

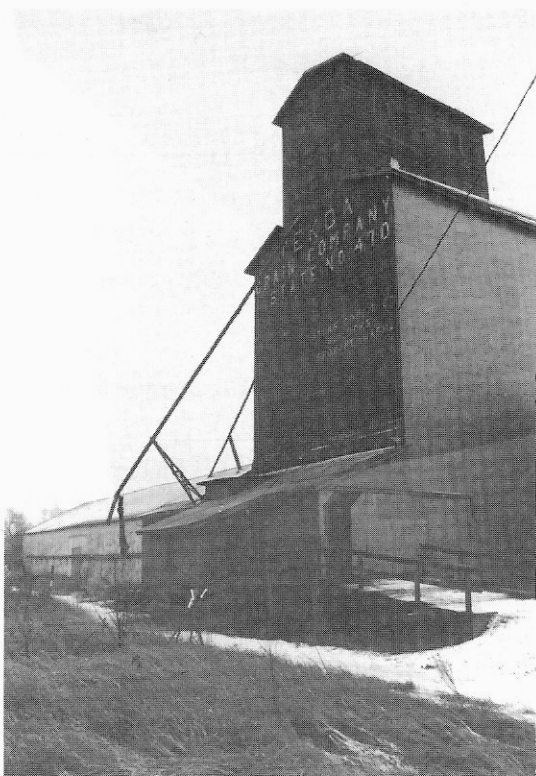
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- Lone Pine Elevator
- Pioneer Biography from 1934

CONTENTS

The Lone Pine Flathouse and Elevator	3
by Craig Holstine	
David Judson and Anne Grant (Written 1934).....	13
by James Lindsey, edited for publication by Tina Atkinson Oswald	

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COVER

Lone Pine Elevator.

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Tekoa Grain Company Elevator and Flathouse at Lone Pine

by
Craig Holstine

for the National Register of Historic Places

The following article is the third in a series taken from nominations to the National Register of Historic Places, all dealing with agriculture-related properties in Whitman County. Readers are advised that many of the structures discussed in these articles are located on private property. Those wishing to view these structures should treat them accordingly.

— editor

The Tekoa Grain Company Elevator and Flathouse stand approximately one-fifth of a mile east of the junction of Lone Pine (#200) and Sieveke (#220) roads about four miles west of the town of Tekoa. Situated in a willow-lined valley bottom among rolling, grain-covered hills, the buildings occupy a setting typical of the Palouse country in this northeastern corner of Whitman County. Cylindrical metal grain tanks constitute the only modern intrusions visible on the landscape. The nearby roads are unpaved and the adjacent Chicago, Milwaukee, St. Paul and Pacific Railroad grade is abandoned, the rails and ties having been removed.

While now attached by a causeway, the buildings may originally have been unconnected, although probably not for long. Together they present contrasts in spacial orientation: the flathouse is long and low relative to the towering elevator. The structural components of the two buildings are radically dissimilar, reflecting what was originally their distinctively different functions: one was a storehouse for sacked grain, the other for grain held in bulk. Both buildings stand close to roads allowing access for wagons and trucks hauling grain, and immediately adjacent to the railroad which linked local farmers with distant markets essential to their economic survival. In fact, had it not been for the railroad, neither of these buildings would even have been built.

The Flathouse

The flathouse standing to the east of the elevator predates the latter structure by about seven years. Like the technology it was tied to (sack grain harvest and storage), the flathouse is a decidedly less sophisticated structure than the elevator. Measuring approximately 150 x 45 feet, the building is constructed of one-by-twelve inch boards nailed vertically along its walls. The structure lacks fenestration (except for a single boarded-over window in the east gable), its exterior walls broken only by sliding wooden doors, most of which have been boarded shut. Corrugated sheet metal covers the west and south walls. Its long, low-pitched gable roof is covered with corrugated metal sheeting and there are no dormers nor trim on the eaves.

Although the building's original flooring has been replaced, the foundation has not been changed. It consists of ca. one-foot square timber piers installed vertically at frequent intervals to support the heavy load imposed by sacks of wheat stacked several high. The piers suspend the floor about 4 feet above ground to the level of railroad cars into which wheat sacks were loaded. Running almost entirely around the flathouse are 2 x 8 inch beams secured to the exterior walls at mid-height by wooden brackets. Installed to provide reinforcement for storing grain in bulk, the beams are also secured by cables which pass through the walls and the floor at 45 degree angles to the underlying foundation timbers where they are fastened. In addition, an inner wall of sawn lumber was installed horizontally throughout the interior, providing further indication that the entire structure was apparently to be used for storing bulk grain. The wall was left unfinished in the eastern portion of the building, however, which has since been used only for equipment storage.

