"IT'S 95% ACCURATE"

He Uses "Divining Rod" To Detect Cow Pregnancy

A 14-year-old Iowan says he has come up with an exciting new way to determine if a cow is pregnant. He uses divining rods.

By loosely holding a pair of long wires over a cow's hindquarters, Kyle Carstens says he can tell with 95 percent accuracy if she's pregnant.

Kyle used his divining rods in a school science project and won first place in local science fairs and in state science fair competition.

Kyle's mother, Melodee, discovered that divining rods could be used to detect cow pregnancy at an Illinois cattle sale last year. "Mom had gone to the car because she was tired," says Kyle. "There, sitting outside her car, were a couple of cowboys drinking beer and talking about using divining rods to pregnancy-check cows. She really thought they'd just had too much beer to drink, but she told me about it anyway. We decided to give it a try."

From then on, Kyle read all he could about "witching" with divining rods. "I found that no one really knows why witching works, but most people believe it's a reaction to electro-magnetic charges. It's thought that all living things give off electromagnetic waves which vary in intensity and frequency with the general vitality, health and metabolism of the organism."

He experimented with wires of different thickness and found that baling wire is the most accurate. He cut two 32 1/2 in. long pieces and bent them into an L-shape. When Kyle holds the wires loosely over the hindquarters of a cow, the wires respond quickly. If they cross or move away from each other, the cow is probably pregnant. If they don't move, she's probably open.

To prove the idea works, he witched 59 cows with 95% accuracy, a figure confirmed by local vet Alan Farnsworth. There was no difference between breeds.

Kyle Carstens, 14, demonstrates the "divining" technique he uses to predict cow pregnancy.

Why do divining rods work? Kyle says it's because a calf fetus is surrounded by amniotic fluid, which increases in volume with the length of the pregnancy. An electromagnetic field inside the amniotic fluid attracts the rods and causes them to move. "I think the fluids carry an electromagnetic charge that's different from the cows, and that's what causes the divining rods to move."

Kyle says that using a divining rod would have more value if it could indicate how long the cows have been bred. Also, the time it takes to use a divining rod is a factor. Veterinarians can determine pregnancy faster and with more accuracy, admits Kyle.

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Photo by Dwayne Arehart

Maze Fundraiser For Flood Relief

This one-of-a-kind "maize" maze was set up by Lebanon Valley College, Annville, Penn., in early September to raise money for Cornbelt flood relief. The 2.67-acre maze took the shape of a 500-ft. long Stegosaurus dinosaur and was a lot of fun for both kids and adults. Visitors paid $5 ($3 for children and senior citizens) to find their way from the dinosaur's front foot to the end of the maze at the head. The winding 5-ft. wide passages were formed by pulling up corn stalks. Maps of the maze were available, and hints on how to find your way out were broadcast at various locations inside the maze to keep people moving. Kids were able to hold balloons so their parents could follow them around. The weekend event included band music and a chicken barbeque dinner. Photos of the maze were sold, as well as T-shirts and balloons. The college rented the corn field from a local farmer.

Sachar converted his 1965 International 315 combine to 4-WD by replacing rear steering axle with front axle off a 1/2-ton Chevrolet 4-WD pickup.

POWERED BY HYDRAULIC MOTOR, CONVERSION COST LESS THAN $2,000

Combine Converted To 4-WD Using Pickup Axle

Pennsylvania farmer John Sachar converted his 1965 International 315 combine to 4-WD by replacing the rear steering axle with the front axle off a junked-out 1/2-ton Chevrolet 4-WD pickup and using a hydraulic motor to power it.

Sachar paid $100 for the front axle off a 1972 Chevrolet 4-WD pickup. The axle was equipped with lockout hubs. He turned the axle upside down and fitted it with an oscillating mount (taken from an International 105 combine) that allows the axle to pivot back and forth. He welded a 3/4-in. steel plate, fitted with a bearing and a hydraulic motor, onto the combine frame ahead of the axle and ran a 12 in. long, 1-in. dia. shaft from there to the axle's original driveshaft. The hydraulic motor chain-drives the driveshaft and is powered by a hydraulic pump that's chain-driven off the engine crankshaft.

"We built it because almost every year we have to fight mud to harvest corn. The difference with 4-WD is truly amazing," says Sachar. "It cost only $2,000 to make the conversion. A commercial 4-WD hydraulic assist would have cost over $10,000, but I doubt we could have even found one that fit because our combine is so old. We made the conversion in the fall of 1990 when it was really wet. We had tried pushing the combine with our 4-WD tractor, but that didn't work very well.

"We were intrigued with stories in FARM SHOW about farmers who used the front axles from 4-WD trucks to replace the rear axle and power them in various ways. We thought it would be best to power the axle hydraulically so we could more easily match the speed of the front and rear wheels. Hydraulic drive provides an infinite range of speeds.

"We tried using belts to drive the hydraulic pump, but they slipped too much so we went to chain drive. We use a vane pump that puts out 24 gpm at 1,200 psi and 2,000 rpm's. However, we had to gear it down because the combine engine runs at 2,700 rpm's. We put a bigger sprocket on the pump than we put on the crankshaft. We also installed an oil cooler and plan to install a much larger oil reservoir.

"We use a variable speed valve in the cab to regulate the flow of oil to the hydraulic motor so that we can vary ground speed. A pressure gauge is mounted on the input line of the valve. The valve has flow control, directional control, and pressure control all in one package.

Hydraulic motor chain-drives the driveshaft and is powered by hydraulic pump that's chain-driven off engine crankshaft.

"The operator depresses the foot clutch, selects the gear and speed, and turns the valve to the right (forward) until pressure comes up to 100 to 200 lbs., then lets out the clutch. He then adjusts the valve until there's 300 to 400 lbs. pressure on the gauge. This supplies a small amount of torque to the steering axle. It's very responsive. Whenever the front drive wheels start to spin, the pressure automatically builds up to add more torque. If the going is really bad, we turn the valve up to 1,000 lbs. of pressure. To back up, the handle is turned to the left.

"We used the smallest possible sprocket on the motor and the largest possible sprocket on the driveshaft in order to deliver as much torque as possible to the wheels. The Char-Lynn hydraulic motor cranks out 135 ft.-lbs. of torque at 900 psi. The sprockets boost the torque by a factor of four and the axle differential by a factor of 3.5. We can spin the tires at 950 psi.

"We chose the 1972 pickup because it has a rigid axle that always keeps both of the combine's rear wheels on the ground at the same time. Floating axles found on newer pickups wouldn't work.

"We replaced the original 7.50 by 18 steering tires with new 9.50 by 24 6-ply tractor tires that we mounted on 8-hole wheel rims salvaged from an old corn picker. We cut out the centers on two 6-hole Chevrolet pickup wheel rims and welded 8-hole repair rings onto them. Then we welded 9/16-in. wheel studs into the repair rings."

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