

# How To Make A Living On A Small Farm, Marginal Land

By Jim Ruen, Contributing Editor

Russ Wilson and his wife, Lennie, make their living off about 200 acres of marginal farmland. Yet every year the quality of their land and livestock improves even though they have sold most of their farm equipment and use minimal inputs. The key to their success is wise use of livestock and lots of innovation.

Last year the Wilsons grazed livestock 10 months out of 12. Their goal each year is to get more value out of their pastures with less and less machinery. They interseed forage crops onto former cropland but instead of using machinery to bring in the crops, they let their livestock "harvest" them by grazing fields directly. They've even done that with corn in the past, letting livestock graze mature stalks.

"I sold my corn picker and other harvesting equipment, and much of my tillage machinery," says Wilson, who seeds as many as 30 different species in his pastures, including fescue, legumes, forbs and herbs as well as warm and cool season grasses. "I'm also planning to establish a stand of bamboo for grazing."

To seed pastures, he uses a hand spreader ahead of his sheep flock and lets them "hoof" it into the soil. Other times he feeds seed to his cattle and lets them spread it in their manure. "They don't digest the seed, so it goes right through them," he explains.

Now, without row crops or hay crops, he has cut thousands from his diesel fuel budget and more in equipment upkeep. He still has a couple tractors for spreading lime and manure but he uses them less than 50 hrs. per season.

"This year I grazed my cows until February and turned them back out the third week of April," says Wilson, who supplements grazing with minerals.

He prefers letting livestock harvest forage rather than doing it with machinery. "I can



The Wilsons found a way to make a good living on their small Pennsylvania farm with minimal farm equipment. They raise chickens, hogs, cattle, sheep and goats.

buy hay for that short winter period when we can't graze. Instead of raising crops, we concentrate on raising our animals as fast as we can."

Wilson follows his cattle herd through the paddocks with 130 head of sheep. He grazes 60 head of goats on rough ground heavy with brush and shrubs that the cattle and sheep avoid. He also pastures chickens and a few pigs.

"I'm running more goats these days to clear brambles out of a brushy area for future pastures," says Wilson.

Wilson found wool wasn't worth enough, so he is switching from wool to hair-type ewes. He breeds them to Dorset rams for better priced lambs. "We only got \$138 for the wool from 55 ewes," says Wilson. "It cost us \$60 just to sharpen the shears, plus time to shear."

Wilson runs what he calls an elastic herd. In the spring he adds stock to harvest the fast growing grass. As grass production falls, he sells some off.

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## New Blood

Wilson's main herd is Black Angus with 12 head of Kobe/Angus crosses. He is now introducing Weaver Mashona blood into his herd (see Vol. 27, No. 5). He likes the small, vigorous calves and their natural disease resistance.

"I had one newborn, half-blood Mashona bull calf that was up and running with the herd when I changed pastures," says Wilson. "It was nursing at 10 min. and at 40 min. old, was running with the front third of the herd."

Wilson says his goal is to have an 800-lb. cow that weans a 600-lb. calf. He plans to use a half-blood Mashona bull calf as a herd bull.



"It weighed only 40 lbs. at birth, but quickly developed the breed's heavy muscling," says Wilson.

## UTV Add-Ons

Wilson has 3 side-by-side UTV's and says he wouldn't want to farm without them. Hoses are a necessity for grazers. Unable to find hose reels durable enough for daily duty, Wilson built his own.

"I just started cutting and welding, building the legs from angle iron and mounting a shaft to hold the reel in pillow-block bearings at the tops of the legs," says Wilson. "The reel was made from 2-in. flat bar with pieces of steel rod. The handle has a linchpin so it can easily slide off the shaft when in transit."

One reel mounts behind the cab of each UTV. Bungee cords lock the hoses in place, and each reel holds 500 ft. of 5/8-in. hose.



Wilson also built a rear rack for his wife using angle iron on a base frame of 2 by 2-in. tubing that fits the UTV receiver hitch. It holds 5-gal. pails for hauling supplements.

