

# Evolution of Mechanization and Transport in My Hay Operation

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Good morning! My name is Ron Tombaugh. I was born and raised on a dairy farm near Streator, IL. Streator is about 100 miles southwest of Chicago. Our farm was in the northwest corner of Livingston county, one of the largest counties in IL. To give you an idea of the crops grown there, Livingston County along with 4 surrounding counties produce more corn than the neighboring state of Missouri! Dairy farms were not real common in our area then, and are almost non-existent in the area now.

I started my business of Dart Hay Service in 1983. In this presentation, I'll share with you how this business has evolved, and the changes in the machinery that have evolved with it.

Our farm consisted of 600 acres in 3 parcels. The 'home farm', where we lived and did the milking, consisted of 240 acres. We milked approximately 100 head of Holsteins until we dispersed the herd in August of 1977. Besides the milk heard, we raised all the heifers and most of the bull calves. So we usually had about 250 mouths to feed and maintain. I had 2 older brothers, and along with 1 fulltime hired man, we spent a lot of time producing and feeding forages for the whole herd.

My first memories are baling small bales! We bought a New Holland 271 baler in 1965 to bale all the hay and straw. It had a bale thrower on it, so my oldest brother could do the baling and load the 'basket' racks by himself. Early on, my job was to transport the wagons to and from the field and help unload the wagons. We didn't stack the bales in the mow, just let them fall off the hay conveyor, the same fashion they fell in the hay racks. So, nobody was needed in the mow until the pile grew up to the level of the conveyor. Then either my other brothers or I would go up and just throw the bales off a little to allow more to fill the mow. It would take 2 guys in the mow to finish filling the mow. After that section of the mow was filled, we would move the conveyor to another section of the mow and start the process over!

In 1973, the first major change came along! A New Holland 850 round baler! My oldest brother and I purchased it to reduce the labor needed to bale the hay for the dairy herd. Dad provided us a tractor to run on it, and I was able to do custom baling for neighbors after we got all our hay baled. This was a big labor-saving device. And, could bale faster. The third benefit was it made it less critical to get the hay under cover than the small bales. To maintain the desired dairy quality hay, we still made every effort to get the hay inside before bad weather hit but didn't have the same pressure. We continued to fill the mows with small bales, just not as full.

1976 brought a big change to our operation. We were approached by New Holland to be a 'farmer-dealer'! At that time, we owned 12 pieces of New Holland equipment; combine with both heads, skid-loader, small baler, round baler, haybine, hay conveyor, running gear, grinder mixer, hay rake, and manure spreader! My Dad and I ran the dealership. We had a bookkeeper, parts man, and a couple mechanics. Dad and I did the selling. The mechanics and I attended service schools, and did the service work.

1977 brought some more change. Our milking parlor was 22 years old and in need of an 'upgrade'! I was more into the machinery side of things, and my oldest brother was working with our Dad's uncle in the farm management business. So in August, we dispersed the dairy herd. Was awfully lonely around the farm for a while, after being so vibrant for so long!

In 1983, I purchased a new New Holland 326 small square wire tie baler and a New Holland 1034 bale wagon. My experience with the bale wagon was short lived. Between 1<sup>st</sup> and second cutting, a man approached me about buying the bale wagon. So, I upgraded to a 1049 self-propelled bale wagon. This allowed me to travel roads at 40-50 mph, instead of 18 mph with a tractor pulling the wagon. It also allowed me to transport 160 small bales, instead of 104 bales. A win-win!

At the end of the first year, I converted the baler to twine. Having to change the twister stack to knotters and change the needles. Wire was getting harder to find, and plastic twine was getting more popular!

With the self-propelled wagon, I was able to keep up with two high capacity balers in straw, if I was stacking in the same field. It also allowed me to transport hay longer distances, back to my storage shed. The only real obstacle to the SP wagon was the tipping height. The stacks were 9 bales high on edge, so about 13'6" when in place. But were about 17' when tipping up. So I usually took the last 3 bales off while putting the bales in the stack inside the shed!

This system worked well for several years! Then in 1988, a friend of mine was using the SP bale wagon to transport hay I had sold him for his bull stud. He was involved in an accident, and the bale wagon was destroyed. I then replaced it with a FarmHand accumulator. It was an 8-bale unit. This allowed us to load the trucks with 1 person on a tractor with accumulator fork, and 1 man on the truck putting the bales in place. The accumulator worked fairly well but didn't work fast enough for the higher capacity baler. So, the next year I attached a newer Hoelscher accumulator. This held 10 bales on edge, and worked much better, letting the baler be more efficient. At that time, between my Dad and I, we were doing 4 cuttings on 300 acres of alfalfa.

Along with our own, I was buying hay from neighbors through the winter to haul to Wisconsin, as they had just had a severe drought. I had an acquaintance that ran a feed business in central WI. He had been a rep for Purina in his prior career, have been to our farm when I was younger. He was a great resource for selling dairy quality hay. He basically 'pre-qualified' the buyers and sent me their names from his 275-customer list. At that time, I would get up in the morning, be loading hay by 7am, taking about 2 hours. Then drive 4 hours to WI to unload. Usually take 2 hours to unload, and then drive 4 hours home. Handling 630 small square bales on, and off the trailer was an extensive workout. I was hauling 5-6 loads per week. That went from late October to early spring. I was in the best physical shape of my life!

In 1991, I started hearing about 'big square' balers! Hearing about them to the extent that I was buying 'big bales' in WI, and delivering them to western KY. The bales I was buying were 2x3x8 square bales out of a NH D1000 baler, weighing about 600 pounds. Could get a good load on! The only problem was loading the bales 3 wide, made the load 9'. After more experience, decided to flip the center bale on edge, and make the load legal width, but giving up couple bales in the process.

