marvels of the New West (Norwich, Conn., 1887): 706-707.*

### **Irrigated Orchard (Grand Valley)**

This photo of an irrigated farm was taken on the Western Slope. The bridge behind the horse-pulled carriage crosses an irrigation ditch. Behind the ditch is an orchard of fruit trees.



*Irrigated orchard in Grand Valley, Colorado*

*Photo: Denver Public Library, Western History Collection*

### **More About This Topic**

In the 1880s, the Grand Valley in Western Colorado became a major fruit growing region. The settlers planted fruit trees in irrigated orchards like the one in this photo. The water came from the Colorado, Gunnison, and other rivers along the Western Slope.

### **Their Own Words**

“The Del Norte [irrigation ditch is] the largest in the world. The principle canal is one hundred feet wide, and has fifty-six miles of constructed channel.... It delivers two thousand five hundred cubic feet of water per second, or one billion six hundred twenty million gallons every twenty-four hours.”

*Source: William M. Thayer, Marvels of the New West (Norwich, Conn., 1887): 706.*

### **Irrigated Potato Farm (1908)**

Farmers who raised many different kinds of crops needed to irrigate in the very dry climate of Colorado. This farmer is irrigating his potato field near Hayden, Colorado. His potato plants are now in bloom. This photo was taken in about 1908.



*Irrigated potato farm in Hayden, Colorado*

*Photo: Denver Public Library, Western History Collection*

### **More About This Topic**

The farmer is using a shovel to change the flow of the irrigation water. That way, all the plants in the field would be watered. In the background you can see frame buildings and the farmer's windmill.

### **A Farmer Irrigating (1900)**

This farmer is standing in a field beside an irrigation ditch. The photo was taken about the year 1900 somewhere in eastern Colorado.



*Farmer standing near an irrigation ditch in eastern Colorado*

*Photo: Denver Public Library, Western History Collection*

#### **More About This Topic**

Men like the farmer in this photo had to make sure the water got to all the plants in the fields. Keeping the water flowing to all parts of a field was hard work.

#### **Their Own Words**

“The mainstay of every crop on the farm...was the irrigation ditch. Once the natural moisture left by melting snows and the spring rains had been sucked up by the greedy sun, the water from the Big Ditch must be brought to all the fields. No farmer could open his head gate whenever he saw the need for irrigating, nor could he use the water at will. The supply, not being limitless, was carefully apportioned so that every farmer “under the ditch,” so the phrase went, would get his share, since the water was not free and each farmer paid for his share.”

*Source: Clara Hilderman Ehrlich, My Prairie Childhood (Fort Collins, 1977): 31.*

## Irrigating In Routt County (1908)

This farmer is opening the irrigation gate that lets water flow into his fields. The photo was taken in Routt County, Colorado about 1910.



*A farmer opening an irrigation gate in Routt County, Colorado*

*Photo: Denver Public Library, Western History Collection*

### **More About This Topic**

Each farm near an irrigation ditch received its share of water. Farmers took turns letting the water flow into their fields.

### **Their Own Words**

"The Number 3 ditch [at Greeley] was surveyed by an engineer named Nettledon. It was made by teams and scrapers, and was a slow process. Water came down the ditch in 1871. There were no reservoirs [for storing water], the water being taken directly from the Poudre river near Fort Collins. The colonists knew little about irrigation or the running of water and much was wasted."

*Source: James McDonald (1934), CWA Interviews , Colorado Historical Society.*

## A Wooden Flume

This photo shows a man standing on a wooden irrigation flume. The photo was taken in about 1891, possibly in Cactus Valley in Garfield County, Colorado. The wooden flume carried water from its sources to farmers who used it to irrigate their crops. This flume bridges a shallow canyon to get water from one side to the other.



*Wooden flume in Cactus Valley, Colorado*

*Photo: Denver Public Library, Western History Collection*

### **More About this Topic**

The flume in this photo is another example showing how much work was involved in getting irrigation water from its sources to the farmers and ranchers who used it. Notice the rocky, desert landscape in the photo's background. A ridge called the Grand Hogback is in the far distance.

## Laying Wooden Irrigation Pipe

This is a photo of work men with teams of horses. They are laying wooden-stave pipes for a water project along the front range of the Rocky Mountains. The photo was taken about 1900, somewhere near Denver.



*Laying a wooden irrigation pipe in the Rocky Mountains*

*Photo: Denver Public Library, Western History Collection*

### **More About This Topic**

This photo suggests the great amount of work and often large projects involved in supplying irrigation water for farmers and ranchers in the dry climate of Colorado.