A reinforced frame wall divides the building's interior into two equally-proportioned rooms; only the room in the western half of the flathouse was ever used for bulk grain storage, however. A metal grain spout enters the roof from the adjacent elevator, and, from the west end of that room, a corkscrew auger mounted in an open-topped wooden trough runs through the causeway connecting the two buildings to a chute dropping into the pit under the elevator. From there grain was elevated by the leg into storage bins or to spouts transferring the grain to trucks or railroad cars.

Aside from the boarded-over doors and sheet metal covering portions of its walls, the flathouse retains the essence of its historic appearance. Perhaps because it has undergone some alteration over the years, the building remains structurally sound. The most significant modifications have been carried out in response to the momentous shift from sacking grain to bulk harvest, storage, and handling. As a result, the flathouse at Lone Pine is representative of a technological evolution that profoundly affected virtually every aspect of the grain industry.



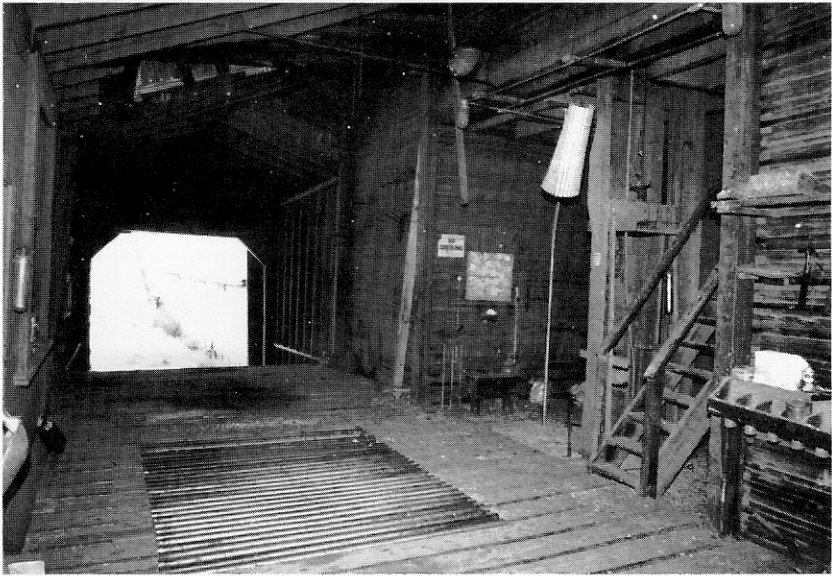
Flathouse, ramp, and elevator

The Cribbed Elevator

Standing only a few feet west of the flathouse, the cribbed elevator rises nearly 100 feet above its substantial concrete foundation. Attached to the central mass are two frame structures: the scale house and the causeway connecting the elevator and the flathouse. All three components display shiplap cladding of apparently the same origin and vintage, indicating that they are probably contemporaneous. It seems highly likely that the flathouse and the elevator were connected at an early date, probably 1914 when the latter building was constructed.

The elevator's extremely sturdy construction is inescapable to even the casual observer. Its thick, nearly 3-foot-high concrete foundation measuring ca. 37 by 33 feet supports the building's central mass, which includes the grain storage bins. To provide the structure with the strength needed to withstand the incredible pressures exerted by tons of stored grain, a type of construction known as cribbing is used throughout the elevator. Cribbing consists of 2 by 8 sawn boards laid flat horizontally atop one another so that they are secured together on their wide sides rather than their narrower edges. Shiplap siding was then added as weather proofing. Later, probably in the 1930s or early 1940s, corrugated sheet metal was attached over the shiplap on the building's west and south sides, which were exposed to the most severe weather.

