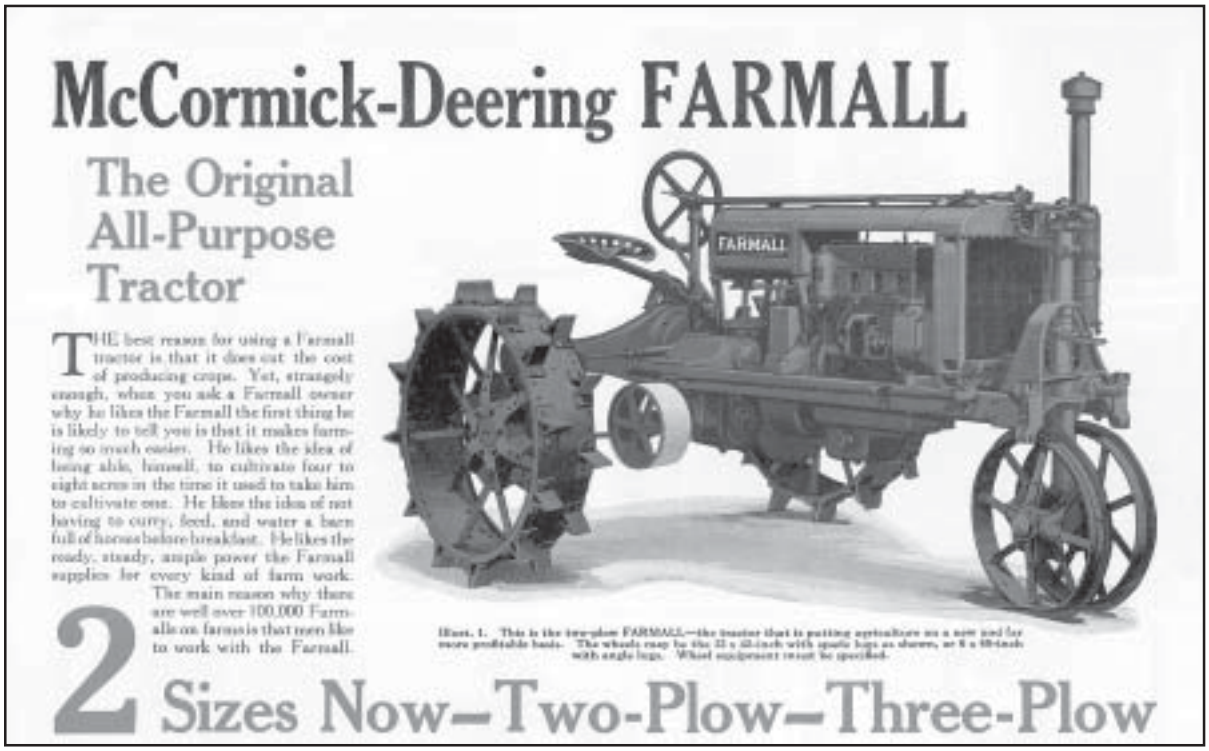


The International Harvester Company produced a long line of the McCormick-Deering Farmall tractor. The first Farmall was manufactured in 1924, and the most popular model, the M, was produced from 1939 to 1952. This Farmall advertisement was published in 1931. It was obtained and used by permission from the Wisconsin Historical Society, which houses the McCormick-International Harvester Collection, image number WHi-11755.

FARM EQUIPMENT

When one thinks of farm machinery, the images that come to mind depend a lot on how much one knows about farming as well as what era and level of agricultural sophistication one is envisioning. In Grant Wood's 1930 painting "American Gothic," the implement in the hand of the somber Iowa farmer was a pitchfork. Implements of a similar nature from that time period included the heavy steel scoop shovel, spade, scythe, hoe, rake, and bushel basket. There were also barn accessories such as ropes, pulleys, hay slings, horseshoes, horse collars, and harnesses.

Dad got his college degrees in agricultural and mechanical engineering and had little, if any, interest in the technology of barns, putting up hay, or draft horses. I used to enjoy hanging out in his shop, watching him invent such things as an eight-row corn planter in the early 1950s or a bicycle rack for my car in the 1970s. He had angle iron, flat iron, channel iron, galvanized pipe fittings, structural pipe, wheels and bearings from old machines, roller chains, ag link chains, cables, iron strapping, mesh wire, reinforcing bars, bolts and washers, electric motors, hydraulic hose, old tires, used vehicles, and other items stashed away in his shop, the grove, and other places around the farm. Although his various collections might have seemed like junk to an uninformed observer, he always knew where to find just the right item for an invention or a repair job. Dad says that he would not have been so successful in farming if he had not had the capability to repair his own equipment.