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## **Women's Work**

What do these photos tell you about the kind of work farm women did?

### **Feeding Farm Animals**

This photo shows two women feeding farm animals. It was taken on a farm or ranch in Colorado.



*Women feeding farm animals*

*Photo: Denver Public Library, Western History Collection*

### **More About This Topic**

Women's chores on a farm or ranch included helping to feed the barnyard animals. Feeding the chickens and gathering the eggs was usually a woman's job. Farm women also had to cook for their families and for neighbors who came to help during busy seasons such as threshing time.

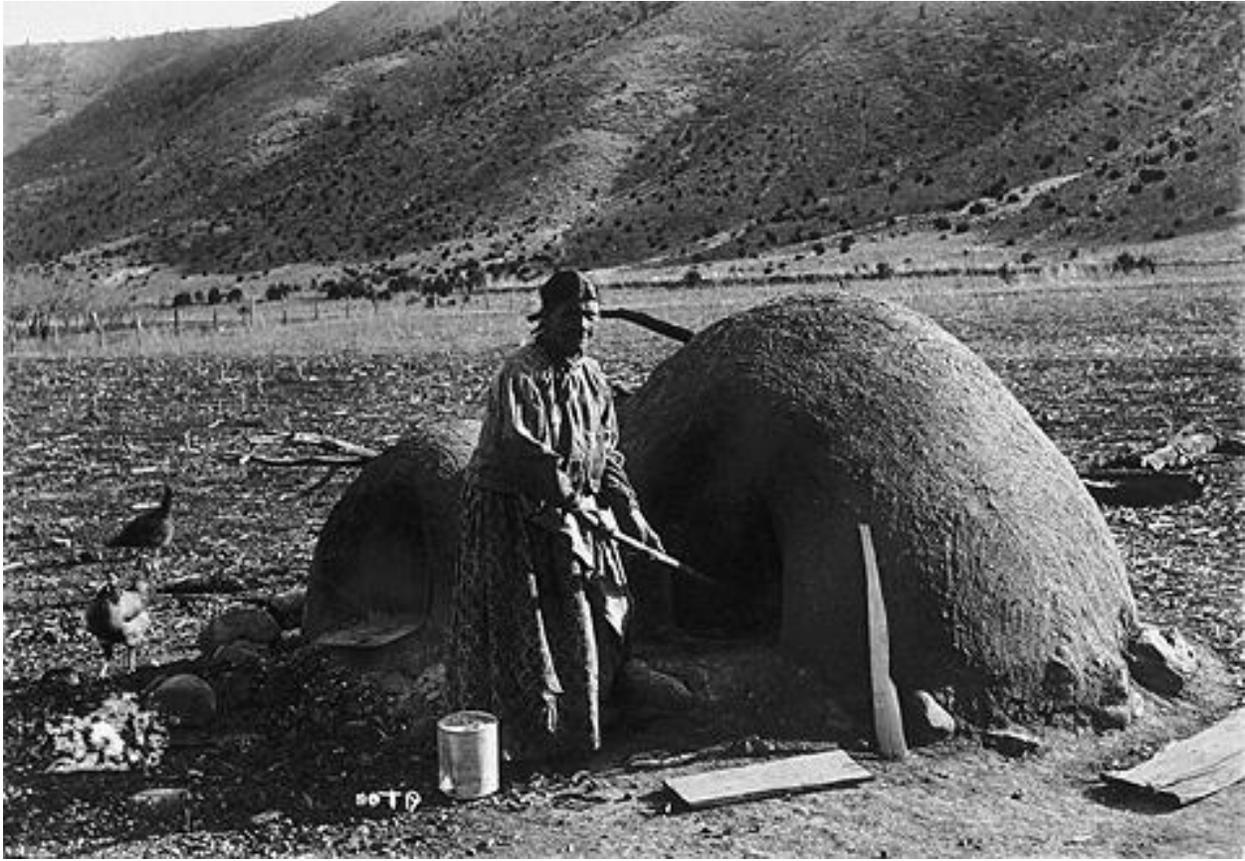
### **Their Own Words**

"The women of the house had their share of the work. All the neighbors who helped with the harvest ate with the family in the house. In the very early days it took several days to thresh all a man's grain. Usually there were up to twenty persons for the noon meal."