Attached to the north side of the elevator's lower level is the shed-roofed scale house. It was, and still is, essential to the building's operation for it was into this small structure that farmers brought grain to be stored in the elevator. A raised wooden ramp leads to the sliding-door entrance

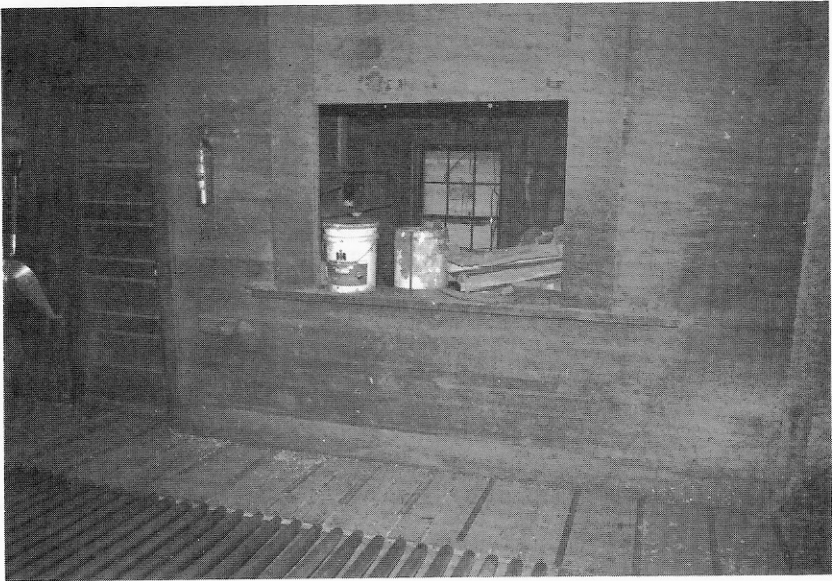


Scalehouse interior

on the west side; an earthen ramp leads down the exit on the opposite end. Wagons, and later trucks, drove up the entry ramp into the scale house, were weighed before dumping their loads of grain, then drove out down the exit ramp. Scales were mounted in the floor until modern trucks with heavier loads forced installation of larger scales outside the elevator. A cable wound around a rotating pipe mounted on the ceiling of the scale house raised the fronts of the older vehicles sufficiently to allow grainloads to be dumped into the pit below. Controlled by a so-called “mercury switch,” the old hoist has been removed. Hydraulic systems standard in modern grain trucks perform the same function.

Adjacent to the dumping bay is the office, which protrudes outward from the center of the north wall of the scale house. In the office, a bookkeeper recorded the weight of each farmer’s grain, the type or variety of the grain, and where it was to be stored in the elevator. In the northwest corner of the office, a gas-powered electric generator supplied electricity for the building’s lights and for the motor driving the device that elevated the grain to the storage bins. A walkway leading from the entry ramp around the side of the scale house provides access to the closet-like room where the generator sat before it was removed when rural electrification arrived in the 1930s.

In the floor of the scale house, metal rollers cover the opening above the pit. A hopper-bottomed bin in the pit collected the grain dumped from the wagons and trucks. From there a device known as a leg elevated grain to



Office and dumping pit

the top of the building for distribution to storage bins. Housed in a wooden shaft, the leg consists of a canvas belt ca. 10 inches wide to which are attached metal cups ca. 5 inches wide and 4 inches deep. Although the leg belt has been repaired many times, it still functions just as it always has, carrying grain at incredible speeds to the headhouse on the top floor of the elevator. There, grain moves by force of gravity from the so-called throat through the distributing spout into various spouts leading to storage bins throughout the elevator. The destination of grain is controlled by a heavy metal wheel mounted on the elevator's ground floor. On the wheel are numbers designating different bins. An operator, dialing the wheel much in the manner of a rotary-disk telephone, controls the movement of the distributing wheel and thereby determines the grain's destination.

There are two ways to reach the spout floor above the building's central open-air space just below the top story: by climbing or via a primitive elevator called a "man lift." The first method involves taking a short flight of stairs to the second floor, on which once stood a grain-cleaning machine called a clipper but which is now vacant. From there sure-footedness and steady nerves are required for climbing the 45 rungs of the narrow wooden ladder attached to the rear (south) inner wall. Only slightly less terrifying for the uninitiated is the ride up the open-sided man lift, which ascends along the front (north) inner wall from the ground floor just off the dumping bay. Operating on a simple system of counterweights, the lift consists of a small wooden platform barely large enough to accommodate one man.