## Fence Jumpers

The biggest time savers of all are his fence jumpers. They consist of 5/16-in. round rod "runners" mounted to angle iron and brace rods that come off the front and rear racks on each UTV. When fence wires run up against the rods, they slide down and under the UTV.

Wilson estimates the jumpers each take about \$5.80 in steel and 1 1/2 hrs. to build.

"I don't know how many hours I've saved running over the top of temporary fences without having to stop," he says.



## Mobile Pig Pen

Wilson keeps his Large Black Hogs happy with a moveable pen. He replaced a hay wagon bed with two 20-ft. I-beams and 2 layers of 1-in. hardwood. He then added an 8 by 18-ft., 6-ft. high shelter. Inside, a gate allows baby pigs space and makes later weaning easy.

A ramp at one end lets the hogs go in and out. A hand winch makes raising and lowering the heavy ramp easier.

Two 55-gal. barrels at the other end hold water. Nipple waterers hang down for easy access. "I left about a 15-in. opening under the roof for airflow, which keeps the pen cooler than outside temperatures," says Wilson. "I attached wood blocks around the tire stems to keep the pigs from chewing them off."



Daily supplemental feeding of about 2 lb./day inside the shelter guarantees the pigs get balanced minerals. It also keeps the pigs used to the shelter so it's easier to catch them.

"Catching pasture hogs can be a challenge," says Wilson. "With this set up, when we need to truck them for processing or sale, we just raise the ramp to the trailer and run them in."

## Mobile Chicken Coop With Door Opener

He built a chicken coop on an old hay wagon. It has roost space for about 95 birds. The solid floor means he has to scrape it daily, but not installing a grated floor kept costs down.

"The real challenge is letting the chickens out and closing them back in," says Wilson. "I built a door opener with 2 low-cost timers and relays for a few dollars each. I wired them with an old windshield wiper motor to raise a sliding door."

Wilson added 2 control switches that cut power when the door reaches the open position and when it fully closes. The 5 to 6 sec. of travel each way has little impact on the old car battery that powers it.



"I recharge it every 3 to 4 months," says Wilson. "The doors open, and the broilers and laying hens go out. We have lots of coyote and fox, but one of our guard dogs stands guard."

## Low-Cost Gate Release

Wilson likes the idea behind the Batt-Latch spring gate release (see Vol. 38, No. 5), but not the \$400 price. The idea is to use a timed release to open up a paddock for grazing on a schedule. He built his own using a chicken rotisserie motor, timer, and a limit control switch. Instead of a solar panel, he uses rechargeable, metal halide batteries he soldered together into a pack.

"The release only runs for about 15 sec.," says Wilson. "It takes a lot of cycles to run down the battery pack, and the timer has a 5-year, internal battery to keep the clock set."

When the timer goes off, the bearing set on the rotisserie motor rotates counter clockwise and pulls the release lever to release the spring-loaded electric gate. As the bearing set continues around, it hits the limit control switch shutting off power.

"The full cost of the release system was about \$70 plus around \$18 for the battery



pack," says Wilson. "The timer only cost around \$4. The most expensive part was the plastic case I mounted everything in."

## Mini-Stock Tanks

Wilson's stock tanks are fast to fill and easy to move. He uses high-flow Jobe valves mounted in mortar mixing tubs connected to hydrants on buried water lines. Each tub has lengths of plastic-covered, 1-in. conduit over the Jobe valve and bolted to tub edges.

"I heated it with a torch and bent it to shape," recalls Wilson. "It protects the valve."

Each hydrant services about 5 acres of pasture. Where he doesn't have hydrants, he will use as much as 1,200 ft. of hose.

The 11-gal. size is ideal for the sheep flock and goat herd. He uses 26-gal. tubs for his cattle herd, which he says is enough for about 100 stocking units. A 200-ft. garden hose is all that is needed for most paddocks.



"We can change paddocks up to 4 times a day," explains Wilson. "The tubs are easy to dump and drag with the hose to the next paddock. Because they are constantly refilling, the water stays fresh, and there is always cool water coming in as a few cows drink and then graze."