*Source: Hazel Webb Dalziel, "The Way It Was," The Colorado Magazine, 45 (Spring 1968): 110.*

### **Cooking In A "Horno"**

This photo was taken in Southern Colorado near Trinidad. The woman is standing beside a horno or outside oven. Spanish-American settlers built ovens made of clay outside the house. This kept the house from getting too hot on baking days.



*Woman using a “horno” near Trinidad, Colorado*

*Photo: Colorado Historical Society*

### **More About This Topic**

Women on Colorado farms grew and prepared most of the food their family needed. They baked bread, cooked meals, and raised and preserved garden vegetables.

### **Their Own Words**

“The agriculture of the Mexicans of that day was as crude as could be imagined. There was no such thing as a grain harvester or a threshing machine. The grain was cut by hand, and after binding and stacking was spread around the stack for the sheet to tramp out. . . . The baking of the bread after the grain was ground into flour . . . was done in egg-shaped adobe oven [a horno] set out in the yard and fired with a few handfuls of weeds or grass.”

*Source: James K. Hastings, “Boyhood in the Trinidad Region,” Colorado Magazine, 30 (April 1953): 106-107.*

### **Making The Family’s Clothes**

The women in this photo are sewing. The one in the center is using a sewing machine. The other woman is sewing by hand.



*Women making the family clothes by sewing*

*Photo: Colorado Historical Society*

### **More About This Topic**

During the 1800s, women also made most of their family's clothes. Sewing machines made that work easier. Families who settled in Colorado after the 1870s usually had sewing machines like the one in this photo. Still, much of the sewing was done by hand.

### **Their Own Words**

“Well, my husband would go to town and he’d buy me some material. Two kinds—I have a bunch of girls [actually, 16 children in all]. So he’d bring maybe 20, 25 yards of one and 25 of the other, and I’d sew the girls two dresses [each]. With what they had and what I sewed, they had enough to go to school in. We’d wash them, and they wore them to school. But when they come home from school, they took them off, kept them nice, you know. He’d go to town in the spring [and] get me some kind of nice material to make the girls’ Easter dresses—maybe be yellow, pink, or white.”

*Source: Julia Biskup Kawcak quoted in Julie Jones-Eddy, ed. Homesteading Women: An Oral History of Colorado, 1890-1950 (New York: Twayne, 1992): 47.*

## **Bathing Baby (late 1800s)**

The woman in this photo is bathing her baby in a tub in the kitchen. The tub and soap were placed on a board on a kitchen chair.



*Woman bathing her baby in the kitchen*

*Photo: Colorado Historical Society*

### **More About This Topic**

A Colorado farm woman also spent a great deal of time caring for her children. That included give young children baths in tubs like the one in this photo. Few farm houses in the 1800s had bathrooms with hot water. Baths were usually given in the kitchen where water was heated on the kitchen stove.

### **Their Own Words**

“Imagine if you can the simple matter of bathing. This was a Saturday night activity and started off immediately after the supper was cleared away. A wash boiler of water was put on the fire to heat, rugs and paper were spread on the newly scrubbed floor, and a galvanized tub was brought in and partially filled with warm water. The oven door was let down and a towel spread on it to warm. As I was next to the youngest I was second for the bath. My long braids were pinned on top of my head (one’s hair was washed in daytime so it would dry before night. To go to bed with damp hair was sure to bring on a cold or some other illness. I was a long time getting over this belief.) My clothes were removed and I climbed in the tub.”

*Source: From Hazel Webb Dalziel, “The Way It Was,” The Colorado Magazine, 45 (Spring 1968): 102.*

## **Milking The Cows**

The farm (or ranch) woman in this photo is milking a cow. This chore was usually not just women's work, but farm and ranch women pitched in to do almost any chore around the farm or ranch.



*A woman milking a cow on a farm*

*Photo: Denver Public Library, Western History Collection*

## **More About This Topic**

You can also see other cows and a barn made of logs in the background of the photo. Notice that the roofs of the barn and other buildings was made of sod or dirt. This photo was taken about 1890.

## **Their Own Words**

“But we had to take responsibility—we learned to milk cows at a very early age and [to] do all the things that had to be done, because my dad had to be gone some and work out to make a living. We weren’t

that well fixed financially, and we had to help Mother take ahold and do the garden work and take care of the animals and shovel out the ditches and all that sort of thing. It just had to be done, and we all learned to work.”

*Source: Ila Bowman Powell quoted in Julie Jones-Eddy, ed. Homesteading Women: An Oral History of Colorado, 1890-1950 (New York: Twayne, 1992): 79.*

## **Churning Butter (1890)**

After milking the cows was done, other chores remained to do. The farm (or ranch) woman in this photo is sitting outside her home. But she is not idle. She is churning butter in the wooden butter churn to her right.