When the brake is released by depressing an iron rod in the platform floor, the counterweight drops from suspension high above and the lift, tied to the weight by a substantial rope, rises essentially through thin air. Counterweights can be adjusted to match the weight of different passengers, although it remains uncertain how that could be accomplished if there were no one on the spout floor to adjust weights for upcoming passengers.

Alighting on the spout floor some 60 feet above the second floor, one is struck by both a profound sense of relief and an awareness of having entered yet another world of grain storage technology unseen by passersby. Metal grain spouts ca. 8 inches in diameter knife through the floor of the headhouse above into the spout floor and on to the various bins situated on both sides of the elevator. Along the east and west walls, hinged trap doors provide human access into storage bins below. One spout exits from the front of the room, dropping down over the scale house roof from which it is supported by a brace. It hangs over the driveway adjacent to the building where trucks can be loaded with grain for shipment.

Stairs at the south side of the single-room spout floor lead to yet another one-room floor, the headhouse. As the top floor of the elevator, it is appropriately the most important. It is here that the leg brings cuploads of grain up from the pit below the dumping bay and deposits them into a funneling device known as the throat. Passing out of the throat, grain travels through the distributing spout into one of twenty spouts mounted in the floor leading to the various storage bins. The spouts are arranged in circular fashion in the floor, allowing the distributing spout to rotate on a wheel around the circle, dumping grain into whichever spout is chosen by the operator on the ground floor. One spout exits directly from the throat through the east wall of the headhouse to the roof of the flathouse over the room converted for bulk grain storage.

Overall the elevator retains a high degree of historic integrity. Modifications have reflected the technological evolution of the grain industry. The original scales were removed from the scale house and replaced by more substantial weighing devices capable of handling larger trucks with heavier loads of grain. When hydraulic units became standard in modern trucks, the older cable hoist and mercury switch were replaced. Rural electrification eliminated the need for the gas-powered generator that once stood in a corner of the scale house. Modern combines that clean harvested grain in the fields made clipper obsolete and that machine was removed from the elevator. Minor alterations were made to the pit bin, resulting in more efficient distribution of grain within the elevator and perhaps prolonging its life as a functioning building. But the most essential elements of the structure are still present and functioning, including the leg and its motor, the spout wheel and distributing spout, and the hoppers bins to name just a few.

Statement of Significance

Anticipating construction of the Chicago, Milwaukee, St. Paul & Pacific Railroad, local farmers formed a cooperative known as the Tekoa Grain Company, registered as State No. 470. About 1907 the co-op built the flathouse along the right-of-way which would become its link to distant markets. In 1910 the flathouse stood on property included in the 160 acres owned by E.F. Mauer in NW Sec. 21 and SW Sec. 16. Sometime later, August Wolf acquired the property and lived for many years in the bungalow that still stands to the north across Lone Pine Road. The vicinity became a focal point of the rural community, perhaps due to the nearby junction of Sieveke and Lone Pine roads. By 1910 a cemetery was situated just north of the present road junction on the east side of Lone Pine Road, and the Lone Pine School No. 60 stood one-quarter mile to the north.

Farmers in the Lone Pine/Tekoa vicinity, like those all over the Pacific Northwest, harvested and stored their grains in burlap sacks well into the twentieth century. Unlike the rest of the nation, the region remained wedded to the labor-intensive system despite the availability of bulk grain storage and handling technology. The long era of sack grain dependence resulted in the erection of hundreds if not thousands of flathouses in eastern Washington like the structure of Lone Pine. But in some localities where railroads made bulk grain transportation available, farmers' co-ops and grain marketing corporations built cribbed elevators. The Chicago, Milwaukee, St. Paul and Pacific (popularly known as the Milwaukee Road), the last transcontinental railroad constructed through the Northwest and the one passing through Lone Pine, actually encouraged installation of grain elevators along its line, probably in the form of rate incentives.



Spout area below headhouse



*Discharge
spout*

Obviously the farmers in the Tekoa co-op took advantage of the Milwaukee Road's offer of bulk grain transportation. Information painted in bold white letters on the front of the cribbed elevator indicates that Atlas Construction Company Builders of Spokane built the elevator for the Tekoa Grain Company. According to an informant and longtime employee at the elevator, the year 1914 is painted on the structure's west side under the metal siding, probably indicating the year of construction. That year is particularly significant in the history of grain transportation, for in 1914 completion of the Panama Canal shortened the distance and reduced the risk of shipping grain in bulk to Europe. The Milwaukee Road surely responded to the competition presented by reduced shipping rates on the high seas with more attractive rail freight rates. One result was more cribbed elevators built along their main and branch lines.