His shop was a large, gray Quonset shed. He had many traditional farm tools, but what I recall most were his grease gun, socket wrenches, vice grips, anvil, Skil saw, heavy-duty elec-

Deane Gunderson's farm shop, 1994.

tric drill mounted on a 30-gallon barrel, air compressor, bench grinder, and arc welder. Indeed, it would be accurate to say that the arc welder was his favorite tool. When he lifted his black welding mask in front of his face, he made me turn the other way so that I would not be blinded by the shower of sparks that flew as he touched the welding rod to a piece metal. It is not hard to conjure up the hum and crackle of his welder or the smell of the small plume of smoke emanating from the electrical contact point.

When I think of farm equipment, I also remember simpler things. For instance, there was the five-gallon metal bucket I used for carrying water from the hydrant near the house across the farmyard to the hog house where I had the responsibility of nurturing a litter of baby pigs. I also think of the shiny pails my grandfather used for hand-milking his cows, the milk cans, and that amazing cream separator in his basement.

I vividly remember browsing in Grandpa's shop at the homeplace farm in the weeks following his death in 1956 when I was 11. It was a small, musty, red shed that stood in the shade of a grove of trees. The sturdy wooden workbench was mottled from wear and stained from the grease and oil that it had absorbed during its many years of use. I enjoyed playing with the darkened oilcan that Grandpa used for machine maintenance and the leather punch and riveter that he used for repairing horse harnesses.

On a much larger scale, there was the horse-drawn and tractor-driven equipment. In Grandpa's era and the first decades of Dad's farming career, that meant manure spreaders, grain wagons, hayracks, sickle mowers, binders, cultivators, discs, plows, harrows, oat seeders, corn planters, corn pickers, corn shellers, feed grinders, and single-rear-axle trucks.

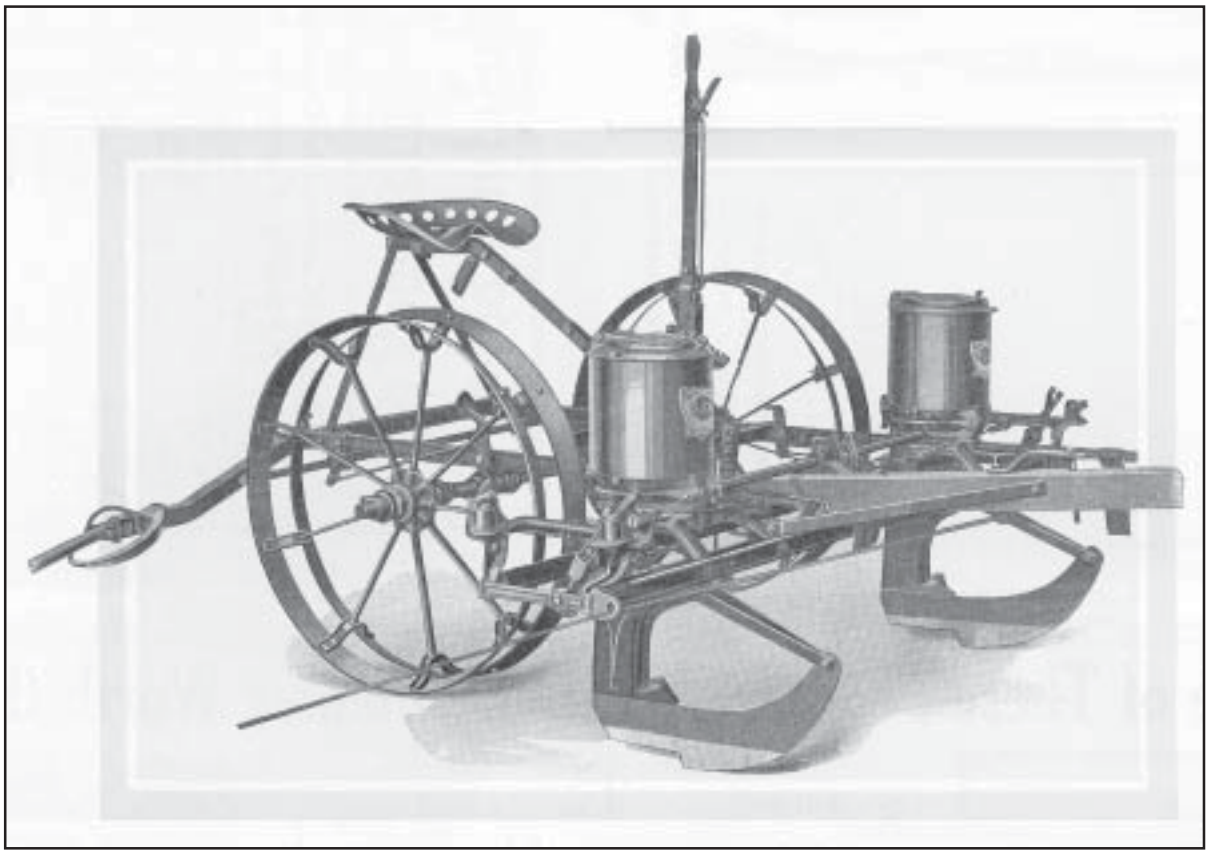
One pleasant memory is of a sunny day when I was about 10 years old and part of Dad's crew who was putting up haystacks. I drove our small Ford tractor, pulling the side rake to make windrows, while Grandpa was across the field with his team of Percheron draft horses and a sickle mower, cutting new swathes. Dad was driving a Model M Farmall tractor with a hay loader on the front end, and some of his hired help were atop the haystack, shaping it with their pitchforks. I also have memories of the many times that Grandpa used his team of horses and mower to cut grass along the road ditches. The work seemed almost like a hobby for him. In the years after his death, I would wander in the grove on his farm and sit on the rusted seat of a corn planter or mower, simply pondering the rudimentary nature of the equipment.