*Woman churning butter outside her home*

*Photo: Denver Public Library, Western History Collection*

### **More About This Topic**

Notice that she is wearing an apron over her dress. Notice, too, that a washtub is sitting on the table to her left. Her home was made of rough-cut logs. This photo was taken about 1890.

### **Their Own Words**

“[My Dad] milked cows and delivered milk in a horse and wagon. All us children did [deliver milk]. My mother had eleven children. We delivered about three hundred quarts [of milk] in the morning and about that much at night. . . . At night you didn’t get though until seven-thirty or eight o’clock at night. . . . We milked cows by hand. . . . I’d milk about twelve, maybe fifteen. My mother separated the surplus milks and made butter and buttermilk. Usually on Saturday we’d deliver our milk. Then we’d come back,

and she'd have all the butter ready, and we'd go back out and delivery butter. I was nine years old and my sister was two years younger. It seemed like everybody worked."

*Source: Klubert Watembourg quoted Maria M. Rogers, ed., In Other Words: Oral Histories of the Colorado Frontier (Golden, CO: Fulcrum Publishing, 1996): 23.*

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## Farm Crops

What do these photos tell you about the kind of crops farmers raised?

### Melon Day In Rocky Ford (1893)

This photo was taken in 1893 during the Melon Day celebration at Rocky Ford, Colorado. It shows thousands of melons piled up in a long row.



*Melon Day in Rocky Ford, Colorado*

*Photo: Colorado Historical Society*

### **More About This Topic**

Many farmers in the Arkansas Valley raised melons on their irrigated farms. The soil near Rocky Ford was good for growing watermelons and cantaloupe. By the early 1900s, farmers there shipped Rocky Ford cantaloupe and honey dew melons to cities throughout the United States.

### **Their Own Words**

"In 1874, I put out about 40 acres of land in crops of grains and vegetables, more as an experiment than anything else, to find out what would be the most adapted to our soils, climate, and altitude and found that all kinds of vines did well, especially the cantaloupe. . . . In 1877 I planted a small patch for market, about one quarter of an acre, which produced all I could sell in this market. . . . In 1880, I produced a cantaloupe something like what I wanted and from that by careful selection for many years we produced the present cantaloupe, which is know as the Rocky Ford Cantaloupe, that was near perfect as could well be."

*Source: G. W. Swink, "Rocky Ford Melons," Colorado Magazine, 26 (1949): 29.*

### **Digging Potatoes**

This photo shows a farmer using a horse-drawn potato digger. It took six horses to pull the digger through the field.



*Farmer using a horse-drawn potato digger*

*Photo: Denver Public Library, Western History Collection*

### **More About This Topic**

Potatoes were one of the first garden vegetables planted in Colorado. Farmers also planted potatoes in large fields. They sold their crop in Denver and in the mining towns in the mountains. In the 1870s, Greeley was a center for potato growing. Later, the San Luis Valley also became an important potato growing region.

### **Their Own Words**

“Potatoes are thus far the great staple in the line of vegetables.... In some instances, a single farmer raises his 50 or 100 acres of potatoes.... Many specimens grow to an immense size—4, 5, and even 6 pounds to the potato being a not uncommon weight.... Mining settlements where vegetables cannot be raised create a large demand and they are the easiest crop transported and kept for winter use.”

*Source: Rocky Mountain News, April 13, 1864.*

### **A Grand Junction Orchard**

This photo was taken in a peach orchard near Grand Junction, Colorado. The farmer is using a hoe to cut weeds from around the peach trees.



## *Peach orchard in Grand Junction, Colorado*

*Photo: Colorado Historical Society*

### **More About This Topic**

Farmers planted apple, peach, plum, and other fruit trees in many parts of Colorado. When the Western Slope was opened the settlement in the 1880s, settlers also planted fruit trees there. The Grand Junction area, with its long growing season, became the best fruit growing region in Colorado. Palisade peaches were well-known throughout the United States.

### **Their Own Words**

"The development of these [Western Slope] counties has been phenomenal. . . . The fruit growers of these counties place before the public the largest and finest exhibition of fruits ever shown in the state, and the best the writer ever saw in any state. . . . Trees seem to do equally well, whether on the adobe soil of the river bottoms or on the red, sandy loam of the higher mesas."