In 1992, I purchased one of these balers to run in my own operation, along with my small baler and my round baler. After running the 'big square' baler, for 1 year, I decided to get rid of the small baler and the round baler. It made so much easier to decide which baler to use, if I only had 1 option which baler to use, instead of 3! I had expanded up to 720 acres of hay.

I still view 1994 as my 'Gold Standard'! My father passed away in March of 1994. I was up to 640 acres of hay. I had 2 helpers. We did 1<sup>st</sup> cutting in 10 days, start to finish, and only had a stack of checks to show for it. One helper lived in the haybine, cutting 80 acres/day. The other helper serviced equipment, while I raked 80 acres of hay. Then when we started baling, I ran the baler and he loaded trucks. All the hay was baled and loaded on outside trucks for delivery. No hay went into the barn!

In that year with 3 balers, I even experimented with baelage, wrapping high moisture hay! It was a way to beat the weather but was new enough that buyers did not want to buy the extra moisture. Also, buyers wanted to see the product under the plastic wrapping. Times have changed now, and baleage if better accepted as a viable feed. Transporting extra water is still a costly expense.

I ran the New Holland D1000 for 6 years, putting over 56,000 bales through it. It was a good baler. I had even put a Hoelscher accumulator behind it. Even went as far as expanding the accumulator to hold 5 bales, instead of 3. I had put wings on the tables and had them fold hydraulically. By using a bale accumulator, the baler operator can group the bales in the field. He can obviously dump the bales close to the headland of the field and can group the bales in 1 area of the field, and can even group them partially across the field, instead of having to travel to the 'far end'! This also eliminates having to run trucks all over the field to load the bales.

In 1998, I replaced the NH with a Hesston 4755, 3x3 baler. This baler produced a bale that was easier to load. I was able to max out the truck with weight, sometimes a little too much. I still buy a lot of bales this size today. It's probably the most popular size bale here in the Midwest.

In 2003, I was offered a large amount of straw from a local farmer, 2000 acres. I found a buyer for it. But instead of baling it myself, I came across a custom operator from Colorado who was in the middle of a drought. He had balers and stackers and was looking for work! We agreed on a deal, and he brought couple balers to Illinois, and baled my straw. He used Hesston 4900, 4x4 balers. They made a 1400-1500 pound bale! It worked out so well, I bought a Hesston 4900 baler for the 2004 season to bale straw. I never did bale hay with the 4x4. It didn't have a preservative applicator on it. So the 2 balers had their specific crops to bale, 3x3 in hay, 4x4 in straw!

The straw enterprise grew faster than the hay. I had contracts with the local mushroom farm. I had expanded to 5-6000 acres of straw, while still doing 2-300 acres of hay. I also included a couple of self-propelled swathers. Some of the straw I was buying was out of International/Case combines. The mushroom farm wanted "long" straw. So the combines cut the wheat just below the heads, and then we came through with the swathers to cut the straw stubble to the ground. At my peak, I was running 3 swathers, 3 4x4 balers and 2 loader tractors. A lot of the straw was being hauled 60-90 miles. A lot of days, we were baling and shipping 25-30 or more loads of straw, covering 300+ acres per day.

That all changed on Easter of 2007! A Freeze came through and killed all of the wheat. So my operation changed! I was forced to move further away to find wheat to bale the straw. I was able to supply a

portion of what I had done in the past. But in the meantime, the mushroom farm also found other sources of straw.

In 2010, I converted my 4x4 balers into 3x4 balers. Sort of a combination between the 2 previous sizes. The 3x4 has been a good decision. It makes a 1000# straw bale and a 13-1500 # hay bale. So I can get a 20-22 ton load of straw, and can't fill the trailer with hay for a legal load. I ran 2 Hesston 4790 3x4's for several years. Only one of them had a preservative kit, so it did hay. Then I ran both in straw. I ended up trading both of the 4790's to a straw source in Canada in the fall of 2015, for straw. That deal hasn't been all consummated yet. There have been some health issues and weather issues to contend with. But in the meantime, I moved up to a New Holland Big Baler 340. It was a used unit. But has performed really well for me.

I have expanded into baling corn stalks this past 2 years. I felt this year straw was going be short, so the corn stalks would make good bedding. I even have a couple guys feeding the stalks, adding it to their TMR rations. Some of the stalks were from a chopping corn head. These stalks were a bit shorter than the other stalks that were 'mowed' with a batwing. All the stalks were raked into a double windrow, and then baled. These bales were heavier than the straw bales, running about 1100 pounds.

A couple other machines that I've seen around but have limited experience are the 'Bale Bandit' and the 'Bale Baron"! Both units collect small bales in 21 bale bundles. This give the operators the advantage of handling a larger package of hay, but still having small bale control at feeding time! The 2 separate 'bundling' machines hold the small bales together w strapping for the Bandit, and bigger twine for the Baron. Then these 21 bale bundles can be handled with tines on a fork, or a grapple!

I have always been partial to NH when it comes to mowing machines. I grew up with them. I've worked on them and getting to know them pretty well in 45 years. I like the intermeshing Chevron rolls! I feel they are aggressive to pull the crop through, and gentle enough not to knock off leaves in the process! I like seeing the stems cracked every 2.5-3", to get consistent drying.

Right now, I am using a 15.5' self-propelled NH HW340. I leave the windrows as wide as possible, without running on any of the windrow. Then come through with a NH 216 Twin Rake to put 2 windrows into one. I have to leave about 8 feet between windrows, so the tractor fits between the 2 windrows when raking. On first cutting, it makes for a good-sized windrow. It works best to rake at a speed that puts the 2 windrows side by side, instead of actually touching. This allows for better continued drying!