Merle and Wanda Hodgell were newlyweds in the early 1940s when he was one of Grandpa's hired hands. The young couple lived in the little house across the lane from Grandpa and Grandma's big house at the homeplace. I first met Merle in 1990 when I was photographing the crew that was dismantling my grandparents' house. He had heard that the place was being torn down and stopped by to wander through the rooms, reminisce, and watch the workers. At the time, he was a jovial septuagenarian and had a great deal of reverence for Grandpa, even though he admitted that Grandpa was sometimes hard on his horses and men. With a fond and gentle chuckle, Merle said that for some reason, perhaps because he was the youngest of the help, he was Grandpa's pet worker and the two of them got along well. Merle also claimed that Grandpa worked from dawn to dusk during the corn-planting season. In the dark of the early morning, Grandpa went to the field with his two-row planter and a team of horses. He wanted to take advantage of the first rays of sun that illuminated the field-length wire that was used to crosscheck the corn and the marker line in the ground that guided him as he drove the team of horses and planted straight rows. He worked in the field all day, attended by Merle and the other hired men, who provided a regular rotation of fresh horses. After the sun went down and Grandpa could no longer discern the wire and marker line, he quit planting and returned the horses to the barn.

Crosschecking was a way of planting corn so that there was an equal distance (38 inches) between the north and south rows and the east and west rows. A wire was threaded through a device in the planter and stretched across the length of the field. Each time a knot in the wire passed through the device, it triggered the planter to drop three kernels into a hill. In a field of crosschecked corn, a farmer could cultivate north and south to cut weeds and later take a swipe at them driving east and west. Later when chemicals became popular for controlling weeds, a field didn't need as much cultivation, and farmers started planting 30-inch rows in one direction.

To farm in those days meant being close to the earth. The farmer would be perched on the seat of a planter, riding just inches above the tilled ground and was probably much more aware of nature and wildlife than today's farmers. Farming then was a quieter occupation than it is now. During planting, there were the simple sounds of the horses, perhaps a snort or whinny, the cadence of hooves striking the ground, the clinking of the metal parts of the harness, and the clitter-clatter of the gears of the planter box as they dropped the seed into the ground at regular intervals.

Additionally, there would have been the horse commands of "whoa," "gee," and "haw" meaning stop, turn right, and turn left. Perhaps, too, a farmer may have hollered out an expletive when the horses didn't perform as expected. It's fascinating that a farmer with horses