*Source: Charles S. Crandall, State Horticulturalist, Oct. 1891; quoted in Alvin T. Steinel, History of Agriculture in Colorado (Fort Collins: State Agricultural College, 1926): 508.*

## **Cultivating Sugar Beets**

This is a sugar beet field. The photo was taken in Colorado in the early 1900s.



## *A sugar beet farm in Colorado*

*Photo: Denver Public Library, Western History Collection*

### **More About This Topic**

Sugar beets became an important crop in Colorado in the early 1900s. Farmers could make more money raising beets than any other field crop. By 1926, Colorado had 17 sugar factories and produced more sugar than any other state. Farmers also discovered that beet tops and beet pulp made good cattle feed. Sugar beet growing helped make cattle feedlots a profitable business in Colorado.

### **Their Own Words**

“It does not take any more water to grow an acre of beets than it does an acre of other crops, and the returns are fully ten times greater per acre.”

*Source: Senator G. W. Swink to President Theodore Roosevelt, Feb. 1906; quoted in Alvin T. Steinel, History of Agriculture in Colorado (Fort Collins: State Agricultural College, 1926): 304.*

## **Melons & Pumpkins Near Dearfield**

This photo was taken at a farm at Dearfield, Colorado. Dearfield was an African-American farming community. The man on the left is O. T. Jackson, who began the community. The crops shown in the photo are pumpkins and, in the rear of the photo, a field of corn.



## *Melon and pumpkin farm in Dearfield, Colorado*

*Photo: Colorado Historical Society*

### **More About This Topic**

People who settled in Colorado tried to grow crops that they were used to growing back home. These included corn, wheat, pumpkins and other field crops. The African-American farmers who settled at Dearfield, Colorado did that as well. What all of them discovered was that most crops did not do well in Colorado's dry climate unless they were irrigated. The community at Dearfield failed largely for that reason.

### **Their Own Words**

"The first year there were but seven families in the settlement. . . . We managed to get in some garden: corn, melons, pumpkins, squash, Mexican beans and some hay, and cleared some ground of sagebrush. We raised quite a lot of chickens, ducks, and turkeys. By assisting each other we managed to raise and store away enough produce to run us part way through the winter, which was a very cold one."

*Source: O. T. Jackson, quoted in Karen Waddell, "Dearfield. . . A Dream Deferred," Colorado Heritage, 2 (1988): 5.*

### **A Field Of Grain**

This is a photo of a field of winter wheat taken somewhere in eastern Colorado.



*Field of winter wheat in eastern Colorado*

*Photo: Colorado Historical Society*

### **More About This Topic**

Winter wheat became an important crop in eastern Colorado because it could be grown without irrigation. Winter wheat is planted in the fall. It comes up the next spring when the ground is still moist from spring rains. It is harvested before the hot months of the summer begins.

### **Their Own Words**

“It was soon discovered that corn was an unreliable crop for dry land farming.... If we had a fairly good snow cover in the winter, a couple of good rains in the spring months would almost always produce a crop of wheat.”

*Source: Glen R. Durrell, “Homesteading in Colorado,” Colorado Magazine, 51 (1974): 98.*

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## **Harvesting Wheat**

What do these photos tell you about how wheat was harvested?

### **A Wheat Field Near Montrose**

This photo was taken in a wheat field near Montrose. The horses are pulling a grain binder. The binder cuts the wheat stems close to the ground and binds them in small bundles. The two girls visiting the field are sitting on bundles of wheat.



*Wheat field near Montrose, Colorado*

*Photo: Denver Public Library, Western History Collection*

### **More About This Topic**

The first step in harvesting wheat was to cut the stalks of wheat. The stalks then were tied with pieces of twine into bundles called sheaves. In earlier times, farmers had to cut the wheat by hand with long-bladed scythes. Then they had to bind the sheaves by hand. By 1880, cutting and binding was done in one step with a horse-pulled grain binder. The binder allowed farmers to plant and harvest more wheat than before.

### **Their Own Words**

"The women of the house had their share of the work. All the neighbors who helped with the harvest ate with the family in the house. In the very early days it took several days to thresh all a man's grain. Usually there were up to twenty persons for the noon meal. Preparing meals for ten to twenty persons was no small task, especially without any conveniences at all. [For example] water had to be pumped from the cistern and carried into the house in buckets. Only a tea kettle and a reservoir were available for hot water. All used water had to be carried out again."

*Source: Hazel Webb Dalziel, "The Way It Was," The Colorado Magazine, 45 (Spring 1968): 110.*

## Bundles Or Shocks Of Wheat

This photo show shock of wheat standing in a field. Each shock contains several sheaves or bundles of wheat.