While Palouse grain growers continued overwhelmingly to harvest, store, and transport their grain in sacks, at least some were storing and transporting in bulk by the early twentieth century. Farmers in the Lone Pine area used both methods, keeping the elevator and the flathouse in constant operation. In part that reflected the dual nature of Milwaukee Road grain cars, which were easily modified by nailing cribbing over sliding doors for handling bulk loads funneled through spouts inserted over the cribbing. Hoppered bin cars were later made available for more efficient loading and unloading. But sacked grain, mainly special seed and

*Distributing spout,
with spout holes*



feed varieties, continued to be stored in the flathouse even after tractors replaced draft animals and bulk harvesting techniques eliminated the practice of sacking grain in the field.

The two adjoining structures at Lone Pine have undergone relatively few changes in ownership. Sometime prior to the 1930s, the farmers' co-op either sold their holdings to the Tekoa Wheat Growers, or perhaps the co-op simply changed its name. Local ownership and control was lost when the Tekoa Wheat Growers sold out to Mark P. Miller, who owned flour mills in Seattle, Spokane, and Moscow, Idaho. In 1942 the Lone Pine property was acquired by Gordon T. Shaw, a Seattle-based grain broker owning elevators in nearby Farmington and Salt Lake, and in Tillman, Idaho, east of Tekoa. A sense of local control returned in 1965 when Shaw sold out to the Tekoa Wheat Growers. Ernest and Norma Dippel of Tekoa acquired the elevator and flathouse in 1982.

Over the years, both the flathouse and elevator have undergone changes reflecting technological evolution in the grain industry. Like many other flathouses on the Columbia Plateau, the one at Lone Pine has been converted to serve purposes other than for storing sacked wheat. A thick frame wall installed across the center of its extensive length divides the bulk grain storage room from the half of the building now used for farm equipment storage. In the roof is a spout connecting the flathouse with the top of the adjacent cribbed elevator from which grain was funneled into the heavily-reinforced bulk storage room. A corkscrew auger mounted in a wooden chute on the floor carried the grain from the flathouse to the pit bin under the elevator for eventual transfer to truck or railroad cars. Such

customizing was common at flathouses converted after the heyday of sacked grain had passed, providing elevators with additional bulk storage capacity.

Similarly, modifications in the cribbed elevator at Lone Pine reflect technological evolution in the grain industry. Long ago the cable hoist in the scale house over the dump bay was replaced by an air hoist mounted in the floor. When modern grain trucks became equipped with their own hydraulic hoists, the older contraptions were removed from elevators. As grain trucks grew larger in the ca. late 1930s, the scales in the floor of the scale house were abandoned in favor of modern apparatus installed outdoors capable of weighing bigger, heavier trucks. Rural electrification eliminated the need for the gas-powered electrical generator that ran the facility's lights and the leg belt motor. Technologically sophisticated combines that discarded foreign materials from grain as it was harvested made clippers obsolete and they too were removed from elevators, including the Lone Pine building.

But, unlike other elevators, the Tekoa Grain Company facility has retained nearly all of its original elements, such as the leg, spout wheel, distributing spout, and hopped storage bins. The building and its components represent an intact cribbed grain elevator still in operation much as it was when built in the early twentieth century.

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David R. Judson and Ann Grant

by

James E. Lindsey (1934)

Edited by Tina Atkinson Oswald

W. R. Judson was born in Connecticut in 1827. He was a down east Yankee. He grew up in Connecticut, then moved to Iowa where he farmed. He had 160 acres and raised corn. In 1869, he came with horses and wagons to north central Kansas and homesteaded 160 acres. Soon he once again hitched the horses to the wagons and brought his family to the Whelan neighborhood north of Pullman, Washington. It took them three and a half months to make the trip out. While fording the Platte and again while crossing the Green River, they had to pry up the wagon beds and tie them to the standards to raise the wagon floors high enough to clear the water. They arrived August 27, 1880.

When the Judson family arrived, there was already a log school house in the Branham district. Smith Judson, the oldest son, taught school there for one year. The town was laid out a Branham, but the Northern Pacific named their station Whelan. The Post Office that operated in the town for eight or nine years was also called Whelan. There never was any church house in Whelan, so the Methodists held services in the school house. The church going folks of Whelan were generally of that faith.