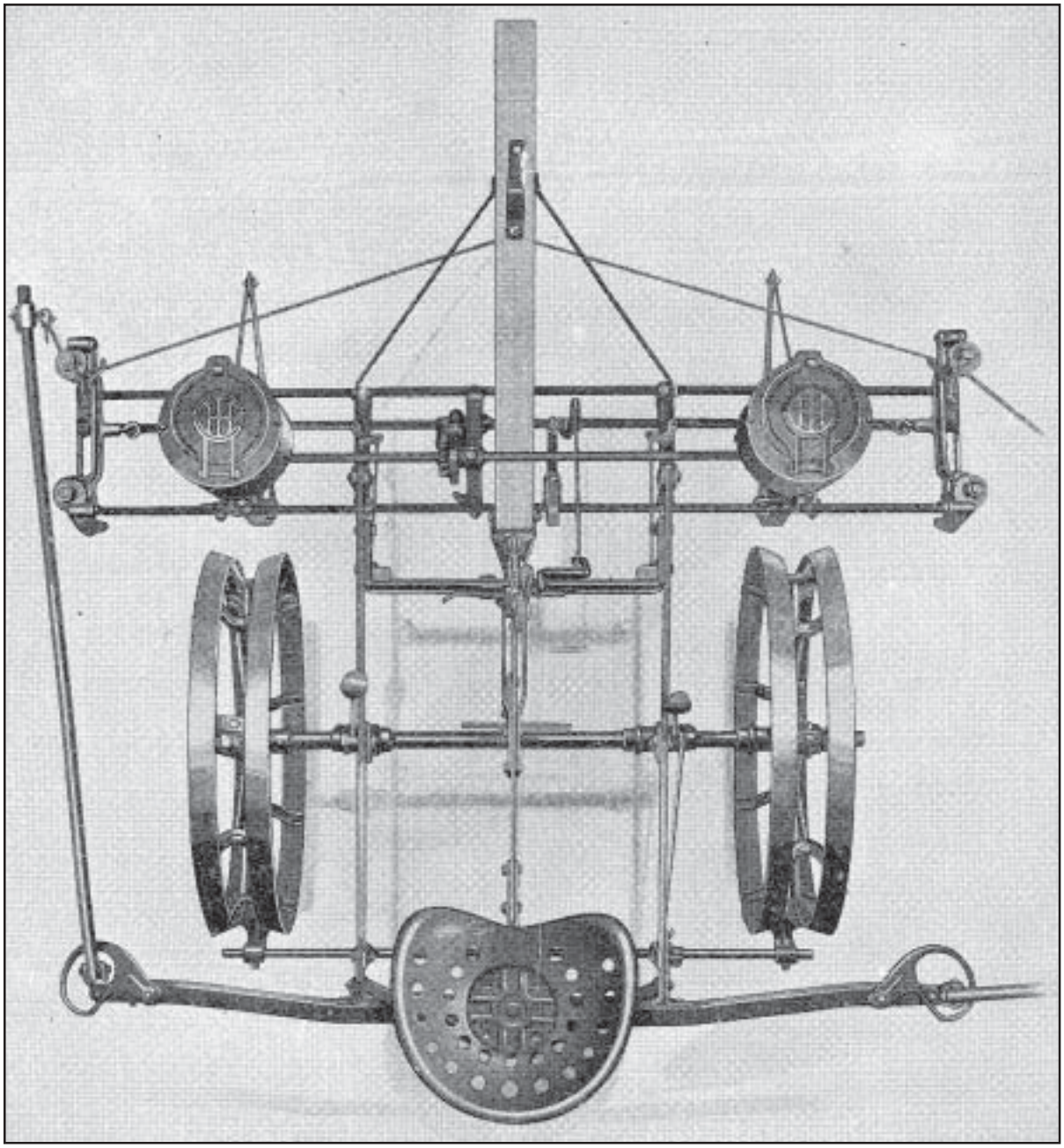


This McCormick-Deering No. 8 hill-drop corn planter is similar to the one that sat idle in Helen's grandfather's grove after his death. The drawing is from a 1925 advertising brochure and was obtained and used by permission from the Wisconsin Historical Society, which houses the McCormick-International Harvester Collection, image number WHi-11757.

could get off his machinery, such as a planter, open a gate to a field, and be able to give voice commands to the team to walk ahead and through the gate. Then the farmer closed the gate and got back on the seat of the planter.

For some farmers, the transition from horses to tractors was difficult. There are funny stories from that era, such as the one in which a farmer gets off a tractor to open a gate, stands there giving commands to his tractor, and then realizes the tractor is not going anywhere.

I always thought Grandpa was one of those farmers who was reluctant to switch from



Plan view of the McCormick-Deering No. 8 hill-drop corn planter. The drawing is from a 1925 advertising brochure and was obtained and used by permission from the Wisconsin Historical Society, which houses the McCormick-International Harvester Collection, image number WHi-11758.

horses to tractors. However, Dad says that it was my great-grandfather who was against tractors. He remembers Great Grandpa saying, "After all, with a tractor, you've got to go to town and get gasoline. That's terrible." Although Great Grandpa was living in town at the time, he was loaning money to Grandpa and had a great deal of influence over how Grandpa farmed. The result, according to Dad, was that the Gunderson farm was one of the last ones of its size to make the transition to tractors.