*Shock of wheat standing in a field*

*Photo: Colorado Historical Society*

### More About This Topic

After the grain binder cut and tied the wheat stalks into bundles, the farmer fathered the bundles into piles. These piles or shocks were left standing in the field until the farmer was ready to thresh the grain.

### Their Own Words

“The odor of the new wheat, the dusty gray appearance of the men, the noise, the bustle, and all the men working together in the joy of the harvest was an experience that a child could never forget. At dusk the whistle blew, and everything stopped. Horses, tired and hungry, were released from the

wagons, watered, fed, and bedded for the night in new straw. Then the men filed up to the cookhouse . . . and silently ate as only hard-working men can."

*Source: Hazel Webb Dalziel, "The Way It Was," The Colorado Magazine, 45 (Spring 1968): 109-110.*

## **Loading Wheat Shocks On Wagon**

The farmers in this photo are loading shocks of wheat onto a wagon. They are using pitchforks to lift the shocks.



*Loading wheat shocks on wagon*

*Photo: Denver Public Library, Western History Collection*

### **More About This Topic**

The next step in harvesting wheat was to load the shocks onto a wagon and haul them to the threshing machine or separator.

### **Their Own Words**

"The threshing crew went from farm to farm with a well-worked-out itinerary [schedule] and we knew about when to expect them. The cookhouse arrived first. . . . After the cookhouse arrived the men who had gathered the bundles [of wheat] from the fields drove in one by one, went directly to the new location, and started loading their racks."

*Source: Hazel Webb Dalziel, "The Way It Was," Colorado Magazine, 45 (Spring 1968): 108-09.*

## Threshing Wheat

This photo shows a steam engine, a threshing machine or separator, and farm wagons. Some of the wagons are loaded with shocks of wheat.



*Threshing wheat in Colorado*

*Photo: Colorado Historical Society*

### **More About This Topic**

The threshing machine separated grains of wheat from the wheat stalks. That is why it was also called a separator. The mechanism that did this was powered by a leather belt connected to the flywheel of a steam engine. In this photo the threshing machine or separator is in the rear-center. Beside it are wagons loaded with shocks of wheat. The steam engine is on the left.

### **Their Own Words**

“The [wheat] separator was drawn into position; then the engine turned and backed for some distance. A heavy belt extended from the flywheel of the engine to the separator. This was a little tricky. The distance had to be exact, as the belt was long, in order to allow the wagons to approach and unload the bundle of grain into the maw of the separator. Soon we’d hear a long toot, the machinery would start, and thus began an exciting time for all.”

Source: Hazel Webb Dalziel, "The Way It Was," *Colorado Magazine*, 45 (Spring 1968): 109.

## Close Up Of Threshing Machine

This is a close-up photo of a threshing machine or separator. This machine separates the grains of wheat from the chaff or straw on which the grain grows.



*A threshing machine*

*Photo: Colorado Historical Society*

### More About This Topic

The men with pitchforks are feeding shocks of wheat into the separator. This was a dusty, dirty, and very hot job.

### Their Own Words

"The very most exciting time of the whole year was threshing.... The water wagon would pull in and then we'd hear a whistle and the steam engine drawing the separator would come puffing up the road. Planks were usually placed across the bridge to reinforce it. The turn at the gate required some maneuvering as it was a sharp right angle and the road wasn't very wide.... Soon we'd hear a long toot, the machinery would start, and thus began an exciting time for all."

Source: Hazel Webb Dalziel, "The Way It Was," Colorado Magazine, 45 (Spring 1968): 108.

## Bagging Wheat For Shipment

This photo show another separator or threshing machine and the steam engine that powered it.



*Bagging wheat for shipment*

*Photo: Denver Public Library, Western History Collection*

### More About This Topic

The thresher separates the grain from the wheat stalks. The grain comes out of the metal tube in the center of the machine and is collected in bags. The bags in front of the thresher are filled with wheat. The straw or empty wheat stalks is blown out of the machine into the pile on the right.

### Their Own Words

“Grain pouring from the side of the separator emptied into sacks one bushel at a time. There were two spouts. While one sack was filling the other was taken off and loaded into a wagon backed up close. Barbara and I were allowed to ride back and forth on these wagons, and sometimes we would help pull the sacks back into the father bins in the granary where a man stood to dump them through a hole in the floor.”

*Source: Hazel Webb Dalziel, “The Way It Was,” Colorado Magazine, 45 (Spring 1968): 108.*