In Whelan, the Judson family found the Branham, Al Riley, Reuben Wright, G.W. Reed, George Neighbor and Elisha Burnham families. The Judson's came out to farm, but the country looked so hilly that they thought farming would be all but impossible. The bunch grass hills looked like permanent stock range. Farming then was done with a two horse, 12 inch walking plow and drag harrow. Harvesting was done with a reaper;

the binding was done by hand. What fencing they had was with posts and poles hauled from the Moscow mountains.

Rachel Miller was born in Pennsylvania in 1836. Her family were of Pennsylvania Dutch stock. The Millers went to Iowa about 1848. There Rachel met and married W.R. Judson when she was only fourteen. To them were born nine children: Smith B. born December 9, 1857; Ellen M. born July 21, 1855; Lucy Ann born December 9, 1857; David R. born March 6, 1860; Louis H. born August 31, 1866; Alman born January 10, 1869; Our Baby born January 8, 1871 and died January 22, 1871; Jennie born April 16, 1872; James A. born in 1877.

George Grant was born in 1847. A Canadian, he went to Kansas in 1867, then on to Washington in 1884. His brother, Alfred, came to Washington in about 1910 and lived just below Pullman for three years before returning to Fort William, Ontario. A sister, Mrs. J.T. Daggett lives in Pullman on Military Hill. Their father, William Grant, also came to Pullman. He died at his daughter's residence in Pullman about 1913.

George Grant and Lucy Ann Judson met and were married in 1875 in Kansas. They came to the Whelan neighborhood in 1884 and bought land. Of their five children, two died at birth. Jesse Grant was born in 1879. He lives in Pullman and has three children. Bessie (Lowry) was born in 1883 and has three grown children. Ella Grant was born in 1881 and died in 1898.



— *wchs*

As a farmer, Mr. Grant never burnt straw or stubble, and put all the manure directly on the land. Grant had a flax, wheat, flax, wheat rotation for a few years. The flax yielded from 10 to 14 bushels of seed to the acre and sold from \$.95 to \$1.14 per bushel. Wheat yielded about 30 bushels and sold from \$.25 to \$.30 per bushel. The seed was grown, then sacked and readied for the long haul to Wawawai. There were a couple of advantages of flax over the wheat; a load of flax brought in more money, and the Palouse country weather was frosty so that frequently it would damage the wheat crops.

Several of the Judson clan owned land in the Whelan area, Smith and David Judson owned the Stirewalt farm when the Northern Pacific Railroad graded through for the Moscow line. When the Pullman community raised several thousand dollars, the engineers changed plans and brought the main line through Pullman. The railroad gave the Judson's a check for \$150.00. When the check was cashed at the Bank of Pullman, the cashier remarked, "There's where some of our money went."

The W.R. Judson family had a log house (16 feet by 20 feet) with a fireplace in it. The Grant family bought the Barney Riley ranch complete with a log house (18 feet by 24 feet) that is still standing. The Riley's told the Grant's the story of having killed a black bear that had taken refuge under the floor of this house.

Mr. David R. Judson says that he never knew the South Palouse to be good for fishing. Formerly, the water was clear and the river never went dry, as the numerous springs fed the streams all summer. Now these springs only run during the wet weather in the Spring months, the rest of the time they are completely dry.



— wchs

During the wet weather, it sometimes happens that the rain comes down with cloudburst fury. The Grant farm is now occupied by Ray Bartleson, and in 1931 the rain came down so rapidly that a small dip between the house and the barn was, for a time, an impassable flood. By the same token, the D.H. Judson farm is on the Missouri Flat Creek near the Branham school house. In 1933 a heavy rain up stream washed sacks of oats down stream and carried off a bundle of hay. These downpours washed ditches in all low places in the fields. It is difficult to plan a way to combat such erosion as that; ordinary measures would be futile.

From many years of experience, Mr. Judson would recommend a rotation as follows: wheat, oats, peas, wheat, oats, summer fallow, wheat, etc. substituting peas for every other summer fallow. Alfalfa cultivated every Spring with a spring-tooth harrow will be good for several years. Left alone the field will be crowded out by worthless early summer grass that matures before the alfalfa is cut. When the alfalfa is pastured it only lasts a few years.