Dad, on the other hand, was eager to use tractor power and be done with horses. After Grandpa died, Dad no longer raised livestock or had crops such as oats, alfalfa, and clover. Instead, he focused on row crops and that meant corn and soybeans. In the 1970s when he retired from farming, his inventory of field equipment consisted mainly of tractors, tillage equipment, his eight-row corn planter, a bean drill, barge wagons, a combine, and his single-rear-axle truck. It was hard to fathom how farming could get much more modern or how the equipment could get bigger. However, there have been tremendous changes in agriculture in terms of scale and the kinds technology since the 1970s. My father's eight-row planter was a newsworthy item in the 1950s. Now, 16-row corn planters are common, and there are several 24-row planters in the county, not to mention reports of farmers in the state who own custom-built 36-row planters.

Many farmers can plant 240–300 acres a day, depending on the length of their work day and the problems they encounter. A new 16-row planter costs about $83,000 and requires a $3,000 monitor that reports malfunctioning units, seeds per foot in each row, acres per hour, total acres, and tractor speed, which is about six miles per hour. A new 24-row planter costs about $95,000. The monitor is included. One area farmer, Dennis Wagner, has a 24-row planter he got in 1996. If he didn't move from one field to another, he could plant 400–500 acres a day, but the land he farms spans 25 miles and he consumes time transporting equipment. However, it takes him only three minutes to fold or unfold the 24-row planter.

Single-rear-axle, straight trucks with wooden grain boxes were common on area farms prior to the 1980s. The one Dad owned was a red GMC truck with a box that held about 350 bushels of corn. Then there was a phase when there weren't as many trucks. Farmers were using gravity wagons to do most of their grain hauling. However, in the mid-1990s, many Pocahontas County farmers began to use truck-tractors and semi-trailers to haul grain.

The Iowa Department of Transportation now offers farmers a special semi-truck license that they can purchase for a much lower rate than a commercial truck license, which is generally prohibitive in cost for farm use. However, this special farm license has restrictions. The truck must be used within a 150-mile radius of the farmer's home base; and the combined gross weight of a truck, trailer, and load is limited to 80,000 pounds. That's equivalent to about 830 bushels of corn. So although the semi rigs have the advantage of being faster and safer than conventional tractors and wagons and can carry a larger load, their useful capacity is not significantly greater than gravity wagons that hold 600–750 bushels of corn. The DOT has a length limit of 65 feet for a common farm tractor and the wagon or wagons it pulls but no weight limit. A hefty tractor can pull two wagons at a time, carrying many more bushels of corn than the law allows for semi-trailers.

Many of today's farmers own semi-tractors and trailers. They buy used ones from commercial, over-the-road trucking companies who need extremely reliable rigs. These companies maintain their vehicles well and sell them after only a few years of use. Mick and Sue Reigelsberger were the first farmers in the neighborhood to own a semi-truck. It was one that Mick bought used from the bottled water company in Humboldt. The truck was white, but

Mick had it painted a handsome, fire engine red. The trailer held up to 900 bushels of grain. He has since sold the rig and bought another. Sometimes the Reigelsbergers park their semi-trailer in the farmyard next to a grain bin and use it as a conduit — meaning that Mick or Sue drive their cart wagon alongside the truck, extend the cart arm over the box, dump the load from their wagon into the semi box, and then head back to the field. The grain flows down, out of the semi into the basket of an auger, then up the auger to the top of the grain bin, and finally into the bin for drying and/or storage.

A group of farmers, who were gathered for coffee and conversation at the co-op one day in the fall of 2003, said that the DOT increases the semi-trailer load limit to 90,000 pounds for a short period of time each year in order to give farmers more flexibility during harvest. However, they cynically labeled the DOT variance as "the 90–90 rule" because the limit is allegedly raised to 90,000 bushels only after 90 percent of the harvest is completed, and so it actually does very little to help farmers.

Some farmers haul more than 830 bushels of corn, perhaps up to 1100 bushels, in their semi-trailers on direct trips from the field to the grain storage on their farms even though it's against the law. However, when hauling grain to town, they are more cautious because the DOT inspector's blue midsize sedan with bubble light could be parked along their route to the co-op. They know that the inspector has the authority to stop a grain hauler and examine the load. If it looks suspicious, the inspector can get portable scales from the truck of his or her car and weigh the semi-trailer on the spot. One of the farmers at the co-op said that he had been fined $760 during the previous week for having a load that was over the legal limit.

