

THE END... I move the earth.

*From Your Great Plains Reporter...Guy Swanson
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Last week I realized the end was near.

I needed photos showing a final chapter in American Agriculture in Washington State.

The last classic pictures of an antique production system. Antique tractors that actually work the land.

With wheat at record prices and looking good for another 24 months.... I knew it was all coming to an end...And we all have a love affair with our tractors...

You will always remember your favorite tractor. I was nine years of age when I made the voyage....Mort showed me the clutch...the transmission ... the Johnson Bar....the steering clutches...the brakes....I became a Caterpillar Tractor Man as I walked the huge steel and diesel technology back to the farm stead. My grandad was proud that the succession plan was in play.

Even my sister Sally Jane ran the D-6 for Mort.....now she is the Athletic Director of Bellevue Athletic Club....and her son-in-law was instrumental in Amazon.com. Man did she make the right move.





My Saturday tour was like going to an old time threshing bee and watching steam power, and external combustion at work.

I planned on a group of pictures that would match the last pictures taken of horse drawn agriculture....This will never happened again on so many acres.

Can you imagine....a tractor design that held it's mark since 1950....even earlier to 1941 with the advent of the 4R, D-6 at 45 to 55 horsepower... which are still in service today and repowered to 250 horsepower.

The big breakout machine of the great depression...the dirty thirties,... World War Two... and the symbol of American Agriculture success....the Caterpillar Diesel D-6....A technology symbol.

The Caterpillar tractors have been modified with enlarged fuel tanks, special clutches, hexagonal cabs, and extended frames for better balance. Find the need....and fill it...there was method in the madness.

The 45 to 55 horsepower... 4R and 9U Caterpillar D-6 from the 40's and 50's evolving into an oil clutch design for those uphill power shifts with a 5.75 inch pitch chain. All the castings were steel...equivalent to 8630 in quality.

The Caterpillar D-6B from the 50's and into the early 60's with a 4.5 inch bore x 5.5 inch stroke 1,800 rpm engine and so well balanced for those tough pulls on steep land.

The Caterpillar D-5 SA coming into production in 1963 with special long fenders to hold back the rolling dust in the summerfallow rotation. Trying to keep the dirt down so the operator could see his mark. The dust was so heavy in many cases that the whole tillage and tractor unit would disappear from sight in the light soils of Walla Walla county.



The interview with the Walla Walla farmer in the Caterpillar tractor....covered from head to toe with dirt....volcanic ash soils that crept into the cab from every nook and cranny. Smelling like diesel fuel and looking like a man in charge of the land.

The face of the Caterpillar man covered in dirt and with his wet lips in cherry red..... and the soil clinkers hanging out of his eyeball sockets..... telling me the story of why summerfallow systems work. It is no wonder why those old Caterpillars are worth so much money....the producers have no debt after 40 to 50 years of service.

The D-5SA with a special Caterpillar 5 speed and even 6 speed, sliding gear transmission with steering clutches mounted to the fire wall instead of the floor board....and the standard tachometer on the dash to watch the engine rpm and measure the whopping 27% torque rise which determined the next shift point. And above all a suspended tractor seat that was not mounted to the fuel tank. And a final good bye to the old pitch5.91inch pitch improved pin and bushing life and allowed speeds to 5.1 mph.

Then in 1970....the most wonderful plow tractor of all...the D-6C SA. A longer track frame....with weight and power balanced....including a longer pitch chain at 6.75 inches for improved pin and bushing life. Wet steering clutches and replaceable drive sprocket segments....Double Reduction Final Drives for heavy pulling with tandem plows arranged, the plow with a hydraulic cylinder jockey stick to keep the back plow in the front plow furrow on steep slopes..... A heavy duty swinging drawbar and the extended fenders to control dust. The 12 volt, 8D batteries out front for weight balance and service....and 24 volt start with a series parallel switch. And the suspended tractor seat even came equipped with a seat belt which was not well understood.

When Caterpillar finally terminated production in about 1985 to 1987 they had offered tractor sizes from the D-4D SA, D-5B SA, D-6D SA, D-7G SA, and the largest D-8L SA in direct drive.

Where did all those tractors go? The D-8L SA were all shipped to Australia to clear land.....and the smaller Cats are still running to some minor degree in the PNW.

Some tractors have had three engines and drive trains and three complete undercarriage rebuilds....Most tractors that run today....run with parts from other tractors at 30,000 to 40,000 hours.



Caterpillar D-8L SA and a Yelder 2520 tame the erosive slopes of Paso Robles, California, circa 1985.

How many tractors?.... 2 and 3 Cats are required to farm 1,300 acres.

The Basic Tillage System....also called primary tillage.

The basic tillage system operating at 80 inches in width to 180 inches in width to feed a hungry planet.

A basic tillage system that allowed you to start basic tillage in September and finish in November with a slight hearing loss and a nose full of dirt.