Today, few farmers repair and maintain their own equipment, especially combines and tractors. These machines are extremely complex, and repairing them requires sophisticated analytical devices and mechanical tools as well mechanics with specialized training. It was not many years ago that nearly all towns in the area had an implement store and repair shop. However, the nearest dealer and repair places are now, for the most part, 20 miles away. In some cases, a farmer calls on these modern implement stores to send out a mobile crew to repair a broken piece of machinery, but the visit is a pricey one. There are also times when a farmer has to ship a malfunctioning electronic component to a faraway state for repair, resulting in a two- or three-day delay in the farming operation.

When I conjure up images of today's farm machinery, I don't think of hand items such as pitchforks, scoop shovels, two-row equipment, or the long list of machinery that was used in diversified farming. Instead, I envision planters, tractors, combines, auger and gravity wagons, water tanks for applying chemicals, sprayers, stalk choppers, V-rippers for deep-tilling the ground, field cultivators, and semi-trailer trucks. I also think of the white anhydrous ammonia tanks on wheels and huge Terragator tractors from the co-op in town that are used to spread fertilizer or spray herbicides on the fields. In many ways, I regret that I was not into photography when I was growing up. At that time, there were plenty of people working in the fields and farmyards on any given day.

Nowadays, there are many weeks, if not months, during a year when little is done in the field. Consequently, it is tempting to buy into the stereotype that all the modern farmer does is plant the crop in the spring, harvest it in the fall, till the land, and go on vacation. However, farming is not that simple. Many farmers have off-the-farm jobs, and farming itself has year-round responsibilities and challenges. However, much of the activity has to do with management and maintenance and is not visually intriguing. In contrast, the planting and harvest seasons provide extremely good photographic opportunities. That is partially why this chapter

of farm machinery photography consists mainly of images of planters, combines, tractors, and wagons. The mix of photos in this chapter is also a result of watching Dad construct his eight-row corn planter. I was impressed by his achievement and proud of him. I wish I had more than a fuzzy newspaper photo of his eight-row rig, which he pulled with a Model M Farmall tractor. I don't. But during this project of documenting life along my road, I have often stood watching a planting or harvest scene, reliving childhood memories, and grieving a passing era in agriculture. Perhaps standing with my camera and waiting for a tractor or combine to come into my viewfinder has been akin to the times that I rummaged in my grandfather's shop after his death, trying to come to terms with the fact that he was gone. I must have intuited that a day was not far off when his style of farming would be history. Little did I realize that Dad's era of farming would also become history.

My quest to photograph the ordinary activities and machinery of farming all these years may seem like folly to some people. Admittedly, there have been times when I have questioned the value of this project. However, a few farm experts predict that in another decade or two, a half-dozen farmers will operate all the land in the Pocahontas County. That could be a valid prediction, and it is incentive to document what is happening in the neighborhood before this era of farming and its current models of farm equipment also become obsolete.

There was a Reuters News Service article about space-age tractors that was posted on the Internet on July 17, 2003, from Sydney, Australia. It said, "Heavy modern agricultural equipment is killing the soil through repeated compaction and tilling." The piece went on to say, "But a new world of automatically steered tractors, guided by satellites, will allow them to run on predetermined tracks and confine their impact on the soil to 15 percent of farmed soil." The article also suggested that there would be a 200 percent increase in yields. It added that the space-age tractors are part of a revolution to save the world's soil, the sickest soils being in the farmlands of North America, Europe, and Australia. The use of space age tractors sounds like science fiction and is difficult to envision. Yet, perhaps a time will come when a computer specialist will sit in an office far removed from the soil and operate robotic equipment on several farms. The picture would be like that of a security guard watching the monitors on a quiet day at a shopping mall or similar to a computerized farm simulation game. There might be maintenance crews who would occasionally go to the fields in their hovercraft to keep the equipment running smoothly. Hardly anyone would be in the role of farmer in the image of my grandfather, father, or the men and women who farm along the road today.

Some aspects of satellite technology are already creeping into agriculture in ways that would have boggled my grandfather's mind. For instance, global positioning system (GPS) technology is already being used to analyze the fertility of a grid of property and to guide an operator in applying the right amount of fertilizer to various portions of that grid. There is also satellite technology that will automatically guide a tractor and corn planter in a straight line. These are quantum leaps from the technology of the horse-drawn era. Unfortunately, these quantum leaps that are happening in farm technology are simultaneously resulting in a quantum loss in rural population.

I wonder: What kinds of images will a photographer be able to capture here in another 20 or 30 years? I suspect the scale and sophistication of the machinery would boggle my mind. Sad to say, the continued loss in population would be even more mind-boggling. The equipment by itself is not half as fascinating as the combination of people and equipment. It is indeed this combination that draws me to the road and calls me to document life here.

Photos at left and immediately below: Mick Reigelsberger plants soybeans in Sections 12 and 14, Roosevelt Township, 1997 and 1998. Mick and his family are my parents' closest neigbhors, living a quarter mile away. They have a Pioneer Seed dealership on their farm. He is one of many farmers with a 16-row planter. Bottom photo: Robert Joens plants beans, Section 15, Roosevelt Township, 2001. Robert's dad, Herman, bought a new four-row planter in 1953 from Spike Robinson's John Deere dealership in Rolfe and told Robert it was his turn to plant the crop. Robert has been farming ever since, although he is cutting back on acres and phasing toward retirement. In Robert's first years of farming, it was common to crosscheck corn. Now he plants with a 12-row planter that he got in about 1987 from an equipment store in Laurens. He says the current seeding standard is that of planting one kernel of corn every seven inches in a row.

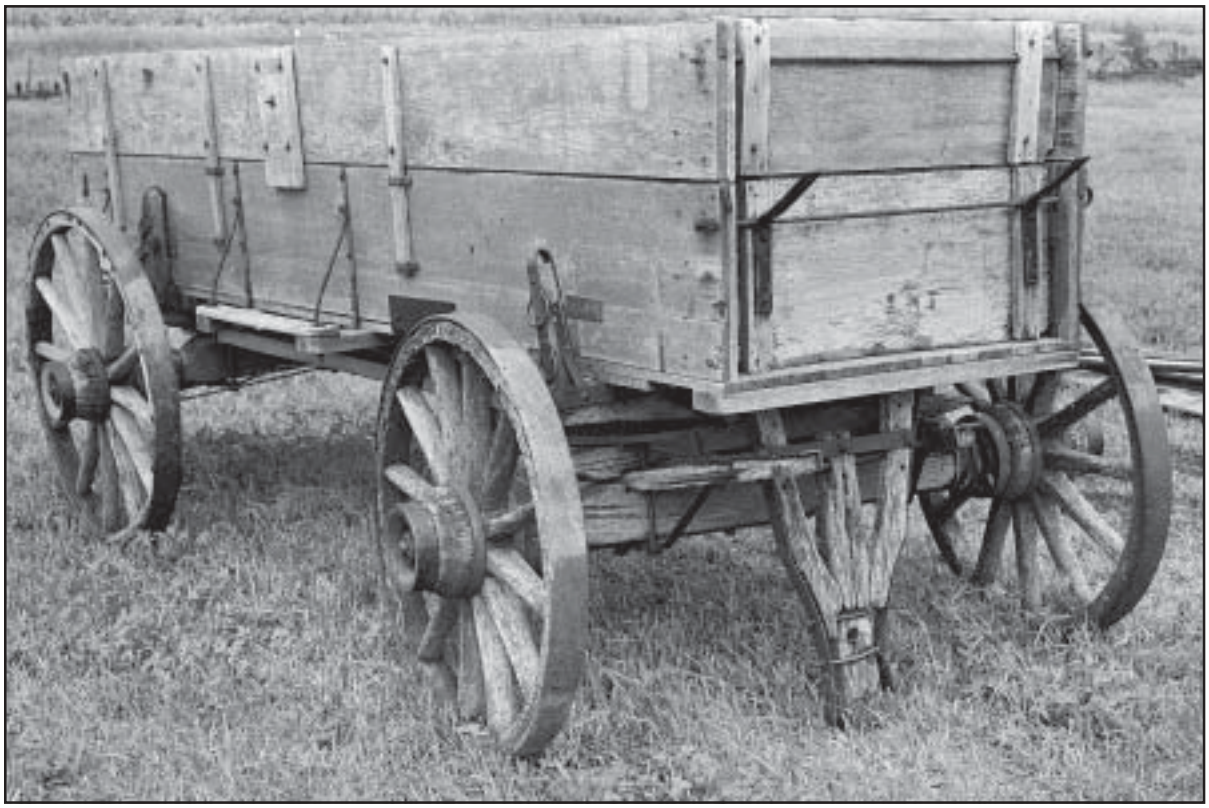
Photos above and on right: Betsy Dahl plants beans in the middle of Section 7, Garfield Township, 1998. The planter is one that her grandfather, Norton Ives, and his neighbor, LeRoy Rude, bought when it was top-of-the-line equipment in 1976, about the year my father retired from active farming at the age of 55. The planter plants eight 38-inch-wide rows and has a monitor that lets the driver know when a unit fails to plant seed. The Dahls also carry a spade. It is both functional for digging rocks and symbolic, carrying on the tradition of Norton who first placed the spade on the back of the tractor. Bottom photo: Norton Ives, on his combine circa 1990. Norton died in 1992.