A basic tillage system that allowed two 12 hour shifts...Lights on the tractor allowed nighttime operation.

A professor at Oregon State University reported that plowing at night produced better weed control.

A basic tillage system that sent your sons and daughters to the coast to build airplanes, sell houses or build a restaurant empire.

Tractors able to pull 90% of their weight from 12,000 to 18,000 pounds....and 22,000 pounds to 26,000 pounds for the later models.

A tillage system that required a Caterpillar to make those hard, tough pulls and struggling to make those difficult uphill turns at 4 mph.

Can you imagine the forces delivered through the traction system....the torque and drawbar pull required to raise the soil and flop it over 16 inches to 18 inches on 50% compound angle slopes.

Brute power and tractor balance is required. Only a Cat should plow. Wheel tractors are meant for lighter tillage duties. Only Cats should seed a crop. Articulated wheel tractors could not steer straight on steep slopes. Plus the compaction of wheels does hurt the spring pea crop.

Can you imagine the feeling the producer has inside that noisy cab, eating dirt, and watching his management capability take control of the Global Skin.

Tractors that started originally at 45 to 65 horsepower and were repowered with Cat 1673B's to 250 horsepower or Detroit 6-71's at 235 horsepower and an 8% torque rise.

The Caterpillar Tractors that evolved into the double reduction final drive, six speed, sliding gear transmission with wet steering clutches, T and A in some cases...the D6D, SA.... with a factory cab and chrome smoke stack....a 4.75 inch bore with a 6 inch stroke engine at 2,100 rpm.....and if you were familiar with the fuel system you could increase the torque rise to 50%..... bellowing black smoke and unburnt fuel at every shift.....the high water mark was a D6D set up to plow with a 7 roller track frame.

A basic tillage system that came to and end as early as 1968 and terminated production of the iron by 1985. Even Caterpillar gave up in 1985 on the D6D in favor the Challenger 65 to 95 series.

A tillage system that required a 5 to 10 bottom plow, a 12 foot chisel plow for fall recrop, a heavy Kilifer tandem offset disc at 12 feet, a 40 foot rod weeder, a 20 foot to 30 foot light offset tandem disc, a 36 foot field cultivator, a sixty foot harrow and a 36 foot seeding drill....a packer for pea production....plus a fertilizer applicator.... requiring at least 5 trips for cereal grains and up to 9 trips for pea production.....and diesel fuel so cheap that you could spray weeds with it. Diesel fuel as low as 8 cents per gallon but more like 20 cents per gallon in the 50's....why not use tillage.



So what are these tractors and plows worth today.

Remember scrap is a 6 cents per pound. The tractors sold new for 80 cents to \$1.00 per pound.

The depreciation schedule is gone.

And in many cases close to scrap iron prices.

Only the parts make the tractor a worthwhile investment.

Burlingame Reports

A D-5 SA \$3,000 to \$8,000

A D6D SA \$8,000 to \$12,000

The last of the Caterpillar Tractors...the Last View of the plow at work in a Basic Production System.

The Market for a plow....maybe you can not find a buyer. Only as a novelty. Try www.tractorhouse.com and see if you can find a buyer.

A Final Chapter in American Agriculture.

Congratulations.....The foresight of the No-till producers that survived the low commodity prices and the high input costs....the No-till producers that have \$300,000 to \$500,000 investment in one tractor and a No-till seeding unit with 3 to 5 times more acres.....You can say to your son....It was worth it....He is with you.

Now you can afford to buy a Caterpillar Tractor and a Plow and park it at the driveway entrance....to let everyone know how you did not do it.



"I move the earth".....said Peter Kiewit....but this does not appear to be the goal in crop production.

We now have a generation of young No-till farmers that have never plowed.

So as a good reminder.... you need to review...."The Tool of the Devil" in a last chance implementation.

With every pass of the 18 inch, shinny plow shear comes a whole new set of economics.

Check out the Deere front loader tractor....digging out the driveway from all the erosion created by the plow.

Check out the drop off between two fields created entirely by the plow.

Where does the money come from to subsidize this non competitive operation?....expansion might be a little difficult at 162 inches in width at 4 mph.

Plowing has set up tremendous variability in the soil....requiring a new technology and new economic approach called Variable Rate Site Specific.

Because of the Plow....You must VR, site specific apply because the yield potential is lower..up to 15 to 30 bushels per acre lower on 30% of the land... many little fields in the big field.

Do you suppose the Plow Boy will ever be able to use Variable Rate Site Specific applications to improve the margin?

Will the producer be able to implement Rotational Band Loading? Nutrient access for future crops is not possible.

Will the rain fed moisture.... all of the moisture go in the ground where it falls?

Will the distribution of moisture be even and uniform proving higher yields?

Can the soil microflora bloom and support a good crop?

Can Root Pattern Geometry be implemented?

Are good crops at low risk possible?

Where did all the money go?