Threshing oats at the Hattie and Morris Ives farm in 1903, north side of Section 19, Garfield Township. Kathy Ives Dahl's grandmother, Dora Brinkman Ives, is the tall woman standing in front of the steam engine. The Gary and Kathy Dahl collection.

Leon and Margaret Sinek and their son, Don, were among the 45 friends and relatives who went to the Will Beneke farm near Gilmore City to pick and crib 3,000 bushels of corn for the Benekes. Will had been ill for several months and died in 1946. His wife was Leon's sister. The Sineks resided in Section 7 of Garfield Township, not far from the road. Don went on to college and an architectural career while his brother, Paul, took over the farm from Leon and Margaret. A similar good neighbor deed occured in 1964 when friends and family gathered at the Sinek farm to help with harvest after Paul was killed in an accident when a portable farm elevator fell on him. The Betty Sinek Sandvig collection.

Helen's grandfather, John Gunderson, and his two-row corn picker mounted on a Farmall tractor, circa 1947. The Deane and Marion Gunderson collection.

Verle Howard picks corn, 1992. The next year he and his wife Velma retired from farming. His family's homplace with landmark barn and cottonwood tree are in upper right corner of the scene. Northwest quarter, Section 14, Roosevelt Township.



The basic wagon during the horse-drawn era and early days of tractor farming was the 36-inch wagon. Its exterior was commonly 38-inches wide and 126-inches long, but the interior was 36 inches by 10 feet. The standardized dimensions meant that a wagon had 4,536 cubic inches of cargo space and a capacity for one bushel of ear corn per inch of height. For grains such as oats, the wagon could hold two bushels per inch. The side boards came in three heights: 10, 12, and 14 inches, and the box could hold 36 bushels of ear corn. During corn harvest, a bangboard was added to the top of one side so that a farmer would break the ear of corn off the stalk by hand, throw it against the bangboard, and let it rebound into the wagon and not onto the ground. This wagon was part of Irving Cornwell's farm sale, circa 1980.

Above photo: John (Johnny) Zeman unloads grain from a barge wagon into an elevator that carries the grain to the top of a steel bin, 1975. A typical barge wagon could carry a load of 150 bushels of grain. Johnny worked for Deane Gunderson as a "hired hand" from 1957 until 1975. Deane retired the following year. Northwest quarter, Section 13, Roosevelt Township.

Jack McCartan, a retired area farmer who helped Paul Harrold during the harvest season for a few years, drives a John Deere tractor and hauls a gravity wagon full of grain from the field to the grain bins at the Harrold farm, 1996. The wagon has a capacity of 325 bushels of grain.

Deane Gunderson combining beans, circa 1973. Section 13, Roosevelt Township.

Dan Allen combining beans,1996, on land farmed from the 1950s to 1970s by Russel Jordan, who was featured in the documentary film *Troublesome Creek*. Southwest quarter, Section 10, Roosevelt Township. Dan and his brother, Roger, grew up in the same section where Helen's family lived and now farm all her parents' land and some owned by her sisters.

Dan Allen combining beans and dumping them into cart wagon pulled by tractor driven by Dan's brother, Roger. Southwest quarter, Section 10, Roosevelt Township. The camera faces northeast. The white Pro Cooperative grain elevators at Rolfe are barely visible on the horizon left of the combine, 1996.

Roger Allen hauls grain from the field to on-the-farm bins. His cart wagon with auger holds 550 bushels and cost $7,000 to 8,000 new. Between Sections 10 and 15, Roosevelt Township,1995.

Mick and Sue Reigelsberger's grain-hauling tractor and semi-trailer, 1996. The tractor was white when Mick bought it used from the bottled water company in Humboldt. He then had it painted a fire engine red. The trailer has a capacity of 900 bushels of corn, but Iowa's Department of Transportation limits semi-trailer loads to about 830 bushels of corn.